

FAA OVERSIGHT OF AVIATION MANUFACTURING

HEARING

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

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JUNE 13, 2024
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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

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FAA OVERSIGHT OF AVIATION MANUFACTURING

THURSDAY, JUNE 13, 2024

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:01 a.m., in room SR-253, Russell Senate Office Building, Hon. Maria Cantwell, Chairwoman of the Committee, presiding.

Present: Senators Cantwell [presiding], Klobuchar, Markey, Peters, Baldwin, Tester, Rosen, Hickenlooper, Welch, Cruz, Moran, Blackburn, and Capito.

OPENING STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR FROM WASHINGTON

The CHAIR. Good morning, everyone. The Committee on Commerce, Science, and Transportation will come to order.

We are having a hearing this morning with FAA Administrator Michael Whitaker to discuss the FAA'S oversight of aviation manufacturing including the FAA'S plans to ensure that Boeing follows through on the commitments made in its 90-day action plan.

What this committee and the flying public wants to know is what is the FAA doing to strengthen its oversight on the planes that we fly on every day and to make sure that they are safely built.

We need to know what change under your watch, Administrator Whitaker, will restore the proper oversight to manufacturing to achieve the excellence that we want to see at Boeing and other manufacturers and to assure that the FAA is setting the gold standard for safety oversight.

A week after the door plug incident, I sent the FAA a letter reiterating my request from a previous FAA Administrator a year before for the FAA to conduct a special audit to determine whether Boeing was in compliance with FAA's safety requirements for aircraft production.

The next day, Mr. Whitaker, you did start an audit process and that FAA-conducted hundred-plus audit from January and February of things like employee training, quality control procedures, records retention, both at Boeing and its suppliers is what we are here to discuss.

I have to say, Mr.—Administrator Whitaker, the results are major safety concerns and are very concerning to me and, I think, to the flying public. You have identified, according to news reports, 97 instances at Boeing and 21 instances at Spirit of where the

products did not meet FAA standards. We will get into this in the Q&A.

Also in part of the information is that the engineers themselves had trouble responding to most basic questions about quality control policies and quality management systems.

We find these challenges frustrating. We need to have an FAA who is going to implement the very recommendations we heard from the ODA expert review panel who testified before this committee in April.

The panel's report observed that there is a disconnect between senior leadership and frontline employees on building a safety culture and found that Boeing employees did not demonstrate—that the overall system did not demonstrate a foundational commitment to safety.

To your credit, Administrator Whitaker, you told Boeing they needed to give you a plan to reform its production quality and you gave them 90 days to do so. Boeing has now delivered that plan to you and we want to ask questions and get comments from you on where we are.

I am struck by a sense of is this *deja vu*. Are we just back here or can we really have a new day in creating a safety culture that is so critical for the United States to be the leaders in manufacturing.

In 2022 and 2023 as part of individualized FAA-conducted audits of Boeing and Spirit AeroSystems production lines required Boeing to correct and identify any—correct any identified problems. Yet, your new special audit still found problems.

So it begs a question about the audit process itself at the FAA, and I know that is in the past—a past Administrator, but still what do we need to fix in our audit process if we did in 2022 and 2023, 298 individualized audits?

And I will just point out that the—when I sent the letter to the previous Acting Administrator he said, “we do not need to do an audit because we have all these specialized audits” and, yet, we did this audit now and found out that the specialized audits did not help us correct the problems that we see today.

In 2015 the FAA settled an agreement, required Boeing to adopt a safety management system. Yet, they are still not quite there on that commitment. The same settlement agreement required Boeing to create a regulatory compliance plan to correct all safety failings and, yet, we know that we have these—sorry, plug door incidents.

So the question is what can you do to change this culture? You were overwhelmingly confirmed to be the agent in charge of the FAA and the system. We know that you had an overwhelming vote in the U.S. Senate so we are counting on you to be that agent of change.

We know that this begins at taking a hard look at the agency itself. In January 2024 former NTSB Chairman Jim Hall wrote in an op-ed to the *Seattle Times* titled, “FAA’s safety culture has not changed either.” He wrote, “While both Boeing and FAA have issued words of assurances that they will use investigations and find to correct flaws in the manufacturing safety regulations and quality assurances of those industries, past pronouncements we

have heard about changing their safety culture appear to be—have been lip service.”

Administrator Whitaker, we must prove Mr. Hall wrong. We must demonstrate the FAA is a strong oversight regulator and that the agency can ensure that manufacturers implement safety management systems.

Both Boeing and the FAA need a strong safety management system, not just in name only but one that actually saves lives. That is why Section 102 of the Aircraft Certification Safety and Accountability Act demanded that the FAA develop a real SMS standard for aviation manufacturers. So I will have more to ask about that when we get to the Q&A.

But in our recently signed FAA bill by President Biden we have given your agency clear direction, clear resources, and new tools to carry out that mission.

I look forward to questioning you about how we are going to achieve that. Thank you for being here today, and I turn it over to Ranking Member Cruz for his opening statement.

**STATEMENT OF HON. TED CRUZ,
U.S. SENATOR FROM TEXAS**

Senator CRUZ. Thank you, Madam Chair. I appreciate you holding today’s hearing on this critically important topic, FAA’s oversight of aviation manufacturers.

I want to thank Administrator Whitaker for appearing before us today, especially as his agency is busy implementing the bipartisan, bicameral FAA Reauthorization Act that this committee authored and passed just last month.

Our crucial bipartisan legislation gives the FAA much needed long-term stability and allows it to refocus on its primary mission, the safety of our national aviation system. It directs the FAA to conduct risk-based inspections of manufacturers like Boeing to ensure that there is no repeat of the Alaska Airlines incident.

Further, it provides FAA with important tools for developing a workforce with the technical know-how necessary to overseeing complex aircraft manufacturers and it includes key protections for whistleblowers who play an important role in the aviation system so that employees can speak out freely when raising safety concerns.

On January 5 of this year just minutes into its trip, Alaska Airlines Flight 1282 experienced a rapid cabin decompression at 16,000 feet when a plug door flew off the plane.

Thankfully, miraculously, the pilots landed the plane safely with no critical injuries. We are very fortunate that no passengers were seated in the seat next to the plug door and the plane was still climbing to its cruising altitude.

Had either of these factors been different the results would have been catastrophic. The aircraft in question was a Boeing 737 Max 9 delivered to Alaska Airlines just a few months prior. For many of us it raised concerns once again of the safety of Boeing aircraft.

In the weeks that followed the NTSB accident investigation and the FAA’s audit discovered unsettling details about Boeing’s production lines. Reports from airlines of untightened bolts or over-

tightened bolts on Boeing 737 Max aircraft have borne the phrase from passengers “if it is a Boeing I ain’t going.” That is not good.

Even more alarming, NTSB stated the reason the plug door flew off the aircraft was because an employee at the Boeing facility opened the plug door and forgot to put the bolts back in. Such a fundamental lapse in the production line is inexcusable and should never have happened.

I was very glad to see that the FAA took swift action to ground the 737 Max after the accident. However, I remain concerned that the FAA’s oversight of Boeing failed to spot serious production gaps.

The FAA, through their oversight of manufacturers, is responsible for ensuring that when a passenger gets on a plane, he or she can have the utmost confidence in that plane’s safety.

The FAA must guarantee that not only are they certifying that an aircraft is safely designed, but that the manufacturer is building them to that safe design. Clearly, that was not always happening at Boeing.

Today we are going to hear from Administrator Whitaker on what actions the FAA is taking to ensure their oversight of Boeing’s production prevents further mishaps.

I am interested in hearing his impressions of Boeing’s actions in response to the FAA audits of the Boeing production line. It is clear that the safety culture at Boeing needs to be reinforced, something that does not happen overnight.

I look forward to hearing on the FAA’s long-term efforts to ensure that Boeing is following through on its improvement plan. The safety of the flying public is vital and it is our job to ensure the FAA and Boeing are taking safety responsibilities seriously.

I hope that we will hear directly from Boeing about how they are going to address production failures. I understand that Boeing’s CEO Dave Calhoun will be appearing very soon before the U.S. Senate, but I am disappointed it will not be before this committee.

We have a responsibility as the Committee of jurisdiction for civil aviation to conduct oversight on these matters and I trust that we will hear very soon from Boeing’s senior leadership.

Boeing is a great American company and it is critically important for our Nation that Boeing remains strong and continue producing excellent aircraft.

These safety lapses have caused serious questions in the flying public about the safety of Boeing’s planes and it is critical for Boeing, it is critical for the FAA, and it is critical for this committee that those safety lapses be corrected and corrected promptly.

Thank you.

The CHAIR. Thank you. I think—Senator Moran, did you want to make a statement?

Senator MORAN. No, Chair and Ranking Member. I will forgo that, but I consider this one of the most important hearings that—we have lots of important hearings. This is a very important hearing and I am pleased that you are conducting it.

The CHAIR. Thank you.

Administrator Whitaker, thank you again for joining us. Please proceed with your statement.

**STATEMENT OF HON. MICHAEL WHITAKER, ADMINISTRATOR,
FEDERAL AVIATION ADMINISTRATION**

Mr. WHITAKER. Thank you, Chair Cantwell and Ranking Member Cruz, Committee members. Good morning.

Thank you for the opportunity to be here today to discuss the agency's oversight of Boeing's production and manufacturing processes.

Let me first express my appreciation for your efforts in passing the FAA Reauthorization Act of 2024. The FAA has begun implementation of this important legislation and we will keep you and your staffs updated on the progress.

In mid January I had the opportunity to brief this committee on the January 5th door plug incident involving an Alaska Airline 737 Max 9. Today I want to provide an update on where we are now.

In February I asked Boeing to develop within 90 days an integrated, comprehensive plan to fix its quality control and production issues. This plan was required to address the findings of FAA's special audit as well as the recommendations of the Section 103 panel.

Boeing provided that plan to the FAA on May 30. This plan does not mark the end of FAA's increased oversight of Boeing and its suppliers. In fact, it is the beginning of a long journey.

There must be a fundamental shift in the company's safety culture in order to holistically address its quality and safety challenges. This is about systemic change and there is a lot of work to be done.

Our goal is to make sure Boeing implements the necessary changes and has the right tools in place to sustain those changes in the long term.

Since January 5, we have added more safety inspectors at the Boeing and Spirit facilities to closely scrutinize and monitor production.

Our enhanced oversight activities include: more direct engagement of company employees, additional inspections at critical points of the production process, and ongoing audits of the quality systems and build process.

The FAA will monitor Boeing's performance metrics, or KPIs, as well as our own metrics to assess the overall health of the company's production and quality systems. This increased visibility will play a vital role in identifying emerging safety trends before they become problems.

The FAA will continue to hold Boeing accountable for producing and delivering safe aircraft. We have capped production and we will not grant any production expansion of the MAX above that level until we are satisfied they can do so safely.

As part of our enhanced oversight the FAA will maintain an increased presence on the Boeing factory floor. We will monitor the data, the KPIs, and Boeing's progress in implementing its comprehensive plan and we will utilize the full extent of our enforcement authority to ensure Boeing is held accountable for any non-compliance.

We currently have multiple active investigations into Boeing and are processing a number of reports filed by whistleblowers and through our safety hotline. Boeing employees are encouraged to use

our FAA hotline to report any safety concerns and we take each and every report seriously.

Let me also acknowledge the FAA should have had much better visibility into what was happening at Boeing before January 5th. FAA's approach was too hands off, too focused on paperwork audits, and not focused enough on inspections. We have changed that approach over the last several months and those changes are permanent.

We have now moved to a more active, comprehensive oversight model, the audit plus inspection approach, which allows the FAA to have much better insight into Boeing's operations.

I will personally remain engaged to ensure Boeing executes the necessary changes to transform its safety culture and address its production quality issues.

This includes visiting Boeing's Charleston facility tomorrow, returning to Renton in September, and continuing to meet with Boeing's senior executive team on a quarterly basis to oversee implementation of the plan.

We will also take the learnings of the events of January 5th and apply them to our approach in overseeing all participants in our safety ecosystem. We can no longer afford to remain reactive.

We must develop a more dynamic oversight protocol that allows us to anticipate and identify risks before they manifest themselves as events. The key to this transformation is data.

The FAA is already taking steps to improve our internal data management analysis. But safety is a team sport. We need the entire industry to work together to better collect, integrate, and analyze data from a broad range of sources. We must also leverage advanced data analytics to better monitor aviation systems across the entire system.

In closing, let me stress our number-one priority is the safety of the flying public. The FAA will always take appropriate action whether that action is against a manufacturer, toward an airline, or enhancing our own oversight of our operations.

So thank you again for the opportunity to be here today, and I look forward to questions.

[The prepared statement of Mr. Whitaker follows:]

PREPARED STATEMENT OF HON. MICHAEL WHITAKER, ADMINISTRATOR,
FEDERAL AVIATION ADMINISTRATION

Chair Cantwell, Ranking Member Cruz, and members of the committee thank you for the opportunity to be here with you today to discuss the agency's oversight of Boeing's production and manufacturing processes. But first, I want to thank the committee for your hard work in passing the FAA Reauthorization Act of 2024. The FAA has already started implementation, and we will keep you and your staff updated on our progress.

Alaska Airlines Flight 1282

On January 5, shortly after departure, Alaska Airlines Flight 1282 experienced rapid depressurization after the left mid exit door plug blew out of a Boeing 737-9 MAX. The next day, on January 6, the FAA took immediate action and issued an emergency airworthiness directive grounding all 737-9 MAX airplanes with that particular door plug configuration.

We mandated and oversaw a thorough inspection and maintenance process on each of the grounded airplanes before allowing them to return to service. Our findings during those inspections showed that the quality system issues at Boeing were unacceptable and required further scrutiny. That is why we increased oversight activities including:

- Capping production expansion of new Boeing 737 MAX airplanes to ensure accountability and full compliance with required quality control procedures.
- Launching an investigation scrutinizing Boeing's compliance with manufacturing requirements.
- Enhancing oversight of the production of new airplanes with more FAA safety inspectors on-site at all Boeing manufacturing facilities.
- Increasing data monitoring to identify significant safety issues and mitigate risks early in the process.
- Launching an analysis of potential safety-focused reforms around quality control and delegation.

Boeing's Comprehensive Action Plan

This past February, I directed Boeing to develop a comprehensive action plan within 90 days to address its systemic quality control and production issues. During the subsequent months, the FAA worked closely with Boeing as it developed their roadmap and plan for the path forward. This plan was required to incorporate the results of the FAA's special audit as well as the findings and recommendations from the expert review panel report required by Section 103 of the Aircraft Certification, Safety, and Accountability Act of 2020 (ACSAA). Boeing provided its comprehensive plan to the FAA on May 30, 2024, marking the beginning of the next chapter of ensuring implementation and a renewed focus on safety at Boeing.

However, this plan does not mark the end of the FAA's increased oversight of Boeing and its suppliers. There must be a shift in the company's safety culture in order to holistically address its systemic quality assurance and production issues. Our goal is to make sure Boeing implements the necessary changes and has the right tools in place to sustain those changes in the long term. We anticipate that Boeing's roadmap will be part of an iterative process as it receives feedback and implement improvements to their design, manufacturing, and production processes.

