

NATIONAL TRANSPORTATION SAFETY BOARD
Investigative Hearing

Alaska Airlines Flight 1282

Boeing 737-9, N704AL

Left Mid Exit Door Plug Separation in Portland, OR

January 5, 2024

Docket No.	SA-543
EXHIBIT	
11N	

**Manufacturing Records and Human
Performance - Attachment 13 Boeing
Executive Interview Transcripts**
(506 Pages)

NTSB Investigation No. **DCA24MA063**

DCA24MA063

**MANUFACTURING RECORDS AND HUMAN
PERFORMANCE**

Group Chair's Factual Report

Attachment 13 – Boeing Executive Interview

Transcripts

July 31, 2024

BOEING EXECUTIVE INTERVIEW TRANSCRIPTS

Table of Contents

Elizabeth Lund	3
Carol Murray	141
Kim Pastega	200
Earnie Reddic	276
Katy Ringgold	348
Scott Stocker	437

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*

*

ALASKA AIRLINES BOEING 737-9

*

MAX IN-FLIGHT STRUCTURE

*

Accident No.: DCA24MA063

FAILURE NEAR PORTLAND, OREGON

*

ON JANUARY 5, 2024

*

*

* * * * *

Interview of: ELIZABETH LUND, Quality Operations Council and
Senior Vice President, Quality
Boeing

Seattle, Washington

Tuesday,
July 9, 2024

APPEARANCES:

SABRINA WOODS, Human Performance Investigator
National Transportation Safety Board

POCHOLO CRUZ, Aerospace Engineer Investigator
National Transportation Safety Board

TROY LEVANEN, Director of Maintenance
Alaska Airlines

JOHN PETRUZZELLI, Quality Team Lead
International Association of Machinists (IAM) Union

DAN MARCOTTE, Air Safety Investigator
Boeing

MIKE RINEY, On-site Representative
Spirit AeroSystems

NILS JOHNSON, Maintenance Investigator
National Transportation Safety Board

JENNIFER NOWAK, ESQ.
(On behalf of Elizabeth Lund)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Elizabeth Lund:		
By Dr. Woods		7
By Mr. Cruz		43
By Mr. Levanen		60
By Mr. Petruzzelli		72
By Mr. Marcotte		86
By Mr. Riney		92
By Mr. Johnson		98
By Dr. Woods		109

I N T E R V I E W

(8:40 a.m.)

DR. WOODS: Good morning. It's 0840 Pacific Time. The date is July 9th, 2024. Hi. My name is Dr. Sabrina Woods and I'm a human performance investigator with the National Transportation Safety Board. I am one of the investigators.

Along here to my left are Pocholo Cruz, collating the manufacturing and human performance working group for accident investigation number DCA24MA063, involving Alaska Airlines Flight 1282.

The NTSB is an independent federal agency charged with determining probable cause of transportation accidents and including transportation safety. The NTSB is not part of the Department of Transportation nor the FAA and it has no regulatory or enforcement powers.

We do investigate accidents. However we can't do that on our own. We have that you see here are parties to the investigation that help inform that process. So, at this time I'm going to have everybody kind of go around the room to introduce themselves to you so that you have a better understanding of who it is you'll talk, going to be talking to. So, we'll start to my left with Pocholo.

MR. CRUZ: Hi Elizabeth. My name is Pocholo Cruz. I'm co-leading this particular group. I'm an aerospace engineer with a structures and maintenance background.

1 DR. WOODS: Troy?

2 MR. LEVANEN: I'm Troy Levanen, director of maintenance and
3 engineering safety for Alaska Air Group. Good morning.

4 MS. LUND: Good morning.

5 DR. WOODS: John?

6 MR. PETRUZZELLI: John Petruzzelli, I am here representing
7 the International Association of Machinists and I am a quality
8 field person right here at Seattle Liberty Center.

9 DR. WOODS: Dan?

10 MR. MARCOTTE: Good morning. I'm Dan Marcotte. I'm a Boeing
11 air safety investigator from Southern California.

12 DR. WOODS: All right.

13 MR. RINEY: Good morning, Elizabeth. Mike Riney, I'm
14 Spirit's onsite leader here in Washington.

15 MR. JOHNSON: Good morning. Nils Johnson, NTSB, I'm an
16 aviation accident investigator. My specialty is maintenance.

17 DR. WOODS: So, that's it. That's everybody that's going to
18 be asking you questions today here in the room. As you can see
19 today, we'll be using a digital recorder. After the interview we
20 will send that recording out to, for transcription to an
21 independent company that transcribes and certifies the copy.

22 A copy of that transcript will go forward to be a matter of
23 public record in the docket for this case. We are here for you to
24 share your insight, your experiences and Boeing's processes. The
25 whole goal is to prevent future accidents.

1 Each of these group members will have a chance to ask
2 questions. We'll ask questions one at a time. One person will go
3 at a time. There will be an opportunity for each group member to
4 ask follow up questions after the first round has gone through and
5 everybody has had a turn.

6 Please answer the questions to the best of your ability. If
7 you don't understand a question, please ask for clarity and we'll
8 do so. If we don't understand your answer, we're probably going
9 to do the same.

10 If at any time you realize that you want to go back and
11 restate something or clarify or if you remembered something feel
12 free to go back and forth in that timeline and correct. While
13 we'll go in order, you certainly do not have to.

14 You are always entitled to have one representative of your
15 choosing. I see that you have counsel here at your side. So, I
16 just want to ensure for the record that you have chosen to retain
17 this legal counsel for this process?

18 MS. LUND: Correct, yeah, I have.

19 DR. WOODS: Okay. With that, legal counsel, if you would
20 please for the record introduce yourself, state your full name and
21 just spell your last name?

22 MS. NOWAK: Okay. My name is Jennifer NOWAK, N-O-W-A-K.

23 DR. WOODS: Okay. Perfect. Thank you for being here.
24 Please just remember that at this time this is an interview. This
25 is not a deposition so please refrain from answer on behalf of

1 your client. If at any time however you would like to take a
2 break, Elizabeth, that is your right to so. Just let us know.

3 If you want to take a break for any reason to include
4 conferring with counsel, we will go off record. You can go do
5 what you need to do and then come back and we'll start the
6 recording again and we'll resume. Okay? Are there any questions
7 about any of that?

8 MS. LUND: I don't think so. I'm good. Thank you,

9 DR. WOODS: Okay. All right.

10 INTERVIEW OF ELIZABETH LUND

11 BY DR. WOODS:

12 Q. Then with that we're going to start off with the super hard
13 questions, which if you would please for the record, state your
14 full name and spell your last?

15 A. My name is Elizabeth Hefley Lund. My last name is L-U-N-D.

16 Q. Okay. And what is your current position and title here at
17 Boeing?

18 A. My title is senior vice president quality and my position is
19 the leader of quality for Boeing Commercial Airplanes. And I also
20 am the representative on what we call our executive counsel
21 representing the quality organization across the enterprise as the
22 senior leader of quality at an enterprise level.

23 Q. And how long have you held that position, both of those
24 positions I suppose?

25 A. Same day since February 23rd of this year.

1 Q. Who held that position then prior to you?

2 A. Carole Murray.

3 Q. So, to start, in a day to day, so let's say a day in the life
4 what is it that that position does? What is it that you do or are
5 responsible for on a day to day basis?

6 A. I have a couple of different responsibilities that I have
7 currently. The first is the leader of the quality organization.
8 So, as I think about kind of a day in the life, I am responsible
9 for several elements of quality but let me just clarify as I think
10 about this. Would you like me to kind of give you a day in the
11 life or kind of an overview of my responsibilities or both?

12 Q. So, we'll do both. But let's start with because I think it's
13 probably start broader and then go down a little bit more tactical
14 level. Let's start with what is an overview of your
15 responsibilities?

16 A. Okay. Good. Thank you. From a Boeing Commercial Airplanes
17 which is really the primary job that I have, the quality leader
18 for Boeing Commercial Airplanes.

19 I am responsible to ensure that we are operating per our
20 quality management system, that our interface with the FAA from a
21 regulatory standpoint that we are compliant, that we ensure
22 conformance of our product, that the organization is structured
23 and functioning per the requirements of our quality management
24 system and then of course I am responsible organizationally for
25 things like personnel development and things like that from

1 leadership role as well.

2 My other primary responsibility since I took this job has
3 been the development and execution of our comprehensive safety and
4 product quality plan that we recently submitted to the FAA and we
5 are now in the execution phase. And so I was the primary person
6 responsible for the development, execution and presentation of
7 that plan to the FAA and then execution going forward.

8 So, I also spend a really good part of my time on that at the
9 moment. And then lastly is my enterprise role. That is a much
10 smaller role but we have maybe monthly meetings with the
11 enterprise and then meetings at the executive council and the
12 board of directors, things like that where I represent quality
13 overall.

14 And about once a month or so we get together across the
15 enterprise as we work on common processes or common issues or
16 personnel development and things like that across the enterprise.
17 So, that is my general scope.

18 Q. Has that scope changed at all in the last let's say year
19 which would effectively encompass about six months prior to the
20 accident and six months after?

21 A. The portion of being responsible for that comprehensive
22 product safety and quality plan certainly came after the accident.
23 Our development of that plan and our execution of that plan, so
24 that part of the scope really was new to the role as a
25 documentation of the plan and the execution of the plan itself.

1 The other portions of the role I think were very much similar when
2 Carole ran the organization.

3 Q. So, going back to that now tactical level, a day in the life
4 what is it that captures the majority of your focus from day to
5 day activities?

