

U.S. Senator Maria Cantwell

U.S. Senate Committee on Commerce hearing on the Implementation of Aviation Safety Reform

Witnesses: Steve Dickson, Administrator, Federal Aviation Administration

November 3, 2021

Opening Statement

[\[AUDIO\]](#) [\[VIDEO\]](#)

Cantwell: The Senate Committee on Commerce, Science and Transportation will come to order. We're having a hearing today on the implementation of our new aviation reform law, and want to welcome the Honorable Steve Dickson, Administrator for the Federal Aviation Administration for joining us today.

I also want to take a moment to recognize the families who have lost loved ones who are with us today. Thank you so much for being here and for your continued oversight on this issue. I can't imagine the pain and suffering of your loss and the pain that you are still feeling. But I certainly want you to know we appreciate your vigilance on aviation safety reform, you have shaped the safety work of this committee. And with your support and critical input, the committee played a leading role in drafting the Aircraft Certification, Safety, and Accountability Act.

This important legislation, enacted into law almost a year ago, I believe, provided a big down payment on the direction that we need to go to implement safety reforms in the United States, and to make us the gold standard around the world. That is why we're here today to have this hearing. To determine whether the federal administration, the Federal Aviation Administration, has faithfully and vigorously executed the safety reform law in accordance with congressional mandates for deadlines and action.

I will be upfront with you, Mr. Administrator, about the purpose of this hearing: it is to find out whether you are upholding the spirit and the letter of this law. While not the only thing we need to do, the law that we implemented was a clear course correction. It said that we needed to have a stronger FAA oversight, the people in place to do that job, and to hold manufacturers accountable. Directing the FAA, and making sure that that job is done is critical.

While I know your communication to the committee, in your written testimony, talks about a lot of the actions and requirements that were in the law, we also know that there is more to be done. I want to say that I'm very appreciative of Ian Won at the Boeing Aviation Oversight Office, who, on May 13th, issued a letter basically slowing down the 777X so that more

information could be provided, needed to be provided, for the oversight of that plane. I'm a firm believer that engineers on the ground know their job. What's not clear to me is whether people are listening to them, and whether the FAA has their back.

I also want to enter into the record, an August 19th letter from Mr. Won, also talking about the changes to the Boeing BASOO office and things that needed to be done to make sure that they continue to have the oversight and objectives. He's been clear, we need more resources. He's been clear, we need the right people to do this job. So we need the FAA, as I said, to be that gold standard. When a Special Committee Review of Aviation Certification Process, the SCACP, came back with a whitewash of what we needed to do, I was disappointed that you did not take more critique with that. In fact, basically, you testified before Congress, basically, the system is not broken. Well, there were parts that were broken, and they need to be fixed.

So I look forward to your testimony. But reading it, I see more of the same. Now is not a time to mince words, now is the time to provide the leadership that it takes to get the staffing, the oversight, and the direction that is required of an oversight agency to hold manufacturers accountable. Make no mistake, the manufacturer has its own responsibilities here. And we will also hold them accountable. We believe there's more to be done on certification, more to be done on the oversight and certification process. So that we are not just creating checkmarks on a list that now we can say 'the list has its checkmarks.' That is where we were with the MCAS system. In the end, it was the tragedy that we all know too well and are still living with.

So I'm very challenged by your testimony. We don't believe the FAA is prepared on January 1 of 2022 to restore direct supervision and control over those manufacturing engineers and delegated authority because they that process should have started sooner, because it is a big oversight responsibility. I will have questions for you in the Q and A about that, and the type of personnel that we need in all of these jobs.

We don't believe the FAA has conducted the necessary workforce review for determining the staffing and experience of those levels. And the FAA has not taken steps necessary to limit the delegation of certification to industry until the FAA is verified all human factor assumptions. Restating the law's requirement in a two page memo is not what it takes to get that implemented. It might be a basic start, but where is proof of the implementation? And this level of reform is needed immediately. And the FAA has not fully implemented new requirements for applicants to disclose safety critical information —like information related to flight control systems—so that the FAA can be aware and fully assess the impact of those proposed design changes and innovation technologies.