Thanks to the ACSAA, and as reemphasized in the FAA Reauthorization Act of 2024, Boeing is now required to have a mandatory Safety Management System, which will ensure a structured, repeatable, systematic approach to identifying hazards and managing risk. A robust Safety Management System is the foundation and structure of a safe manufacturing operation and will be a key factor in improving Boeing's safety culture.

Boeing has also committed to the following:

- Increasing and enhancing employee training, engagement, and communication;
- Encouraging their employees to speak up without fear of reprisal;
- Boosting supplier oversight;
- Increasing quality oversight at every step of the production process, and ensuring things happen in the right sequence and are approved before moving forward;
- Getting more input from users of the system;
- Simplifying production processes and procedures; and
- Bringing state-of-the-art technology to Boeing tool and parts management.

To monitor the health of Boeing's production and quality system, we also directed Boeing to identify key performance indicators (KPIs). These KPIs directly correspond to the targets outlined in their roadmap to improve their safety and quality systems and will help assess the effectiveness of their proposed initiatives. The KPIs provide real-time visibility into the production system with specific control limits that will trigger corrective action if needed.

FAA's Oversight Activities

Boeing must do their part and the FAA will continue to hold them accountable for producing and delivering safe aircraft. As part of the FAA's enhanced oversight of Boeing and its suppliers, we have added more safety inspectors in the Boeing and Spirit AeroSystems facilities, and we will maintain our increased on-site presence for the foreseeable future. Our surveillance activities include:

- More engagement with company employees to hear directly from them and gauge the effectiveness of changes outlined in Boeing's plan;
- Additional inspections at critical points of the production process; and
- Increased auditing of quality systems, build processes, and changes outlined in Boeing's plan.

Our aviation safety inspectors will also monitor each of Boeing's sub-teams tasked with implementing the key focus areas of the plan. The safety inspectors will provide direct feedback on Boeing's proposed changes and will be able to validate the reported results of the KPIs. In addition to reviewing Boeing's KPIs, the FAA will utilize its own metrics to monitor their production health and independently assess any early indicators of risks in the system.

The FAA is committed to continuously improving our oversight practices to ensure each design and manufacturing organization meets all regulatory requirements and produces safe and compliant products. Following the lessons learned from January 5th, the FAA changed its oversight approach and those changes are permanent. We have now supplemented our audits with more active, in-person oversight—the “audit plus inspection” approach, which allows the FAA to have much better visibility into operations at all OEMs, including Boeing.

Continuous Safety Improvement

Recent events, especially the incident involving the Boeing 737-9 MAX, have shown us we cannot become complacent when it comes to maintaining safety and public confidence in the nation's aviation system. Aviation safety is a collaborative effort, and we must all work together to ensure we continue to maintain and build on the agency's safety record. We must all continuously improve and reexamine our processes and procedures that support our shared safety mission by collecting, sharing, and using data to detect risks, simulate outcomes, and optimize our decision-making to ensure the safety of the flying public.

Maintaining the safest aviation system in the world requires rigorous oversight over the entire aviation system, including ourselves—ranging from our own workforce to pilots, air carriers, manufacturers, and airport operators. Since being confirmed as Administrator, I have committed to looking internally within the FAA and improve our own processes and procedures. We already have taken a number of actions over the last several months to strengthen our safety culture and mitigate risk in the system.

From an oversight perspective, the FAA has multiple monitoring tools that we are actively leveraging across different parts of the agency. For example, the risk index utilized as part of our assessment of an air carrier's operations has been an effective tool in identifying emerging safety trends before they become significant risks in the system. This data-driven process recently led us to conduct more rigorous oversight and an in-depth examination of an air carrier following an indication of an increase in the level of risk in their operations.

We are working to bring similar types of monitoring principles across the board to the entire aviation system. We can apply these types of principles to evaluate risk, regulatory capture, and other safety concerns to how we oversee manufacturers, air carriers, airport operators, air traffic controllers, pilots, and other aviation users. As we leverage different tools and best practices internally and externally, we will continue to look for ways to improve and refine our safety oversight activities at the FAA.

In closing, let me stress: the agency's number one priority is safety. The FAA will always take appropriate action to protect the flying public—whether that action is against a manufacturer, toward an airline, or enhancing oversight of our own operations. As we carry out our regulatory responsibilities and oversight activities, safety will always inform our decision-making.

I am happy to answer any questions you may have.

The CHAIR. Thank you, Administrator, and, again, I should also thank you for your hard work on the FAA bill in helping us get the technical questions answered so we could get this over the goal line and implement it, and while ACSAA was safety implementations so was this FAA reauthorization. So I appreciate your characterization as more work to be done because, clearly, there is.

I want to dive into safety management systems in general and in specific about what we are doing here. In ACSAA we required the FAA to issue a final rule on airplane manufacturers for an SMS system and in April of this year you did that, requiring manufacturers to submit an implementation plan within 6 months and to fully implement SMS within 36 months.

Boeing, as a manufacturer, has had a voluntary SMS in place for years. So the expert panel—the ODA expert panel identified serious deficiencies in that system.

I do not want to say it is SMS in name only, but clearly there are a variety of reporting structures there and confusion and, let us just say, not sure that there is an SMS lifeblood in the system that everybody understands and is acting by.

In response to your recent audit Boeing identified several action plans to take to address deficiencies in the current system including better integrating the quality management system in SMS.

We are all here to talk about the safety culture so we are drilling down here in a way. I am sure there is a lot of details for somebody maybe just listening at home, but these are the tools by which we establish a safety culture that all the employees know that, that you oversee it, that you hold them accountable.

So having the system and having it work effectively for everyone including on the factory floor is critical. So I am curious that this—what you think of their compliance with the FAA’s rule and whether—I am concerned that where we are is that your oversight is just merely—you are just looking at that and verifying the plan as opposed to—what I am saying is a checklist. Oh, they said they were going to do these five things. Yes, they did those five things. As opposed to really guaranteeing to the public that it is a true safety management system, that they are adhering to it.

Now, why does somebody not want to adhere to a safety management system? I will tell you why. Because at some point in time you have to say we are stopping the line and fixing this problem, or, safety requires us to have documentation—we are going to get documentation. So it is a continuous cultural issue.

So I am very concerned that your oversight is not strong enough. So how does this comply—how does your rule now comply with both ACSAA and what the expert panel is saying, which is a regular oversight of the safety management system by the FAA?

Mr. WHITAKER. Thank you. I think it is—that question hits at the core of safety.

So the safety management systems really are what drive the safe outcomes that we get. The airlines have had these systems and they are very mature, and I think it has been a journey for the airlines to maybe initially reluctantly accept these systems and over time really grow to appreciate how effective they are in finding all risks in the system and being able to mitigate those risks.

One of the things that has happened over the last 6 months is at our encouragement the airlines have spent a lot of time with Boeing to discuss their safety management systems and why it is the secret sauce to having a safe outcome, and I view it as the core of these changes that are coming.

Now that the system is mandatory it requires it to be more robust. So it will—we will now have regulatory standards by which to judge the mandatory system whereas when it was voluntary we did not have any compulsory standards to impose.

So we know it will be broader. It will go down to suppliers and it will also go deeper and really get at what the audit—what the Section 103 panel found, that disconnect you mentioned between leadership and employees.

The safety management systems have to have a culture where employees are free to speak up, identify risks, and have those risks taken seriously.

The reason safety management systems work is because they are a risk analysis tool and it allows you to find risks that might not be obvious, and one way you get that is by hearing from your employees who are on the front lines.

So that is going to be a focus. We will be reviewing that implementation very closely. Our inspectors who are on the ground will be focused on watching that implementation roll out and I would say it is a centerpiece of what needs to happen.

The CHAIR. So voluntary unacceptable?

Mr. WHITAKER. Well, it is now mandatory but it gives us more—it certainly gives us more leverage to ensure that it is a very robust system.

The CHAIR. I need to know that the FAA Administrator believes that SMS is not a voluntary system for us to have a safe flying system.

Mr. WHITAKER. That is correct, yes.

The CHAIR. Thank you. Do you believe that the FAA should have its own safety management system?

Mr. WHITAKER. Absolutely, and we have an umbrella system which is required by ICAO and the air traffic organization has an SMS system and our flight operations have SMS systems.

But we are taking a fresh look at that and how to make sure those systems are integrated and hold our own system to the same standards that we hold the rest of—

The CHAIR. Do you believe the FAA needs an overall SMS system?

Mr. WHITAKER. We have an overall system now but it is maybe not as fully integrated as it needs to be and we are looking at that.

The CHAIR. I am not sure what to make of that answer. So my time is up, but we will come back to this discussion.

Senator Moran.

**STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS**

Senator MORAN. Chairwoman, thank you very much. Administrator, thank you for your presence and your efforts.

Your testimony, which I think I wrote down, perhaps as you said it but close to what you said capping production expansion of new Boeing 737 Max airplanes to ensure accountability and full compliance with required quality control measures.

Is Boeing operating under that cap now or—I am confused. I followed this as best I know how. Or does Boeing have its own cap that is actually lower than the cap that is placed on them by FAA?

Mr. WHITAKER. They are operating below that cap.

Senator MORAN. So what standard are they utilizing to make a determination about when they can increase production?

Mr. WHITAKER. Well, we have had a direct conversation with them about that. So these five KPI metrics are in place now. We are monitoring those and we are monitoring the deployment of the steps in this plan.

The plan is not merely a theoretical plan for the future. That is actually being implemented in real time. So a lot of the work that used to travel from Wichita to Renton is now done in Wichita.

Those changes—in Wichita—those changes have already taken place. They are deploying tool management and part management procedures. So we are monitoring that as well and we will continue to monitor that as they start to ramp up production and make sure that those metrics stay in the green as that happens.

Senator MORAN. Are you—you would be informed—FAA would be informed if there was an intention of increasing—ramping up production. Is that true?

Mr. WHITAKER. We would, and we actually issue the airworthiness certificates so we have direct oversight of that.

Senator MORAN. And is there an intention on the part of Boeing to increase that production at this point?

Mr. WHITAKER. They have not discussed with us a specific intent to increase, but the expectation is they will start to increase back toward that cap as time goes on.

Senator MORAN. I am going to go to as time goes on. Can you in any realistic way tell me what the path is to returning to levels of production that are consistent with the market demand for that aircraft?

I am looking for is there a month by month expectation of how Boeing returns to production levels to meet the demand of their customers.

Mr. WHITAKER. There is not and that has not been part of our discussions. Our discussions have been focused around making sure these safety metrics are in place, understanding that as they reach those metrics and strengthen their quality programs they will begin to increase production. But we have not had specific conversations about time line.

Senator MORAN. And is there anything that—we are having this discussion about Boeing. Is there anything that you would tell me about Spirit and what is occurring there?

Any additional concerns or greater concerns, or are they doing what is expected to be in a position to take advantage of the circumstance when Boeing returns to additional production?

Mr. WHITAKER. We have visited Spirit and we have inspectors at Spirit. I think Spirit was the focus because they manufactured the fuselage and one of the early problems identified that was associated with the plug door was having the fuselage leave Wichita with errors that needed to be corrected later in Renton.

That process has changed. Boeing has sent their inspectors to Wichita to make sure the fuselage is without significant errors before they ship. So that has been a major rework of the process. That has, largely, been completed.

Senator MORAN. You met with—I have a date here. I think all of the data is probably irrelevant. You met with employees at Renton—

Mr. WHITAKER. Yes.

Senator MORAN.—Boeing employees at Renton, visited with them. I did the same thing in Wichita at Spirit a couple weeks ago. What was your take? What did you learn from the employees about

where they think they are and where they are going and what needs to be done?

Mr. WHITAKER. So the visit to Renton was very early in this process and the feedback from the frontline employees was very similar to the feedback from the 103 panel and very similar to the feedback from our audit, which was the focus had been on production and that was the driving factor and the driving force in that shop. So this has really been about changing that dynamic and having safety be the driving force.

Senator MORAN. Almost every week I am told next Monday there is going to be an announcement of the merger or acquisition of Boeing—of Spirit by Boeing. Are you involved in any way in that discussion?

Mr. WHITAKER. I am not involved in that discussion. My only conversations with Dave Calhoun have been about making sure Boeing is exercising its control over its key suppliers to make sure they are pushing down quality management programs, SMS, to make sure those parts are coming in as they need to. But I am agnostic on how they do that, whether it is through acquisition or contractual.

Senator MORAN. So you are looking for the results—the safety requirements being met and have no—at least public or maybe not even on your personal opinion as to whether reacquiring Spirit lends itself toward a safer manufacturing process?

Mr. WHITAKER. That is correct.

Senator MORAN. OK. Thank you, Chairwoman.

The CHAIR. Thank you, Senator Moran. Thank you for your leadership on the Subcommittee.

I know we are expecting several members, but while we are waiting for them I am going to go back to SMS and the question. I want to go back to the FAA but I also want to ask about another part of this system for manufacturers is the employee and the employee reporting system.

The expert review panel recommended that Boeing implement the Aviation Safety Action Program at all production sites. Unlike the current reporting system, Speak Up, this system is a tri-party process for the FAA, Boeing, and union representatives to jointly file reports and address problems early.

So it is kind of an identification system. Speak Up lacks that role for the FAA and union to review the concerns employees are submitting.

So we have, obviously, talked to the workforce about these issues and I want to hear from you what you believe on this expert review panel and the input employees and your visibility into this? You talked about more data and information.

Mr. WHITAKER. Yes. I think the ASAP program is a very robust tool for hearing from the employees and, as you indicated, the FAA is part of that process. So we are supportive of that and we would like to see that extended throughout the workforce with that same transparency and participation by FAA. We need to have visibility into the reporting that is coming from the employees.

The CHAIR. So is that—do you have that now currently in other manufacturers?

Mr. WHITAKER. I can respond separately with some more detail about that from other manufacturers and information about their programs.

The CHAIR. I think, again, some people might not understand or think that this might be an over requirement when in reality you think it should be part of a basic system that you have?

Mr. WHITAKER. It does, and we have our own redundancy by having an FAA hotline and we have requested to Boeing's CEO that they communicate our hotline information to their employees, which they have done, and we have had hotline reports come in through FAA.

The CHAIR. So you do not think there is anything deleterious here about having FAA have some insight to this?

Mr. WHITAKER. No, I think it is quite necessary.

The CHAIR. OK. So what can the FAA do to ensure that that actually happens?

Mr. WHITAKER. Well, as part of this plan—part of the SMS roll-out under the comprehensive plan will include a robust system for employee reporting so that will be one of the things that we are monitoring and we will make sure that that is transparent.

The CHAIR. OK. So appreciate that if you could help lean into that. I think your point about data, whether it is SDRs or whether it is—we and ACSAA put this risk report that is required every year because we want to see what we think are the developing top risks.

I think it was effective when NTSB called out that one of the number-one risks they were seeing was near miss and lack of implementation of technology and shortly thereafter the Administrator at that time, Acting Administrator quickly said, "let us get a rule and get something done." So those are the kinds of system improvements that we would like to see.