6 A. At this point, the two roles ensure we have conforming and
7 compliant product and we're improving those areas is balanced with
8 the implementation and execution of that 90 day plan. But I will
9 say over the last few months as we've developed and presented that
10 plan the development of the comprehensive plan has probably taken
11 a little bit more of my time if I were to balance it out.

12 I probably spent a little bit more time on that than what
13 I'll call running the business.

14 Q. Okay. So, moving into -- I recognize and appreciate that the
15 development of the plan is taking a lot of focus but moving into
16 more of the business side of things I'd like to talk about the
17 quality management systems and move through that. So, first how
18 involved are you with Boeing's quality management system programs?

19 A. I'm quite involved at a leadership level. When I say
20 leadership level, I think about things like reviewing the kind of
21 top level metrics on a regular basis, ensuring that we're taking
22 action on things that need action taken on.

23 We have recently established a, what we call change control
24 board. We call it CCB, change control board. It's a process by
25 which when our command media, a pro, usually of policy, procedure

1 and BPI, has a significant change, significant change meaning it
2 changes work statement, it changes commitments to a regulatory
3 body, et cetera. There's a criteria that that comes forward to
4 the CCB for senior leader approval so I approve the changes to
5 command's media.

6 And I also, I did not mention this before. I will run this
7 here because I think it's linked. I am also one of the
8 co-leaders -- I suspect we'll talk about this at some point. I am
9 one of the co-leaders of one of our safety management system
10 boards, which is what we call the build board.

11 The build board is made up of manufacturing, quality, and
12 supply change issues and the co-leaders are the supply change
13 leader, the manufacturing leader, and myself. And so I also
14 co-chair that board where we review issues that have crossed over
15 into our safety management system, risk register or our speak ups
16 and things like that. All of those kind of come back and link to
17 my level of involvement with the quality management system.

18 And then lastly, I will just say other sort of issues that
19 are large or rise up the escalation chain, I also get involved
20 with. So, if there's a significant supplier quality issue, a
21 significant escapement, something that is impactful of some sort,
22 we certainly have reviews over those kinds of things as well.

23 So, there's the management system review that I do, there's
24 special attention items which are those major items I do, there's
25 the safety management system and quality management system

1 intersection, and the reviews and things like that that I do. And
2 that's where I would say -- and then major changes to our
3 documentation. That is sort of my level of involvement.

4 Q. What positions have a direct line from you?

5 A. That report to me?

6 Q. Yes.

7 A. I currently have three quality vice presidents. That's a
8 relatively new change in the last month or so. I have a vice
9 president of airplane programs quality, I have a vice president of
10 supplier quality and then I have a vice president of regulatory
11 affairs at our core organization, and then I also have a chief
12 engineer of quality. And those positions report directly to me.

13 Q. So, I don't assume, can I -- does the production line fall
14 under the airplane quality?

15 A. That, yes. So, the way we are organized, yes, is the 37, 67,
16 77, and 87 quality directors report to that vice president of
17 airplane programs quality. And I'll only clarify that the
18 manufacturing portion of the build does not report up. The
19 manufacturing, the mechanics report to the actual manufacturing
20 leaders on the program.

21 Q. Okay. And who is it that you have a direct line to?

22 A. I report to Stephanie Pope who is the CEO of Boeing
23 Commercial Airplanes and the COO of Boeing.

24 Q. Going back to the QMS, can you give us a high level overview
25 of how does Boeing manage quality control? What are some of the

1 tools, processes, and policies that you use to do that?

2 A. So, our quality management system is a combination of
3 requirements that come from many sources, from our regulators,
4 truly first and foremost, our customers, any requirement that we
5 need, many industry groups if you will, the requirements of an
6 AS9100, we pull them altogether and we set up a quality management
7 system.

8 And our quality management system includes a set of
9 procedures, policies, Boeing process instruction guides, other
10 documents and writings, and it is hierarchy from PROs to policies,
11 to BPIs, as well as just a combination of documents that guide us
12 in how to run our quality management system.

13 So, that is, that is sort of what our QMS is and then the way
14 we execute it and manage to it is we have a host of metrics, many
15 metrics that we use to watch and manage. We have, sort of overall
16 we have several forums that we look to ensure we are meeting them.

17 The first is a review where we really watch what I'll call
18 the conformance aspects of our quality management system where we
19 see how many nonconformances we have. We look at how many hours
20 we're spending on rework in our production system. We look for
21 recurring issues. So, we watch nonconformances in our conformance
22 management.

23 We look at another review where we look at the compliance
24 aspects, are we compliant, are we following our processes? Are
25 compliant with our linkages to the CFRs. But are we compliant

1 with all of these processes and procedures? We have -- and what
2 fits into that is another element which is sort of our oversight
3 element.

4 We have a, I'll call it a structure of internal oversight
5 that really starts with a crew level review of their oversight and
6 then we have a compliance team on each program that comes in and
7 does oversight. We have an internal audit group that we recently
8 changed their reporting structure to make them more independent.

9 That also comes in to do our internal oversight and so will
10 look at the reviews, the process of that, the results of that.
11 How are we looking from our own internal oversight functions? How
12 are we doing on compliance? So, we watch that.

13 So, we have our, what we call quality leadership review where
14 we look at conformance, a quality management review where we look
15 at compliance. We have our oversight function that we watch, and
16 then we also have ongoing discussions in many ways with our
17 regulator, whether it's the audit findings from our regulator.

18 They have been in I think as you guys, I'm sure know doing a
19 number of audits routinely with us. And so we have these ongoing
20 conversations with our regulator about items they're finding,
21 about items we voluntarily disclose to them. And so there's this
22 regulatory aspect and oversight aspect where we work very closely
23 with them and ensure that we're meeting all of those requirements
24 as well.

25 So, I'm not sure that completely answers your question but I

1 think those are kind of some of the key elements and how we
2 really, what's in the quality management system and then how we
3 ensure that we're executing to it.

4 Q. I'm going to break it down a bit more.

5 A. Okay. Good.

6 Q. So, general timelines meaning at what times are you looking
7 at what kind of data?

8 A. Maybe I'll go through kind of a little day in my life. I
9 have in my internal operating rhythm, I have one day a week that
10 we really have all of our quality organization reviews, management
11 system reviews.

12 And in those reviews, we have a section where each program
13 comes and presents their data. How are they doing on
14 nonconformances? How are they doing whatever their big issues are
15 and they take us through their quality metrics, their walk us
16 through their issues and we do that at a program as well as
17 fabrication division. And then we have supply chain come in and
18 talk about how the supply chain is doing. So, we really have kind
19 of a management system where we review this data across the
20 programs.

21 And then we move into a special attention item, which is
22 where we will deep dive any significant issue, as I mentioned
23 earlier, that needed escalation or needed review, and we spend
24 some time doing deep dives. These deep dives can come from
25 something maybe I'll call external.

1 As I said, maybe it's a large escapement or maybe it's a big
2 issue that we're working on or it can come simply from looking at
3 this data and saying, you know, we're really seeing some trends
4 here. We ought to really take a look and see what's happening in
5 this area.

6 So, the special attention item can be drive by whatever area
7 we as the leadership team feel like we really need to spend some
8 more time on. And so we do this weekly.

9 We also have other means. I get many, many emails daily and
10 weekly that shows me where we are on a host of metrics. And so I
11 will also say I start out my day, you know, sort of reviewing
12 these. Maybe I don't review them all every day but on a regular
13 basis you sort of pop them open and they involve things
14 like -- there are a host of issues.

15 I'll look at my friend John down here. He mentioned that he
16 works for the delivery center. Every day I get a deck of issues
17 that were found the previous day when we went to ticket an
18 airplane. And that is an area for which he is an expert and we, I
19 review those. And we get this from across our delivery centers.

20 We have three delivery centers, one in Charleston, one in
21 Everett and one in Renton -- or one in Seattle for our Renton
22 products. So, I get those every day. I get a list of any new
23 notice of escapements that have come in from the day before that I
24 can see where we are on those. So, I sort of get this routine
25 data, then once a week we have our quality reviews. We have our

1 special attention items. And then once a month at an airplane
2 programs level which is all of the programs coming together, we
3 review the QLR data and once a month we review the QMR data, which
4 is the compliance data.

5 I also get a daily email of all audit findings whether they
6 be internal audit findings or FAA audit findings or anything that
7 came from the day before. So, I review that every day to kind of
8 see where we were on that information.

9 And so I guess I would say I take high level details and data
10 of what's happening every day and then once a week do a review of
11 all programs and the data, and then monthly we sort of roll it up
12 at a total leadership level with all of the programs, airplane
13 programs coming together where we spend a day on quality, where we
14 really review all of that quality data together as a group. Each
15 program does it and then we come together once a month to do it
16 across the programs.

17 Q. What's the highest level position at Boeing that is reviewing
18 this type of data?

19 A. It would depend on which of that data as it is. At this
20 point as a part of our comprehensive safety and quality plan we
21 set forth a set of six metrics. And we agreed with the FAA that
22 we would use these six metrics as an indication amongst many
23 others and we would still look at others, many others, but as an
24 indication of whether our production system is operating in a
25 nominal environment.

1 And these six metric, and I will directly answer your
2 question, these six metrics involve some of what I just talked
3 about. They involve -- the first one is do we have the number of
4 proficient employees to build at the rate we're building at.

5 And then there are three that are directly we believe related
6 to quality. One is how many hours are we spending in our factory
7 reworking supplier escapements, that's a direct quality metric
8 that we watch on escapements. One says how many supplier cost
9 shortages do we have? And is that in control because that can
10 really cause disruption and so that's an item we watch.

