NTSB | National Transportation Safety Board

MEMORANDUM FOR RECORD

Doug Brazy
Aviation Accident Investigator
Air Carrier and Space Investigations

Date: 08/04/2024

Subject: DCA24MA063, Portland, Oregon, Boeing 737-9, Registration N704AL, Alaska Airlines Flight 1282, 1/05/24, Boeing Media Briefing Materials

On June 27, 2024, Boeing provided the following files via email, regarding a media briefing that was conducted by Boeing on June 25, 2024:

1) PDF of presentation to media
2) Transcript of comments from the briefing that were related to AS1282
3) Draft transcript of the entire briefing

These files are included in the pages that follow.

<end>

Strengthening Safety and Quality

Elizabeth Lund
Chair, Quality Operations Council
Senior Vice President, BCA Quality

A safety item escaped our factory

NATIONAL TRANSPORTATION SAFETY BOARD

AVIATION | HIGHWAY | MARINE | RAILROAD | PIPELINE

Aviation Investigation Preliminary Report

Location:	Portland, OR	**Accident Number:**	DCA24MA063
Date & Time:	January 5, 2024, 17:14 Local	**Registration:**	N704AL
Aircraft:	Boeing 737-9	**Injuries:**	177 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

On January 5, 2024, about 1714 Pacific standard time, Alaska Airlines flight 1282, a Boeing 737-9, N704AL, returned to Portland International Airport (PDX), Portland, Oregon, after the left mid exit door (MED) plug departed the airplane leading to a rapid decompression. The airplane landed on runway 28L at PDX without further incident, and all occupants (2 flight crewmembers, 4 cabin crewmembers, and 171 passengers) deplaned at the gate. Seven passengers and one flight attendant received minor injuries. The flight was operated under Title 14 *Code of Federal Regulations(CFR)* Part 121 as a scheduled domestic passenger flight from PDX to Ontario, California (ONT).

Figure 16. Photo showing the left MED plug immediately before interior restoration and the circles show the three locations without the retaining bolts, two vertical movement arrestor

After Jan. 5, Boeing took immediate containment and mitigation actions to address potential safety and quality items

- Added end-of-line inspections for critical systems
- Reinforced compliance to “removal” processes in production
- Updated training and improved clarity of mid-exit door work instructions
- Initiated steps to reduce traveled work coming into Boeing’s factories
- Processed findings from in-service fleet inspections
- Engaged with airline customers on best practices

Sign placed on Mid-Exit Door (MED) plug in the factory

We gathered inputs from key stakeholders

- Our employees
- FAA audits and requirements
- Airline customers
- Data monitoring / internal audits
- Aircraft Certification, Safety, and Accountability Act (ACSAA) Safety Review Panel
- Admiral Kirkland Donald's independent assessment

…and we **continue** to gather feedback from our key stakeholders

Four categories of action to address systemic issues

Workforce experience, training and proficiency

Invest in workforce training

Complicated processes and procedures

Complicated build plans

Simplify plans and processes

Defects entering Final Assembly

Audit findings

Eliminate defects

Early in SMS deployment

Out-of-sequence work

Limited employee engagement

Elevate safety and quality culture

Invest in workforce training

Lengthened duration of foundational training

Enhanced on-the-job training

Deployed workplace coaches and peer mentors

Implemented proficiency assessments and enhanced training for existing teammates

Simplify plans and processes

Streamline Quality Management System (QMS) command media

Simplify work instructions

Conduct design-build audits on critical structures and systems and implement changes

Training and further improvements to removal process in the factory

Easier access to drawings online

Eliminate defects

Increase supplier oversight

Data analytics to proactively identify supply chain risk

Improved FOD, part and tool control plans to ensure adherence to work instructions

Institute approval prior to shipment from suppliers

Elevate safety and quality culture

Fully deploy SMS across all facets of operations

Conduct safety and quality events to generate improvement ideas

Strengthen first-line leader development

Further encourage and enable employee reporting and involvement

Implement risk assessments and mitigation plans to control traveled work

Six KPIs established to monitor production health

Key Performance Indicators (KPIs) provide real-time production system insights

Each KPI has defined criteria that will trigger **corrective action and safety risk monitoring**

Operating Rhythm incorporates **routine visibility of KPIs**

Employee Proficiency

Notice of Escapement Rework Hours

Supplier Shortages

Total Rework Hours

Traveled Work

Airplane Ticketing Performance

Our commitment

Ensure **safe, high-quality airplanes** and a **safe workplace**

Strengthen our **workforce and culture** for lasting change

Restore **production stability** and **deliver on our customer commitments**

Rebuild trust one great airplane at a time

Safety and quality in everything we do


BOEING

Defining the terms…

Safety Management System (SMS): System designed to proactively identify and mitigate product safety hazards in the production system.

Quality Management System (QMS): System designed to ensure compliance and conformance to the product's approved design and meet customer and regulator requirements.

Foreign object debris (FOD): An item or substance that should not be present on/in a manufactured part or assembly.

Product safety item: A design, manufacturing, in-service, delivery or maintenance item that impacts the safe operation of Boeing products by our customers.

Product quality item: A design, manufacturing, delivery or maintenance item in Boeing products that does not meet specification, regulatory, or customer requirements.

Traveled work: Work that should be completed in one build position, but instead 'travels' to a later build position before being completed.

Notice of Escapement (NoE): A supplier's formal notice to Boeing that a nonconforming part has left their production and has been introduced into Boeing's production system.

Defect: A condition that does not conform to the engineering design and/or build plan.

Safety & Quality Plan | Media Presentation
Transcript: Elizabeth Lund
June 25, 2024

****THIS IS A ROUGH TRANSCRIPT AND HAS NOT BEEN PROOFED FOR ACCURACY**

00:00:00:00 - 00:00:30:05
Speaker 1
I am incredibly honored and excited to kick off this morning's briefing with an update of our comprehensive safety and quality plan. I suspect all of you have heard about it and read about it. Most of you have probably read the executive summary that we released, and we are excited to take this chance to be able to talk about it a little bit, take Q&A, give you a little bit more insights and discuss our plan.

00:00:30:07 - 00:01:00:05
Speaker 1
So, with that, we will jump in and get started. Next slide, please. So, I think it's important to understand the plan, to briefly understand what happened on Flight 1282 to on January 5th, Alaska Flight 1282 and the accident. And so, we won't spend a ton of time here, but I want to level set so that when we talk about the plan, you'll know where some of the context for the plan came from.

00:01:00:07 - 00:01:29:01
Speaker 1
So, when the fuselage arrived for the airplane that later flew Flight 1282, the fuselage came in from our supplier. And when the fuselage came in, it was discovered upon load in the factory initial load on the factory that there were five nonconforming rivets. These nonconforming rivets in and of themselves did not create a safety hazard, but they were nonconforming, and they needed to be fixed.

00:01:29:03 - 00:01:48:09
Speaker 1
So, a defect arrived from our supplier. The airplane then traveled throughout the factory. You'll see the line with Katie and a little bit it moved to the end of the line while we discussed with our supplier. Back and forth. Are the rivets okay? Are they not okay? Do they need to be fixed? Can you fix them this way?

00:01:48:09 - 00:02:20:06
Speaker 1
No, you can't. And the airplane was at the end of the line. By the time we all reached agreement that the rivets needed to be removed and replaced at the end of line, we reached the point where we had a what we believe is a noncompliance to our process in order to remove and replace these rivets. The mid exit door plug needed to be opened in order to get access to throw out the rivets, replace them.

00:02:20:08 - 00:02:46:00
Speaker 1
And we believe that plug was opened without the correct paperwork. You guys have read about it. It was referenced in the NTSB report, which is up there. So, we believe there was a noncompliance to our processes at that point by having the plug opened without the correct documentation and paperwork. There was documentation and paperwork on the actual rivets.

00:02:46:02 - 00:03:08:17
Speaker 1

Those got removed and replaced. That was stamped off. That was appropriate. But by the time all of that got bought off and we were ready to go, the airplane was ready to move outside. We have a team that we call the MOVE crew before an airplane rolls out of the factory on line move night. They come in and they just button the airplane up for the weather.

00:03:08:22 - 00:03:34:06
Speaker 1
They close the doors. In this case, they closed the plug. They ensure that any open holes on the airplane are covered so that it's in good condition to go out in the weather. We believe the move crew; we know the move crew closed the plug. They did not reinstall the retaining pins. That is not their job. Their job is to just close it and they count on existing paperwork.

00:03:34:11 - 00:04:01:18
Speaker 1
The paperwork goes with the airplane. All of the jobs are worked in the open. Job gets worked later in the process. And in this case, because we believe the paperwork was never created, there was no open paperwork that traveled with the airplane. This actually is a photo of the actual airplane that you're working here looking at here. The last step is what we call an okay to close and for an okay to close.

00:04:01:18 - 00:04:25:09
Speaker 1
Typically, people come in and look for really Ford, Is everything clean? Are we good to go? This was the picture that was taken during the okay to close. You can see three out of the four locations. We can see there are no pins in there. After that, we were given the okay to close the blankets, came down. And at that point it was not visible.

00:04:25:11 - 00:04:48:06
Speaker 1
The plug has a little bit of an interference fit. That's how it was able to fly for roughly 150 cycles without being identified. That's how it passed our flight test, because it's a it's a snug fit, but not a not a permanent fit. So that's what happened. A defect entered our system from our supply chain. The defect traveled throughout our final assembly.