A large part of the FAA's oversight is making sure there are enough safety inspectors and we recognize the importance that the safety workforce is and that is why enacting the recent law—we basically authorized \$66.7 billion over 5 years to help boost the FAA's workforce and to make sure that we have an increase in the number of aviation safety inspectors. This is to be done across all shifts, obviously, at manufacturing sites.

How does the FAA know what the right number of safety inspectors are? How do we use metrics to measure their success?

Mr. WHITAKER. Well, the interaction between what the inspectors are finding and what the staffing needs are is sort of a continuous feedback loop.

So with respect to Boeing, as we do the audit and we find gaps in the production process that gives us insight into where we need the inspectors and they continue to deploy and continue their audits and inspections and we redeploy assets as needed.

So, for example, there are a lot of issues around tool management and part management, and we would expect as Boeing deploys newer state-of-the-art technologies to manage their tools and parts once we see that successful we will not need as many inspectors there and they might be redeployed to some other aspect of production.

So it is designed to be a flexible system based on feedback. We initially deployed 24 inspectors. I think we are up in the low 30s now to Boeing and Spirit and our target is 55. So we are continuing to increase—train and increase inspectors to deploy.

The CHAIR. How do you know that 55 is the right number?

Mr. WHITAKER. Well, we—that is our best estimate at this point based on where we think we need to deploy them. But that number could change over time and I think a key to how we want to do oversight, going forward, is to have flexibility to make sure we are putting our assets where they need to be and removing them from less risk areas to deploy them more effectively.

The CHAIR. Thank you. I see Senator Blackburn on the screen. Senator Blackburn, are you ready?

**STATEMENT OF HON. MARSHA BLACKBURN,
U.S. SENATOR FROM TENNESSEE**

Senator BLACKBURN. Yes, indeed, I am.

The CHAIR. Thank you.

Senator BLACKBURN. Thank you, Madam Chair. I appreciate it, and I am so grateful that we are having the hearing today and, Mr. Whitaker, always appreciate your time.

I want to go to an issue you and I have discussed before and I deals with these Chinese drones and the fact that we have had some of these drones in the country.

We have—as you know, I have worked on this making certain that Federal funds are not used, and the President has signed a law, a provision that I had championed, that would mean that we stop using—we would be explicit in not using our Federal funds or allowing our Federal agencies to operate these Chinese drones.

So what I would like for you to do is just give me an update. Where are you on this? Have we ceased using the Chinese drones and what is your time line for moving away from these?

Mr. WHITAKER. Thank you, Senator.

I will have to revert back and provide that answer to you separately. I will look into where we are in complying and what that timeframe is so happy to respond to that later.

Senator BLACKBURN. And are you coordinating with CISA and the FBI as you are moving away from these drones?

Mr. WHITAKER. We have very strong coordination with all agencies that are involved in this so that is a strong yes, we are.

Senator BLACKBURN. OK, wonderful.

I was disappointed in the FAA during the reauthorization debate and I had worked on the issue to raise the pilot retirement age to 67, and we all know that due to the pressure from the pilot union's leadership and my colleagues on the other side of the aisle that it seems the FAA caved to political pressure from big labor and a letter was sent on February 5 of this year in your name to Chair Cantwell opposing raising the pilot retirement age, and when questioned by Representative Nehls over in the House you correctly implied that the role of the FAA was to give technical assistance, not take policy decisions, and during that exchange you seemed to be unfamiliar with the letter itself.

And all this leads me to ask you who was in charge of writing that letter? Were you aware the letter went out and will you com-

mit to keeping politics out of the FAA and focus instead on safety and oversight?

Mr. WHITAKER. I certainly review every letter that I sign so I am familiar with the letter. Our intention with that issue as with all issues was to provide technical advice, which in that case was around compliance with international standards and the need for data if we are going to have a change to the retirement age.

So my intention is to not become involved in political disputes and focus on safety so you do have my word on that.

Senator BLACKBURN. Thank you. Thanks, Madam Chair.

The CHAIR. Thank you.

Senator Welch.

**STATEMENT OF HON. PETER WELCH,
U.S. SENATOR FROM VERMONT**

Senator WELCH. Thank you very much.

You had the chance to be working with Boeing and I want to give you an opportunity to explain your view of their level of cooperation and how that extremely important process went?

Mr. WHITAKER. Thank you for the question, sir.

We have had very intensive interactions with Boeing since this incident on January 5th including a meeting with the entire executive team early after and then just a couple weeks back.

I will say there has been a shift in tone over that period of time and, of course, there have been some personnel changes over that period of time as well. We have worked closely with Boeing throughout that period on the comprehensive plan.

It was not an assignment to slide under the door at the end of the 90 days so we had a lot of input into that process and I think we have ended up with a comprehensive plan. It covers all the elements we think needs to be covered.

But it is a roadmap. It is going to adjust to circumstances as we—as it gets deployed, and I think the other dynamic I will mention is that my focus has been on making it clear this is a very long-term journey.

You do not change the culture of an organization quickly, and so we have seen an increasing recognition that this is a long journey ahead.

Senator WELCH. All right. So the bottom line here is there is an absolute need for there to be a culture change in order for us to have confidence?

Mr. WHITAKER. No question. No question.

Senator WELCH. The second thing is the 90-day plan they put in place that is good but what is the accountability? How will we know that there has been follow through and they just do not kind of walk away from the follow through to make it work?

Mr. WHITAKER. That is really the core issue and Chair Cantwell mentioned that in her opening comments. I think there are a number of things that we are doing. We have not—we are not putting together a plan and then setting them off and hoping that it gets executed.

We will be closely working with them. We will have boots on the ground at their facilities so we will be able to interact with the employees directly and have a sense of what is going on.

We will be able to monitor the deployment of the SMS and quality assurance programs. We will continue to have audits and, importantly, we have cap production so we have an ability to ensure that they are executing.

Senator WELCH. Thank you. I want to ask you a little bit about the electric aircraft infrastructure pilot program. That is very important to us in Vermont and, as you know, the FAA reauthorization established a new five-year plan.

I just want to ask you where you stand with respect to being supportive to stand up the pilot program at the FAA to improve the electric aircraft infrastructure at our airports?

Mr. WHITAKER. I think that is a very important part of encouraging this new industry, advanced air mobility and related industries. We have to have the infrastructure, not only the physical infrastructure but also the regulatory infrastructure.

So we are also working to make sure we have the operating rules in place in time so when these vehicles are certified they know how to operate them. So I think that is an important piece.

Senator WELCH. Thank you.

My last question is about the FAA efforts to try to improve the availability of air traffic control and that is important to us.

It is important to everybody. But we lost our flight to New York City, which is—we have got to correct that and my understanding is that the lack of air traffic controllers was relevant to that.

With respect to the changes that were made in the authorization act what is your assessment of where we are going to be on addressing that shortage of air traffic controllers?

Mr. WHITAKER. Well, there are two pieces to that particular question. One has to do with our hiring generally. So we have increased our efforts to hire across the board by making it easier for military controllers to hire directly into the agency by putting together a program to allow aeronautical universities to train students to the same standards as the academy so they can come—after taking the exam come directly into facilities.

So we have able—we have been able to really open up the pipeline for new controllers. It takes a long time to make a controller so there is a little bit of a lag but we are making really good progress.

With respect to the service to Burlington, I think that was largely a reduction because we have reduced capacity on the East Coast corridor by 10 percent because of staffing problems specifically in New York.

We are in the process of moving some of that airspace to Philadelphia. That has been a long process but we were hoping to have that cut over in July—end of July, and Philadelphia is a very healthy facility so we should be able to staff up much more effectively there.

So it is going to take some time to get that elephant through the boa but we think it is going to be a solution to this problem.

Senator WELCH. OK. Thank you. I would like to commend you on a good start in your new job, and I yield back.

Mr. WHITAKER. Thank you, sir.

The CHAIR. Thank you.

Senator Cruz.

Senator CRUZ. Thank you, Madam Chair.
Good morning, Administrator Whitaker.
Mr. WHITAKER. Good morning, sir.
Senator CRUZ. Welcome.

In March during my questioning of NTSB Chair Jennifer Homendy when she appeared before this committee she told me that Boeing was missing key documents and records about the specific MAX 9 aircraft involved in the Alaska Airlines Flight 1282.

Has your investigation determined whether the documents specific to that MAX 9 plane whether they even exist?

Mr. WHITAKER. That is part of our overall investigation of this incident and my understanding is that is true that they do not exist.

Senator CRUZ. If I understand correctly, the security camera footage was overwritten. Boeing does not know who performed work on the door plug and no paperwork exists. Is that all right?

Mr. WHITAKER. That is my understanding.

Senator CRUZ. That seems remarkable and shocking. Is there concern at the FAA that an employee at Boeing is hiding key information about this?

Mr. WHITAKER. That investigation is ongoing and I know the Justice Department has a separate investigation underway. So I think too early to have an opinion about that, but we will thoroughly investigate those circumstances.

Senator CRUZ. Prior to the Max crashes Boeing was a storied company with a rich history of building the best and the safest planes in the world. During the pandemic Boeing conducted employee buyouts and involuntary layoffs. Once travel picked up and airplane orders resumed Boeing hired to fill the workforce gap.

According to a *Wall Street Journal* article published this week, of the more than 30,000 Boeing employees represented by one of the unions, roughly, half have less than six years experience. That is double the level before the pandemic.

During your investigation to what extent has the inexperience of engineers or inspectors contributed to some of the observations made in the FAA's audit?

Mr. WHITAKER. I think significantly and I would say that this lack of transfer of knowledge from early retirements and the impact of COVID has been a risk throughout the aviation ecosystem and I think the better companies have used their SMS system to identify the risk and put specific programs in place to mitigate that, either bringing retired employees back to monitor, giving more training or having fewer requirements for new employees. Boeing did not have a program like that in place and that is a gap that was identified and is part of the new plan.

Senator CRUZ. That same *Wall Street Journal* article went on to say that Boeing executives, quote, "Did not realize the extent of the knowledge loss until after the Alaska accident." What requirements will the FAA impose on Boeing to compensate for the inexperience on the factory floor?

Mr. WHITAKER. So the plan includes a number of employee specific initiatives focused on training, increasing the amount of training but also their instructions and installation protocols are extraordinarily complex and they have recognized that.

So they are going through a process to simplify and then they are going to be able to measure proficiency of employees to perform tasks. So that is a part of the KPI measurements that we will be looking at.

Senator CRUZ. In January you announced that Boeing would not be allowed to produce more than 38 Max 9 aircraft each month. Right now Boeing is producing around 32 each month. My top priority in this regard, as is yours, is ensuring that these planes are safe, but we also want Boeing to be competitive worldwide.

What metrics will Boeing have to meet in order for it to be able to make more planes?

Mr. WHITAKER. So there are a variety of metrics. There are the five or six KPIs that we will be monitoring. Those are up and running. We are establishing what is the green zone, what is the yellow zone, and what is red. So those need to stay in the green zone while they are increasing production.

And then we have progress that we are monitoring on the other elements of the plan, the rollout of tool management systems and training and things of that nature and we will measure that through the audit. So it will be a combination of those factors.

We will be able to watch that as they start to increase production from the current level and make an evaluation as they get to that 38 number.

Senator CRUZ. As you know, the Boeing Max airplane crashes in 2018 and 2019 shocked and scared pilots and passengers alike. Boeing made terrible mistakes that killed hundreds of people and shattered the company's reputation. Likewise, the FAA was caught flat footed with shoddy oversight.

In this latest crisis of confidence, what is the FAA doing differently to hold itself accountable for the oversight the agency is required to conduct?

Mr. WHITAKER. So it is a good question and a fair question, and I think it is—we have been too much in reactive mode, waiting for some event to occur and analyzing the events to find out what to do differently.

So we are shifting to a much more proactive approach. So on the manufacturing side it is introducing inspectors and coming up with clear indices to monitor performance.

We are also taking a look at our own risks including controllers, which is why we did this fatigue study, and we are building in more rest for schedules that should not have existed, frankly, before.

And, really, the ultimate goal is to get to data and to get the data that we can analyze up front to try to see these things before they happen, and that is not an easy lift but it is achievable and that is going to be really one of my main focuses, going forward.

Senator CRUZ. Thank you.

The CHAIR. Senator Klobuchar.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you very much, Chair, and thank you very much for your work, Administrator.

I am going to start with one quick thing. I think we all know it is critical for safety and security that we upgrade our aviation system, and I am kind of stepping back from a lot of the good questions that have been asked, looking back at the outage to NOTAM, which, as you know, alerts personnel to potential safety hazards along a route and grounded when that happened—last year grounded the flights nationwide, and Senator Moran and I worked together with Senator Capito and Representative Stauber over in the House to pass a bill that directs the FAA to upgrade the NOTAM system by September of this year.

Could you tell me where FAA is on that deadline?

Mr. WHITAKER. So that progress—that program is on track, and in response to those events we have taken a look at the resilience of the system generally to make sure that we can come up with a protocol so that we do not have a single system go down and have it bring the whole NAS down.

So we are focusing on the resiliency of our systems and also our ability to operate among cybersecurity threats and the like. So there is a body of work around that.

Senator KLOBUCHAR. Thank you.

There have been an alarming number, as you know, of close calls on runways. This year FAA reported 23 runway incursion events that occurred in 2023, a collision in January at the Tokyo Airport where people died, and we worked with the Chairman and the Ranking Member on the FAA reauthorization to include provisions to ensure planes are equipped with technology that alert pilots to the presence of other planes on the runway.

How will these technologies improve safety?

Mr. WHITAKER. Well, the runway safety paradigm involves multiple layers of safety. So it involves the human factor, the workforce, the controller's eyes on the situation, the pilot's eyes, the controller's supervisor's eyes on the situation.

So training and staffing are important, and then the technologies provide layers of safety as well. So we are deploying a number of technologies out there. One of the most promising ones is installed in our TRACONS that give alerts if there is an approach that is coming into a runway that is in use. That has been deployed.

We have other surface awareness initiatives that give controllers tools to get alerts if there is a potential conflict.

So we are continuing to look at individual situations because all these airports have their unique challenges but trying to find more layers that we can insert into that.

Senator KLOBUCHAR. Good. I was going to ask about the air traffic control hiring, something I care a lot about and have worked with my colleagues on.

I know you were already asked that by Senator Welch, and if there are follow-ups I will put it in writing. Aviation workforce in general—the *Wall Street Journal* reported earlier this week that Boeing is facing a dearth,—this is a quote—“a dearth of experience on the factory floor after legions of senior machinists retired when the pandemic hit and in the years since.” I think we are seeing that in other workplaces as well.

Could you talk about the importance of investing in a steady pipeline of skilled aviation workers? The bill that Chairwoman

Cantwell and Senator Cruz worked on included the bill that I led with Moran, Duckworth, and Thune to boost the FAA's 625 grant program. But just talk about that pipeline.

Mr. WHITAKER. Yes, I think that is very important legislation and this is a—the workforce challenges are present in all aspects of our industry. There has been a significant loss of experienced workers and a lack of that natural transfer of knowledge.