11 And the last is how many total rework hours per airplane are
12 we spending and that's whether the error was caused by an
13 engineering error, a manufacturing error, a supply chain error,
14 anybody. That's the comprehensive hours per airplane that we're
15 spending on rework or a quality issue.

16 And then our next two or the pickup set, FAA, time FAA
17 ticket, which is absolutely a quality metric as well. It's sort
18 of the end of line but that's really an output metric depending on
19 how well we'd done on the rest of the system. And then also how
20 many travelers did we have when the airplane was complete and
21 rolling out of the factory. So, we have this pack of six metrics.

22 I review these metrics now actually with the aerospace safety
23 committee at the board of directors which is my direct answer to
24 your question as well as we review them with Stephanie Pope as I
25 mentioned earlier, the CEO and COO. So, that level of metrics is

1 reviewed regularly both at the board of directors and the CEO
2 level.

3 Q. But as you mentioned those six metrics were developed as a
4 part of the comprehensive plan which is after the fact. So, prior
5 to the accident occurring, then on what level -- let me back up.

6 Prior to the accident occurring how did you identify what
7 data was important to look at?

8 A. These metrics that I just mentioned to you have existed prior
9 to the accident. I will say we've modified the staffing metric
10 just a little bit because we've made changes post-accident, post
11 training with more structured on the job training and with
12 assessments. And so we modified it to basically say proficient
13 employees. Those that have passed this enhanced proficiency.

14 But other than that small change these six metrics existed
15 previously. They existed within a larger group. What we really
16 did is narrow it down. We narrowed it down because we thought
17 that that would be a good representative of how the production
18 system is operating.

19 But prior to the accident we certainly had these metrics. We
20 had these metrics and more. We did review metrics at the CEO
21 level. Our previous CEO was Stan Deal. And prior to my current
22 job I was the airplane programs vice president and so the leader
23 of the various programs.

24 And I had the responsibility and opportunity to review
25 metrics at the BCA meeting once a month where I would come in and

1 provide production system metrics that did include many of these
2 as well. I had quality metric and a travelers at roll out, et
3 cetera.

4 Q. But again I have to ask this is a large aggregate of data.
5 It can't all be important or none of it's important. So, how does
6 Boeing determine out of all this data that's produced at any given
7 time what is important?

8 A. It's a good question. I think there's a core group of data
9 that we would view as virtually always important and I think
10 that's how we came up with these six. I also think at given times
11 as any given issue may come up there may be an area, we're
12 struggling with that certain metrics kind of become more
13 important.

14 I would think of our aggregated data kind of like a dashboard
15 and you can scan your dashboard. You can see where you are.
16 There's some set you always watch, but there are some as they
17 start to pop up or you start to see them go red that you go and
18 give a little bit more focus on and then we'll focus on those at
19 any given moment depending on how we're performing across the
20 board.

21 Q. What confidence do you have that the data that's being
22 brought to you is the appropriate data or that it's proper or that
23 it's even correct?

24 A. I have confidence that the data is correct in that much of
25 the data we review it's not manually created. It's linked to many

1 of our systems. And so I think I have confidence it's correct in
2 that we have the quality management system that I reviewed
3 previously, we have ways that the data is then tracked within that
4 system, and it's electronically presented and it's all sort of
5 linked and so it's, it's there.

6 Now I would be remiss if I didn't say any given piece of data
7 could be taken out of context and so I think it is important to
8 look at a set of data. I think there's clearly always room for
9 errors within the data. But I think if we look at it -- one of
10 the things I like about the new set of data that we've agreed to
11 with the FAA is these control limits. And these control limits
12 sort of give you this historical view.

13 Are you within the limits that you've kind of been in
14 historically where you've operated well before or did you, did you
15 cross this control limit which sort of says, hm, somethings,
16 weird. It could be incorrect data, it could be something's really
17 going on in your system, but it's a sign to go look, to do an
18 assessment, to understand what's happening.

19 And I think between that and the oversight functions that we
20 had in place so that when we see something going on or we find an
21 error in something we go fix it, that that gives me, that gives me
22 confidence in the data.

23 The other thing that I will say, we are continuing to drive
24 our speak up system. But listening to our employees, our
25 employees are in the most positive way willing to speak up most of

1 the time. They will write me an email if they see something
2 wrong. They will use the speak up system.

3 I think you guys know we went through a process of quality
4 and safety stand downs. The feedback was significant and frank
5 and really insightful. And so I think kind of based on the
6 system, the oversight, the data being linked, seeing how it looks
7 historically and then hearing from our employees if there's
8 something not right, or something going on here and using that as
9 an area to go follow through, I have confidence that overall the
10 data is giving us a fair view of the health of our system.

11 Q. Without filter?

12 A. Oh no I think there's probably -- things get filtered.
13 There's no doubt about it. I think the data itself I don't
14 believe gets filtered. I believe the data creates many of our
15 charts which gives us some of our data. Is there a way to
16 manipulate it if one chooses at any given time? Sure.

17 But I think when you take a set of information that comes
18 from different but related sources and you listen to you teams and
19 you review them and you hear what's going on and you go to the
20 floor and you talk to the people, I do think you can get a pretty
21 representative position of what's happening.

22 I also have been doing this for many years. I hired into the
23 company in 1991 and so I think also just having some experience of
24 when you see certain things kind of starting to go a certain way,
25 you can say to yourself, I bet you there's something going on over

1 here. Let's go really make sure we dig into this. So, that's
2 just the experience I want you to think that we all have as we
3 kind of watch data and dashboards and I think that helps as well.

4 But to your exact question, do I believe the data's filtered?
5 Sure. Some data can be filtered at sometimes but I think when you
6 take a large enough population and you look at it you can get a
7 good picture nonetheless.

8 Q. Going back to those popups that mentioned on your dashboard
9 to use essentially your take on the situation, how do you know
10 when action needs to be taken? How do you know when those, one of
11 those popups that needs attention and something needs to be done?

12 A. We have several different ways to look at it. I will say
13 when we do, when we do our metrics review for example in the
14 quality organization we have kind of stoplight limits, targets,
15 control limits, maybe a green, a yellow and a red, something like
16 that.

17 When things are kind of in the yellow or the red, the way we
18 often operate is through to talk to the team about what's going
19 on. If the team feels confident that this is a limited issue,
20 it's a one-off, they have a recovery plan, it's going to come back
21 down, then you track it with the recovery plan.

22 If it starts to come back down, you say, okay, great. If we
23 don't have a good recovery plan that needs my attention. If it's
24 continuing to go off course or stay off course typically that will
25 need my attention and those are the kinds of things that I think

1 you watch for.

2 I think you look for it, when it crosses a level, you ask
3 about what our plan is and you watch it to that plan and if either
4 go off that plan or it stays high for a while I think those are
5 the kinds of things where you jump in.

6 Q. You kind of alluded to this but for clarity, who's
7 responsible for developing the mitigation strategies?

8 A. The team directly involved in it. So, depending on which
9 team is it, then it would be that team. If it's a supplier
10 quality issue, it's our supplier quality team working with the
11 supplier. If it's on a given program, it's that program team.

12 Q. And what level of insight do you have on the development or
13 what those teams are working to develop as a mitigation strategy?

14 A. Again as certain things escalate to a certain level and they
15 get to my level because it's significant, it's been red a long
16 time, it's something they're worried about, they often times do it
17 or something I see that I'm worried about or something the
18 programs are worried about.

19 There's a lots of ways to escalate. That is often times
20 something that we will do. We'll use that special attention
21 meeting for and then we review what that recovery plan is and the
22 issues and what's being developed and if they need help. And then
23 the other place that can certainly come to my attention is from
24 the FAA.

25 Q. So, a positive course change can happen prior to it hitting

1 one of those targets is it safe to say that it might not rise to
2 the level of your attention?

3 A. Yes.

4 Q. Transitioning a little bit to the actual production process
5 for the 737. Have there been any changes I guess, have there been
6 any changes in that production process since the accident
7 occurred? What policies or production rates or what things have
8 changed since that time?

9 A. Yes, there have. At the time of the accident we had a plan
10 in place to be able to operate at 38 airplanes a month. After
11 that time, the FAA came out and said we will cap you, hold you at
12 the 38 airplanes per month until a future date when we believe
13 that you are stable and ready to increase rate. So, that has been
14 changed in a way that we typically would increase rate has been
15 changed.

16 But after that time we made some significant changes to
17 the way we were operating. I will start with first we wanted to
18 ensure that our critical systems did not have a single point of
19 failure and another way to look at that is sort of a last set or
20 second set of eyes.

21 So, our engineering team assessed nine critical systems.
22 They were systems that could cause a rapid decompression or a
23 major structural event or a flight control system and we added
24 last stage inspections on the areas of these critical systems.
25 Most of these inspections we did sort of after our first Boeing

1 flight, we call it a B-1.

2 After our first Boeing flight we went back in to inspect
3 these to make sure that the airplane was conforming. So, this
4 added inspection as the last stage was one. We also made a change
5 with our fuselage supplier, Spirit, represented by Mike here today
6 in that prior to the accident we had a process where the fuselage
7 would come into Boeing, it would load into our factory and one of
8 the first steps we would take is an inspection of that fuselage
9 and do a relatively detailed inspection.

10 After the accident we have worked with Spirit. We have moved
11 that inspection back to Spirit prior to the shipment of the
12 fuselage and so now Spirit does a detailed inspection, then Boeing
13 does a detailed inspection in Wichita. Spirit works back all of
14 the findings and ships the fuselage after that point to Boeing.

15 And so that has been another significant change to our
16 production system by moving that inspection work back to Wichita
17 prior to the shipment of the fuselage.