00:04:48:08 - 00:05:10:14
Speaker 1
And then there was a lack of compliance to our processes by the correct documentation using the correct documentation. And that's the background of what happened. And that will feed the rest of our system and the rest of our processes and our proposal. Next chart, please. So, step one is we immediately took steps. We sort of did this in a couple of phases.

00:05:10:16 - 00:05:42:05
Speaker 1
Our first phase was to take immediate action to ensure that no airplane ever leaves our factory that could cause an accident. I will tell you very transparently the fact that one employee could not fill out one piece of paperwork in this condition and could result in an accident was shocking to all of us. We have a series of redundancies throughout our process, and we knew this could never happen again.

00:05:42:07 - 00:06:07:10
Speaker 1

We immediately had engineering do a review of our critical systems and we identified what I'll call critical areas, things that could cause that could cause an accident, a rapid decompression, a major structural element that could come loose critical flight control systems. We took a list of these systems and just immediately, out of an abundance of caution, put end of line inspections in place.

00:06:07:16 - 00:06:29:15
Speaker 1
Most of them were done after our first flight, before we went into our delivery process where we went out and we inspected these critical areas just to make sure there was no other non-conformance in our system for anything critical. And we did this across all airplane programs. We are later in the plan that we go through. We'll tell you we're doing a much more systemic look.

00:06:29:20 - 00:06:47:14
Speaker 1
But this was an immediate action to ensure that there was no non-conformance that left our system. The other thing we did is we went out and we checked all airplanes here. We checked all airplanes in the fleet. And we do have confidence that no other airplane was delivered like this based on the complete fleet check that we did.

00:06:47:14 - 00:07:15:23
Speaker 1
The things we checked here at the airport, at airplane programs. But we want to make sure it never happens again. We also went out to all of our employees immediately. We implemented what we called a read and sign, which is just as it sounds like to all production employees, manufacturing and quality. We put out a very clear statement that we said, here is the removal process in very clear language.

00:07:16:01 - 00:07:46:09
Speaker 1
Please read this removal process and sign that you fully understand it to make sure everyone who has the potential to do a removal again really is reminded. You understand it. And we have 100% signature that everyone in this production system understands this process going forward. We did really a full review of this exit plug and to ensure that any changes, anything that could be remotely unclear.

00:07:46:11 - 00:08:07:18
Speaker 1
We started that spirit. We worked it all the way through our system. Any documentation that needed to be clarified, any confusing parts, anything any employee said, well, I wasn't really sure what this meant. Cleaned it up, clarified it, went back out, made sure that everything in that process is crystal clear. We also looked at other what we call like areas, particularly doors.

00:08:08:00 - 00:08:32:15
Speaker 1
Let's go back and look at all of our doors. Is there any chance anything like this could happen on any other like structure? Did full inspections just to make sure we really had our arms around it, talked to our customers, took best practices and did all of that immediately. And this was sort of our immediate answer to the question, how can you be totally sure that the airplanes you're delivering today are safe?

00:08:32:17 - 00:09:00:11

Speaker 1
We did a lot. We did it quickly, and we are confident in that answer. Next chart, please. So, then we said, but this is our moment. This is our moment to step back and holistically look at and be very introspective. What else could we do? How can we be certain that our system is as absolutely robust as possible?

00:09:00:15 - 00:09:32:14
Speaker 1
So, we started collecting input from many, many sources. First and foremost, our employees. We implemented what we named quality stand downs. We've done them at, at every major manufacturing site in Boeing commercial airplanes. We did them at 20 locations where we stepped back and we invited big cross-functional groups of employees, engineering, manufacturing, supply chain, quality finance, hr.

00:09:32:19 - 00:09:53:01
Speaker 1
You name it. They came together and through these quality stand downs and there's a couple of pictures of them there. We had over 70,000 employees and Boeing Commercial Airplanes go through these quality stand downs, and the quality stand down was organized where we brought all of the employees together in the morning, and we sort of got them all together and said, why is this important?

00:09:53:01 - 00:10:17:17
Speaker 1
What's going on? And I had a conversation with leadership. We then went to the manufacturing areas, and we had people work with their the teams they work with, for example, the landing gear team. We have the people who buy the landing gear, design the landing gear, install the landing gear, work in service on the landing gear. Everybody comes together and work together as this cross-functional team around the area they work with.

00:10:17:19 - 00:10:36:22
Speaker 1
And we did this through the whole airplane program. We then took everyone to the manufacturing floor. And for those who aren't there frequently, we taught them. For those who are there frequently, we participated in a safety walk and a compliance walk. Here's what we look for. Here's how the factory really runs. If you don't live in this environment, here's exactly how we do it.

00:10:37:00 - 00:11:03:05
Speaker 1
And then we provided this team with a list of defects that they had created or that we discovered in the field or anything that had potentially been a defect on their commodity. And we turned them over to this team and we said, please provide us with ideas on thoughts on how we make a defect free product, on how we ensure our airplanes are perfect every time.

00:11:03:07 - 00:11:29:15
Speaker 1
And throughout these stand downs, we have received over 30,000 ideas, pain points, areas for improvement across. So that is really the primary foundation of this plan. But it came from other places as well. The FAA sent many auditors in here. They were here with us and Boeing for six weeks across all three shifts. They went to spirit. They were in spirit for three weeks across all three shifts.

00:11:29:19 - 00:11:45:14
Speaker 1
We took all of the feedback from those audits. Our airline customers came in. They gave us feedback. You might want to think about this. Here's an area that we've always thought maybe you should go look at. We took all of that in. We looked at our own data. What are our trends telling us? Where are areas where we have risk?

00:11:45:14 - 00:12:17:22
Speaker 1
Where are areas where we have defects? Let's make sure that we really go look at those. There was also AXA legislation actually 103 legislation that was created by Congress that required an expert panel to come in and evaluate Boeing's safety culture and deployment of our safety management system. That panel took place well before the January 5th accident, but the report out came in this window.

00:12:18:00 - 00:12:45:03
Speaker 1
So, we took that feedback. We they came up with 52 recommendation and 48 of them were for Boeing. And we've accepted every one of those recommendations and we've incorporated this feedback and integrated it as we go throughout this plan. And then lastly, Boeing's board of directors hired an independent assessor. His name is Admiral Kirkland Donald. Admiral Donald has a group of people that he works with.

00:12:45:05 - 00:13:11:12
Speaker 1
We affectionately call them the admirals. And the admirals have come in and they have spent time across our supply chain. They've been to multiple suppliers. They've been to all of our major locations. They have spent time in cross talks with our unions, with our employees, with our leaders. They've witnessed how we do work. And then they've been giving us suggestions as we go, and we've incorporated those.

00:13:11:14 - 00:13:47:03
Speaker 1
So, we put all of those together and we came up with the basis for this plan. Next chart, please. So, when we did it, we bucketed this into eight basic, what I will call systemic issues or problem areas. And then we came up with four solution sets that we've rolled this data into. There is much more data. This is just kind of a the boiled-up way where we can kind of bucket it and talk about it, which we'll start with today.

00:13:47:05 - 00:14:14:01
Speaker 1
So, the systemic issues, I'll walk down the left-hand side of the chart first or the areas that we knew we needed to address. The first is just workforce experience. We have brought in so many employees since COVID and during COVID, as most of you will remember, it overlapped with the time of the max grounding where our production rates went significantly lower on the max as well as at seven, eight, seven.

00:14:14:03 - 00:14:37:20
Speaker 1

So, our as we were going through that time and we had attrition and things happened, we weren't backfilling at that time. We didn't actually do an involuntary layoff, but we didn't backfill as we went through that. And when we came out of this, the max grounding was lifted. We were back flying again; we were coming out of COVID, and the market came back incredibly fast.

00:14:38:02 - 00:15:10:13
Speaker 1
At that point, we were hiring lots and lots of people. And, you know, I think the summary is the quantity of people in a short period of time and their baseline level of expertise in for many years. And still to this day, we get many of our employees from airline industry, from tech schools, from MROs, and they have some or from our suppliers even they have some aerospace experience when they come to work here.

00:15:10:15 - 00:15:48:09
Speaker 1
During this time, we were getting people with less experience, many cases, no aerospace experience, and there were so many of them at once that we realized that we really needed to go address this. The next couple of issues come from, and it's compounded by that first one. I will just say the sheer complexity of our systems, our processes, our procedures and our build plans and we have been operating under the same foundational elements of many of our processes and procedures for 50, 60, 70 years.

00:15:48:10 - 00:16:17:02
Speaker 1
We have updated them. Have we gone through time? But primarily we have added to them. We had a gap here; we had an issue here. We went back and clarified it in the procedure. We put a little bit more in the procedure, we put a little bit more, and what we ended up with is a deep and broad list of command media that is particularly difficult for new employees to come in grasp, understand, ensure their complying with.

00:16:17:04 - 00:16:47:06
Speaker 1
The second issue is our build plans. It was another similar situation. Our build plans are at times complicated, particular early for a new employee. No aerospace experience. Perhaps they speak English as a second language, even more complicated. So that's our second kind of clumping of areas. Second and third issue that we knew we wanted to address. The next to you will have heard this previous in the story.