So what we are encouraging operators in the system to do is recognize that as a risk and build programs around that to mitigate that risk, which means more training, more mentoring, and more time to complete tasks.

Senator KLOBUCHAR. Last, you talked about in your testimony that the FAA has permanently changed its oversight approach following the January 5th incident with Alaska Airlines, and do you believe that action plan is sufficient to change the safety culture, not just Boeing but also suppliers?

Mr. WHITAKER. So the action plan it is comprehensive but it has to be implemented. It is just a plan. It is just a roadmap. So I think the difficult part is in that implementation part of that does include making sure that suppliers are pulled into the SMS process so that they can mitigate risk and recognize the supply chain is a risk that needs its own separate mitigations.

Senator KLOBUCHAR. And just along the lines, how have the FAA been coordinating with international regulators on that supply chain issue with safety?

Mr. WHITAKER. So our—my coordination internationally since taking this role has been fairly limited. We did have a EASA conference this week so I was able to spend some time with the new head of EASA.

So we have agreed to try to work together on some areas and safety is really the bedrock of what that is going to be and we specifically talked about how to cooperate on data sharing and analytics.

Senator KLOBUCHAR. OK. And on the good news front I wanted to thank you for the work that has been done on getting approvals for some of our runways.

You and I have talked about some super small airports and some of the things that had to be done and the funding that is going out as a result of the bipartisan infrastructure law that has been really helpful on that front. So thank you.

Mr. WHITAKER. Great. Great. Glad to hear it. Thanks.

The CHAIR. Thank you. And thank you, Senator Klobuchar, for both your leadership on the NOTAM and on the near-miss language that was in the FAA bill. So much appreciate that.

Senator Markey.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. Thank you, Madam Chair.

Administrator Whitaker, today I just want to thank you for the work you have been doing. I have been impressed with the speed and the aggressiveness with which the FAA has responded to Boeing's safety crisis and I wanted to thank you for your leadership.

Boeing recently presented its 90-day plan to the FAA detailing how it would get its safety culture back on track. The plan looks extensive but we know that Boeing's safety problems are deeper than missing bolts and poor documentation.

The problem is the lack of a safety culture, a culture that was eroded by decades of profit-driven decisions. Administrator Whitaker, do you agree that Boeing's plan must have buy-in from everyone in the organization, especially the employees designing and building the planes?

Mr. WHITAKER. I do agree with that. Yes, sir.

Senator MARKEY. I agree with you, and, in that case, in drafting its 90-day plan do you know whether Boeing consulted the unions representing the engineers and machinists doing this work?

Mr. WHITAKER. I do not have specific information on that. I believe that they have and I know that we have had conversations to get that frontline feedback. I do know that they have had several safety stand downs where they have heard from all of their employees, and so they have reached out to get input from them.

Senator MARKEY. Well, did the FAA ever indicate to Boeing that certain stakeholders including unions representing its workers should be involved in the plan?

Mr. WHITAKER. Yes, in the sense that that is part of a robust SMS system. So you need to have avenues for that employee—that frontline employee.

Senator MARKEY. Well, here is what I have heard. I have heard that unions were not significantly involved in developing the plan. This does not make sense to me. Over and over again Boeing's business decisions have undermined safety.

These decisions have mostly been made by corporate executives in cushy corner offices without any input by the engineers and workers who have historically defined Boeing's engineering and safety excellence.

Now you are telling me the same people who steered Boeing off the flight path of safety are the ones developing the plan to make things right with no input from workers, as I have been talking to the workers.

It should be obvious that the workers charged with designing and building our planes should be included in developing the plan to transform Boeing's culture.

Boeing does a lot of actual rocket science but this is not rocket science. To be honest, the lack of union involvement in developing the safety plan is not surprising. It exposes Boeing's deep and long-standing hostility toward organized labor to the direct detriment to safety for all of us.

And do not take my word for it. Take Boeing's. I have here screenshots from an internal Boeing training document that describes unions as something to be contained and encourages managers to limit interactions between union and nonunion employees and it even has a map that shows Boeing's concerted efforts to move critical Boeing safety functions away from the union's stronghold in Everett, the location where Boeing's engineering and safety excellence culture was built. Boeing treats unionization like a virus that needs to be contained.

Now, the company is surprised when employees fear they lack protection from retaliation, when they stick their neck out on safety issues. Boeing is surprised that a culture of trust has been eroded across the organization.

At every turn Boeing has undercut unions' ability to protect workers from retaliation or facilitate trust between workers and management. The turbulence today should have been on their radar for years and, personally, I think the FAA has a role to play in ensuring that workers are at the decisionmaking table to transform Boeing's safety culture.

So, Administrator Whitaker, as the FAA oversees the implementation of Boeing's oversight plan can you commit to ensuring Boeing's unions have a voice at the table during the planning process?

Mr. WHITAKER. I can certainly commit that the SMS program will not work without extensive employee feedback and open channels of communication. So that will be part of the—that will be part of the plan, going forward.

Senator MARKEY. Thank you. Well, I think it is vital that the FAA use the full extent of its authority here to ensure Boeing's employees are involved and have a voice when it comes to reviving the company's safety culture, and I look forward to continuing to work with you at the FAA and all interested parties on those issues.

And I thank you, Madam Chair, for your great leadership on all of these issues.

The CHAIR. Thank you. And while you were not in the room the FAA Administrator did commit that an SMS system should include an input from employees. That would include the FAA getting access to that information.

I think that has been one of the contentious discussions there, at least with SPEEA, that they want these issues to be brought up as soon as possible and to be recognized by the FAA.

So I appreciate Administrator Whitaker's commitment to making sure that that happens as part of a safety management system, just one aspect of what Senator Markey brought up.

Senator Moran.

Senator MORAN. Thank you again, Chair.

Administrator, production is capped, we talked about on the Boeing 737 Max. What do you know about the procedures and policies in place at Boeing and/or Spirit about other aircraft?

Are the necessary—is the necessary oversight occurring to make sure that the manufacturing of those aircraft is safe and sound?

Mr. WHITAKER. So our approach here has been to, first and foremost, focus on the Max but the comprehensive plan and our new model of oversight will cover the entire Boeing commercial aircraft lineup and my visit to Charleston tomorrow is part of that expansion.

Senator MORAN. And as Senator Cruz was talking about the workforce and the relatively—relative young age tenure of those new employees we have really worked hard, Senator Duckworth and I, on increasing the opportunities for greater education and training of an aviation workforce.

Do you have suggestions of any ideas that we ought to be pursuing in regard to safety as we train and educate engineers and

mechanics and others in the aviation world? What should we be—what kind of training and education should occur in regard to safety procedures and process?

Mr. WHITAKER. Well, I would say, first, I think the outreach to younger people is key in developing this workforce and keeping it broad and the sooner—the earlier the better in that regard.

But I think the lack of understanding around safety management systems is a gap and we have seen that with airlines who were initially reluctant but ultimately have embraced this technology enthusiastically and I think that is the gap we really need to focus on.

Senator MORAN. Administrator, there are lots of jobs in Kansas and across the country that are related to aviation and aerospace. I am anxious for workforce opportunities to continue and to grow.

None of—I would again highlight, as I have said in every setting that I have spoken about this topic, is there is no future for the aviation aircraft industry if the flying public is not safe and knows that they are safe and so anything that short circuits that would be very short sighted.

But I am anxious when those protocols and safety is as certain as it can be that our workforce has the opportunity to return to the levels of—to meet market demands. This is also in addition to an employment issue.

Boeing and its suppliers are hugely important to our manufacturing base and hugely important to our national defense and security. So the work that you are doing has significant consequence in many aspects of our Nation's lives.

Mr. WHITAKER. Yes, sir.

Senator MORAN. And I thank you for your partnership with this committee and with me in regard to strengthening aviation security.

I would indicate to you as we work on our Fiscal Year 2025 appropriation bill please make certain that—I guess I will have to ask you because you cannot overcome—well, I guess you are an independent agent. You need to tell me what needs to be done in the appropriations process to make sure that you have the tools for that safety environment.

Mr. WHITAKER. Yes, we will do that.

Senator MORAN. And, finally, do you feel that the—do you feel confident in the safety of the flying public today and planes that many Americans are on every week and certainly throughout the year—summer travel season? Can Americans feel safe about their circumstance as they fly across the country and around the globe?

Mr. WHITAKER. Yes, they can, and air travel continues to be the safest way of travel by a very, very large margin. We keep it that way by not resting on our laurels and I think in this case shifting from a reactive approach to a more aggressive approach that focuses on data to find those risks.

There are a lot of redundancies, a lot of layers of safety, but we do not want to test the layers. We want them to be there in case we need them, not to use them. So it is—it does remain safe and we are going to keep it that way.

Senator MORAN. Thank you, sir.

Mr. WHITAKER. Thank you.

The CHAIR. Thank you.
 Senator Hickenlooper.

**STATEMENT OF HON. JOHN HICKENLOOPER,
 U.S. SENATOR FROM COLORADO**

Senator HICKENLOOPER. Great. Thank you, Madam Chair.

Mr. Whitaker, thank you so much for being here. Thank you for your service. I appreciate that and I will—

Mr. WHITAKER. Thank you.

Senator HICKENLOOPER. I will restrain myself and not continue talking about Boeing. The issue has been pretty well covered.

We did have four emergency landings that were due to Boeing malfunctions at Denver International Airport. Obviously, canceled flights, significant delays. But I think you have navigated that terrain successfully.

Let us move on to regional airlines struggling to hire enough qualified pilots and, obviously, we need to continue training a new generation of pilots to make sure that rural areas have reliable connections through air travel.

Many flight schools offer flight time for pilots to train at general aviation airports like Rocky Mountain Metropolitan Airport and Centennial Airport down in south metro Denver.

Some of the residents near these airports are concerned about the noise—the continuing escalation of airport noise and how that impacts their communities. Airports, community members, FAA representatives have been coming together at community noise roundtables to try and identify solutions that can work for everybody.

So how does the FAA engage at a local level to ensure that we accomplish the twin goals of maintaining a workforce pipeline of trained pilots and at the same time meaningfully addressing the concerns of the community about the noise—increases in noise?

Mr. WHITAKER. Well, on the pilot hiring issue I there is some good news. I think that the pipeline has expanded and we are seeing less pressure in that space. There does seem to be particularly a shortage of experienced pilots who wear the captain's uniform so that is still a challenge.

But I think it is a pretty robust pipeline and it has become a much better career than it was 20 or 30 years ago, much more stable and better paid than it had been.

So I think market forces are turning out more people interested in that space and with some of the new technologies coming on board I think it will continue to be a fruitful career path.

Noise—I think you have described it well. It needs to be a community discussion and it needs to happen early in any process whether it is changing airspace or changing configuration of an airport to make sure you are adequately capturing noise.

It cannot just be after the fact where you are only hearing from the people who have been harmed by it. So FAA has been very forward leaning on making sure they engage early with communities to gather viewpoints.

Senator HICKENLOOPER. All right. Thank you on that.

And this is almost more of a shout out for the FAA. Northern Colorado Regional Airport, like many small airports, faces unique

challenges managing the airspace near other regional airports along the Front Range in Colorado.

The airport has adopted innovative and efficiency—efficient technology to address these challenges including the Colorado remote tower project which is a joint effort with the state of Colorado and the FAA.

The airport has also installed what is called a STARS surveillance system that gives air traffic controllers additional situational awareness to safely manage flights. FAA has been a partner in this right from the start.

How does the FAA work with airports like Northern Colorado Regional Airport to identify and use this kind of innovation technology to improve safety and reliability?

Mr. WHITAKER. Well, we have a fairly regimented process with respect to towers, how they are equipped and what technologies come in based on the traffic demand and projected growth.

But the contract tower program is one of the main tools we have for smaller airports and we have flexibility in that program to allow towers to transition to Federal towers.

I know there have been some interesting pilot programs on remote towers. I think the economics have been a little challenging for that program but it is still a technology that is being evaluated.

Senator HICKENLOOPER. Great. And then you guys have an important role in overseeing the safety of passengers across the national airspace system including space launches, and spaceports are being built now across country.

As you know, there is one in Colorado called the Colorado Air and Space Port and these facilities provide economic opportunities for their communities while supporting the growth of the aerospace industry, a lot of small businesses filling this space.

Our bipartisan Space Port Act provides targeted infrastructure resources through the FAA space transportation infrastructure matching program to help some of these new spaceports succeed.

Administrator Whitaker, how is the FAA working to balance the interests of space ports with general aviation airports nationwide?

Mr. WHITAKER. It is a good question and the space ports—I think when I was here last time there were a handful of launches a year and now we have a handful of launches a week. So it has grown really exponentially.

Those vertical operations are a little disruptive to our horizontal NAS so it has created some challenges but I think we have managed to work around how to integrate those services without disrupting traffic.

So we coordinate very closely with the space launch operators to try to avoid busy seasons or congested areas so we do not have to close much airspace. But that is a balance that we work.

Senator HICKENLOOPER. We appreciate all the effort on that. I yield back to Madam Chair. Thank you.

The CHAIR. Thank you, Senator Hickenlooper.
Senator Rosen.

**STATEMENT OF HON. JACKY ROSEN,
U.S. SENATOR FROM NEVADA**

Senator ROSEN. Well, thank you, Madam Chair, and really an important hearing and I want to thank you, Administrator Whitaker, for being here today to really discuss how Congress and FAA can work together.

We have to be sure American skies can continue to be safe and proper oversight mechanisms—that they are in place and always being improved.

And so I want to talk about Boeing pilot input a little bit. In April this committee held a hearing to discuss the findings and recommendations issued by the Organization Design Authorization—we will just say ODA—an expert review panel.

In that hearing I asked a question about how the ODA report found that input from Boeing's pilots was neither consistently nor directly delivered to the highest levels of decisionmakers in an organization and I said it then and I am going to say it again.

I believe it is essential to make sure pilots have a seat not just in the cockpit but at the table, and so we ensure that their expertise—well, they are not boots on the ground. They are pilots in the air. But that their expertise guides and enhances air safety.

So in the summary of the new safety and quality plan Boeing committed to elevating human factors and strengthening the role of pilots in the design process.

So does this plan go far enough to elevate pilot input in the design process and how will the FAA actually really ensure there is meaningful and consistent input from pilots that are integrated and prioritized in Boeing's design process? Both meaningful and consistent, I think, is a key there.

Mr. WHITAKER. Yes, that is really a key question for this entire plan, making sure that there are avenues and meaningful avenues for frontline employee input so pilots but also people on the floor, people who are building aircraft.

That is an important feature of this. It is something that we are able to monitor through culture surveys that are ongoing to make sure the employees feel that they are empowered and they have a voice and so we can take the findings from those surveys and look at changes.

The comprehensive plan is really a roadmap and I think we all understand it will have to be adjusted as we go forward so if that input is not meaningful we will make adjustments.

Senator ROSEN. Well, this really leads me to my next question because perhaps there could be retaliation, right, and that has an impact on safety as people make their—voice their concerns, right?