18 We also immediately took some action as it relates to the
19 mid-exit door plug. We put a bright blue and yellow sign on that
20 plug upon arrival of the fuselage that says, in big letters, do
21 not open, and in smaller letters it says, but if you really have
22 to, contact quality assurance to ensure that it's a visual
23 indicator to everyone that that plug should not be opened. Just
24 as a, I'll call it a double check of the, another redundancy of
25 the process to ensure that the plug is not inadvertently opened

1 without quality involvement.

2 We have changed several of our processes that also
3 relate to thinks like the removal process. We have done training
4 but we have also strengthened our system so that in order to
5 initiate a removal you must have passed a training course. It's a
6 limited number of people who can now initiate this removal. You
7 need to have passed a course saying that you're really, you
8 understand the details of the removal process so it often times
9 it's leads or very experienced employees.

10 Originally, we started just leads but there are very
11 experienced employees who have now also passed that course in
12 order to be able to initiate a removal which is the process which
13 removes a part or opens up a completed job on the airplane.

14 So, the last step I want to say, so those are kind of changes
15 to the steps and the process. The other thing we did though as we
16 started to clean up our factory is we slowed our factory way down
17 and we slowed our build down and we are gradually ramping back.

18 So, although I stated that we are capped at 38 by the FAA, we
19 are not building at 38 today. Last month I think we were in the
20 low 20s and we are working our way back up. But at one point I
21 think we were as low as eight, so we're working our way back up to
22 rate.

23 And as we slowed it way down, we said several things. We,
24 number one, wanted to clean up the fuselages that we had here
25 prior to this change that we made at Spirit, prior to the change

1 where we were inspecting and cleaning everything before they
2 shipped. We had this relatively large number of fuselages, 20
3 something I think in our inventory that we wanted to stop and make
4 sure that they were reworked before they traveled down the factory
5 line.

6 So, we held them in position and we, in conjunction with
7 Spirit reworked those fuselages and got them clean and reworked
8 before they proceeded and that really slowed down the rate, but we
9 wanted to do that to ensure that it was clean as we proceeded
10 throughout the factory.

11 And so since that time we now have those fuselages through
12 our system. We're getting these cleaner fuselages back in and we
13 are slowly increasing our rate and as a part of that we have a
14 third production line that previously we were only using two of
15 our lines in the Renton factory and now we have very gradually
16 begun using that third line as well. So, those are all changes
17 that we've made to that system since that time.

18 And then lastly, I will say we're starting to implement some
19 of the changes from the comprehensive quality and safety plan as
20 well the way we manage traveled work is a very large one that also
21 plays into that, so we've put that into our system as well. Feels
22 like there's a lot.

23 Q. In the five years or so preceding the accident how have the
24 production rate, the output changed?

25 A. In the five years preceding the accident? It had been up and

1 down. I believe in 2018 we had reached a rate of around 52
2 airplanes per month and then the two MAX accidents happened and
3 the grounding of the fleet, and at that point we pulled production
4 back slowly, at first to a rate of I think 42 a month and then
5 basically we came close to basically shutting it down, we were
6 very close to shutting it down.

7 Zero a month, two a month, four a month, and then we started
8 to ramp it back up and we were just getting it ramped back up to
9 that, just starting that 38 number. So, if you think about that
10 five year time frame, we were high, we came all the way down and
11 we were in the process of increasing rate again.

12 Q. During all of those changes to the rate and even some now
13 these supplemental post-accident changes what sort of change
14 management process did or safety risk assessment did Boeing do to
15 determine how that change would affect quality?

16 A. Yeah. So, we have had a rate readiness review process in
17 place for many years and it's a process at a program level that we
18 go through to ensure that we are ready to go up in rate and
19 quality is a portion.

20 All organizations get to come in and talk about their
21 readiness. Are they ready? Do you have enough employees? Do you
22 have enough tools? Do you have enough capital equipment, whatever
23 it may be? And are you really ready to increase rate and we look
24 at our quality metrics and we look at a lot of things.

25 In about, I want to say approximately 2022 as we were

1 deploying our safety management system, we began to do a safety
2 risk management assessment, an SRM assessment for each major rate
3 break. And we would do the safety risk assessment, I'll use SRM
4 and SR rate interchangeably in this context.

5 We would do a safety risk assessment on this rate readiness
6 process. We would do a full bowtie analysis. We would do a full
7 understanding of all of the risks that we have in going up and
8 then as a part of our, we hold what we call capstone.

9 Usually leading up to a rate review. We'll have a review
10 once a month or once every couple of weeks where we see how we're
11 progressing and I'll bring all the teams together to review that.
12 And as a part of our capstone where we say, are we ready or not,
13 we review the results of this SRM. What do we believe our risk
14 is? What are our risks? What are our mitigation plans? How are
15 we doing?

16 And we review all of that and then at the capstone we have
17 leaders from every organization say yes, I've reviewed all of the
18 data as it relates to my organization and I believe that we are
19 ready to go up to rate. So, that's how we do our rate readiness
20 and that's how we roll it into the SRA.

21 Q. Prior to the accident occurring has it ever not met the
22 standard to increase the rate? Has somebody said, no?

23 A. Yes. Many times we've delayed it. Many times in the last
24 few years. In fact we've slid rate more than we've actually made
25 it.

1 Q. Back to the production process, how does Boeing track and
2 communicate critical production information throughout the build
3 process?

4 A. Communication works two ways, from the floor up we have
5 several systems. Our management system is what we call our tier
6 structure or our tier board structure. It starts with a tier 1
7 meeting every morning line side. That is held typically between a
8 first level manager and their crew.

9 They review quality from the day before, safety from the day
10 before, production issues, whatever happened and then any help
11 that they need, where are they for today? What help do they need?
12 And that issue then goes up to the tier 2, which is usually a
13 senior manager level, a tier 3 which is really kind of call it an
14 executive level, and then a tier 4 which is the very top of the
15 program.

16 And these meetings kind of happen in succession in the
17 morning, so you could imagine at a seniors meeting, in a factory
18 it could be somebody in this area saying I really need the experts
19 from this area down here to come and work this issue that I saw
20 today. Or I need someone to come remove this part.

21 So, in a tier 2 meeting, you know, this leader might say to
22 this leader, hey, I need some help. Could you send two guys down
23 here to help me today? So, that's how that filters. And then
24 maybe it goes to really the executive level at the tier 3 where
25 somebody says, I don't have the right parts. I really need the

1 parts. Maybe they say, I need Spirit to come help me. And Spirit
2 participates in this tier structure meeting typically as well.

3 And then at the program level that will be the very big
4 program level issues where somebody will say this big issue just
5 came up yesterday or this is really a big deal or this happened
6 and so, you know, we really need help and they talk about the big
7 program. So, that's kind of how it floats up and down at a daily
8 level.

9 Down communication, down it comes through the same kind of
10 communications. As well many times we have talking points for our
11 first level managers if there's something we need out to all the
12 crews, and then we share through daily Boeing News Now or updates
13 or videos or alert messages particularly for quality. We'll send
14 out a quality alert if something comes up so that all of our
15 quality inspectors will get that quality alert.

16 And then we also have a system which I know has come up in
17 these discussions called our SAT system. S-A-T stands for
18 Shipside Action Tracker and the SAT system, a system whereby it's
19 a communication system basically. An employee can go to a group
20 of people who sit lineside and ask for help and they put it in the
21 SAT system and it sends out the alert to the groups who need to
22 come down to the floor to help.

23 So, maybe it would be you put in a SAT for the supply chain
24 people, or you put in a SAT for engineering, or you put in a SAT
25 for something and it goes to those organizations and they know

1 that they need to answer that and they need to come down and help.
2 So, there's also that communication system that helps us
3 coordinate when we need help of some sort.

4 Q. Does Boeing consider that an official form of communication?

5 A. It is not. What I will say is authoritative for lack of a
6 better word. We use authoritative data for that of the record
7 that defines the actual build. It is not authoritative. But we
8 do consider it an important way to get people the information
9 quickly that we need when we need them to come down to the floor.
10 It's really a communication system, but not authoritative. I
11 don't know that that, I don't know if that's official or not
12 but --

13 Q. Have there been any changes to these communication processes
14 since the accident or are you still using the same methods?

15 A. We've tried to enhance them, to ensure they're working well.
16 We have moved more of our engineers towards the floor so they're
17 more available to help more readily. I mean after the accident
18 and when we did these quality and safety stand downs, we got
19 feedback from our employees of areas that they'd like to see
20 improved so I won't say that we threw out the processes but we did
21 work on improving them, getting the employees the help they need
22 quicker, getting more engineers involved, getting more supply
23 chain people closer to the product.

24 We worked on getting the shortage data to the employees even
25 faster with less effort than they had before. So, we have

1 enhanced them.

2 Q. So, similar to my question before about the data that's
3 presented to you how confident are you in the communication coming
4 up and going down is as intended and that it has not be subject to
5 filter or an interpretation that is not the will of Boeing?

6 A. Yeah. I pause because I have two conflicting thoughts that
7 are opposite each other on that question. One is I know in a
8 large organization, I know, I know it from my own experience, I
9 know it from my learnings. I know it with many layers the
10 information inevitably gets filtered as it comes up. I know that.

11 And so it's important I think as a leader that we work as
12 hard as we can and information gets filtered back down, too. I
13 mean I know that. I hear from people and they'll say, oh you said
14 this. And you'll say that's not remotely what I said. It's that
15 whisper game that goes around the circle and what comes out the
16 other end isn't where you started.