00:16:47:08 - 00:17:14:17
Speaker 1
The first one is really ensuring that we have minimized or eliminated the defects coming into our factory from our supply chain. And we'll go through this in just a minute. But just if we think about the story that I told on the plug and the background of what happened, we just need to ensure that we are as close to a perfect product coming in as we want to be going out.

00:17:14:19 - 00:17:41:07
Speaker 1
The next is findings from the FAA audit. This was a chance for us to say when we get an audit finding, we get feedback from the FAA. We do root cause analysis. We put into place a systemic change that we believe will hold with some of these new employees. What we found is some of

these things we had fixed before they pop back up and we said, let's make sure that we make it even more robust once and for all.

00:17:41:11 - 00:18:23:07
Speaker 1
Let's take these findings and instead of just in and we wouldn't do something this simple, but redoing our training and reenforcing compliance, let's make sure we really make these processes robust so they're good forever. And then the last three are really all about the safety culture. The first as a result of the panel. If I had to summarize one of the major findings from the panel and of course there were many, there was ones around human factors, etc., but one of them is just the fact that, quite frankly, Boeing was and continues to be very early in our safety management system deployment, we really started to deploy in earnest our safety management

00:18:23:07 - 00:18:47:19
Speaker 1
system from a voluntary standpoint in 2019. We started with a focus on the fleet. We then moved to our development programs, which is where we were working through. We had not gotten it fully deployed to all areas of our production system, and in many ways that's what the panel found. They found that we have not fully deployed it and we need to do that rapidly.

00:18:47:21 - 00:19:10:10
Speaker 1
The next one really comes to how we manage work that is not completed in position or at the time we wanted to where we had baseline and the completion of that work. How do we manage it, what would we do about it, and really the need for better management of that work. And then lastly, I said limited employee engagement.

00:19:10:12 - 00:19:29:23
Speaker 1
There are ways to say it. I think our employees were telling us I need more time to be able to participate in the solution for these ideas that we just talked about of how we make sure we make the perfect airplane. I need some time to really go work on that. So, we saw great so many, many issues.

00:19:29:23 - 00:19:52:22
Speaker 1
But most of them, you can boil up into these kind of eight issue categories and we've come up with four basic areas of how we're going to go address them. The first is invest in workforce training. The second is simplify plans and processes. The third, eliminate defects both coming in and that we create and the fourth, elevate our safety and quality culture.

00:19:53:03 - 00:20:31:11
Speaker 1
And I'll go just a little bit deeper on each one. Next chart, please. First, enforce invest in workforce training. We tackled this in sort of four major areas. The first is foundational training, and this is a question I always get. So, I'll hit it here. Like, how did you not know your training wasn't working? Wasn't we? We knew we brought in thousands of new employees, and in 2023, we knew that we our employees were getting go for they were struggling to really kind of do the jobs correctly.

00:20:31:16 - 00:20:54:22
Speaker 1

So, we overhauled our foundational training. That's another word, what I would call classroom training. When someone first comes into the company, they go into this foundational training. We overhauled it. When we did this, we realized we could do even more. We could put even better tools. You're going to go visit it today. You're going to see more. But we had done some work to really keep up with the foundational training before we further enhanced it.

00:20:55:00 - 00:21:13:14
Speaker 1
What we hadn't really gotten to before that we've put a lot of time and effort in. And I think, Katie, I'll show you some of this when we're out there is on the job training. We have really strengthened on the job training. That's the that's the really hands on part. You go to foundational training, you learn how to drill a hole, you learn how to access the systems.

00:21:13:14 - 00:21:32:02
Speaker 1
You do a bunch of stuff like that, but you go to the floor, and you really learn how to do your job. We have really strengthened our oversight of that. We've strengthened our implementation of that, and we've increased the duration of this entire process, and we have linked it to proficiency testing. So, you must pass test to come out of foundational training.

00:21:32:04 - 00:22:02:06
Speaker 1
You must pass an assessment and a buy off to come out of on-the-job training. Now, we didn't have that on-the-job training proficiency assessment for four, and we went back to all of our employees who had mechanics who'd been here less than a year, inspectors who'd been here less than two years. And we did a proficiency assessment on the floor of those employees as well to ensure that if you had come in in the last year or two, depending on your job, you could access your drawings, you could access your specs, you knew what they meant.

00:22:02:10 - 00:22:26:11
Speaker 1
So, we went, and we did that across the board, across all of our programs as well. And then lastly, we deployed in Renton alone, 160 workplace coaches. We deployed them across our production systems. These are experienced mechanics or in some cases retirees who came back who have a depth of knowledge in what we do there on the floor.

00:22:26:12 - 00:22:47:14
Speaker 1
I would garner Tibet. You will see one somewhere today as you walk through. We placed skills enhancement centers on the floor so that an employee can go and get help when they need it. We assigned every employee who comes out on the job training a one-on-one peer mentor to make sure they have someone mentoring them through this process.

00:22:47:14 - 00:23:09:21
Speaker 1
It's a very deliberate process because we just strengthened it across the board. The one other thing I'll comment is the thing that we did as soon as we came out of these quality stand downs, we held all of our employees in foundational training, in the classroom training for about two months while we overhauled the curriculum. We added curriculum.

00:23:09:21 - 00:23:30:10

Speaker 1
We made it more specific, we added more tools, we added different assessments, and we just held them there to ensure that they could pass those tests before they came out to the floor. So, a ton of work to invest in our training and I think it's really paying off for us. We're already seeing the dividends of that next chart, simplify.

00:23:30:12 - 00:23:52:10
Speaker 1
This is one of these that in many ways will be a little bit longer term. We are doing two basic things. Number one, we're taking this command media that I mentioned, a thousand different documents. We are pulling it up. We're looking how we can streamline it, can consolidate it, simplify it, make sure we're really clear on our levels.

00:23:52:12 - 00:24:10:18
Speaker 1
The highest levels of the policies, procedures, really talk about intent. You go down to the specifics at different level so that we don't have them kind of so intermingled. So just really a clean-up of our command media, our processes, procedures. And we're doing this in conjunction with the FAA. If anyone is worried, they're in lockstep with us.

00:24:10:18 - 00:24:28:06
Speaker 1
And in fact, they are the ones who recommended that we undertake this large effort. This will take several years to get all the way through, but I think it will really set us up for the future. We are also doing a lot of work on our build plans and our work instructions. Two or three primary things we're doing there.

00:24:28:08 - 00:25:01:14
Speaker 1
The first is a design build audit on each program. We stepped back and we've looked at systems and commodities that are safety critical and we've started, and we've gone from as designed, as planned, as built and as inspected, doing a thorough review to make sure there's no overlap, there's no confusion, there's no latent defects. There are parts that are older in their design across all our products, some that have been done more, more recently.

00:25:01:20 - 00:25:23:03
Speaker 1
Is there something we need to do to mistake proof this design? Is there something we need to do to make it even more robust? We need to enhance the inspection. We're looking at them and we will do this across all areas deemed kind of to be a safety critical area in priority order across all of our programs. The next thing we're doing is taking all of our installation plans.

00:25:23:03 - 00:26:02:14
Speaker 1
That's the paperwork that a mechanic uses to build the airplane. And we are making it more simple. We're using artificial intelligence to go from what I'll call engineering English to what I'll call more clear plain English, fewer words to say simple things that are super easy to understand. Kind of what I'll say, doing the math for our employees, instead of saying, you know, I want a 0.375 hole plus or minus .05, we'll say, you know, a hole between, you know, nominal .375 needs to be point two, 1.370.38.

00:26:02:16 - 00:26:30:12
Speaker 1
I mean, just that kind of just real clarity going to the specs, pulling up the exact data on the spectrum, the IP plan, adding visuals were helpful, etc. So, simplifying these IPS and we'll take that same approach and put it toward our critical design build audience as well. And then lastly, adding in inspector standard work to really help our inspectors know best practices, what tools should you use to inspect this?

00:26:30:14 - 00:26:50:15
Speaker 1
In the past, we have great detail on the mechanic work, and we ask the inspector to inspect it, make sure it was built correctly, which is great. But now we're also telling the inspector, Here's the best way to inspect this too. You'll really get the best results if you do this. So, enhancements, processes, procedures, simplify it all, really make sure we're robust.

00:26:50:17 - 00:27:19:00
Speaker 1
Next page. The third major area eliminate defects has a couple of real key areas in it. The first is really an increase of our supplier oversight. We are using data analytics. We're setting up a data analytics program and process to really point us to the right areas in the supply chain where there is risk so that we can proactively identify these areas of risk.

00:27:19:02 - 00:27:54:04
Speaker 1
We can use our supplier quality representatives who are out in the field across all of our suppliers, really working through this with our higher risk suppliers. And we're also really going to our tier two and three and in some cases for suppliers as well, working with our larger Tier one suppliers, identifying these Tier two and Tier three and Tier four suppliers that are at risk, identifying which Tier one or US will be prime for this Tier two or three, how we will go in integrating this industry approach to these lower level suppliers, lower tier suppliers.

00:27:54:06 - 00:28:27:10
Speaker 1
And just to clarify, to make sure we're clear, a tier two or a Tier three supplier, a tier two supplier doesn't supply directly to Boeing. It's supplies to another supplier who supplies to Boeing just to level set on our definition of the supply chain. So really working on that, working across our supply chain and then internally taking these areas where we have had a recurring audit finding and really ensuring that we change that process to be robust, use the latest technology.