So the ODA expert panel report found instances where Boeing supervisors when they worked on annual assessments and self-audits or an investigative process that could present conflicts of interest or erode independence or even compromise Boeing's commitment to a nonretaliatory and impartial environment for its workforce.

So throughout the report those interviewed gave—those folks that were interviewed gave examples of the consequences of just raising concerns about potential interference and potential retaliation for managers and supervisors.

So what confidence do you have? We think about the report. We want everyone to be included. We want them also to be—feel free from the fear of retaliation, losing their job.

And so what confidence do you have that Boeing is taking the necessary steps to be sure that provider—workers have proper channels to go through and are protected?

Mr. WHITAKER. We will be monitoring the execution of that. The employee feedback loop and the ability to speak up without retaliation is one of the core pillars of an SMS system.

The SMS system is not only mandatory for Boeing now, but it is the core of our entire safety system. So if they are not able to achieve that then they have not achieved the SMS system.

I will also mention that all of the recommendations and findings of the 103 panel are—Boeing was required to incorporate into the plan so each one of those has to be addressed in that plan.

Senator ROSEN. Thank you.

I want to move on now to FAA's certification workforce because in 2019 in the wake of the 737 Max 8 crashes the Joint Authorities Technical Review recommended that the FAA conduct a workforce review of its Boeing Aviation Safety Oversight Office.

Among other requirements, the Aircraft Certification, Safety, and Accountability Act of 2020 that we passed the following year directed the FAA to carry out the review of its certification on workforce to determine whether the agency had expertise and capability.

And so I am sure you agree that a well trained workforce is paramount to an effective certification process. So with that in mind is there anything you can share about FAA's current certification workforce needs and how we here in Congress can help you meet those needs?

Mr. WHITAKER. Well, we have been—I would say that the ACSAA legislation was very comprehensive, very effective, and very spot on. So I have been very impressed with the scope and focus of that legislation. FAA, I think, has done a good job since that time in executing.

Its focus was, largely, on certification but it is the same organization that does the oversight of production. So we are making some additional changes beyond ACSAA to make sure we have a more inspector-focused approach to overseeing what is going on at Boeing on the production side.

Senator ROSEN. I will ask this off the record but we want to be sure that you have the workforce that you need in order to keep us safe and we will ask the remainder of our questions.

Mr. WHITAKER. Thank you.

Senator ROSEN. Thank you, Madam Chair.

The CHAIR. Thank you, Senator Rosen.

Senator Tester.

**STATEMENT OF HON. JON TESTER,
U.S. SENATOR FROM MONTANA**

Senator TESTER. Thank you, Madam Chair, and thank you, Administrator Whitaker, for being here. I appreciate it. I am sorry I did not get here earlier to ask—to listen to the questions because I do not want to be repetitive but I probably am. OK.

So Boeing's got some challenges. Boeing is very important to this Nation both from an economic standpoint and a military standpoint. They are really pretty damn important. I have my concerns if they continue the way they are going that they will be able to continue to exist. That is just my opinion.

When we have failures within the production process it tends to lead for people not to trust the company. The FAA plays an important role in this because you do—you oversee the people who inspect. Is that correct? And are those people employees of Boeing or are they employees of the FAA?

Mr. WHITAKER. So the delegated employees tend to, largely, be on the design side of the house. So there are a few on the manufacturing side so the inspectors who are there are FAA employees.

Senator TESTER. They are FAA employees?

Mr. WHITAKER. Yes.

Senator TESTER. So if that is the case—because I thought it was the other way around. I thought it was the FAA certifying Boeing employees to do the inspection. What is going on in the FAA? Why are these kind of failures happening?

Mr. WHITAKER. So we did not have the inspectors on the ground in the factories before January 5th so that is a change.

Senator TESTER. Why is that?

Mr. WHITAKER. It was, largely, viewed as an audit process to make sure that the quality assurance programs were being executed and the appropriate paperwork was in place.

Senator TESTER. So post January 5th the rules of the road had changed?

Mr. WHITAKER. That is correct.

Senator TESTER. OK. And so that is good, by the way. I think that is very, very good.

So when the inspection is done now there are people that report directly to you?

Mr. WHITAKER. Absolutely.

Senator TESTER. They have no connection with Boeing whatsoever?

Mr. WHITAKER. That is correct, and that is a change and I have met with those employees. They go around, they talk to the Boeing employees. They conduct audits. They verify work has been done. We started with about two dozen. We are up to about three dozen now and we are going to get up to a higher number, going forward.

Senator TESTER. And are those three dozen Boeing-specific inspectors or is that overall inspectors that were hired by the FAA?

Mr. WHITAKER. These are inspectors that we have moved to the Boeing facilities and also to the Spirit facilities.

Senator TESTER. And long term how many inspectors you think you are going to need for that to be able to be where you think the safety violations or whatever you want to call them are that you are comfortable that Boeing is doing what they need to do to put out a superior product, by the way, like they used to do?

Mr. WHITAKER. Right. Right.

Our current target is 55 but we will adjust that as we go forward based on need.

Senator TESTER. OK. And these folks are in the plant. I assume they are running production 24/7, correct?

Mr. WHITAKER. They go to the plant. That is their place of work now and they are on all three shifts.

Senator TESTER. OK. OK.

Well, I am all in where I—I think that by what you said today you are taking the issues with Boeing very, very seriously and you are applying your people that you can hold accountable to make sure that the certification and inspections are done correctly. That is a fair statement to make?

Mr. WHITAKER. That is correct, sir.

Senator TESTER. OK. So you believe the oversight process right now, assuming we get to 55 in a proper myriad of time, is adequate or more than adequate?

Mr. WHITAKER. I do. We will continue to monitor that and we will make adjustments as we go forward.

Senator TESTER. And can I ask if during the production process since January 5th you have made recommendations to Boeing on how they can change or how they can do things different to meet the safety requirements?

Mr. WHITAKER. We have made a lot of recommendations. We have been in constant contact. When we requested the—in February that they create a plan within 90 days—

Senator TESTER. Yes.

Mr. WHITAKER. We have been in constant contact. It was not a homework assignment that they slid under the door. So we have given them—

Senator TESTER. And they did reply within 90 days?

Mr. WHITAKER. They did, and they provided a comprehensive plan.

Senator TESTER. And are they following that plan?

Mr. WHITAKER. They have already begun executing portions of the plan and we are monitoring that execution.

Senator TESTER. OK. Good enough. Thank you very much. Thank you, Madam Chair.

The CHAIR. Thank you. Thank you, Senator Tester, for those important questions, and has been brought up by some of the witnesses here there is a big distinction between our past work on certification oversight, which is a lot of what ACSAA covered, and now this production problem.

And so the Administrator is outlining what that production requirement oversight needs to look at. But we need both the certification oversight and the production oversight. We need both. We need both.

So but I thank you for illuminating that, Senator Tester, very, very much.

I was going to go here anyway. So you call these aviation safety inspectors, correct?

Mr. WHITAKER. Yes.

The CHAIR. And aviation safety inspectors do we have them well defined and trained and—both on the education side and do we have enough even people to educate them at our community colleges and other places, and are we paying them enough?

Mr. WHITAKER. So the teams that I met with at the factory were senior inspectors with a lot of experience—decades of experience.

So we had a very senior team there. We are continuing to hire engineers and inspectors.

We have created an augmented training program just because we are—the workforce is a little bit thin on experienced folks—to give them augmented training and work with some of the more senior folks to bring them on board.

So the ones who have been on board have been very experienced but some of the ones we are bringing in are less so.

The CHAIR. So what do you think the standard is? What do you think the standard is we should be adhering to as it relates to an ASI—an aviation safety inspector? What level of training and experience should they have in aviation specifically to do that job?

Mr. WHITAKER. Well, we often draw from qualified, certified mechanics who have experience actually working on aircraft—that is one of the richest veins that we can tap—and train them into the inspection protocols.

We want people who understand how these airplanes are put together and what the purposes of the quality checks and that they can verify that these checks are taking place.

The CHAIR. And do you think, again, that we have enough education programs at the community? The reason I am bringing this up is I am hearing something different than what you are saying today.

I am definitely hearing we do not have enough aviation inspectors, that we do not have enough qualified aviation inspectors, and we do not even have enough qualified instructors at schools to train the aviation inspectors, and one story I heard was that they said, yes, I have safety experience but it is in the dairy industry.

So we need an aviation inspector on the floor who has aviation experience, not just safety experience.

Mr. WHITAKER. Yes. Well, I think with respect to Boeing we are certainly putting our most experienced and best people on this. It is certainly the most important issue that we are dealing with right now.

I think it is true writ large that there is across the board a lack of experience and a lack of fewer—many fewer qualified people to pull from. So we are competing with the rest of the industry for those folks.

The CHAIR. And so you are saying you have moved people around?

Mr. WHITAKER. We have, absolutely.

The CHAIR. OK. So and in this existence of a door plug issue you would have had a safety inspector from the FAA on the ground that would have been monitoring these processes?

Mr. WHITAKER. So the—

The CHAIR. I just want to get a little bit granular here about what the safety inspector is.

So they would be verifying compliance to the specifications of what someone on production should be doing. They are not doing the production work but they are verifying something has been done the way it was supposed to be done and then it meets the requirements of design and certification. Is that correct?

Mr. WHITAKER. That is correct, and in the case of the door plug it would be identified as a critical safety component. So the inspec-

tors would focus on those more critical aspects of production to make sure that those are being done properly.

The CHAIR. So where was—if Boeing is saying, well, we do not have the documentation and we do not know who removed it, where was the aviation safety inspector?

Mr. WHITAKER. Well, we would not have had them on the ground at that point.

The CHAIR. And why not?

Mr. WHITAKER. Because at that point the agency was focusing on auditing the internal quality programs at Boeing.

The CHAIR. So what role did FAA having a lighter touch do to create this kind of system with a lack of safety culture?

Mr. WHITAKER. I think this has been a long evolution at Boeing. Not having been there I can only speculate. But I think it has been a long evolution and I think it was exacerbated by the workforce challenges of COVID.

But we clearly did not have enough folks on the ground to see what was going on in that factory.

The CHAIR. So an aviation inspector on the ground now—just, again, to go back to the clarity—would be in this case, in this exact case, certifying that the door removal process and reinstallation was done correctly to the specifications of the manufacturing requirements. Is that right?

They would have—they would not have been doing the work but they would have been double checking.

Mr. WHITAKER. They would have a process in place. It might be spot inspections. It might be a systematic inspection of certain parts based on the importance of that particular part and then randomly watching assembly process and ensuring that the proper instructions are there, the proper steps are being followed, the proper tools are being used, really a quality assurance oversight.

The CHAIR. And I so appreciate my colleagues showing up today and asking these questions because you are hearing the same theme. We want to know that the workforce is being listened to and that they are backed up.

And so when you have enough FAA oversight and they are there and communicating and double checking that it is a reinforcement. They become even a redundancy to the system even though their job is to make sure that there is true compliance.

Mr. WHITAKER. That is correct.

The CHAIR. And so I look forward to hearing how many people you actually think you need for the future to make sure this culture gets it right.

And so I do not know if that is 55. I do not know what the number is. That is why I asked earlier in the hearing what is the exact number. But I also want to—I also want to understand what the pay is for these individuals and I want to understand the education requirements and, again, what gap you think that we have so that we can accurately fill this.

I am—I see my colleague is here and I want to give her a chance to ask questions since I have had a couple of rounds here.

But I am very excited about the world demand of aviation, 40,000 planes. Very excited about thermal plastics, next-generation manufacturing that could put the United States in even a more

competitive, aggressive position for getting the next generation technology right.

So there are lots of great things that we can do for the United States to be world leaders here and really grow manufacturing jobs but we have to get this safety right.

Mr. WHITAKER. Yes, absolutely.

The CHAIR. And the NASA participant in our ODA panel I think she said it best. She said on NASA safety is not the mission but it is what makes the mission work, and that is what we have to do here.

We have to make—there are lots of things to do to be competitive in aviation and grow jobs but safety is what allows us to actually achieve that.

Senator Capito.

**STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM WEST VIRGINIA**

Senator CAPITO. Thank you, Madam Chair, and thank you, Mr. Administrator, for being here today.

I want to quickly touch on something I think you have alluded to or talked a bit about in terms of workforce.

The Boeing quality chief said experience on the factory floor in Renton is—was the number-one problem with employees and that half of the employees had less than six years of experience.

So Boeing is committed to enhance its training program, increasing it from an eight week minimum to a ten week minimum.

Is more training a replacement for experience? And how do we grow that next generation when we are so thin up top? Do you have any ideas on that or any comments to make on that?

Mr. WHITAKER. Well, it is certainly a problem and I would say it has been a problem across the industry. I think all of the players, whether it is at FAA hiring folks or airlines there is a shortage of experienced folks and we are all competing for the same team.

In a world of safety management systems it is a risk that gets identified and needs to be mitigated. So the best companies identify that risk and put in programs in place to mitigate it, which in some cases is funding training schools. In some cases it is bringing back retired employees to mentor on the floor.

There are steps that you can take but it is incumbent upon the companies to take those steps, identify that risk, and mitigate that risk.

Senator CAPITO. I mean, actually I like that idea of bringing people back, maybe a contractor part time to try to mentor that next generation coming through.

Mr. WHITAKER. Yes, because you cannot replace that deep experience that you get from those decades.

Senator CAPITO. No. No.

There are six key performance indicators that are going to be monitored closely as part of Boeing's plan. If certain of these, like the employee proficiency shows a big problem, what would the corrective action look like on this as you are overseeing this?

Mr. WHITAKER. So each of the KPIs is different and there are other measurements that we are also keeping track of, and the idea would be that we have two levels of concern. So, if you will, if it

goes from green to yellow or yellow to red, yellow is we need to work this, figure out what the problem is, and get it back to green, and red would be, OK, stop. We need to kind of do a reset here.

Each of each of them will be different and problem solving will be different, but these would be risk identifiers and then the program would be to put together mitigation.

Senator CAPITO. Is this a new program or is this just a refinement of a program that has been in effect for a while?

Mr. WHITAKER. Well, the overall plan is new. I think most components of it, frankly, are new.

Senator CAPITO. Right. Good. Good.

I am going to go local with you here. I think when we talked when your nomination was up the airport that I fly into, Charleston, West Virginia, Yeager Airport, the FAA formally paused the environmental review of Yeager Airport for our runway extension.

It was quite extensive to try to do this—we are in the mountains and have some issues—but we do have a 77-year-old terminal which we are trying to assist them with.

Are you familiar with the terminal project? And we could certainly use your help on that one.

Mr. WHITAKER. I am happy to look into it. As we discussed before my confirmation, I think small community airports are an important part of our infrastructure so we are very supportive.

But as we go through the AIP funding and other pieces we will certainly get back with your office and talk about that.

Senator CAPITO. Yes. Some of the issues that they brought forward, which I thought were sort of interesting like the gates that we have, some of them—we do not have a whole lot of gates. We always say our international flights are in another terminal.

But we do not have a lot of gates but they cannot accommodate certain modifications to different planes. We cannot bring a bigger plane in—all these kinds of things. So if we are actually going to grow our economy and grow our ability to compete we are going to have to renovate here and modernize.