Again, this went into the US Code and was effective immediately, but the FAA expects to issue guidance in 2022. We don't have time to wait. We need that kind of oversight today. And the FAA has yet to complete the work of the Independent Expert Panel, which was supposed to be convened 30 days from enactment to provide timely advice on whether the FAA should formally rein in Boeing's ODA authority.

I also would like to enter into the record a letter from the families who are actually calling for a pulling of that authority. I understand that there is a panel that is meeting now, but the process and procedures in place to review their actions and have it be transparent is critically important if we are going to get this right.

So all of these safety issues are critical to all of us in America. It's critical to our families who fly on planes, it's critical to our economy. We need the leadership of the FAA, not just before our hearing today. The complexity that got us to this situation is a lot of complexity of language. In reality, it has to be leadership of FAA in implementing the law.

Now we'll turn to my colleague, Senator Wicker for his opening statement.

First Round of Question and Answer with the Witness

[\[AUDIO\]](#) [\[VIDEO\]](#)

Cantwell: Thank you, Administrator Dickson. On the bill itself – just, I want to get to some basic yes and no's, if I could. The legislation in our mind and crafting it was a clear stop of what we thought was a continuation towards more delegation and a return closer to the elements of what DER was. Do you agree yes or no?

Dickson: I would agree with that. Yes, we have restricted, we have limited the amount of delegation that we're doing, particularly in the case of Boeing, and we're looking at across the entire ODA system as well.

Cantwell: So would you answer these questions? Has the FAA completed a workforce review recommended by the Department of Transportation IG in 2015, as it relates to your workforce needs?

Dickson: We are in the process of completing that review, in the context of the certification reform legislation. As I said, we have increased our number of human factors, experts almost doubled our cadre there. We have done a review of our chief scientists and technical advisors, and using them as well. But, but that review is ongoing. And I look forward to working with the committee as it is completed, because I think that we need to continue to make sure that that's a dynamic process.

Cantwell: Well, we had a deadline for September 23, 2021, and certainly you could have written to Congress and said, we can't meet that deadline. But having a workforce that you know is the technical oversight necessary to do the reviews, we think is step number one. And when we look at the lack of technical oversight on certain issues in a changing, dynamic aviation market, this is really problematic. And I think in Mr. Won's letter, he's basically talking

about the fact that 53 people in an oversight office of 1500 people on such the scale of aviation manufacturing is not enough, would you agree?

Dickson: We have increased our number of engineers in the BASOO and our engineers and on the production line as well. And we will continue to evaluate all of that going forward.

Cantwell: This, this is the language I don't like. Okay, we had a deadline. We would have loved to see an assessment of the workforce. Something that would have said to Congress, here's where we think we're coming up short, here's what we think we need to do. So today, just like all the other IG reports, and everything else, the comments back from the FAA, are, 'we're working on this.' We want to get on the same page about needs. We're about to go into our appropriation process. And even though we have authorized various things in the past, we have appropriators who end up cutting these very necessary functions for the FAA to do a good oversight role. But if we just say for a deadline of September 23 of this year, we're continuing to work on it in the future, it hasn't given us the ability to hold you accountable. And that's what we're going to do. We have to do that because we need this system to work effectively for everybody for safety and for, for economics. So I want to get to the, because my time is going to dwindle down here are the critical, critical safety functions. And this was something our House colleagues worked on as well and put in civil penalties for violation of disclosure of this information. And what, I guess what I'm saying is your process right now is following a TAB process, you know, the same process of oversight and collection by individuals that led us to the MCAS system. That group didn't catch MCAS. And what we've written into law is that we want an integrated system, if you will, some people call it gray beards, and we want those people at the beginning of the process. We want them reviewing the critical information and determining whether more oversight needs to be done. So do you think that your TAB process is a fulfillment of the law?

Dickson: We are adapting the TAB process to comport with the legislation. So it is, it is a good starting point, but these, this integrated project team that you're referring to is, is definitely a part of what we are doing going forward and how we are organizing ourselves, both for future certification projects and for projects that are ongoing now.

Cantwell: But we have certification going on right now.

Dickson: Yes.