00:28:27:12 - 00:29:12:06
Speaker 1
I suspect Katie will might show you some of it today. We are enhancing our tool control process where we will use RFID a much more broadly than we do today. We are enhancing our part control technology today. The process says if I've given you a part and you don't install it today, you go and you put it on this rack or work in process rack, but you have to fill out this form and the form has to have your beam's ID and the part number and the IP number and the chance that some mechanic has switched one of those numbers or gotten the tag fuzzy.

00:29:12:08 - 00:29:30:06
Speaker 1

Right. Like somehow, it's been erased or not quite visible or it's set on the rack wrong. And you have metal on metal, all of those are violations. So, we're just making it more robust. We're taking that away from the mechanics so they don't have to worry about that, giving it to our parts team or fulfillment team to go back and manage that will manage it with barcoding.

00:29:30:06 - 00:29:54:11
Speaker 1
We'll manage it with electronic systems and means throughout the process to just really simplify it. And we're excited about changes like that. So doing it across the board and just ensuring that whether it's an internal or it's an external, that that we're working with our suppliers on all of these changes really jointly to ensure that we get fewer defects in the system.

00:29:54:13 - 00:30:14:07
Speaker 1
You know, in an example on this one, we've talked a lot about it, but I will say it starts with Spirit on the 737, on the 737, we previously had the fuselage arrive here and we did an inspection once it got here, and that's how we found the five nonconforming rivets. And we set out to rework these things.

00:30:14:07 - 00:30:38:03
Speaker 1
And it happened. We've changed that. We've moved these inspections back to the supplier. We've strengthened our presence at the supplier. We ensure the parts are perfect before they ship. We inspect them there, they rework them there, and then we ship the parts. The benefits have been really tremendous. We have seen up to an 80% reduction in the defects.

00:30:38:03 - 00:31:06:01
Speaker 1
Once there, once we have an airplane go through our factory here on these spirit defects and the flow in terms of how long it takes these airplanes to flow through the system, we've gotten these flows down on these airplanes that are inspected at spirit and clean at spirit before they come here. We are able to build those airplanes in about 50% less flow than we were earlier this year, this year with the airplanes that hadn't been pre inspected.

00:31:06:03 - 00:31:28:17
Speaker 1
So, it's really powerful. It's the right thing to do. We're doing it across the board. Next chart. Lastly, it's about elevating our safety and our quality culture. We need to fully deploy our safety management system across the board, and we are committed to do that, and we are doing it. We are going to continue to use the safety and quality events.

00:31:28:21 - 00:31:53:06
Speaker 1
We've done the stand down. We're going to quarterly do a quality and safety promise event to keep it in the forefront of everybody's mind, to continue to hear from them and listen to them. We're going to work with our first line leaders and our second line leaders to ensure that their development is in line with this culture that we're driving toward, that we want to create, that we're so passionate about.

00:31:53:08 - 00:32:15:18
Speaker 1
And we're going to take a premise, a tool from the safety management system called the Safety Risk Assessment. And we're going to use that as our way to manage travel, work, work that doesn't get

completed in the position it needs to. We're going to create something kind of like, I'll call it an MDL for airlines to make it understandable.

00:32:15:20 - 00:32:34:06
Speaker 1
We're going to look at some work and say, you know what, this job could travel one day. This job could travel two days. This job is dispatch critical and could never travel. We don't want this work to ever travel. We've identified some of these critical jobs. I think you'll probably see some posters out there today when you walk around this event.

00:32:34:11 - 00:32:56:08
Speaker 1
We're piloting this. We're about halfway through the three seven factory. We're about to launch another position or two. And so far, it's been really successful getting the whole team around. How does any job that travels relate to safety? How do we make sure we're not doing anything that could cause an airplane safety issue later on? We're documenting it, we're reviewing it.

00:32:56:08 - 00:33:29:01
Speaker 1
It's cross-functional and it's really powerful. We're excited about it, and I think you'll see a little bit of that as we go through it today. All right, Next chart. Lastly, lastly, in conjunction with the FAA, we have identified a set of six KPIs. And these six KPIs are simply a representative set that we have said we will use to understand whether our factory is operating in a nominal condition or an out of nominal condition.

00:33:29:03 - 00:33:51:13
Speaker 1
I'll answer kind of a frequent question that's asked, as I point to, John, and that is are how about you always use these metrics or these brand-new metrics? I will say these are similar to metrics that we have used. Many of them are right, exactly the same. I'll briefly walk through them. Employee proficiency is just a small twist on a staffing metric.

00:33:51:15 - 00:34:10:21
Speaker 1
So, I'll kind of walk through these employee proficiency that fundamentally says, do you have enough employees that a past year proficiency test to build at the rate you're building at or that you want to build that? Have they passed through OJT? Have they had their touches on the airplane? Can they pull their drawings, etc.? The next one is really an indication of our supplier quality.

00:34:11:01 - 00:34:32:18
Speaker 1
How many hours are we spending in our factory reworking work that comes in from our supplier? The next one Supplier shortages. This is really just an indication of disruption. It creates disruption in our system. How are you doing on your supplier cost shortages? Is the supply chain able to keep up with the parts that you need today? Next, total rework hours.

00:34:32:23 - 00:34:55:15
Speaker 1
This is just a look at the total rework effort. This is everyone, everyone's quality on any given airplane, whether it was manufacturing cost here, whether it was engineering cost here, whether it

was supplier cost. How is your total rework hours doing if you're if you're reworking so many hours that you're outside nominal, that's just kind of a warning that you need to really take a look at that.

00:34:55:15 - 00:35:14:11
Speaker 1
We'll talk about control limits in a minute. Traveled work. How many jobs are open at the time of what we call master schedule rollout when the airplane rolls out? Are you within your nominal limits? And then lastly, is really our output measure at the end of line. How are your pickups at the time you take it right before you put an airplane into service?

00:35:14:13 - 00:35:34:11
Speaker 1
Is your airplane clean? So that's what we said we would watch. We set control limits, a yellow control limit and a red control limit on these. And our commitment is when you cross the yellow control limit, you evaluate it. You take action when you cross the red control limit, it can trigger into our safety management system. You then do a risk assessment.

00:35:34:11 - 00:36:01:03
Speaker 1
Do you? What action do you need to take to get this back below your red control limit? So, we've implemented this across all airplane programs, we're practicing it. This is in conjunction with the FAA. They have full access to our data. We review it with them regularly. And so far, I think this is helpful as just an indicator of the health of our production system.

00:36:01:05 - 00:36:24:04
Speaker 1
And we've I'll just say we have put it within our operating rhythms. We are running our business based on these KPIs as well as reviewing it with the FAA. And what I like about these KPIs is they're the KPIs we use to run our business anyway. So, it's an easy linkage to our own management system. Next chart. This is my last chart.

00:36:24:04 - 00:36:59:01
Speaker 1
We'll open up for Q&A. It starts with our commitment and our commitment across the board in first and foremost to ensure safe, high-quality airplanes and a safe workforce first and foremost. And everything we do next strengthen our workforce and strengthen our culture for lasting change. Next, restore production, stability and deliver on our customer commitments. It's an and it's in that order, but it's an and we believe this plan will restore stability and will allow us to deliver on those commitments.

00:36:59:03 - 00:37:12:01
Speaker 1
And lastly, rebuild trust with all of our stakeholders across the board, one greater Plano our time. And it's based on safety and quality in everything we do. And so that is that is what I have to share today. And with that, we'll take questions all right.

00:37:12:03 - 00:37:38:11
Speaker 2
Thank you, everyone. Just a couple of logistics for questions. We had two Mike runners, Bobby on the side that will be on this side when I call on you. Just wait for the end of the night. We have a lot

of people, of course, so interested in as many questions that we can I ask you to ask one question and prior to your question, please just say your name and affiliation.

00:37:38:13 - 00:37:47:05
Speaker 2
So, think about that one that will open it up. Questions on it.

00:37:47:07 - 00:37:48:09
Speaker 3
Hi, Elizabeth.

00:37:48:11 - 00:37:50:13
Speaker 1
Dominic.

00:37:50:15 - 00:38:21:06
Speaker 3
Sorry, but you're a kind of what happened with the door plug incident. Raise some questions. You said that the door plugged the team that opened and closed the door plug were not responsible for putting in those bolts. So. So you know who those people were. And then you talked about one employee not doing the documentation that would have put those bolts in.

00:38:21:07 - 00:38:40:11
Speaker 3
But it's been a mystery to everyone how you couldn't identify these people. So, does the NTSB know who that team was who opened and closed the door plug? Surely you know that. And who is this one employee who didn't do the documentation? Okay.

00:38:40:13 - 00:39:15:14
Speaker 1
I'll just correct what I said briefly. In terms of the one employee, it may not it may have been one more than one employee. What I will say is the WHO is absolutely in the responsibility of the NTSB. That investigation is still going on. And I am going to not comment on that right now. What I will comment on, as I did earlier, is the what we do know, what we believe we do know, and we believe that there was a lack of documentation of that paperwork.

00:39:15:16 - 00:39:37:09
Speaker 1
It's been well reported. We know the plug was opened and the paperwork is not there. And so, what I have done and what we have done is focus deeply on ensuring that we've closed that gap and leave the WHO to the NTSB investigation.

00:39:37:11 - 00:39:40:19
Speaker 1
Thank you.