17 So, I know that that is a real life phenomenon and so I feel
18 like it would be naïve for me to say, information doesn't get
19 filtered where I know it does. But I will also say that we work
20 hard, I work hard to try to find ways so that that's, that you do
21 find real information. Our seek, speak, and listen process is a
22 process where we meet with various groups of employees and really
23 listen to them. I go to the floor and talk to people. I read the
24 speak ups that come through. I try to have seek, speaks and
25 listen with cross talks with multiple layers. I try to have an

1 open door policy that when someone has a concern and they send me
2 an email that we go get on it and then I follow up with these
3 people and we make sure that we really hear what's happening.

4 You know, and quite honestly the quality and safety stand
5 downs we had were just a very, very, very large scale version of
6 that. It's, I think, you know, we had ever 70,000 employees go
7 through that. But at each one, at the end of the night we said
8 would each team send a representative to just share something
9 insightful that you came up with because we'd like to hear from
10 you and if anyone else really has passion and just wants to be
11 heard we will stay here for a long as it takes.

12 We had an hour and a half scheduled for that portion in
13 almost stand down it took four hours for each of the programs in
14 first and second shift. I sat on the front of the room and I
15 heard from every employee who wants to come up and so I think it's
16 another way of doing that to just work hard to hear from people so
17 that you can triangulate and figure out if stuff is being
18 filtered.

19 Then I think the data's another good check. So, you listen
20 to your employees, you look at the data you see the trends, you
21 see the performance, you go to the floor, and I think when you put
22 that together even knowing that some data can be filtered, you
23 can, you can still have a good feel for how your operation is
24 running and what's -- well, you know, every single thing, no, I'll
25 never know every single thing.

1 It's much too big of an organization for that. But I think,
2 you know, there's an infrastructure that you build to do that and
3 it's part of the reason I really value speak up, the system where
4 we have where every employee can let us know if they have a
5 concern about something. That's why I think it's so important.

6 Q. But as mentioned earlier you've been in the position since
7 February of this year, this incident happened in January, so what
8 insight do you have to prior to you working hard and you being in
9 in this position, and I believe that these townhall meetings, I
10 apologize that's not the term you use --

11 A. No, that's fine, yeah,

12 Q. -- but that's what's sticking in my head.

13 A. Stand down, but yes.

14 Q. Stand down. These also happened after.

15 A. Yes, they did.

16 Q. So, you're talking about a six month span here and we're
17 talking about a production and operation that has been in business
18 for many more --

19 A. Yeah. For many.

20 Q. -- years prior to that. So, what insight do you have if you
21 have it, how was it being done prior to you taking the position in
22 February?

23 A. This process that I call seek, speak and listen is an
24 approach and an approach I will call it that's been going on for
25 I'm going to guess three or four years. Before that we did stand

1 downs but it's something that started from Dave Calhoun, who is
2 our current CEO who really believes that you needed to go to the
3 floor be it the engineering floor, the manufacturing floor, the
4 place where the work is being done.

5 You need to seek out people's inputs. You need to ensure
6 they are speaking and that you're hearing from them, that you
7 listen. We often say we're adding a fourth item, which is Act,
8 that we're really taking action as we listen to people. And so
9 even though it wasn't the large scale stand down, we had been
10 doing the seek, speak and listen and in my prior role I was trying
11 to do those same items as we went through the previous couple of
12 years.

13 I had had that previous role for about two years. I was on
14 that previous job for about two years as we were starting to try
15 to ramp our systems back up and I was very much still trying to do
16 those same things, listen to the employees, what's going on, how
17 are things going, in order, and using the dashboards, kind of the
18 same general approach prior to that time as well.

19 Q. And I apologize. I know your previous role but I don't think
20 we captured that for the record. So, if you would please, what
21 was your previous role?

22 A. My previous role was senior vice president of airplane
23 programs for Boeing Commercial Airplanes.

24 Q. Thank you for that. Talking about the speak up program and
25 kind of what fuels that which is your people, can you give me an

1 overview -- I guess describe your workforce and how it's changed
2 over the last let's say ten years, and by that, I mean at
3 worker-bee level.

4 A. I think the primary change in our workforce has probably
5 really come about in what I'll say is the last five years as we
6 reduced production rates as I mentioned previously after the two
7 MAX accidents in 2018 and 2019, we did not do an involuntary
8 layoff of our hourly workforce or engineering workforce.

9 So, we took those employees and some of them we moved to our
10 other locations, our Everett location and others in order to
11 redeploy those employees and others maintained the aircraft or
12 stored the aircraft and did various things.

13 But we did not necessarily backfill attrition and then COVID
14 hit and we lost additional workforce and so post-COVID and when we
15 started to ramp back up, we had a very large number of employees
16 that we needed to hire. I think like many other people we
17 struggled initially to get enough people as quickly as we needed.

18 The aerospace industry came back quicker I think than most
19 people expected. We needed more employees. And we went out to
20 hiring. As we did this large hiring event -- this large hiring
21 over a period of a couple of years our workforce changed then
22 because number 1 is the quantity of employees we hired and number
23 2, I think the number of our employees coming to us with previous
24 aerospace experience really reduced.

25 Traditionally we've gotten many of our employees from

1 suppliers, from military bases, from airlines, from MROs and so
2 people who have had aerospace experience in one way or another and
3 after COVID with this rapid hiring we got more and more people
4 with no aerospace experience whatsoever.

5 And so I think that maybe was one of the larger shifts that I
6 would comment on over the last few years in terms of the workforce
7 that we've been getting.

8 Q. So, much like the question I asked with production rate
9 changes, what sort of change management or safety risk assessment
10 was done on the fact that your, kind of the demographic of your
11 workforce has indeed changed?

12 A. To my knowledge I don't know that we did a safety risk
13 assessment on that demographic at the time. I don't know if we
14 did or not. But not that I'm aware of. What we did do is we were
15 aware that as we started to bring these employees in, call it in
16 2022-ish, that by early 2023 we were starting to get indications
17 that they really needed more training.

18 We were hearing from the floor particularly some of the
19 experienced employees, these employees just don't know enough
20 coming out of training. We need to overhaul our training. And a
21 gentleman that you're expected to speak with named Scott Stocker
22 was the manufacturing leader at the time and Scott did some work
23 to really enhance our training programs, to really work on our
24 classroom training, to really improve those training programs and
25 to really address the concerns that we were hearing.

1 He put more assessments in. We reinforced to the people in
2 training, it's really not about getting people to the floor. It's
3 okay to hold them longer. Please hold them longer. We don't want
4 them on the floor if they're not ready and we changed the
5 curriculum and added assessments and whatnot.

6 I think around the beginning of '24 at the same time of the
7 accident and '23 began and '24 we were hearing that our training
8 still wasn't sufficient. And then as we did these stand downs
9 that's something that we heard loud and clear. And we really went
10 to significantly rework that again.

11 At that point we did do a safety risk assessment. And we
12 have at this point the investment in training is one of the
13 elements of the comprehensive safety and quality plan. We've done
14 a significant amount of work and each of the elements of the
15 comprehensive safety and quality plan now do have a safety risk
16 assessment on them that have been added into the SMS as we proceed
17 through these changes in processes. So, we did have one but I
18 would say that was earlier this year that that began not prior to
19 that that I'm aware of.

20 Q. Have your training courses -- or I guess what audit process
21 does the training course go through to ensure that what is being
22 presented and trained is what you actually need and that the
23 outcomes are desirable?

24 A. I don't know if we have an audit process per se. That's, I
25 assume, you know, that would be a good question for some of the

1 other people you're going to be talking to who are responsible for
2 training.

3 What I will say is we do have some metrics that we are
4 watching. We have added several things. The first is a test in
5 effect an assessment I guess we'll call it to have employees show
6 us that they can access all of the technical data that they need
7 in order to do their job. They can pull their drawing. They can
8 get the spec. They can understand it. So, we have that process.

9 We then have the process where they have to show us that they
10 can become compliant. We set up these stations where there are
11 noncompliant activities. They have to show us they can do tool
12 control. They have to show us that they know how to maintain
13 their work in process, their width, their parts and material
14 control. They have to show us that they can find FOD and they
15 know how to find FOD. So, they have to to pass this test. Also
16 in the part of on the job training.

17 We have a peer mentor on on the job training who has to sign
18 off and say yes, this person can do it. We now have an electronic
19 dashboard that shows as a person comes out of training down to the
20 board, how many times they have completed this job. So, they have
21 to complete the job with X number of times. On the 37 it's ten
22 times. You could imagine on twin-aisle's it's many fewer time
23 because you perhaps only do the job once every month or two months
24 or something.

25 So, it's have you done the job the 37 ten times and have you

1 completed the job with 85 percent quality or higher. And so we
2 take all of these things into account and then they do a self-
3 assessment that says yes, I feel confident in doing my job and the
4 manager signs off and says yes, I believe that they're confident
5 in signing the job. And only then do they get to go perform the
6 job.

7 And then in terms of an audit another item we are just now
8 adding is an observation of each mechanic actually completing
9 their statement of work every so often. And so we will now have
10 this initial step. When you come out of training you do the
11 structured on the job training with all the elements I just
12 mentioned.

13 And then you'll have a periodic assessment where you are
14 observed doing the job and asked the same question as an auditor
15 would but knowing auditors can't get around to everybody very
16 often, this will be a way to make sure that we actually get
17 everybody and that we assess them.

18 So, maybe that's a little bit of an audit process to answer
19 your question. I think those are other means to ensure that
20 they're sufficiently trained and able to perform the job
21 accurately.