Cantwell: So why wouldn't you have made a big priority setting up a critical information certification team now for the ongoing certification projects? The reason I'm bringing this up is, again, we've seen two instances here where you're going to issue a report from whistleblowers before the end of the year. And what we're hearing from whistleblowers is the same that we've heard from the IG and others, and that is that line engineers had early warnings, whether it's the 787 battery issue, or whether it was this issue related to synthetic airspeeds or the complexity of automation and overload of pilots in the system. But those line engineers weren't

listened to. And that's what, why we want this critical information system and integrated set up immediately.

Dickson: Yes, ma'am. And the voluntary safety reporting program that we've had in place is one mechanism. But the, but the integrated program reviews are ongoing now and that will be a big part of both existing projects and the new certification project.

Cantwell: I will come back to this, but I want to go to my colleagues, but I just, I just want you to know I'm not going to allow the law to be skirted here. This issue is about whether you're going to follow a process that allows us to see the work of the FAA, see that it's completed and not just hear, it's ongoing. Thank you, Senator Wicker.

Cantwell Remarks

[\[AUDIO\]](#) [\[VIDEO\]](#)

Cantwell: Thank you Mr. Chairman. And administrator, your answer on SMS is exactly what I'm talking about in skirting the law. It's been long known that we need to implement a mandatory SMS system. So a voluntary system is not enough. The DOT IG found recently on October 21, 2021, the FAA oversight over SMS was not effective.

So I think my colleagues questions here are not about whether you can do a voluntary system. Again, when there is an oversight of a true SMS system required by an Administrative Procedures Act, overseen by the FAA, you will be seen as how you hold them accountable and we will be able to review that. Anything less is not meeting the letter of the law.

Second Round of Question and Answer with the Witness

[\[AUDIO\]](#) [\[VIDEO\]](#)

Cantwell: Administrator, one of the issues that we've, you know, heard a lot about in the certification process, and it's come up a couple of times, is the fact that the law requires on the change product rule to change the process and yet, I think you're saying that it's going to take years to do that by a rulemaking. And yet, we still have a process underway for certifying planes. What are you putting in place now to make sure that you have the workforce and the people to review that process while a change product rule is in in development? Should the FAA produce policies to close the loophole in the meantime?

Dickson: Chair Cantwell, absolutely. And we are working this on two tracks. We have MITRE doing a study for us on the criteria for significant changes for the change product rule to drive those decision criteria. And we have also stood up the International Authorities Working Group,

they've already met several times, and they will continue and should provide recommendations to us by next summer, on harmonizing the change product rule across all states of design so it's consistent, regardless of where...

Cantwell: I'm a little more worried about the right now. I mean, this was a pretty big change in the system that allowed technology to outpace our focus on it. And we don't want to see that happen again. So we don't need anything else to happen to know that we need to put something in place, and it was already asked to be put in place, so that we would have it today.

So this is the issue if you're producing a plane that is a derivative of a product. And this is the challenge that we face, we were very clear in the law. We said, every plane has to go through a systems analysis on anything that's different.

Dickson: Chair Cantwell, that that is actually happening now. So any critical design component requires validation in anything that touches human factors. And the additional human factors folks that we've got in, in the agency, are focused laser focused on that issue. We're also involving them throughout the process, not just to design approval, but also for continued operational safety once the airplane is actually out there flying. So that data is actually coming back and informing the certification process where it wasn't to such a degree before.

Cantwell: Well, back to Mr. Won, because I think he is trying to get the information in his May 13th letter where he basically said that there was not enough information on the 777-9 on their core, a common core system, their communication system, and when you look at this, quote from the letter, it is, quote, "an integrated modular avionics architecture that provides a set of shared computing, networking, input output resources to support the computing, and system interface needs for multiple airplanes."

So it sounds very similar to us saying, we want to understand what the software does similar to the MCAS system. And so my question is, here's somebody who is doing what we asked, and just, you know, for the context, there are more than I think, 1,600 I'm sorry, thousands of SPIA members. See, these are our professional engineers in the northwest, they're our friends, they're our neighbors. These are people that are working and putting their name behind their product, or let's say they would like to put their name behind their product, but they need this backup of the FAA.

And here we have someone on the ground who saying yes, I'm going to make sure that we slow down and look at this. But when we look at the fact that the Boeing Oversight Office, the aviation, FAA office, overlooking the Boeing manufacturing is basically been at a static engineering level for decades. How do you expect that we're going to be able to do this oversight, and be able to really understand and keep pace with this technology.