00:39:40:21 - 00:39:51:23
Speaker 3
Jim. Thank you. Hi, Elizabeth. Gio Benitez with ABC News.

00:39:52:03 - 00:39:52:17

Speaker 1
Hi, Joe.

00:39:52:18 - 00:40:09:08
Speaker 3
Hi. First of all, thank you for doing this. I think we all appreciate that. You say that you've invited your key stakeholders like employees, to come forward and help you in this process. Were the whistleblowers who came before Congress a part of that?

00:40:09:10 - 00:40:39:17
Speaker 1
Thank you for the question. And I'll comment a couple of things. I will tell you that the whistleblowers have come before Congress were absolutely invited to participate in that. I don't know specifically if they attended. I can't speak to that with knowledge. What I what I can speak about, and I want to because I'm really passionate about.

00:40:39:19 - 00:41:04:17
Speaker 1
I'm passionate about the need and the importance for our employees to speak up and it's what the stand downs were about. We have a … we have a system and a process called Speak Up. We offer it to every employee where they can right. Any concern or idea that they have in a system. I read them every week. I batch them and read them every week.

00:41:04:18 - 00:41:26:14
Speaker 1
They can do it with their name where they can do it anonymously. If they're anonymous, we still type our actions and resolution in the system so they can see it. But of course, we can't go to them to get more information. We're okay either way. What's important is they speak up and to say something. I think even further.

00:41:26:16 - 00:41:50:01
Speaker 1
I would love for employees to be comfortable telling us if they are not, it is okay that they go to the FAA. We take these whistleblower concerns and issues extremely seriously. We take our own speak up extremely seriously, whether it is a whistleblower or whether it is a concern that is brought directly to us, we investigate it fully.

00:41:50:06 - 00:42:12:02
Speaker 1
We approach it from a perspective that says, my gosh, you know what happened? Why does this employee think this? What could have happened? We're curious. We're interested. We want to figure this out. We want to close these holes because we don't want it to happen again. So, I will simply say every item that an employee brings to our attention is a gift.

00:42:12:04 - 00:42:21:17
Speaker 1
And we are treating it as such to make sure if there's a hole out there, we can see it and find it and close it. Thanks a lot.

00:42:21:19 - 00:42:43:18
Speaker 3

I al root from Barron's so I'm going to jam sort of a two parter and so on the KPIs, it would be helpful if you could give some color around recent changes like traveled work was 15 hours ago, now it's five. But also, the second part is like, how did you set those standards and how have you sort of evaluated that?

00:42:43:18 - 00:43:03:14
Speaker 3
Like coming from a perspective of understanding that perfection is impossible. Yeah, like 15 hours was good enough for 30 years, but now, you know, we reevaluated on that site and I'm using travel work because that's the way I seem to understand any sort of change and then change in the standard setting that has gone on in the last three or four months would be great.

00:43:03:19 - 00:43:31:18
Speaker 1
Yeah. Yeah, I will. So, the way we set the standards is we looked back at data and the data that we looked back on across each program went as far back as seven or eight years. We looked at times where we were operating in a more stable environment. We looked at averages. We obviously took out times that when production was shut down, you have to pull that out of your data, so you don't have months of zero somewhere because that doesn't it?

00:43:31:19 - 00:43:51:00
Speaker 1
Right. So, we took out any sort of really weird anomaly like that. We did this with full transparency with the FAA. We looked across various time frames. We said, here's where we were healthy, and then we looked at a standard deviation or something like that to the data over time. So that's how we discovered the control. We then bounced it across.

00:43:51:02 - 00:44:12:08
Speaker 1
To your point, does this control limit support the way we need to operate today? Can we hit our planned rates with these control limits which actually almost drive them down instead of up? You actually need to perform better to go up in rate. Right? So, we did that check not to move them up, but to move them down and set our standards.

00:44:12:08 - 00:44:46:02
Speaker 1
And we're kind of looking in terms of changes to those. I absolutely will tell you; we have slowed down our factories over the last few months to make sure that these measures are under control. And our factory is under control and the results show it up. I will say travelers, as an example, I would say travelers are down by well over 50%.

00:44:46:04 - 00:45:13:00
Speaker 1
They are under control, as are as the majority of the metrics right now. We have slowed down to ensure things are under control and as we retrain our employees, as we make sure that they're proficient, as we make sure that our processes are clear, as we make sure that our suppliers are coming along with us. And we've really re baseline with our suppliers.

00:45:13:00 - 00:45:27:22
Speaker 1

What we're looking for and what we need are metrics have come back and we're committed to ensure we take the actions to keep them there. But we think we think our foundational elements are paying off already.

00:45:28:00 - 00:46:01:13
Speaker 3
Definitely those are the things we're doing this the Renton Factory for years was a model of lean manufacturing, empowering employees to bring ideas about how to improve the line, how to improve quality, and also when it was a moving line, given the responsibility to stop the line if they saw something amiss. You know, given where we're at now, your CFO has acknowledged that, you know, prioritizing, moving of the airplane through the factory, over getting it done right.

00:46:01:15 - 00:46:24:23
Speaker 3
Mike Whitaker says the priorities have been on production, not safety. And quality. How do you go from that environment to where we are today? I mean, 87 was about traveled work, 97 was about traveled, 2018 was about traveled work. What are the incentive structures that you're looking at from a from a leadership perspective and management perspective in terms of what's in place?

00:46:24:23 - 00:46:36:23
Speaker 3
Why this keeps happening at Boeing?

00:46:37:01 - 00:47:12:08
Speaker 1
I think what I can say about why it keeps happening and how we will ensure that changes. A couple of things. I'll give you my own perspective. And my perspective is really, as you well know, production oriented. But I will say from a production standpoint, from a production standpoint, we don't want to disappoint our customers. We have these airplanes sold.

00:47:12:14 - 00:47:48:09
Speaker 1
We have them committed. People are counting on these airplanes. We know that. And we want to get it there. We want to get them this airplane. We want to get it to them clean. But we really want to get it. And I think what we haven't had over time is a way to ensure we're managing traveled work that is why we're excited about the system we're putting in place, which we have not had in the past that says, here's the criteria at every position, here's the critical job, here's what you really need to make sure is done before you move.

00:47:48:11 - 00:48:15:15
Speaker 1
You'll see banners out there in a couple of positions that are really clear on what we need to get done. Here's how we can manage it. Here's what you do if it's not going to work. We have built more buffer into our system. We have, since I would even say since post COVID, but certainly since January 5th, tried to develop in each of our program’s ways to ensure that first and foremost, we're going to be able to identify that critical work.

00:48:15:17 - 00:48:33:02
Speaker 1
And second, as we identify that critical work, if it needs to stop in position that we have some buffer that can in this case, think of a third line. You know, you know, our rates don't really require three

lines, but if it needs to sit here, the next one can go down the third line, it can go down a different line.

00:48:33:04 - 00:48:53:00
Speaker 1
So that allows us to still hit our commitments, hold in position, manage our statement of work. And we really didn't have that strategy across the board before. And so that's kind of a change in our strategy as we think about how to enable this, how can we enable it and still hit our commitments. And that's the way we're setting this up right now to ensure that we do that.

00:48:53:00 - 00:48:59:16
Speaker 1
And that's a real change for us.

00:48:59:18 - 00:49:19:22
Speaker 3
Thank you. So again, thank you for doing this. Very helpful. This is one of America's most storied engineering powerhouses. Why has it taken you so long to develop a top to bottom approach to quality and safety management? The one would think this company should have already had in place decades ago.

00:49:20:00 - 00:49:48:23
Speaker 1
Okay. Thank you for that question. And it's one that I get frequently. I think it's a good one. I Want to start by reiterating and foot stopping that. I agree. We are a storied engineering powerhouse for good reason. I entered into this company in, and I am proud to have done so. What I will say is when I entered into this company, safety was drilled into my DNA, and I believe it still is.

00:49:49:02 - 00:50:13:02
Speaker 1
We have a strong foundation of caring deeply about safety. What I also know is, though, we have to continually improve, and this is a chance for us to do it. I think what is important, particularly for mature companies, is for us to be humble, for us to look for opportunities, for us to step back and say, here's an area where we're not as strong as we want to be.

00:50:13:03 - 00:50:36:06
Speaker 1
Here's an area where we're not as strong as we want to be. Be transparent about that, be humble about that. You have to bring our employees along with us and to absolutely rededicate ourselves over and over. And this is a chance to do this, to continue to build on this storied engineering powerhouse, a powerhouse that is deeply devoted to safety.

00:50:36:11 - 00:50:56:06
Speaker 1
And this is a great opportunity and important opportunity for us to step back and say, where can we make improvements? Where do we need to make improvements? Why are we not where we need to be? And let's go be transparent about it. Let's be honest about it, Let's own it, Let's go double down. And I don't think it'll be the last time we do this, quite frankly.

00:50:56:06 - 00:51:15:01
Speaker 1

Some people are like, you know, will this be your final time? Absolutely not. We are in an industry of continuous improvement and for us to stay where we want to be, we're going to continuously improve and we're going to continuously double down on safety. But this is an opportunity for us to do that at this moment. And that's what this plan is about.

00:51:15:03 - 00:51:20:14
Speaker 2
Shop Partners.

00:51:20:19 - 00:51:41:17
Speaker 3
ALL Hi, Sean Broderick, Aviation Week. Hi. My question is Boeing require internationally recognized quality management system certifications for its suppliers and does Boeing have a similar certified program for its KMS in place? And if not, why not certified program?