22 Q. Does Boeing require any sort of soft skills assessment in
23 this entire process or soft skills evaluation of --

24 A. We do not for nonmanagement employees, for hourly employees.
25 We do not require a soft skills assessment. For our management

1 employees we require training, leadership training and what I
2 would call some of the softer skills for that, for the management
3 employees. And, you know -- I have a question. We may have some
4 of those skills for our team leads. I would need to verify that
5 but I think at one point we had some team lead training where we
6 did that. But it's not, it's not for every employee.

7 DR. WOODS: Okay. Okay. Well you touched on some SMS
8 stuff earlier and that will be my next transition however we've
9 been talking, just me for right over an hour at this point so I'm
10 going to go on and hand it off. But prior to that how do we feel
11 about taking a break because it has been about an hour and ten-ish
12 minutes?

13 MS. LUND: I could use a quick break.

14 DR. WOODS: Okay.

15 MR. JOHNSON: I could too.

16 DR. WOODS: All right. With that we're going to go off
17 the record at 9:53 PT.

18 (Off the record at 9:53 a.m., PT.)

19 (On the record at 10:07 a.m., PT.)

20 DR. WOODS: Okay. We are back on the record at 10:07
21 a.m., PT, and we're going to start here to my left with Pocholo.

22 BY MR. CRUZ:

23 Q. Thank you, Elizabeth, for taking your time to talk to us
24 today. Sorry if I sound a little -- I'm dealing with allergies.
25 So, you mentioned you started in 1991, could you tell us kind of

1 your evolution to the Boeing Company, what you did from 1991 to
2 now in 2024?

3 A. Sure. I hired in as an interiors engineer, a payloads
4 engineer into the company in 1991. I went into management in
5 1995, 1996, sometime around there in engineering. And then I
6 proceeded through the engineering management ranks and became an
7 executive in engineering up until 2003.

8 In 2003 I ended my engineering career as a several executive
9 positions, the interiors chief engineer on the 737, and the deputy
10 chief program engineer, project engineer on the 737. And then I
11 went to fabrication division where I led business operations for a
12 little while and then I ran a business we had here called the
13 interior responsibility center where we design and build many of
14 the interior components for airplanes, the sidewalls and ceilings
15 and things like that.

16 And then I switched and went to run manufacturing. So, I ran
17 777 manufacturing for about three years and then I went back to
18 engineering and became the vice president of product development
19 for a couple of years. And then I sent into program management
20 and I was the program manager, vice president, general manager for
21 the 767, for the 747, for the 777, for the 777X and then I ran the
22 Everett site for a while.

23 I then became the vice president general manager for
24 fabrication and supply chain and I ran the supply chain, the
25 external supply chain for a couple of years. And then I became

1 the senior vice president for airplane programs for a couple of
2 years as I mentioned and then into this job.

3 Q. Okay. I know some of my questions might get into the weeds
4 so if you don't know that's fine.

5 A. Okay.

6 Q. Just so you know obviously we're concentrating a lot on the
7 plug itself, --

8 A. Sure.

9 Q. -- the production of the plug and that type of thing. What
10 type of relationship do you have with -- do you have a senior vice
11 president of Spirit. Do you talk to Spirit with regards to
12 quality issues and who do you talk to at Spirit with regards to
13 that?

14 A. We have several people. We have a senior vice president of
15 supply chain who is the primary responsible party to talk to our
16 suppliers. His name's Ihssane Mounir. That's the position that I
17 had previously ruining the supply chain. We have a vice president
18 of Boeing who is located at Spirit. His name is Aaron Rainey and
19 so he is a key interface there.

20 I do speak with Spirit in my previous role at the time of the
21 accident for the two plus year period when I was running airplane
22 programs. We had a senior level meeting every Friday morning
23 where the senior leaders of Spirit and the senior leaders of
24 Boeing, myself included and I believe the meetings are still going
25 on to this day, get together and talk about how, what big issues

1 there are, whether it's quality issues or production issues.

2 I now will join that meeting or join a specific program
3 meeting if there's a quality related issue. But for the most part
4 I no longer do the overall production type issues. That's handled
5 by the programs, the production teams, and the supply chain teams
6 and I join in now when there's a quality issue.

7 In terms of who or when I meet, I last was a Spirit I want to
8 say maybe two or three months ago now. It's probably been too
9 long. I try to go at least usually once a quarter or something I
10 go visit.

11 When I go to Spirit, I meeting with lots of people, the head
12 of their programs and many times I'll go the floor and talk to
13 them. Certainly in this role we've talked about the special audit
14 items that Spirit also received. We have talked, I have walked
15 through there. Their obey rooms and their control rooms with all
16 of their improvement activities and the things they're doing, I've
17 spent time with them going through that.

18 I've met with their head quality. I've met with the CEO.
19 So, kind of at that level most of the time and then I almost
20 always do a floor walk where I meet with other people as well.

21 Q. Prior to your new role obviously you had an inkling of what
22 was happening in Spirit. How would you characterize the quality
23 process at Spirit prior to the accident and then after the
24 accident?

25 A. I think Spirit has a solid quality process both prior to the

1 accident and post-accident. Their processes as far as I know are
2 compliant and adequate, I guess for lack of a better word. Prior
3 to the accident though in terms of there were some specific areas
4 where we and Spirit were having discussions around the definition
5 of conforming. So, it wasn't a process issue, it was more a
6 conversation around what is the level of requirement in order to
7 have this fuselage be conforming,

8 Primarily the areas that we were really discussing and trying
9 to come to agreement on was on the area of skin quality not the
10 plug, an issue with that. We were having debates on skin quality,
11 how perfect flush must it be in some given area? How do you
12 measure this flushness in some given area?

13 It was complex discussions and so I would say much of our
14 discussion prior to the accident was really around that because
15 that was one of the primary issues that we were having, although
16 there certainly were some other areas. There were areas around
17 other quality issues that we would see as well and when we would
18 see some trend of quality issues that would be discussed on the
19 Friday meeting. It would be sent back through official channels.

20 There is an official channel when we get a defect when we
21 send it back. There were regular daily meetings where the teams
22 were talking with each other and we were trying to facilitate them
23 and then sort of these recurring issues that we saw, we would also
24 discuss at that senior leadership meeting.

25 Q. Okay. You mentioned that Boeing had a difficult time after

1 the pandemic and had to hire a lot of people. Was it similar at
2 Spirit?

3 A. I believe it was.

4 Q. And how did -- did you see that in the fuselages that they
5 were delivering to you during that time? Did you see defects,
6 nonconformance issues with regards to the fuselages as they came
7 out of Wichita here to Boeing?

8 A. We were seeing, we were seeing defects. That's something
9 that we track as I mentioned that we were going back and forth on.
10 I can't say with certainty whether it was directly as a result of
11 the hiring of new employees and training issues or if it was a
12 result in Spirit trying to ramp back up as well.

13 Q. Sure.

14 A. I mean obviously their rate follows ours --

15 Q. Yep.

16 A. -- to support us with the fuselages and increasing rate is
17 always a bit of a challenge for all of us. And so I can't
18 attribute to the cause but I will say we were watching the
19 quality, discussing the quality and talking about how to ensure
20 that we improve Spirit quality.

21 Q. Were there more noncompliance issues during that time out of
22 Spirit, in general I guess, right?

23 A. It's interesting. Spirit defects I'm drawing a picture with
24 my finger which doesn't translate well to the record. But I will
25 try to verbalize it. They at times, the number of defects would

1 come up and then down, and then maybe up or then down. Sometimes
2 it was quality, sometimes it was because we were focused on a
3 certain area and would go, you know, really making sure some area
4 was perfect.

5 I would say just prior to the accident I remember I would
6 have said and I believe the overall number of defects were coming
7 down, but there were some defects that were particularly impactful
8 to Boeing, and so a defect is not a defect. A very small tool
9 mark that can just be brushed out is an impactful defect. The
10 defect that affects kind of a primary structure or something you
11 see in an area like that or holds up the build is impactful.

12 So, what I would say, I remember as we were talking about
13 this, the total number of defects were coming down. Quality in
14 general was improving but we were still having some very impactful
15 defects that we were having some very pointed conversations on.

16 Q. You mentioned you've tried to minimize traveled work out of
17 Wichita. Would you say prior to the accident obviously there was
18 quite a bit for you guys to be able to determine that you had to
19 minimize that issue of the build process?

20 Obviously, that was a big number for you guys to get your
21 head around to say, we're going to stop this. Right? Is
22 that -- can you give us, kind of quantify what that looked like as
23 far as traveled work because if you pinpoint that this was an
24 issue, what was that coming out of -- I mean is it all of the, all
25 of the fuselages coming out of Wichita were having issues

1 regarding traveled work that was starting to issue the production
2 line here in Renton? Is that something that can you kind of speak
3 about that part of it?

4 A. Yes. Yes, I can. And I will say, yes. All of the fuselages
5 coming out of Spirit were having, we were finding defects. Let me
6 quantify that.

7 Q. Sure.

8 A. A fuselage is a very large assembly. It is not what I would
9 call impactful in and of itself to find a defect on a fuselage.
10 That can be handled very quickly as a reasonable small number of
11 defects can be handled and absorbed. Again I will go back to it's
12 the kind of defects that were found.

13 There were defect in certain areas that are very impactful to
14 us. A couple over the last year or two years that came up that
15 have been somewhat public that we have talked about, if there is a
16 defect anywhere around the pressure dome, that is a very big deal
17 to us. And that is an area that really would stop the line. It
18 will stop the fuselage from moving. But there can also be a
19 defect on -- I'll mention one of the structural elements that
20 basically affects the C track, something like that.