Dickson: Well Chair Cantwell, it's, again, we have increased engineering resources within the BASOO, but we're also integrating the Certificate Management Office at Boeing, which oversees the production side of the house. And all the operators that operate Boeing aircraft, we are

integrating them so that we can leverage all their expertise in these processes and make sure that the BASOO is able to be more effective and its process.

In this particular letter, part of what we're dealing with is the issue of, of what our expectations are for submissions. And that's something that was a very early part of my conversations with Boeing leadership, you've got to give us the full picture. You can't give us a portion of it, and then say, well, you'll get everything else next week. So this is just really re-snapping that line to make sure that the applicant that we are overseeing is giving us a complete system picture when they asked for us to move to the next milestone in an approval process.

Cantwell: And to Senator Markey's point, I know that there was an EASA repeal of an ODA authority. At what point would you take that step?

Dickson: Well, at this point, if we saw that they weren't meeting our expectations on a consistent basis, or if we saw anything in their in their safety management systems or their data where they weren't making the necessary cultural or transparency improvements, then we would go down that path at some point.

Cantwell: Well, I again, I we know we're going to have our own report and our own reporting of what we've been told by various whistleblowers, but it's clear that the process has changed that, that this process of collaboration and solving problems is now changed into, at least from what we've heard, the FAA not even asking the ODA unit members to produce documentation about testing and information that's literally 'does this comply: yes or no.'

So we have to build this workforce, we have to believe in them. They are our early warning system when something is wrong, and you have to back them up. So again, I'm asking you, because I don't see the workforce improvement at the Seattle office that you're describing. I think we're at a total of 52 people, 32 of which are engineers. So I don't think that that's changed much over the years. So how have you, since these accidents, improved the Seattle Oversight Office?

Dickson: Well, again, I will get you the current numbers, but we have increased our resources. And we are, I know, because I've sat down with him personally, our people feel empowered, and backed up as they never have been before. And that that's helping them to be more effective. This, which I think was part of what you were really focusing on in the legislation, the appointment of the unit member advisors, is creating a direct communication path to make sure that there's no interference with that line of communication between...

Cantwell: Not a direct communication path, that simply makes it sound like it's about communication. It is an authority oversight on whether this is going to move forward or not.

Dickson: But the awareness in terms of what the issues are, and not allowing the employer to interfere with issues that are brought forward directly to the agency that is going to help us be much more informed and our oversight much more effective.

Cantwell: Well, I look forward to seeing this list of people that you say that you've enhanced the office with. What do you think the skill level is to do certification oversight? What's the skill level and background of the person who heads this up for you at the FAA?

Dickson: Well, certainly, you know, aeronautical engineers, we need system, we need software engineers. And I think that there's a growing need in that area. That was something that that I think with newer platforms, where we're seeing how the systems are interfacing with each other, that it's more and more a part of the architecture of newer model aircraft. And so that's an area that that will be focused on. Of course you're always going to have engineers, mechanical engineers, and others in other aerospace disciplines. But it is transforming to a more of a how to all of these automated systems on newer aircraft interface with each other. I think as we as we go into the coming years, we'll need to build our workforce on things like artificial intelligence as well.

Cantwell: Well, you and I might agree on that point about software because I don't think there's enough attention that's been paid to this either at the skill level of understanding this, particularly from an oversight and certification perspective, but certainly also at the company. And then when it comes to this issue of overload in the cockpit on various alerts and understanding. Particularly, look, I think we've saw this, I think you saw, even in your own private background, that you had pilots complain about the automation system, and the fact that there was so much happening in these automated systems. So the question is, what do you need to do to make sure that we get this automation right. And I think, to me, there seems to be this task that we also outlined in the bill. You know, when you're now doing an oversight of a new software system that's going to be so critical, I would think the FAA would produce a document that says these are the things that we expect to understand. And that you would get that integrated team that we asked for right now on software stood up and pounding on the kind of questions that you would want answered from that system. So they're not simply relying on, you know, the information presented.