00:51:41:19 - 00:51:42:06
Speaker 1
Yes,

00:51:42:06 - 00:52:08:01
Speaker 1
You're referring to AC 9100, I assume something like it. We do require it for our suppliers. We are ACE 9100 compliant for the Boeing Company. We are not ACE 9100 certified in the Boeing Company. I will tell you, since I've come into this job, we've had a lot of conversations about that, and we are willing and prepared to do that.

00:52:08:01 - 00:52:30:03
Speaker 1
I believe ACE 9100 is going through a revision right now. We are talking with the FAA. Would you like us to go through certification now? Would you like us to go through after this new revision comes out? Where are we when I ask, you know, the why I think that we really believe we are compliant. We've built our systems to be compliant.

00:52:30:03 - 00:52:50:00
Speaker 1
We are audited to the level as if we were certified. We just haven't gone to do it. We don't have an aversion to that, and I think it's smart to go do that. So, we will at some point. The question is should we do it before the revision to ask 9100 comes out or do it once? But we are we're all about going to do that.

00:52:50:02 - 00:52:53:11
Speaker 2
Great effort right behind it.

00:52:53:13 - 00:53:42:07
Speaker 3
that's good. I am Chris Jasper from The Telegraph in London. You've spoken at your shock at the revelation that the paper wasn't there for the door plug removal and then and then in going through all the detail of what the 90-day plan entails, that really does highlight deficiencies across the board. And you've spoken of your commitment to the customer and getting the plane out there but given that you're in that post-COVID environment with a huge churn of workforce, why wasn't there a

closer focus on procedure, safety, quality control, traveled work and so on in place, almost a higher level than you'd ever had before.

00:53:42:07 - 00:54:08:20
Speaker 3
Given that, you must have known that some of those people, when you talked about people with English as a second language and so on and complicated, you know, paperwork that they had to follow, were you just so focused on build rates that that that you just weren't able to sort of see the worked for the trees and the trees for the forest?

00:54:08:20 - 00:54:17:19
Speaker 3
I mean, I'd just like you to explain a little bit more about why everything now seems so obvious, right when you detail it like this is.

00:54:17:22 - 00:54:43:21
Speaker 1
Thank you for the question. Thank you for the question. And in terms of it's sort of I think it's the question of why didn't we have this level of control last year or the year before as we went through this. And what I'd like to say is I do think this is a journey. I think that the control of the employees, as I mentioned, we did go overhaul training last year.

00:54:44:03 - 00:55:06:06
Speaker 1
We knew that we needed to enhance it. We did it. We made changes to foundational training. What I think we didn't realize at the time is we also needed to go really enhance the on-the-job training. So, I think part of this is learning go and you, you lower the waterline, and you find the next issue, you lower the waterline you find the next issue.

00:55:06:08 - 00:55:29:13
Speaker 1
I think when it comes to things like our processes and procedures, we were simplifying them. I think that's the case in many of these. We were working on it, and we were simplifying them, and we were making our processes more robust. I think we were doing it incrementally. I think we would find one, we would fix it, we'd find one, we would fix it and work on it.

00:55:29:19 - 00:56:11:16
Speaker 1
I think the pace wasn't keeping up with what we wanted or needed, and I think this is an opportunity for us to say, Let's go set ourselves up for the future in the we want to be and need to be across the board so that next year, the following year, we are out of this disruption. Instead of saying, I found a problem, I'll fix it, I found a problem, I'll fix it, let's step back, Let's go look broadly at everything that we might find and take this opportunity to just holistically go address all of the issues that we've heard about or that we could find.

00:56:11:18 - 00:56:31:02
Speaker 1
Would is it is it always great to find these things sooner rather than later? Absolutely. Do I think that some portions of all of these were in work just not as comprehensively and as fast as what we're doing now?

00:56:31:04 - 00:56:35:03
Speaker 3
Do?

00:56:35:05 - 00:57:05:20
Speaker 1
Julie Johnson with Bloomberg, thanks for filling us in on the detailed initiatives you have underway on the factory floor. I'm wondering, you know, looking a layer up at supervisors, are you taking steps to ensure that they have proficiency in the areas that they're leading and to ensure that, you know, cost and rate don't carry the day when you know those, and those pressures overwhelm worker concerns?

00:57:05:22 - 00:57:54:04
Speaker 1
Yes. Yes. So, thank you for asking it. We've put that part of our initiative under the safety culture header. And it's because, listen, leadership is culture, and we know that. And we have many new supervisors, managers just like we do employees. We are kicking off a holistic process that does some pretty intensive training of our managers, everything from the technical part of the job, the processes they need to know, the processes to, they need to know the procedures they need to understand standard work for what great leaders do.

00:57:54:09 - 00:58:12:04
Speaker 1
We're looking at what we are doing to keep them off the floor. We are making sure we don't have them sitting in offices, in meetings all day long so that they can be on the floor. They can be helping these employees. We are training them on many of the aspects that they're employees of the work they do that maybe they're not familiar with.

00:58:12:04 - 00:58:33:05
Speaker 1
You know, what's the correct way to talk about? How do you really know if your employees are doing it correctly? We're working on that. And then we're also working on leadership, working on culture. We're working on leadership. We're talking a lot about the culture, the attributes of a weak safety culture and the attributes of a strong safety culture.

00:58:33:10 - 00:59:01:20
Speaker 1
We're writing them down. We're making sure they understand and identify the culture that we're striving for, the culture that we're committed to a strong safety management system, culture a just culture, a culture that encourages people to speak of a culture that balances and always puts safety and quality first and understands you have to deliver an airplane, but never a trade for safety quality.

00:59:02:00 - 00:59:15:00
Speaker 1
I mean, we're really taking them through this comprehensive leadership development process. And there's a lot of elements to it and we're excited about it. And I think that will be one of the most powerful things we do.

00:59:15:02 - 00:59:19:04
Unknown
And that's what.

00:59:19:06 - 00:59:53:23
Speaker 5
Gets me okay. okay. Good morning. So, Veronica Amar with Le Figaro from Paris, thank you for welcoming us. Of course, I've got a question concerning the relationships with other security agencies in the world, because you Boeing is leading a rich dialog with the FAA out, of course. But Boeing has also to regain trust from other parts of the world and from the regulators.

00:59:54:01 - 01:00:24:11
Speaker 5
So, my question is about is, is to ask you, does being present its security plan to other agencies in the world? Do you receive some of the inspectors here in Seattle in Renton, for example, and do you receive any recommendation from them, from the ESR, from the Chinese, for example? And if yes, is there any recommendation that Boeing is willing to follow?

01:00:24:12 - 01:00:26:05
Speaker 5
Thank you.

01:00:26:07 - 01:00:56:05
Speaker 1
Thank you. Our primary regulator and under the bilaterals is the FAA. So, they have been our primary interface. And yes, we are briefing other regulators on it. We have a briefing upcoming. We have briefed what I'll call not the top leadership level of also, but the layers below that. We have a top layer, a briefing with the top level of EASA coming up.

01:00:56:07 - 01:01:21:02
Speaker 1
The FAA will participate in that as well. We will ensure that they are fully aware of all of the steps that we're taking as we go through this. I have had a meeting, a brief meeting with them where we gave them kind of a very high overview of the things we were looking at with the FAA. They said once you get through your 90-day agreement with the FAA, please come and give us a full briefing.

01:01:21:02 - 01:01:51:22
Speaker 1
That's what's up next. We will do that. The same with other regulators. That is now our kind one of our many next steps as we go out and explain it to our customers. We're also explaining it to regulators, ensuring they know. And what I will say is we are open for feedback from everyone. Quite honestly, we are we are committed to be as good as we can possibly be in every single way.

01:01:52:00 - 01:02:02:15
Speaker 1
And no matter where input comes from, that makes us better. We're open to it. And so, if they have additional ideas or suggestions, we're certainly open to it.

01:02:02:16 - 01:02:29:03
Speaker 2
We've got probably time for two more quick. So, if I may just apologize for this two-part question. But, you know, after 2018, 2019, after the max crashes, we heard very similar things about fixing the problems. It will be a better company. And we're back here again and talking about fixing problems that sound a lot like the problems.

01:02:29:05 - 01:02:34:19
Speaker 2
Why should anyone believe anyone from Boeing that you're actually fixing? Anyway.

01:02:34:21 - 01:03:19:03
Speaker 1
Thank you for that question. And I too have heard that question. And I'm appreciative of the chance to get to address it. After the max crashes, we took many incredibly positive steps. We set out a separate organization called the Chief Aerospace Safety Officers Organization, an independent organization focused on safety. One of the steps we took immediately after this action, honestly, just a couple of days after I took over this position is there are various levels of internal audit, our production system, internal audit organization which really focuses on the production system and quality was located in the quality organization.

01:03:19:07 - 01:03:46:20
Speaker 1
We moved to that organization to the Chief Aerospace Safety Officer organization to say, let's ensure we give even more autonomy. That organization is strong, that organization is focused on safety, and let's ensure that we have the autonomy of our internal audit organization, the redundant levels of oversight. We have internal compliance self-assessments that we do, let's move internal audit there, and then we still have corporate audit, of course, that runs out of the governance committee.