21 A pressure dome will stop the line immediately. That's
22 impactful but it will stop the line. There are some other kinds
23 of defects that as we work through them it perhaps may not stop
24 the line immediately but it can prevent future work from getting
25 done. That's what we call traveled work. And that's the kind of

1 work that we really wanted to ensure -- we wanted, we want the
2 fuselage to be perfect and so does Spirit.

3 We all want that fuselage to be perfect. But very minor
4 defects, a different set of eyes, a different something you look
5 at, you can handle that. What we don't want is the really big
6 defects that are impactful to the production system that will
7 travel work, that will cause traveled work.

8 And we were, we were talking about that and we were starting
9 to see more and more of those kinds of issues. I will tell you
10 right around the time of the accident, it's not exactly the same
11 but we were, you know, starting to see an issue just will seal.
12 And that was a prep issue, it's a kind of thing.

13 But that was impactful at the moment so that was another kind
14 of number of defects when we would kind of talk about seal
15 installation or seal prep or something so that was kind of just
16 coming to light right around the time of the accident.

17 Q. From your standpoint, from the quality standpoint, how do you
18 see -- what does it mean when Boeing asks for a supplier assist of
19 Spirit? Do you understand that?

20 A. Mm-hmm.

21 Q. Okay. Can you explain that from a quality standpoint when
22 there something in production that's a supplier assist that now
23 needs to happen from the Spirit side, can you kind of explain
24 that?

25 A. We have a few parts on our airplanes where the suppliers come

1 in and for lack of a better word, do rework on their own
2 components. We ask them to come in and do this rework because
3 particularly in the case of Spirit, Spirit is our largest one but
4 we also will have some seat suppliers come in and maybe work on
5 their seat.

6 They're a TSO'd item. They come in and do their own work on
7 the seats. Spirit does much of the rework on their product. The
8 thought is that they own much of their own engineering. They're
9 responsible for the engineering of the fuselage. They have the
10 experience of this part. They built the part the first time. And
11 so we asked them to come in to rework on the portion of the
12 fuselage that they are responsible for.

13 We don't, we don't ask them to work on things they are not
14 responsible for, that is not what we would call their original
15 statement of work that they didn't deliver to us. But we will ask
16 them to come in and do work for a defect that we find or that
17 traveled here or something on a piece of work that they delivered
18 to us.

19 Q. Based off that information that you just provided are Spirit,
20 is Spirit allowed to open up assemblies or do they need to contact
21 Boeing personnel to open up assemblies to gain access to whatever
22 they need to work on?

23 A. They need to contact Boeing to do that.

24 Q. Okay. And what is the process when they contact Boeing to
25 get access to something? What would be a typical process for

1 Boeing to allow them to work on what you guys are asking them to
2 work on?

3 A. It would depend on what we are opening. If they typically
4 would ask for Boeing to come do that. Often times the SAT system
5 would be used for something like that. I need someone to come
6 open this hatch for me? That's the communication. Could you
7 please send someone down in order to do this? Boeing would come.

8 In the case of the mid-exit door plug, which is a structural
9 element to open that hatch as we typically call the door crew to
10 come and open that as well as our other doors. We would expect
11 when that mid-exit door plug is open because it is the opening of
12 a completed assembly and a removal of parts that a removal would
13 be written so that the team would come down in order to that.

14 Now with our new process in SMS you would need to go to a
15 qualified employee to write that removal at which point they would
16 write the removal, we would turn the work over to spirit to do the
17 work that they are responsible for in the case that we are
18 discussing here, the removal and reinstallation of the rivets.

19 Q. Okay. And just to be clear typically for all mid-exit door
20 plug what crew typically works that at Boeing?

21 A. The door crew.

22 Q. Oh door crew. Okay. And do you know whether they work all
23 shifts, three shifts seven days a week? Would you happen to know?

24 A. We do not have a third shift door crew. The majority of the
25 door crew I know is on first shift. But we have a few people on

1 second. I don't know. We might.

2 Q. Okay.

3 A. But yep, I know we do not have a third shift door crew.

4 Q. Okay.

5 A. And none of our teams baseline work seven days a week, on the
6 second part of your question. Our teams baseline work five days a
7 week and weekends are covered on overtime.

8 Q. Got you. Okay. So, I know you briefly described BPI 1581,
9 which is the remove assembly process. During your meetings
10 whether it be in this new position or prior to it has there been
11 any metrics with regards to that particular BPI that came up to
12 ranks for you, to upper management as far as issues with regards
13 to how that was being implemented in the production line or not
14 implemented in the production line?

15 A. I'll split that into the two parts of your question.

16 Q. Sure.

17 A. The one is my previous role.

18 Q. Yep.

19 A. In my previous role I was aware that there had been some
20 escapements or issues as they relate to removals as we had
21 discussed during what I called my quality management review that
22 we had at an airplane programs level, so we would brief compliance
23 issues that had come up.

24 So, I was aware of some removal issues that had come up and
25 the action was being taken. I knew there was training or various

1 things going on. Since the time of the accident and in my current
2 role there's been a great deal of conversation about removals. We
3 have an SRM that was started last year. I believe I was briefed
4 that there was an SRM. I was not deeply involved in the details
5 in my previous role.

6 Q. Sure.

7 A. In this role I do know that we had started the SRM last year.
8 I do know that we had taken action. And we'd done action to
9 strengthen it across the board with more to come but in terms of
10 metrics now I actually now get a daily email letting me know if
11 there was, and if there was what it was any what we would consider
12 an unauthorized removal or a questionable removal from the day
13 before.

14 We put that out at my level and at Mike Flemming's level
15 every day now so that we can see if there is that, if there is any
16 issue out there going on. And clearly striving for an answer of
17 zero. But as we implement these changes we're not there across
18 the board.

19 Q. Yep. And would you see -- since you have all of DCA, I'm
20 sure you've seen the metrics with regards to having removal issues
21 not just on the 737 production line but the 78, the 777, 67 line.
22 Are you --

23 A. Correct.

24 Q. Are you? Okay.

25 A. Yes.

1 Q. And obviously there's a lot of voluntary disclosures that
2 were, that Boeing provides the FAA with regards to those removals
3 and stuff like that. Based off of data provided by Boeing -- I'm
4 sure you've seen this change history on this particular one?

5 A. Yes.

6 Q. There's some LOIs associated with that obviously. In your
7 opinion, and I know that there's still probably a lot of work that
8 Boeing's doing with regard to this. Do you know -- and this
9 started in 2013. Do you know a reason why Boeing is unable to get
10 a handle on this particular BPI process?

11 A. It became -- I don't know all of the history of it.

12 Q. Sure.

13 A. What I can speak to that I'm fairly well versed on is that
14 based on these recurring issues, based on the data, the speak ups,
15 some other findings that we had in 2023, it became I think clearer
16 that we needed to do something broader, that we didn't have a
17 handle on this process.

18 That's when we kicked off this SRM. That's when we kicked
19 off the broader look at it. I think, I think we had not looked
20 holistically enough. I think we kept thinking we'll just train
21 people, we'll just train them again. We'll just train them again.
22 And they must not understand.

23 And once we train them again then we'll -- and I think that
24 by 2023 it became clear that we needed to look in a more complex
25 and a more broad passion beyond just the training of the

1 employees. Now I do believe training is an element particularly
2 with our new employees.

3 Q. Sure.

4 A. I believe the process is complex so I think there's a
5 simplification element. I think there's an experience element.
6 But there's clearly a simplification of the process and some other
7 issues as well. On that chart that you showed me, you don't have
8 to show me again, on 1581 you'll see that, I think some good and
9 some bad.

10 We had tried to make some improvements or changes to the
11 process over time. They were not sufficient to eliminate our
12 issues and so I think that as we continue to look at it now that's
13 where we're still going. We're still looking at the broader
14 impacts. We're looking at the simplification. We're looking at
15 the documentation and quite frankly that's why we elevated the
16 visibility.

17 I mean we didn't have the level of visibility and the ease of
18 visibility that I think we needed. And that's why we've got it up
19 at this level now. When we started to ask these questions post-
20 accident it was not easy to get the data. I had to say how many.
21 What is our situation?

22 And somebody said something about, you know, authorized
23 removals to be frank with you at that point, being new to the job
24 but never having heard this, I didn't realize we had data that we
25 had an issue with unauthorized removals on an ongoing basis. And

1 I said, where is the data? Where can we see it?

2 And, you know, three days later somebody came back with some
3 snapshot and I said, well, you know, so I think we've really
4 worked to get real time data, make it visible, make sure we all
5 can see it all the time and then that will help us know real time
6 whether the things we're doing are working or where are issues are
7 and things as well.

8 Q. Yeah. I don't know whether you know obviously that that BPI
9 is over 50 pages long.

10 A. Yes.

11 Q. And it's, and if when you're bringing in a new people, right,
12 and people with no experience with regards to building aircraft
13 and they're trying to read this thing and trying to understand
14 what constitutes a removal and what doesn't constitute a removal
15 it can pretty much make them hard to actually learn this
16 particular process. Right?

17 A. When I got this job, I went into try to read 1581 and had
18 that same experience. And knowing I'm not a quality professional
19 like some people who would read it but you are -- I agree with
20 everything you just said.

21 It is not a clear and simple as one would think to
22 really -- I mean it was one of these things where I had to sort of
23 go in a quiet room and read it to myself several times and make
24 sure you track to this reference, to this reference, to this BPI,
25 back to those. It's, yeah, it's -- that's part of the

1 simplification effort that we really must do.

2 Q. Since Boeing has a lot of production facilities like you said
3 Everett, South Carolina and here how do you get that -- are there
4 people in those facilities that would come and maybe have some
5 input into how you guys could revise the BPI and maybe simplify
6 things a little bit more? Is that something that you're bringing
7 maybe a tiger team together? I don't know whether you've heard
8 that term before.