Mr. WHITAKER. Happy to look into that.

Senator CAPITO. Thank you. Thank you.

The last question I have is—this has happened to me more than once where you are late or you are delayed or for one reason or another, and it usually has to do with going in and out of Florida.

But the reason that is given—and I always like it when I get a reason, by the way. I think it is good when airlines, instead of just saying, well, see you in 15 minutes, you know, they tell you why.

But is because of air traffic. Is there a shortage in the air traffic in Jacksonville? Is there too much traffic in Jacksonville and what are we going to do to solve this problem? Because it is—in my view, it is clogging up the East Coast, obviously, if you are going up the East Coast.

Is that a fact that I am dealing with there or—

Mr. WHITAKER. It is. A lot of it is geography and demographics. So during COVID a lot of people moved to Florida so the demand in Florida has gone up really significantly over the past several years.

The air traffic routes to Florida are as narrow as Florida is and so during peak seasons around the holidays we will get airspace

back from the military and be able to open new routes through the military airspace off the coast.

But it is a fairly narrow strip of land and a lot of thunderstorms. So usually what you are dealing with is thunderstorms compressing that superhighway that is——

Senator CAPITO. Is the capacity at full abilities with the air traffic controllers? That is not the issue, it is more——

Mr. WHITAKER. It is more of a physical limitation. Unless we were to have more airspace available to us that came out of the military——

Senator CAPITO. How does that work? How much airspace do you get off the coast?

Mr. WHITAKER. Well, I do not have an exact number but it is not far, and when we come down through during Thanksgiving, for example, we get other routes that go out further over the ocean to create other pathways.

But we get those by getting it released from the military.

Senator CAPITO. Well, it just clogs up the—I do not have to tell you this but it clogs up everything——

Mr. WHITAKER. Absolutely.

Senator CAPITO.—even flights coming into West Virginia, certainly, up into the major cities along the East Coast.

And so anything we can do to help with that, certainly, think it would be a benefit to the system.

But thank you for your service and thanks for answering my question. We will follow up on Yeager.

Mr. WHITAKER. Great. Thank you.

Senator CAPITO. Thanks.

The CHAIR. Thank you. I have one more question before—I do not know if anybody else is coming but we will have one more question, and it is more on the certification side.

Section 343 and 344 of the authorization bill that we just passed changes making sure we have accountability and transparency in the certification process, requires that applicants certify their design compliance when they submit data for the FAA approval.

What are your plans for implementing these reforms and how are you going to make sure that they actually are meeting these standards?

Mr. WHITAKER. So on Section 343 we have begun a gap analysis to see if our current procedures are sufficient and if not where do we need to make changes in those procedures to be compliant with that new provision.

And on the change product rule the plan is to meet that 18-month time-frame to have a notice of proposed rulemaking on that.

The CHAIR. What about in recent years there were a lot of certification submissions that just had a first pass quality, meaning the FAA approved them without revision?

Mr. WHITAKER. That is something I will have to inquire about and respond to your office.

The CHAIR. So how would you—how do you think we hold the applicant accountable? I know you are saying you are working on the larger rule.

Mr. WHITAKER. So that is something that we are——

The CHAIR. I mean, how do you make sure you are receiving data for compliance as opposed to, again, just the process of did you get—just to check mark you got this, you got that, you got that? How are you making sure that the data for submission actually meets the compliance?

Mr. WHITAKER. Well, I think certification and having responsible individuals sign off on that and certify that is an important step. But other than that, I think we need to look at the process and see what our options are.

The CHAIR. Having individuals you mean at the FAA?

Mr. WHITAKER. No, in the applicant.

The CHAIR. No, this is what we are trying to get away from.

Mr. WHITAKER. Right.

The CHAIR. OK. We are trying to get away from you having the applicant just check, check, check, and then you just say, yes, check, check, check. We are trying to make sure that you get the accountability from the data and certification that it complies with the standard that has been set and that you know that it actually meets that standard.

We do not have to revisit MCAS but this is the example where that did not happen. So—

Mr. WHITAKER. Yes. Let me look into that and I will come back to you with—

The CHAIR. OK. Well, this is something we are going to want to review with you and make sure we get right.

Back to this SMS for the FAA, I want an answer from you.

Mr. WHITAKER. Sure.

The CHAIR. You do not have to give it today if you do not want, but the point is we need the—first of all, most importantly we need you to hold them accountable on a real SMS.

Mr. WHITAKER. Right.

The CHAIR. Whether that is Spirit or Boeing or any other manufacturer.

Mr. WHITAKER. Right.

The CHAIR. This is the international standard. We all know it works. We all know that it means you have to continue to improve the process.

But, most importantly, make those safety culture improvements so the whole culture is robust and continues to thrive around that. So I want to hear what the FAA is going to do to make sure that you are doing that as well.

Mr. WHITAKER. Yes. I will come back to you with the plan. I know you and I have spoken about this in the past. We do have SMS programs in place but we need to verify that they are as robust as they need to be. So we are looking at some more revisions and we will report that back.

The CHAIR. Well, if we had had a mandatory instead of voluntary program there might be some people alive—

Mr. WHITAKER. Right.

The CHAIR.—is the bottom line. So we need an SMS that is—we have the workforce asking for it. We have safety experts asking for it. We now have ODA people asking for it.

So let us get it done. It is the gold standard. A voluntary system does not get it done.

I have a statement I am going to enter into the record since Senator Duckworth was not able to be with us today, and I think we just need a closing statement. Let us see here.

[The information referred to follows:]

PREPARED STATEMENT OF HON. TAMMY DUCKWORTH, U.S. SENATOR FROM ILLINOIS

Thank you, Chair Cantwell.

In the wake of two deadly Boeing 737 MAX crashes—preventable tragedies caused by Boeing’s disgraceful prioritization of putting profits before people—Congress directed the Federal Aviation Administration (FAA) to convene a panel of outside experts to review Boeing’s safety culture.

According to the panel’s report, which our committee examined earlier this spring, when the experts asked Boeing to produce evidence of the company’s oft-stated commitment to prioritize safety above all else, the panel found Boeing, “did not provide objective evidence of a foundational commitment to safety that matched Boeing’s descriptions of that objective.” Or in plain language: Boeing talked a big game on safety, but when it came to taking concrete action, there was nothing to be found.

Of course, a detailed and comprehensive independent panel review was not necessary to reveal the disturbing reality that despite being exposed through the deadly MAX crashes of 2018 and 2019, roughly four years later, the emperor still had no clothes.

In January, a door plug fell out of an Alaska Airlines 737 MAX 9 mid-flight. If anything, it appears Boeing has regressed from failing to disclose to pilots critical aircraft features necessary to mitigate a design flaw, to simply being unable to build a fuselage capable of holding together for the duration of an otherwise uneventful flight.

Worst of all, the Alaska Airlines flight was not an isolated incident. In March, the *New York Times* reported Boeing failed 33 of 89 product audits of its 737 MAX production with a total of 97 instances of alleged noncompliance. The newspaper also reported Boeing’s fuselage supplier, Spirit Aerospace, failed 7 of 13 product audits.

The National Transportation Safety Board’s (NTSB) preliminary analysis of the Alaska Airlines incident not only found bolts missing on the 737 MAX 9, but also that Boeing failed to inform 737 MAX 9 pilots that the cockpit door was designed to automatically swing open during this kind of emergency. In a post 9/11 world, where flight crews are trained to prioritize keeping the cockpit door closed, this surprise added unnecessary confusion to already chaotic environment.

Even worse, this marked the third time Boeing had failed to inform flight crews about a cockpit feature on the 737 MAX.

Boeing is promising to do better, and so is the FAA. As our committee conducts oversight, however, we need to look at their actions, not just their words. When the dust settles on the current crisis, we cannot allow a return to business as usual. If the 737 MAX has taught us anything it is that deep, lasting, cultural change is needed, and there needs to be a way to verify it. Reforms must include appropriate transparency and accountability.

Under the new FAA Administrator Michael Whitaker, the agency has taken important steps to protect the flying public, including imposing caps on Boeing 737 MAX production and requiring Boeing to develop a plan to address its systematic quality-control issues, which we will hear more about today.

This is a welcome change. Prior to Whitaker’s arrival, the FAA was far too reluctant to hold Boeing accountable for its lapses. That sent a dangerously permissive message to Boeing which is now coming home to roost.

Weeks after a door plug blew out of a 737 MAX 9, Boeing was still petitioning the FAA for a safety exemption to rush its next 737 MAX variant into service—despite the fact that it had a known, potentially catastrophic safety defect.

To its credit, when I complained to Boeing’s CEO, Boeing withdrew its petition.

But the fact that Boeing filed it in the first place speaks volumes about the lack of a proper safety culture at Boeing, and, until recently, the lack of a proper regulatory culture at FAA.

Boeing filed this petition because the company thought FAA would grant it.

The manufacturer had good reason to think this. FAA had let Boeing’s bad actions on the 737 MAX slide for years.

When, after two deadly 737 MAX crashes, investigators uncovered an internal Boeing memo showing Boeing employees had been planning to downplay the Maneuvering Characteristics Augmentation System (MCAS) to avoid regulatory scrutiny, FAA did not investigate.

MCAS was a major contributing factor to the two deadly 737 MAX crashes. It was a new and novel system that Boeing had successfully persuaded FAA to permit Boeing to remove from its flight manual. Pilots were furious they weren't told MCAS was on the plane.

FAA's failure to investigate this memo effectively told Boeing this type of conduct is perfectly fine.

Likewise, FAA took no enforcement action when Boeing knowingly and repeatedly produced 737 MAX aircraft without a functioning Angle of Attack (AOA) disagree alert—in blatant violation of the plane's approved type design. By not enforcing its rules, FAA effectively told Boeing, conformance with type design doesn't matter.

Inaction has consequences, and we're now living with them.

Long-term reform is clearly needed, and FAA appears to finally have the critical, principled leadership that is required to sustain tough and at times, challenging, transformation. And to its credit, Boeing has even taken major steps that its critics previously would have thought unlikely, such as implicitly acknowledging its mistake in outsourcing the manufacturing of its aircrafts' fuselages and announcing that Boeing would implement the dramatic step of bringing a fundamental supply chain back in-house. As we continue our oversight, however, I will continue to look for appropriate transparency and accountability.

I yield back.

The CHAIR. Administrator Whitaker, we much appreciate you being here today. We know there is a lot to implement. There is a lot to do in aviation safety but we are confident that you are going to continue to lead major transformation here. So thank you for today.

I want to say the record will be open for four weeks until July 11 and any senators wishing to submit their questions for the record should do so before June 27 and we ask that the responses be to the Committee by July 11.

With that, that concludes our hearing today. Thank you.
[Whereupon, at 11:45 a.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. MICHAEL WHITAKER

Boeing's Safety Management System

In its response to FAA's recent audit, Boeing identified several actions it plans to take to address deficiencies in its current SMS, including better integrating its Quality Management System into its SMS and preventing aircraft from prematurely moving from one workstation to another on the factory floor, also known as "traveled work".

Boeing has had a "voluntary" SMS in place for years, but the ODA Expert Review Panel mandated by section 103 of ACSAA identified serious deficiencies in Boeing's voluntary SMS program.

Many of the corrective actions identified in the Plan are similar to corrective actions Boeing agreed to in previous settlement agreements, such as implementing a SMS that complies with ICAO Annex 19. This suggests that Boeing either didn't fulfill its past commitments or didn't sustain any improvements made.

Question 1. Is the FAA satisfied that these planned actions would bring Boeing into full compliance with FAA's new SMS rule?

Answer. Safety Management Systems (SMS) provide a means for a structured, repeatable, systematic approach to proactively identify hazards and manage safety risks. The actions Boeing is taking appropriately focus the changes in their production system on both safety and quality, incorporating safety risk assessment processes, monitoring the production system for safety, ensuring a clear safety policy within the quality system, and initiating steps to develop a mature safety culture by promoting safety first and non-punitive reporting systems. The FAA will closely monitor Boeing's performance and ensure its SMS program meets the requirements of the rule.

Question 2. I am concerned about FAA's oversight of Boeing's compliance with the new SMS requirement for manufacturers. How is FAA's implementation of the new SMS final rule complying with ACSAA section 102 and the Expert Panel's recommendations, which demand regular oversight of SMS from FAA?

Answer. The FAA is formalizing and maturing our oversight of Boeing's SMS with a new regulatory framework including structured guidance. SMS oversight includes:

- Performing assessments of Boeing's SMS for verification and ongoing evaluation of its performance.
- Introducing new data streams with the interoperability of operator and supplier SMSs to identify issues with newly delivered aircraft, adverse trends, and potential safety risks for early mitigation action.
- Conducting meetings with factory managers to review safety risk determinations for upcoming changes to the quality and production system.
- Asking Boeing employees questions to gauge the changes in quality and safety culture.
- Expanding data streams to improve our risk-based certificate management plan.

To ensure that the FAA's oversight of the new final rule complies with ACSAA section 102 and the Expert Panel's recommendations, the FAA issued Order 8120.24, *Implementation Plan Approval, Verification, and Evaluation of Safety Management Systems for Design and Production Approval Holders*. The Order assigns responsibility for Aircraft Certification Service (AIR) personnel to review and approve an SMS implementation plan, verify SMS development, and evaluate SMS operation for a design and production approval holder in accordance with part 5, title 14, Code of Federal Regulations.

The FAA also issued a series of supporting work instructions, guidance materials, and training content to align with the requirements for design and manufacturing organizations in 14 C.F.R. part 5.

Additionally, the FAA is developing an order for conducting regular and comprehensive oversight of organizations' SMS. This new order on SMS oversight will comply with ACSAA section 102 and meet the expectations of the Expert Panel Recommendation.

Requirements for FAA's Own Safety Management System

For the FAA's own SMS, ICAO's Annex 19 outlines a minimum requirement for its members to establish a State Safety Program (SSP) addressing 4 key pillars: safety policy, safety risk management, safety assurance, and safety promotion. According to Annex 19, the regulator within the member state is required to have a SSP and the air navigation service provider (ANSP) that operates within the state is required to have a SMS. Since the FAA performs both regulator and services provider functions, the agency is required to have a SMS.

Question 1. Please provide a full description of FAA's SSP, otherwise known as its own SMS, specifically detailing how it complies with ICAO Annex 19 requirements. Please describe the lines of business within the FAA that have their own SMS. In addition, please provide a description on how FAA's agency-wide SMS differs from ICAO's requirements for a SSP.

Answer. The United States currently meets the ICAO State Safety Program (SSP) elements through its mature regulatory framework; well-defined roles and responsibilities; advanced accident and incident investigation capabilities; and effective certification, surveillance, and enforcement processes. In addition, our capacity for data collection and analysis gives us the ability to focus on areas of greatest safety risk and use established means to communicate with service providers, government representatives, and other stakeholders. Specifically, the United States meets the ICAO requirement for an SSP through Federal Aviation Regulations (including 14 C.F.R. part 5); an agency-level SMS, which establishes the SMS policy and requirements for the FAA (FAA Order 8000.369, Safety Management System); and 49 C.F.R. § 831.20—Authority of NTSB in aviation accident investigations. The U.S. SSP meets the requirements of ICAO's Annex 19, Chapter 3, State Safety Responsibilities, except that the United States does not currently require the implementation of SMS for training and maintenance organizations.