01:03:46:22 - 01:04:16:03
Speaker 1
Also, after the max accidents, we reorganized engineering, we pulled all engineering out, we set them up aligned to our chief engineer, Howard McKenzie. We pulled out the odd organization. We gave them autonomy again, under the chief aerospace Safety officer. We pulled all of our engineers out under engineering to ensure we could work on technical expertise, that there wouldn't be pressure that didn't that that came from outside areas on our engineers.

01:04:16:03 - 01:04:40:15
Speaker 1
And the way we design and certify. So, we took many, many steps and those are just a few to strengthen our autonomy, our skill, our operating rhythm. And I will answer that. Those are actually working quite well today. They are in place, they're strong, they're working. When this accident came along, it gave us a chance to look at a different area.

01:04:40:17 - 01:05:06:19
Speaker 1
This was really the manufacturing side of the house, not the engineering side of the house. So, we've stepped back. We've certainly pulled engineering in. You'll notice on this plan that all major functions have an opportunity here supply chain, quality manufacturing, engineering. But it allows us to look at that recurring side of the house much more that the production elements and really strengthen those as well.

01:05:06:20 - 01:05:39:06
Speaker 1
And in terms of, you know, why should the world believe us, I will say we are a company that is deeply committed to the flying safety, the flying public safety. We are deeply committed to our

employees. We are deeply committed to doing the right thing. And as we find an area, we are committed to go and do it and do what we say.

01:05:39:08 - 01:05:56:18
Speaker 1
And I believe we are getting stronger. I believe this plan will make us stronger. We are transparent. We are transparent with you. We are transparent with our regulators. We are transparent with our customers. We have opened our factories up to our customers so that they can come in. They will welcome anyway; they can come in and see it.

01:05:56:19 - 01:06:20:11
Speaker 1
The regulator, as I mentioned, has access to all of our data. It's not just what we provide them. They have access to the data. They can see it all. There is no hidden agenda. There is no hidden data. Here we are a transparent company who deeply cares about safety and the public and our employees, and we are committed to be better every day.

01:06:20:13 - 01:06:29:05
Speaker 2
With. Looking for a quick follow up to that, there was a lot of things in there that I think the average person will understand, maybe myself included.

01:06:29:06 - 01:06:29:22
Speaker 1
Okay.

01:06:30:00 - 01:06:34:03
Speaker 2
I guess what our viewers.

01:06:34:05 - 01:06:34:23
Speaker 1
Yeah.

01:06:35:01 - 01:06:57:13
Speaker 2
Yeah. Is here was Boeing. If it ain't Boeing, I ain't going to be facing potential criminal prosecution. How did we get here? And what do you say to the flying public to believe you that the planes are safe?

01:06:57:15 - 01:07:39:07
Speaker 1
I would say we have certainly areas that we have said the max crash, we made a mistake, and we only did this. Did this airplane leave our factory in what we believe is a non-conforming that led to the accident? Yes, it did. What I will also say is we for many years and continue to be have are and will be dedicated to making air transportation as safe as humanly possible.

01:07:39:09 - 01:08:04:16
Speaker 1
I believe, as the actions we have taken for many, many years that have allowed air transportation to be the safest means of transportation out there, the safety record continues to improve. Are those

owned by us? Yes. Have we taken steps to address those? I believe we have. I believe we're continuing to do it. I believe the steps were taken today will make us an even better company.

01:08:04:22 - 01:08:27:18
Speaker 1
I believe that we will continue to ensure air transportation is the safest means of transportation. There is data talking about how safe their transport is. You know that our airplanes are a large portion of these airplanes that are flying. The way we manage that, the way we are committed to that. This is a part of that. This is a part of our commitment.

01:08:27:22 - 01:08:34:16
Speaker 1
This is a part of getting better and ensuring we stay on that journey, because that's what we're about.

01:08:34:18 - 01:08:39:04
Speaker 2
I think your last question, we'll go to John.

01:08:39:06 - 01:09:01:18
Speaker 3
John Hammond here with Flight Global. And thank you. Also, you talked a lot about the systems and the processes for the 737 being developed many decades ago. And you also talked about new a rush of new employees during the pandemic, which suggests that perhaps the process had been working previously because people knew exactly what they had done, because they had done it for decades.

01:09:01:20 - 01:09:15:15
Speaker 3
Was the process not set up for new employees? And also, how many new employees, say, hired in the last few years are in the when the Renton plan now.

01:09:15:17 - 01:09:34:10
Speaker 1
On the second part of the question, I can't get you that exact number. We'll ask you guys if you can help me get how many new employees are in the Renton factory today or how many which years? We will get you that data. So, I apologize. I can't quote that immediately off the top of my head in terms of the system being set up for them; the system was set up.

01:09:34:10 - 01:10:04:07
Speaker 1
I think I think the opportunity and the reason that we are now really strengthening the on the job training is what we discovered that wasn't as strong as it was before, is that peer mentor that when an employee leaves foundational training and comes to the floor, having that person who is there with them, helping them do their job, that wasn't as strong as it had previously been.

01:10:04:12 - 01:10:36:20
Speaker 1
That's the part of the system that wasn't structured enough to ensure it's there for them, to ensure they have somebody to ask their questions to who can help them figure out how to do X, Y, Z when they were out there on the floor. That's why we have strengthened it. We have structured it. We have made sure that no employee leaves foundational training today without this identified peer mentor,

without this person by name, who's responsible to be that person for them to help train them on the job, whereas before it was a little more, we're going to send you out there, the manager will figure it out.

01:10:36:20 - 01:10:54:03
Speaker 1
The team lead. There will be somebody there for you. I think it just wasn't structured enough and that's the part it worked before when we didn't have the high quantity of new people coming in. It really got so high and relatively new that that's where we just had to go back and put more structure on it. So that's one of the learnings that we had as we went through it.

01:10:54:03 - 01:11:06:17
Speaker 1
So, it's we're set up today so that everybody, no matter what, we'll always have that experience person.

01:11:06:19 - 01:11:16:23
Speaker 2
Elizabeth It's been my time with CNN. Just one really quick question. How confident are you that the door plug it will not happen, leaving this factory?

01:11:17:01 - 01:11:34:13
Speaker 1
Thank you for that question. I'm extremely confident. I am extremely confident that the actions that we took have ensured that every airplane leaving this factory is safe. I feel very confident that it will not happen again.

01:11:34:15 - 01:11:36:13
Speaker 2
All right. Thank you.

01:11:36:15 - 01:11:37:22
Speaker 1
Thank you.

Safety & Quality Media Briefing: 6/25/24
Renton, WA – 737 Factory

Elizabeth Lund, Senior Vice President, Quality, Boeing Commercial Airplanes

Opening comments: (Video Timestamp :30-5:40)

So, with that, we will jump in and get started. Next slide, please. So, I think it's important to understand the plan, to briefly understand what happened on Flight 1282 on January 5th, Alaska Flight 1282 and the accident. And so, we won't spend a ton of time here, but I want to level set so that when we talk about the plan, you'll know where some of the context for the plan came from.

So, when the fuselage arrived for the airplane that later flew Flight 1282, the fuselage came in from our supplier. And when the fuselage came in, it was discovered upon load in the factory initial load on the factory that there were five nonconforming rivets. These nonconforming rivets in and of themselves did not create a safety hazard, but they were nonconforming, and they needed to be fixed.

So, a defect arrived from our supplier. The airplane then traveled throughout the factory. You'll see the line with Katie and a little bit it moved to the end of the line while we discussed with our supplier. Back and forth. Are the rivets okay? Are they not okay? Do they need to be fixed? Can you fix them this way? No, you can't. And the airplane was at the end of the line by the time we all reached agreement that the rivets needed to be removed and replaced.

At the end of line, we reached the point where we had a what we believe is a noncompliance to our process. In order to remove and replace these rivets, the mid-exit door plug needed to be opened in order to get access to drill out the rivets, replace them – and we believe that plug was opened without the correct paperwork.

You guys have read about it. It was referenced in the NTSB report, which is up there. So, we believe there was a noncompliance to our processes at that point by having the plug opened without the correct documentation and paperwork. There was documentation and paperwork on the actual rivets. Those got removed and replaced. That was stamped off. That was appropriate.

But by the time all of that got bought off and we were ready to go, the airplane was ready to move outside. We have a team that we call the “move crew” before an airplane rolls out of the factory on line-move night. They come in and they just button the airplane up for the weather. They close the doors. In this case, they closed the plug. They ensure that any open holes on the airplane are covered so that it's in good condition to go out in the weather. We believe the move crew; we know the move crew closed the plug. They did not reinstall the retaining pins. That is not their job. Their job is to just close it and they count on existing paperwork.

The paperwork goes with the airplane. All of the jobs are worked, any open job gets worked later in the process. And in this case, because we believe the paperwork was never created, there was no open paperwork that traveled with the airplane. This actually is a photo of the actual airplane that you're looking at here. The last step is what we call an “okay to close” and for an okay to close, typically, people come in and look for really FOD, is everything clean? Are we good to go?

This was the picture that was taken during the “okay to close.” You can see three out of the four locations. We can see there are no pins in there. After that, we were given the “okay to close” the blankets, came down – and at that point it was not visible.

The plug has a little bit of an interference fit. That's how it was able to fly for roughly 150 cycles without being identified. That's how it passed our flight test because it's a, it's a snug fit, but not a, not a permanent fit. So that's what happened. A defect entered our system from our supply chain. The defect traveled throughout our final assembly.