Again, this is a huge transformation that's continuing in aviation. But it's not only in aviation is happening in vehicles, this committee is struggling with the same oversight as it relates to unmanned cars and other issues. So it's getting your team and getting people to do that oversight now on the technical skill side and getting the right level of workforce. I just don't see that urgency in the FAA's actions. So I would ask you to do that. And to make that a number one priority as you move as you move forward.

Dickson: Chair Cantwell, it's an extremely high priority. And I will get you that additional insight.

Cantwell: It's essential to fulfilling the law. Okay, so I have a larger, broader question, which is just about the process and this is again, a perfect example of it. This 777 issue. So when you're submitting design data to the FAA, for a finding of compliance, shouldn't the applicant certify in writing to the FAA that the submitted data complies with all the available and applicable airworthiness standards?

Dickson: Yes, that's correct.

Cantwell: Okay. And if the design does not comply with the applicable airworthy standards, the design should be brought into compliance before the FAA certifies the aircraft?

Dickson: Yes, that's correct.

Cantwell: Okay. Well, I don't know that that happens. I'm not sure that that's what's happening. And so again, if we go back down the system, there were a lot of checks on a list of issues, but not on final compliance with that information. I think that's what's missing in the system. And I think we're going to continue to look at that. And I would look forward to hearing your thoughts on how we ensure that compliance really does meet that standard. So very much appreciate your answer on that.

I thought we had one more question that we wanted to go over. There two issues on the workforce side, standing up of the Air Grant Program, this is very much similar to the Sea Grant Program, in getting here on the hill, a professional workforce that is very skilled and knowledgeable in aviation.

I'm very proud of my colleagues here today, you can see that many of them have been following this and know specifically, but I think it's easy to say that the oversight at the FAA on this issue needs a more technical staff here on the hill, in addition, and throughout, you know, throughout the policymaking realm. I'm very pleased with what the Sea Grant Fellows have been able to achieve, because they brought a lot of scientific knowledge to our understanding, as it relates to our NOAA oversight or fisheries oversight. So what is it going to take to get that stood up?

Dickson: Well I look forward to working with you on it. I think it's a great idea. And something that would, I think, improve the collaboration and the communication with the committee and make sure that we're more effective in our implementation and frankly, lay a solid foundation for the future as you said.

Cantwell: Yes. Okay. In the same, I think one of my colleagues may have asked about the same ICAO involvement of going to ICAO and making sure that we're setting the same international standards.

Dickson: On pilot training?

Cantwell: Yes, so that we're not going to allow a slippage of the standards set by pilots on an international basis, that we're going to very much understand the manufacturing of planes with integrated software systems. But we're also going to still have a skilled pilot at the helm, two pilots who know how to fly the plane if those systems are turned off.

Dickson: Right. And I think ICAO is important, but we can't rely on ICAO, we've got to help authorities around the world to implement the requirements that we're talking about here because that's going to really raise the bar in terms of not only pilot training, but also maintenance programs anyone operating, in this case, a US product, but any airplane, in commercial operation anywhere in the world, we want to work with those authorities. So things like, I've talked about before, upset prevention recovery training, flight path management, as we implement those beneficial changes in the United States, we want to work through ICAO to get the standard set, but then we also have to go to the individual aviation authorities to make sure that they're implemented consistently around the world.

Cantwell: We want the United States to be a leader on what is required for both the manufacturers and for the skill set that it takes for flying the planes. So we want the FAA to set that standard here. And we want you to be a loud advocate for it on an international basis.

Dickson: I could not agree more.

Cantwell: Thank you. According to my information, the DOT OIG report of February of this year, said there's only been one engineer added to the Seattle office since the MAX tragedies. So I think there's some resolution here of what's really the fact and information so I'll look forward to getting that information from you. I just firmly believe that having the right staffing and having your integrated team set up to advise you right now, not waiting for their moment, and clarifying this change product rule process will be critical. Okay, but I very much appreciate Mr. Won doing his job in standing up. So I think that makes the hearing for us today.

The record will remain open until December 1st, 2021. Any senators that would like to submit questions for the record and for the witness should do so by November 17th of this year, and we ask responses be returned no later than December 1st. So that concludes our hearing. Again, thank you, Administrator, for being here today. We're adjourned.