The FAA SMS Executive Council is composed of Lines of Business (LOB) and Staff Offices with their own interoperable SMSs. Those offices include Aviation Safety, Air Traffic Organization, Airports, Commercial Space Transportation, Security & Hazardous Materials Safety, and NextGen.

Question 2. It has been found in the past by the Department of Transportation Office of the Inspector General that FAA has inadequate training for its personnel on SMS and oversight of the airline industry's implementation of SMS. What actions is FAA taking to address these findings and implement improvements, especially when FAA will be tasked with overseeing broader SMS requirements for regulated entities?

Answer. SMS Training for FAA Personnel—The FAA and NTSB currently provide various types of safety-related training for their employees and actively communicate safety information to their workforce.

Specific to SSP and SMS, agency-wide SMS training courses are available, and FAA LOB have identified additional/targeted training based on workforce needs. The curriculum for FAA personnel (including executives and managers) consists of initial, recurrent, and specialty courses such as: FAA Safety Management Overview, FAA Managing Safety, Overview of Safety Management System, Safety Management System Theory and Application, Safety Management System Fundamentals and Safety Management System Practical Application Workshop.

FAA Oversight of Airline Industry SMS—The FAA has adjusted the Data Collection Tool (DCT) questions used by our front-line employees. These DCTs are now active in the FAA's Safety Assurance System (SAS). SAS is the FAA's oversight tool to perform certification, surveillance, and continued operational safety. It includes policy, processes, and associated software that the FAA uses to capture data when conducting oversight. Additional adjustments to the response detail selections for these DCTs are also active. These changes are intended to aid FAA personnel in assessing an organization's safety culture.

Formal training is being developed and is scheduled to be completed in the second quarter of FY 2025. This training aligns with the updated DCTs and will provide instruction on how to evaluate a certificate holder's overall SMS (Course FAA21000137, Evaluating Safety Management using SAS in Continued Operational Safety).

In addition, the FAA continues to develop Root Cause Analysis (RCA) training, including a practical application workshop titled “Root Cause Analysis” that will incorporate the most commonly used industry RCA processes, with scenarios that will enable participants to apply RCA principles to inspector duties. This RCA training will educate the workforce on the relationship between RCA and risk assessments, both of which are necessary components of a properly functioning SMS.

The FAA is also in the process of revising RCA course number 30120001 titled “Root Cause Analysis Overview” to become a prerequisite for the new “Root Cause Analysis” training course described above. The FAA anticipates the courses being available by the end of December 2024.

In addition to the formal training courses being developed, Flight Standards has developed and delivered just-in-time (JIT) products to help the workforce prepare for oversight of SMS. These JIT products are briefings, videos, job aids and Frequently Asked Questions documents. These supplemental educational products provide a means for inspectors to get answers quickly on how to oversee a service provider’s SMS.

Through these actions, the FAA’s policy, oversight tool, and training will support a consistent and systematic approach to assessing the effectiveness of an air carrier’s SMS and technical processes. Additionally, these actions are being expanded to address the changes made by the FAA’s SMS final rule issued in Spring of 2024 (89 FR 33068, April 26, 2024).

Frontline Workforce—Safety Reporting Systems

A safety management system cannot function adequately without a healthy, and voluntary employee reporting culture, in which frontline workers feel that their safety concerns will be heard and meaningfully addressed, without fear of retaliation.

Question 1. How will FAA’s recently enhanced oversight model guarantee that aviation manufacturing frontline workers will be empowered to put safety first, even if that would mean slowing work on the production line and reducing the production rate?

Answer. As part of their SMS, design and production approval holders are required to implement policies and processes that place safety accountability at the leadership level and ensure safety concerns reported by employees are appropriately investigated and assessed without fear of retribution. As part of the FAA’s ongoing surveillance of SMS at these companies, the FAA will review confidential employee reports to assess the health of a company’s system for receiving, evaluating, and resolving safety issues reported by their employees. The FAA will also routinely evaluate employees’ understanding of their roles and responsibilities related to safety, including reporting hazards.

Question 2. What is FAA doing to ensure that Boeing’s operation of its voluntary reporting system for manufacturing employees, known as Speak Up, does not filter out or silo legitimate complaints and concerns and prevent them from being addressed?

Answer. The FAA is taking a multi-pronged approach. We observe Boeing leadership meetings to review and address submitted Speak Up reports, engage directly with onsite production system personnel, and review Boeing’s staff surveys for effectiveness and improvement. More recently, we have facilitated partnerships with Boeing and union leadership for joint participation in addressing employee safety concerns through Speak Up or similar Aviation Safety Action Plan (ASAP) reporting agreements.

Question 3. If Boeing adopts the ODA Expert Review Panel’s recommendation to establish an Aviation Safety Action Plan (ASAP) at all production sites, why is it important for FAA to have visibility into a filed ASAP report? How can this strengthen FAA’s safety oversight as it pertains to Boeing’s product safety and quality control issues?

Answer. The objective of an ASAP is to encourage employees of a company to voluntarily report safety information that may be critical to identifying potential precursors to safety-related events by ensuring those reports are reviewed by a joint team of management, employee, and FAA representatives. Under an ASAP, safety issues are resolved through corrective action rather than through punitive action. An ASAP provides for the collection, analysis, and retention of the safety data obtained through the reporting process. ASAP participants use ASAP safety data, much of which would otherwise be unavailable to Boeing, to develop corrective actions for identified safety concerns, and to educate the appropriate parties to prevent a recurrence of the same type of safety event.

ASAP reports, and the corresponding approach of addressing potential safety issues through corrective action as opposed to punitive or other enforcement action, gives the FAA visibility into potential safety issues that otherwise might not be disclosed.

Additionally, potential safety issues, such as those identified through ASAP reports, can demonstrate the effectiveness of the company's SMS and identify potential areas of Boeing's operation requiring increased FAA oversight. Consistent with the ODA Expert Review Panel's recommendation, the establishment of ASAPs at all production sites will further encourage reporting of issues and provide critical input into Boeing's SMS. Boeing's Speak Up program is intended to meet the reporting requirements of the Part 5 SMS rule and can be used across the Boeing enterprise to enable the creation of ASAP reports. Additionally, the FAA is supporting ASAP agreements with Boeing and its unions to engage in a formal review process that includes all stakeholders.

Aviation Safety Inspectors

A large part of FAA enhancing its oversight of manufacturers must include making sure enough FAA safety inspectors are working on the factory floor during all shifts. We recognized the importance of the safety inspector workforce in our recently enacted FAA law. We also made it clear that FAA needs to hire more manufacturing safety inspectors. These individuals are the eyes and ears of the FAA on the production line to make sure aircraft are inspected, compliant, and safe.

Question 1. As part of FAA's enhanced oversight model, how is the FAA determining how many safety inspectors will cover each shift in Boeing's production facilities?

Answer. The FAA's certificate management program is a system approach to monitoring a production approval holder's compliance with regulations that govern the manufacturing of its products or articles and ensures appropriate corrective actions are taken when non-compliances are identified.

The FAA determines workforce requirements for manufacturing aviation safety inspectors based on workload demands driven by processes (number, complexity, etc.) within the production quality system. Each phase of the production quality system undergoes a systematic review, and the workforce is adjusted as needed to ensure FAA resources meet the needs of the system.

Question 2. How is the FAA determining how long it will sustain additional safety inspector capacity on factory floors at Boeing as well as Boeing's top tiered suppliers?

Answer. The safety of the flying public will determine how long we will sustain additional safety inspectors on the factory floors at Boeing and their top-tiered suppliers. Therefore, until Boeing production and quality metrics demonstrate continued stability, the FAA will maintain additional inspectors on the factory floors and at top-tiered suppliers.

Question 3. How is the FAA ensuring that its enhanced oversight model includes stronger individual oversight tasks for manufacturing safety inspectors? What is FAA doing to move from what some may say a "check the box" safety inspection model to one that prioritizes proactive identification of safety issues and defects before they occur?

Answer. The FAA's certificate management program is a system approach to monitoring a production approval holder's compliance with the regulations that govern the manufacturing of its products or articles and ensures appropriate corrective actions are taken when non-compliances are identified. The FAA's audits determine if the selected product or article conforms to approved data, whether a manufacturer complies with their quality system requirements, including procedures and special processes established to meet those requirements, and whether a supplier is furnishing products, articles, or services that conform to the manufacturer's requirements.

As part of our enhanced oversight of Boeing, we have personnel on-site at each of its major production facilities. We conduct both planned and unplanned audits, engage directly with machinists and quality inspectors on the floor to continually assess Boeing actions and safety culture, and assess the effectiveness of changes to Boeing's systems and corrective actions.

Furthermore, the FAA is developing detailed plans and internal requirements and guidance for our oversight of design and manufacturing organizations' SMS. We are introducing new oversight activities designed to assess and document the SMS effectiveness of the organizations' management of safety.

Question 4. In the FAA law the Committee made it clear that FAA needs to hire more manufacturing safety inspectors to strengthen FAA's ability to conduct robust

oversight of aviation production lines. What is the FAA's current qualification criteria for selecting ASIs and what is FAA's plan to build up this workforce and recruit and retain qualified inspectors?

Answer. The FAA requires manufacturing Aviation Safety Inspector (ASI) applicants to have experience in the areas of quality systems, methods, and techniques in the manufacture of products and/or articles and experience with the issuance of airworthiness certificates.

We also look for specialized experience in developing and implementing quality systems and procedures and knowledge of manufacturing, testing, and inspection. These requirements are listed in the Office of Personnel Management (OPM) Aviation Safety job Series 1825, and the individual job postings.

To build up this workforce, we are utilizing on-the-spot direct hiring authority and actively pursuing various recruitment tools including job posting websites, communicating with our existing staff, and reaching out to stakeholders and our designees to ensure the message about available manufacturing ASI positions is being communicated. We are streamlining our resume review, interview, and hiring process and collaborating across AIR to ensure candidates are placed for the best fit for the FAA and for long-term retention.

ODA Expert Review Panel Recommendations and Boeing Response

You required Boeing to develop an action plan to correct the problems identified by FAA's recent production audits in January and February 2024 and to implement the recommendations of the ODA Expert Review Panel, as established by Section 103 of ACSAA. Boeing submitted that plan to FAA on May 30th. In response to FAA's request for data-driven measures of success, the Plan's executive summary identifies specific Key Performance Indicators ("KPIs") that Boeing will use to assess the safety and health of the production system but leaves out additional methods of tracking Boeing's implementation progress.

Question 1. To my surprise, Boeing's Action Plan does not specifically detail how each of the ODA Expert Review Panel's 53 recommendations will be acted on and implemented. How is FAA tracking that those recommendations, ensuring they are being addressed one by one and acted upon by Boeing?

Answer. Consistent with the ODA Expert Review Panel's recommendation, the FAA has established an interdisciplinary team that is working with Boeing to review, provide feedback, and ultimately track the implementation of Boeing's actions to address the recommendations contained in the report. Boeing has provided a detailed action plan for each of the recommendations from the report. The interdisciplinary team includes employees from the Aircraft Certification Service, Flight Standards, and the AVS ODA Office.

Certification Reform in the FAA Reauthorization Act of 2024

Sections 343 and 344 of the new Reauthorization Act make important changes to increase accountability and transparency in FAA's certification process. Section 343 requires that applicants certify to the FAA that their designs comply when they submit data for FAA approval.

Question 1. Under this reform, if the FAA determines a submission doesn't comply, how will you hold the applicant accountable? Do you anticipate this will change applicant behavior, where under the current process, FAA often receives data for approval that doesn't comply?

Answer. Section 343 is an important reminder of the criticality of accountability at every stage of the aircraft certification process. We note that the existing requirements in title 14 of the Code of Federal Regulations address an applicant's data submittal certification as part of an application. Specifically, sections 21.20(b), 21.97(a)(3), 21.303(a)(5), and 21.603(a)(1) require that an applicant for a type certificate, amended type certificate, supplemental type certificate, a major change in type design, and other types of approvals, provide a statement certifying compliance with the applicable requirements, along with the substantiating data. The FAA rejects any deficient data submittals. We are examining our current processes as part of our implementation of section 343.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TED CRUZ TO
HON. MICHAEL WHITAKER

Boeing Whistleblowers

According to media reports, the Federal Aviation Administration (FAA) has heard from multiple Boeing whistleblowers with concerns about the company's production

processes. Bloomberg noted the FAA has already received 126 tips in the first half of 2024 compared with only 11 tips in the entire year of 2023.¹

Testifying before the Senate on June 18, Boeing CEO David Calhoun stated that he is aware Boeing has retaliated against whistleblowers, saying, “I don’t have [the number of whistleblowers retaliated against] on the tip of my tongue, but I know it happens.”²

Question 1. Is the FAA investigating retaliation against whistleblowers? If not, why?

Answer. The Department of Labor has the sole authority to investigate whistleblower retaliation by Boeing under 49 U.S.C. § 42121.

Question 2. How many reports of whistleblower retaliation has the FAA received? Answer. In FY 2024, the FAA has received 213 whistleblower complaints. Of those complaints, 80 qualified as complaints of prohibited discrimination under section 42121. Claims of whistleblower retaliation are directed to the Department of Labor.

Question 3. Have whistleblowers raised concerns about production lines beyond the 737 MAX?

Answer. Yes. Since January 2024, we have received reports related to the 737, 747, 767, 777, and 787 aircraft.

Question 4. Has the FAA discovered, or received, any evidence of whistleblower retaliation by Boeing or its suppliers?

Answer. When the FAA receives evidence of alleged retaliation in connection with a whistleblower complaint, the FAA forwards that evidence to the Department of Labor.

Question 5. What steps will the FAA take to ensure whistleblowers are protected against retaliation and intimidation to discourage reporting of safety concerns?

Answer. The AIR21 Whistleblower Protection Program (49 U.S.C. § 42121) protects U.S. air carrier and aircraft/component manufacturer employees from retaliation by their employers when they report safety or regulatory violations to authorities, ensuring that employees can raise safety concerns without fear of adverse consequences. AIR21 Whistleblower complaints are confidential and protected from unauthorized disclosure under the Privacy Act. All claims of whistleblower retaliation are directed to the Department of Labor (Occupational Safety and Health Administration), which is responsible for investigation. The FAA Reauthorization Act of 2024 clarifies the roles and enforcement authorities of the Administrator and the Secretary of Labor and requires them to consult with each other to determine the most appropriate course of action.

Question 6. What steps will the FAA take to ensure safety is prioritized when Boeing begins to increase production?

Answer. As required by 14 CFR part 5, Boeing must implement a safety risk management process under its Safety Management System (SMS) to ensure that all safety-related factors associated with production rates remain within operational limits or are managed with mitigation strategies deemed acceptable by the FAA. Additionally, the FAA is leveraging key performance indicators (KPIs) outlined in Boeing’s comprehensive action plan as part of a risk-based decision-making framework to guide considerations for future production rate increases.