And then there was a lack of compliance to our processes by the correct documentation using the correct documentation. And that's the background of what happened. And that will feed the rest of our system and the rest of our processes and our proposal. Next chart, please.

So, step one is we immediately took steps. We sort of did this in a couple of phases. Our first phase was to take immediate action to ensure that no airplane ever leaves our factory that could cause an accident. I will tell you very transparently the fact that one employee could not fill out one piece of paperwork in this condition and could result in an accident was shocking to all of us. We have a series of redundancies throughout our process, and we knew this could never happen again.

Question and Answer:

Question: Dominic Gates, Seattle Times (Video timestamp 37:48-

Your account of what happened with the door plug incident raised some questions. You said that the door plug, the team that opened and closed the door plug were not responsible for putting in those bolts. So. So you know who those people were. And then you talked about one employee not doing the documentation that would have put those bolts in.

But it's been a mystery to everyone how you couldn't identify these people. So, does the NTSB know who that team was who opened and closed the door plug? Surely you know that. And who is this one employee who didn't do the documentation?

Answer: Elizabeth Lund (Video timestamp 38:42-39:38)

I'll just correct what I said briefly in terms of the one employee. It may not, it may have been one, more than one employee. What I will say is the “who” is absolutely in the responsibility of the NTSB. That investigation is still going on. And I am going to not comment on that right now. What I will comment on, as I did earlier, is the “what we do know, what we believe we do know,” and we believe that there was a lack of documentation of that paperwork.

It's been well reported. We know the plug was opened and the paperwork is not there. And so, what I have done and what we have done is focus deeply on ensuring that we've closed that gap and leave the “who” to the NTSB investigation.

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594

March 13, 2024

Ms. Elisabeth Martin
Vice President, Enterprise Safety and
Mission Assurance
The Boeing Company
[redacted]

Re: NTSB Investigation No. DCA24MA063
Boeing 737-9 (N704AL) Accident
January 5, 2024
Portland, Oregon

Dear Ms. Martin:

Given the extremely high level of public and media interest in this accident, I thought it prudent to send this reminder of the regulatory restrictions, outlined below, to which Boeing has agreed as a party to the National Transportation Safety Board (NTSB) investigation. For the public to perceive the investigation as credible, the investigation should speak with one voice—that being the voice of the independent agency conducting it.

The NTSB has used a party system for decades because we have found that it is the most effective investigative process for major transportation accidents and crashes in all modes. Although we rely on parties to help expedite the fact-finding phase of an investigation, no outside entities participate in our analysis. Only the NTSB may determine the probable cause of an accident and issue safety recommendations designed to prevent future accidents.

Pursuant to Title 49 *Code of Federal Regulations* (*CFR*) section 831.11, Boeing was designated as a party to this investigation because it manufactured the Boeing 737-9, N704AL, involved in the accident and because Boeing could provide suitable qualified technical assistance during the NTSB's investigation. As stated in 49 *CFR* 831.13 and referred to in the Certification of Party Representative (hereafter referred to as the "party agreement"), which Boeing signed, parties to an NTSB investigation are restricted from releasing any investigative information without the NTSB's express approval. This includes both on- and off-the-record statements and interviews.

Before the NTSB's adoption of the final report regarding this accident, only appropriate NTSB personnel are authorized to publicly disclose investigative information and, even then, the disclosure is limited to factual information verified during the course of the investigation. The party agreement and the guidance to which it refers prohibit party participants or their respective organizations from providing opinions or analysis of the accident outside of the participants in the investigation.

By signing the party agreement, party participants and their organizations agree to comply with the NTSB's requirements and acknowledge that engaging in conduct that is prejudicial to the investigation or otherwise inconsistent with the NTSB's policies or instructions may lead to the loss of party status.

Boeing signed the party agreement on January 7, 2024. Accordingly, Boeing must take all reasonable steps to ensure that investigative information is protected from public release. As explained above, failure to abide by these requirements may lead to removal of Boeing's status as a party to the investigation.

Any questions on the party agreement or on the restrictions contained in 49 *CFR* 831.13 may be directed either to Mr. John Lovell, the NTSB's investigator-in-charge of this investigation, at [redacted] or [redacted] or to the NTSB's Media Relations Office at 202-314-6100.

Sincerely,

[redacted]

Timothy J. LeBaron
Director

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594

June 27, 2024

Mr. David L. Calhoun
President and Chief Executive Officer
The Boeing Company

Re: NTSB Investigation No. DCA24MA063
Boeing 737-9 (N704AL) Accident
January 5, 2024
Portland, Oregon

Dear Mr. Calhoun:

Given Boeing's unauthorized release on Tuesday, June 25th of investigative information, I am imposing restrictions on Boeing's participation in the investigation and once again reminding you of Boeing's obligations as a party to the National Transportation Safety Board (NTSB) investigation. In my March 13, 2024, letter to Ms. Elizabeth Martin, I reminded Boeing that as a party to the NTSB investigation, Boeing must take all reasonable steps to ensure that investigative information is protected from public release. Further infractions may lead to the loss of party status.

As I previously stated, the NTSB has used a party system for decades because we have found that it is the most effective investigative process for major transportation accidents and incidents in all modes. Although we rely on parties to help expedite the fact-finding phase of an investigation, no outside entities participate in our analysis. *Only* the NTSB may determine the probable cause of an accident and issue safety recommendations designed to prevent future accidents. Boeing was designated as a party to this investigation, as it has been for several other investigations over the years and is familiar with our rules and investigation process, perhaps more so than most other entities.

As Boeing is well aware, under title 49 *Code of Federal Regulations* (*CFR*) 831.13 and as referred to in the Certification of Party Representative (hereafter referred to as the "party agreement"), which Boeing signed on January 7, 2024 (attached), parties to an NTSB investigation are restricted from releasing any investigative information without the NTSB's express approval. This includes both on- and off-the-record statements and interviews.

Before the NTSB's adoption of the final report regarding this accident, only appropriate NTSB personnel are authorized to publicly disclose investigative information and, even then, the disclosure is limited to factual information verified during the course of the investigation. The party agreement and the guidance to which it refers prohibit party participants or their respective organizations from providing opinions or analysis of the accident outside of the participants in the investigation.

Notwithstanding these requirements, we learned that on June 25, 2024, Ms. Elizabeth Lund, Senior Vice President, Quality, Boeing Commercial Airplanes, gave a long-planned media briefing without the knowledge or consent of the NTSB at which she released non-public investigative information and made unsubstantiated speculations about possible causes of the Jan. 5 door-plug blowout, which is directly at issue in the ongoing investigation. We have verified that part of the released information was either inaccurate or unknown to the NTSB while other parts were not previously disclosed to the public. Such a release or withholding of critical information from our investigators are blatant violations of NTSB's regulations and the party agreement. This disregard of the federal regulations and rules governing NTSB investigations cannot be tolerated.

We are also aware of statements that Boeing Chief Engineer, Howard McKenzie, made on June 18, 2024, concerning the Dutch roll that a Southwest Airlines 737 Max 8 recently experienced. Specifically, Mr. McKenizie stated that the event "has nothing to do with design or manufacturing." The NTSB is currently investigating that accident and therefore, parties are prohibited from making any comments regarding the cause of the event or otherwise conveying investigative information. The NTSB has not made any such determination, and our investigators have not yet ruled out design or manufacturing issues as contributing to this event.

This is the second warning we have issued to Boeing in just this year regarding its flagrant violation of the NTSB rules. It is crucial that the investigation speaks with one voice – that of the NTSB – to prevent the release of inaccurate, misleading, unconfirmed, and out-of-context investigative information to the media, public, and lawmakers, which is exactly what occurred during Boeing's media briefing. In the briefing, Boeing also portrayed the NTSB investigation as a search to locate the individual responsible for the door plug work. This is false and misleads the public regarding the purpose and scope of the NTSB's purposes. The NTSB is instead focused on the probable cause of the accident, not placing blame on any individual or assessing liability. When incorrect information is released, we must correct the record, leading to confusion among our stakeholders.

As our party agreement permits, we considered removing Boeing as a party to the investigation in response to the continued failure to comply with our regulations and the party agreement. However, we decided that Boeing will remain a party, but no longer have access to the investigative information the NTSB produces as it develops the factual record of the accident.

Moreover, we will also subpoena company witnesses to appear at an investigative hearing into the case scheduled for August 6 and 7, 2024, in Washington, DC. Boeing will not be a party to the hearing and therefore will not be allowed to ask questions of other participants. We plan to interview Ms. Lund and will expect her to appear at the August hearing. We look forward to hearing from her.

Despite the additional restrictions being placed on Boeing, the company must still comply with NTSB's regulations and the party agreement. As a party, Boeing must take all reasonable steps to ensure that investigative information is protected from public release. As explained above, failure to abide by these requirements will lead to removal of Boeing's status as a party to the investigation or further restrictions on participation with the NTSB investigation.

Further, we have notified the Department of Justice regarding the unauthorized investigative information release, in violation of our regulations and the party agreement.

Any questions on the party agreement, 49 *CFR* 831.13, or the restrictions described above may be directed either to Mr. John Lovell, the NTSB's investigator-in-charge of this investigation, or to the NTSB's Media Relations Office at 202-314-6100.

Sincerely,

Timothy J. LeBaron
Director Office of Aviation Safety

Encl.