Airline Safety Incidents

On April 11, 2024, Southwest Airlines Flight 2786 dangerously descended toward the ocean, correcting with only 400 feet of clearance. And then on May 25, 2024, Southwest encountered another concerning safety incident when Flight 746 experienced a “Dutch roll,” which led to “substantial damage” of the plane. On June 19, 2024, a Southwest plane descended to 500 feet above an Oklahoma City suburb. Similarly, United Airlines has faced a concerning 16 safety incidents in the month of March alone and is under FAA investigation.

Question 1. How is the FAA responding to these incidents?

Answer. Regarding Southwest Airlines, the Southwest Certificate Management Office (CMO) is investigating each of these safety incidents including the actions of the flight crewmembers and the actions of other personnel that interfaced with the flights, and evaluating Southwest Airlines’ operational procedures and training to determine if there are any deficiencies or systemic failures that need to be ad-

¹Allyson Versprille, “Boeing Whistleblower Tips to FAA Soar Since Door Panel Blowout,” Bloomberg, June 14, 2024, Available at <https://www.bloomberg.com/news/articles/2024-06-15/boeing-whistleblower-tips-to-faa-soar-since-door-panel-blowout>.

²“Boeing’s Broken Safety Culture: CEO Dave Calhoun Testifies,” U.S. Senate Permanent Subcommittee on Investigations, June, 18, 2024, Available at <https://www.hsgac.senate.gov/subcommittees/investigations/hearings/boeings-broken-safety-culture-ceo-dave-calhoun-testifies/>.

dressed. The Southwest CMO has also increased continuous operational safety (COS) surveillance of the carrier due to each of these incidents.

We also have initiated and are completing a focused Certificate Holder Evaluation Process (CHEP) inspection that includes Safety Assurance (SMS), Training of Flight Crew Members, Training of Check Pilots, and Airman Duties/Flight Deck Procedures.

Additionally, the FAA established an internal Safety Issue Action Team (SIAT) to investigate a potential safety issue associated with low-altitude events that occurred in the first seven months of 2024. The SIAT reviewed data from multiple sources, including the National Aeronautics and Space Administration, MITRE, and multiple FAA systems. After reviewing the data, the SIAT is drafting recommendations that address low-altitude events in the NAS.

The United Airlines CMO is actively engaged in investigating the safety and regulatory compliance of United Airlines. During the past 18 months, the United Airlines CMO has been proactive in adding additional COS oversight measures to mitigate any identified operational risk. This included the initiation of a CHEP focused on three primary goals. First, the CHEP team worked to verify whether United Airlines complies with applicable regulations. Second, it worked to evaluate whether United Airlines is effectively managing safety. Finally, the CHEP team worked to identify hazards and assess risk and provide documentation to the United Airlines CMO regarding mitigations for associated risks.

Question 2. What steps are these airlines taking to prevent future incidents?

Answer. Southwest Airlines has been proactive in taking steps to analyze each of these events and develop strategies to prevent future incidents. The carrier has taken immediate training measures with crewmembers and performed fleet-wide inspections of aircraft. The carrier has also activated an Operations Review Team (ORT), which is a part of the company's Safety Management System. This team analyzes major events and identifies mitigation strategies. This work is ongoing, and outputs are expected in the near future.

On May 15, 2024, United Airlines initiated a system-wide assessment of its safety culture. In addition to United Airlines' normal quality oversight and SMS programs, the carrier has also identified and implemented 34 enterprise-level safety initiatives including evaluating safety resources and the operational safety structure across the organization and improving a pilot professional development program to mitigate risks.

Question 3. Have any of these incidents led the FAA to change oversight procedures to ensure passenger airlines are adhering to proper maintenance standards? If so, in what ways?

Answer. The Southwest CMO has adjusted its safety assurance comprehensive assessment surveillance plan to ensure Southwest is appropriately managing operational risks. This data-driven approach focuses surveillance on maintenance operations, tooling, and parts control at maintenance locations to ensure Southwest's adherence to proper maintenance standards.

In addition to the CHEP assessment, the United Airlines CMO has adjusted its safety assurance comprehensive assessment surveillance plan, which has resulted in an increase in COS surveillance activities focused on ensuring the carrier's actions are comprehensive and appropriate in response to these safety incidents.

Aviation Manufacturing Supply Chain

In September of last year, it was reported that counterfeit parts had been identified on a CFM56 jet engine. In the investigations that followed, it came to light that every year, hundreds of thousands of counterfeit components and uncertified parts were installed on planes around the world. Most recently, there were reports of "potentially fake titanium" in aircraft parts currently in use. Use of faux parts can risk accidents involving serious injury and death.

Last week, a report cited a Boeing whistleblower who claimed Boeing had relocated, hidden, and then lost nonconforming aircraft parts ahead of a FAA inspection.³ The whistleblower then said it is possible the nonconforming parts have found their way back into the supply chain.

Question 1. What flaws in the certification system have allowed for these fabrication issues?

³Chris Isidore and Gregory Wallace, "Boeing Hid Questionable Parts from Regulators That May Have Been Installed in 737 MAX Planes, New Whistleblower Alleges," CNN, June 18, 2024, Available at <https://www.cnn.com/2024/06/18/business/boeing-whistleblower-calhoun-testimony/index.html>.

Answer. The FAA has extensive guidance on how suppliers and maintenance facilities can prevent suspected unapproved parts (SUP) from being installed. The FAA thoroughly investigates every SUP report. If we determine a part is unapproved, we notify aircraft owners, operators, manufacturers, maintenance organizations, parts suppliers, and distributors. We also work closely with our foreign partners to ensure unapproved parts do not enter their system.

Whether counterfeit parts or non-conforming parts intentionally or unintentionally find their way into the system, the production approval holder (directly or from their supplier) is required to monitor and disclose instances to the FAA. The FAA reviews the nonconformance, makes a safety determination, and determines whether suggested corrective actions are acceptable. The production approval holder is required to address affected products and identify and incorporate corrective action to eliminate the potential for similar future nonconformances.

Regarding the specific examples cited, GE Aerospace formed a coalition to identify potential causes and corrective actions within the supply chain consistent with safety management principles and published its report in October 2024. The report is available at <https://aviationsupplychainintegrity.com/>. Boeing has already instituted changes in parts control within its quality system to ensure that parts are more fully tracked and monitored. The FAA is conducting oversight to assess the effectiveness of the changes that Boeing is implementing.

Question 2. What is the FAA doing to respond to the current titanium quality issue?

Answer. The FAA has not identified any safety issues to date for the fleet associated with titanium quality. Boeing disclosed the issue to the FAA and our first action was to assess any near-term safety implications to the fleet and require corrective actions to ensure that products within the quality system are conforming. We assess safety implications by identifying the affected part and evaluating its effect at the aircraft level. In addition, we are coordinating closely with EASA as the supplier issue also affects Airbus. More recently, we initiated an SUP investigation related to this issue based on our initial investigation of a notice of escape from the production system.

Question 3. What steps is the FAA taking to improve its safety oversight of manufactured aircraft components?

Answer. Events involving large commercial airplane manufacturers led the FAA to take decisive action and emphasize risk-based oversight practices and policy improvements by expanding manufacturing oversight and hiring additional aviation safety inspectors with specialized experience in aviation quality assurance inspection and aviation production.

Additionally, recent Safety Management System (SMS) requirements for design and manufacturing require the manufacturer to assess its production process and supply chain risks and develop controls and mitigations for safety risks.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. MICHAEL WHITAKER

Question 1. Both the National Transportation Safety Board and Joint Authorities Technical Review Board reports on the 737 MAX crashes mentioned a need for greater consideration of crew workload when designing flight control systems, similar to the findings of the recent ODA expert review panel that made recommendations related to human-systems integration and human factors considerations.

a. Can you describe how the FAA has worked to better understand human factors and their relation to the aircraft certification process?

Answer. The FAA is thoroughly examining, through a comprehensive Flight Test (FT)/Human Factors (HF) evaluation, all HF-related assumptions with the system safety assessments under section 106 of the Aircraft Certification, Safety, and Accountability Act (ACSAA). In response to the expert review panel's recommendations, the FAA has increased the number of HF specialists in both the Aircraft Certification Service and Flight Standards. These specialists are responsible for integrating HF considerations into the certification process, including identifying and evaluating HF concerns in new aircraft designs; directing research on key areas such as HF considerations relative to new and novel technologies; and promoting applicant awareness of the importance of a robust HF program.

b. How can the Federal Aviation Administration (FAA) work with manufacturers to ensure failure diagnostic tools be better designed to improve the threat and error management used by crew members in responding to system failures?

Answer. When a new technology or pilot system interface is introduced, the manufacturers must thoroughly capture all of the assumptions made about what pilots will do when faced with a possible failure and ensure the design allows for safe operation and minimizes the risk of pilot error. Failure and error diagnostic systems such as detection, alerting, and checklist functions are part of these interfaces. During certification, the FAA has the responsibility for reviewing and validating those HF assumptions to ensure they are appropriate and comprehensive, beginning with analyses that start early in the design process and which typically drive progressive design changes. In addition, the FAA is funding research to analyze pilot responses to failures and errors from the perspectives of equipment design, flight operations and procedures, and operations and training considerations. The information from this research will support additional refinement and validation of our related certification guidance. The FAA is also working with manufacturers to adopt new methods for assessing the effectiveness of pilot assumptions based on in-service data analysis in support of our continued operational safety process.

Question 2. The FAA Reauthorization Act of 2018 (P.L. 115–254) included provisions to strengthen agency oversight of the Organization Designation Authorization (ODA) program, such as establishing an ODA office within the FAA’s Office of Aviation Safety and creating a centralized safety guidance database. The recent ODA expert review panel report recommended improvements to minimize opportunities for retaliation within Boeing and other manufacturers.

a. Can you describe what you believe those improvements would look like?

Answer. The expert panel’s recommendations regarding reducing opportunities for retaliation were directed to Boeing. Boeing has included its approach to addressing the recommendations in its plan and we will monitor implementation of those actions to ensure that Boeing has addressed the expert panel’s concerns.

On the FAA side, we have assigned FAA Safety Advisors to ODA Unit Members at Boeing, creating a direct line of communication between Unit Members and the FAA to better ensure that we hear of any concerns of interference with or retaliation for the performance of FAA functions by ODA Unit Members.

b. Building on the improvements from the 2018 FAA bill and the certification bill, how else can FAA oversight of this program be strengthened?

Answer. The FAA is in the process of updating the order that defines how we appoint, manage, and oversee ODA holders. The revision to the order introduces risk-based oversight of our ODA holders, meaning it sets a minimum level of oversight based on the size, scope, complexity, and performance of an ODA holder. The approach will help ensure an adequate level of supervision for our largest and most complex ODA holders.

Question 3. The Aircraft Certification, Safety, and Accountability Act (P.L. 116–260; Division V) required the FAA to pursue a more holistic approach when it comes to certification, consistent with recommendations from the Special Committee to review the FAA’s Aircraft Certification Process. This includes better coordination between various FAA offices and adoption of a safety management system for aircraft manufacturers.

a. How has the FAA improved coordination between offices—such as the Aircraft Certification Service and Flight Standards—responsible for different aspects of the certification process?

Answer. In 2018, the Safety Oversight and Certification Aviation Rulemaking Committee (SOC ARC) completed a report focused on priority areas aimed at improving FAA performance. Among several recommendations later accepted by the FAA was Recommendation 3—Integrated Program Management (IPM). With it, the SOC ARC recommended “establishment of an integrated program management framework with responsibility and accountability for type certification and operational evaluation project planning, coordination and performance among AIR [Aircraft Certification Service], AFX [Flight Standards (FS)] and any other FAA policy and field office necessary for issuance of design approvals and entry into service. . .”

In response, AIR and FS have taken action to implement Integrated Program Management as a comprehensive method to realize the safety and performance benefits of effective coordination and collaboration between AIR and FS. Specific examples where the FAA has improved coordination between AIR and FS include the work through the Human Factors and Flightcrew Coordinating Group to coordinate a comprehensive, strategic approach to address human factors requirements and recommendations, and coordination of disclosure of safety-critical information and submittal of design and operational information between AIR/FS team members during certification projects.

b. How has the adoption of a safety management system for manufacturers benefited FAA's oversight of the certification process so far?

Answer. When the FAA's Aircraft Certification Service (AIR) initiated the voluntary Safety Management System (SMS) program, it was focused on the highest-risk manufacturers that are holders of Organization Designation Authorizations (ODAs).

This experience has provided valuable insight for the industry's mandatory implementation of SMS and how to approach our oversight of SMS. With the voluntary SMS program and now the mandatory SMS requirements in 14 C.F.R. part 5, we are seeing a significant interest in how safety is managed as a system across all of our highest-risk approval holders. These discussions are fostering new perspectives on how we can collaborate to advance industry-wide safety.

Requiring SMS for design and manufacturing organizations introduces additional risk-based evaluations and monitoring within these systems, including certification processes. It also ensures closer integration of safety and production-related changes during product certification. This approach enables the FAA to concentrate its oversight on system-level, safety-focused areas.

c. Can you describe FAA's efforts to better centralize data collected from various offices to ensure oversight of manufacturers remains robust and information sharing is being prioritized?

Answer. The FAA has implemented a comprehensive Enterprise Data Management (EDM) strategy that defines how our agency collects, stores, manages, and uses its data.

The EDM strategy establishes data standards, processes, and governance mechanisms to manage data quality and availability of authoritative safety data across the enterprise. The benefits of EDM include providing high-quality data that is continuously available, with enhanced security and scalability to share across the organization to support effective decision-making and operational efficiency. The FAA is applying the EDM strategy toward the integration and centralization of safety data across the organization. This will enable data democratization and self-service analytics across air traffic operations, and aircraft manufacturing and aviation oversight. Increased collaboration between these services utilizing enterprise safety data will drive deeper insights to measure and improve the safety of the NAS.

In support of the FAA EDM strategy, AIR has begun developing an enterprise data system that will deliver a centralized data set and analytics toolset for improved oversight of manufacturers.

Question 4. As you know, the Securing Growth and Robust Leadership in American Aviation Act (P.L. 118-63) included section 372, a provision I authored codifying the recommendations of the Air Carrier Training Aviation Rulemaking Committee (ACT-ARC) create a two-month Enhanced Qualification Program (EQP). This thorough, detailed course of instruction, paired with advanced simulator training from seasoned airline pilots, would expose trainees to the cockpits of the jets they would actually be flying and, importantly, allow them to experience what it's like to handle challenging and dangerous situations in those cockpits, including those which lead to the close calls we've seen recently.

The swift implementation of this program is critical to ensuring we have an adequate supply of highly trained, qualified pilots. Can you commit to ensuring this provision will be implemented as soon as possible, consistent with the timelines established in the bill?

Answer. The FAA is working expeditiously to implement the requirements in section 372 of the 2024 Reauthorization Act and the recommendations in the ACT-ARC report.