9 A. Yes. Yes. Oh yes, no. I have. And yes. So, I believe we
10 had another, I believe you've met Hector Silva.

11 Q. Yes.

12 A. Hector Silva is one of the vice presidents in the quality
13 organization. Hector's organization is responsible for this
14 activity to improve BPI 1581. And we had a workshop, I think we
15 called it, as a part of this SRM earlier this year where we did
16 bring people in from various facilities in order to get more input
17 as we continued to work through this process.

18 So, we're very much trying to get input from the users. As
19 you could imagine There's a broad group of users who have
20 different requirements depending on where you are in the process
21 and how easy or not easy it is for them, but we're absolutely
22 trying to bring in that cross functional group of people and take
23 the input from all of them.

24 MR. CRUZ: Okay. That's all I have for now, Sabrina.

25 DR. WOODS: Okay. Troy?

1 MR. CRUZ: Thank you.

2 MS. LUND: Thank you.

3 BY MR. LEVANEN:

4 Q. Yeah. Just while we're on the removal topic I did have a
5 couple of questions for it. So, you talked about there's a new
6 level of, there's like a limited number of people that can do
7 removals and that can write removals and then they're kind of
8 specialty trained so then we have a higher level of expertise on
9 the removal initiation process.

10 But in this investigation, there's been a lot centered around
11 the fact that potentially there were not removals documented in
12 the first place. Some of that comes back to the complication that
13 he just talked about with the BPI.

14 A. Yeah.

15 Q. About whether or not a removal is required. But there's also
16 the aspect of it being complicated enough that even when people
17 might know there's a removal required, they might make decision to
18 not do it because they have to go track somebody down that does it
19 like maybe we heard from folks that the leads write removals, the
20 leads write removals.

21 But if there's not a need around and you have this pressure
22 to get this job done, then maybe you skip that step and then that
23 comes back to a little bit about what the trends were showing with
24 unauthorized removals. And my question I guess is a little bit
25 with the direction that it's gone to make it even more specialized

1 on who can do it, is there a risk or has that been identified as a
2 risk that people could skip even more likely or just as likely to
3 skip that step in the name of production?

4 A. It has been identified as a risk. And it's a conversation
5 that we've had. We have work to do to simplify the process and
6 we're working on ways to do that sort of electronically to have
7 forms that are filled out easier and, you know, to make it easier.
8 But we're not there yet.

9 Part of this is all part of our process improvements that
10 we're working on. We have it in the SRM. Because it is
11 complicated, we had to weigh our two choices that basically said
12 let's have employees that really maybe don't fully understand the
13 process do it, or at least we could try to get the simple message
14 out that says any time you -- to start with, any time you do work
15 in aerospace you must have a piece of paper that tells you to do
16 it.

17 So, we're working on that very simple language to start with.
18 And any time you open a completed job or you remove anything from
19 the airplane you're going to need a removal. Now it's not quite
20 that simple. It can be documented on another piece of paper or on
21 a rejection tag.

22 But we really kind of want to say it's that simple and say,
23 and so this is really all you know, so raise your hand and ask.
24 Go to someone who's an expert and until we get this simplified and
25 we can fix the training and we can do some other things let's just

1 try to get people to understand these simple, the simple
2 guidelines or as simple as we can make it.

3 You must have documentation for the work you do and if you
4 remove something from an airplane or open a job you need removal
5 paperwork so, please go and ask someone who is qualified or a lead
6 or raise your hand and get help so that we can do it correctly.

7 And that's, we chose that as a less risky path then
8 continuing to just let everybody do it or not do it to basically
9 reinforce our message to make sure everybody knows it. They can
10 encourage each other, we'll encourage them. We thought that had
11 less risk than just continuing to kind of not reemphasize it and
12 not elevate the importance and to be able to train people on the
13 complicated system.

14 So, that's what we'd done and then we're trying to continue
15 to up our game with data analytics and things like that to show us
16 when there might have been a removal, to update the metrics to
17 continue to reinforce it and put this level of visibility and
18 talking about it in there so people are just a lot more aware of
19 it kind of in the near term as well as there's more formal
20 communication on things like that as well, in the trainings and
21 things, but that's really sort of the approach that we've, that
22 we've chosen as our less risky approach.

23 Q. Was removals one of the topics in the safety stand downs that
24 were performed, just out of curiosity?

25 A. Yes, they did some up.

1 Q. Okay. You talked about supplier assist and I feel like you
2 answered most of my questions. I wanted to know if you have a gut
3 feeling about how supplier assist is perceived at the frontline
4 level?

5 So, for example in a heavily union shop like Boeing, there's
6 a defect there that might even be disrupting the process so to
7 speak and the supplier brings in other nonunion employees that
8 maybe don't even work specifically for that supplier to do rework
9 which as you said there's advantages to that, right, because they
10 might be the experts.

11 So, I was curious, how do you -- do you get a feeling about
12 what the perception of those people working in that environment
13 are because we, you know, we don't want to draw conclusions but in
14 a heavily union shop and you bring in a nonunion person to do
15 work?

16 A. Two or three thoughts on that. The first is I think it's
17 human nature but in our workforce particularly there is a, I
18 believe a general feeling that we do work better than anybody else
19 and I think that's not bad. It's a pride in what we do and our
20 skills and what we do. And so I will say that is always there.

21 So, if you were to ask, hey do you think you could do this
22 better than them? They'd say, I could do it better than them.
23 And so I think, you know, to start with I think that's there. And
24 that's not bad. But I think it's real.

25 And I do think particularly if you have a supplier coming in

1 working on, I will say a systems part that whatever goes on within
2 their box and all of the electronics and stuff we don't have much
3 data on that. I think that is viewed differently than something
4 that's more of like I'll call a major structures because we have
5 major structure skills within our shop.

6 So, I think that sort of further exacerbates that. And for
7 whatever reason I do think, which we're working hard to fix, hard
8 to fix, but I do think there's a little bit of an us versus them
9 feeling at the front level within Boeing versus Spirit. Right?

10 They shouldn't have sent these defects or they shouldn't have
11 done that. And so I think there is some of that. And so all of
12 that's before you even go to the nonunion part. I think those
13 exist even when we bring in some of the most experienced mechanics
14 from Spirit who actually are IAM members as well I will mention
15 and they come in and there's still some of that feeling that goes
16 on. So, there's no doubt it's there.

17 So, I will answer then say do I have a feeling of how the
18 first levels feel? Yeah. I don't. On the frontline, I don't
19 think the frontline loves supplier assist. I think they're
20 fundamental position that I hear from them on a regular basis is
21 we shouldn't need supplier assist because they should send us
22 these perfect fuselages regardless. And you can't argue with
23 that.

24 That said, a fuselage is a big complex item and I will say,
25 you know, in Everett we build our own fuselages for our twin-aisle

1 aircraft and we have as far as I know never sent a perfect
2 fuselage into our final assembly in Everett either. They're
3 complicated. They're big. There are tens of thousands, hundreds
4 of thousands, depending on the fuselage, millions of rivets in
5 there.

6 There's a lot going on there. It's difficult but there's no
7 doubt that I think our front line leaders don't love it. My last
8 point that I'd like to make to that point though, that I think we
9 did take action and we after the accident we stepped back and we
10 said, we need to add to our process.

11 And so at that point we went and we did a full assessment of
12 all of the Spirit mechanics that they had here under supplier
13 assist and we put them through the same test that we put our own
14 mechanics through that they must pass in order to go be a
15 structures mechanic on the floor. Most of them passed. Not all
16 of them passed.

17 And those that didn't don't come anymore and now from this
18 point forward or from that point forward when Spirit brings new
19 employees on, we put them through that assessment first to make
20 sure that they can pass the same criteria that we ask our own
21 structures mechanics to do.

22 And prior to that we left it up to the Spirit team to train
23 their own people or to decide if they were proficient. But at
24 this point knowing that they're there we now hold them to our
25 standards and do that same assessment.

1 Q. And that leads me to a couple of other branches of that
2 particular area. So, one is that now that the I guess you'd call
3 it, initial shake is being done before it leaves Wichita to me
4 that represents a win in terms of what I just asked about because
5 now you're going to pick all that stuff off and get it fixed
6 before it comes and it'll be close to perfect fuselage when it
7 gets here.

8 A. Yeah.

9 Q. And so that would serve to help mitigate the amount of
10 outside supply support that you need.

11 A. Without a doubt. Yes. And the other thing I really love
12 about it is Spirit now sees first hand those defects and they can
13 get it back to point of origin there within Wichita real time. It
14 harder to take it when you find it in Seattle to get them to fully
15 understand and see exactly where it is and get it back to the
16 point of origin and now it's right there contained in their
17 system. So, both ways it's a win.

18 Q. And then one quick question along that back when the accident
19 happened or when the accident of the aircraft was built, they did
20 this initial shake on day 0/1 or day/ one half or something like
21 that when it got here. And now that's being done there. Do we
22 still do an initial shake when it gets here?

23 A. Mm-hmm.

24 Q. Because now you've traveled across the country on a train or
25 whatever. Does it still get a similar level of (indiscernible)?

1 A. It doesn't get the full level of shake we had before because
2 the Boeing employees look at it there. But it does get an initial
3 shake when it loads into position zero now. It's a smaller shake
4 because we have -- we were doing several things. We were doing a
5 shake, and we were checking for, I'm going to use an incorrect
6 terminology because I've been at this company many years.

7 I'm going to use the term green line, which is a -- these
8 guys, where we check for green, which is previous found rejection
9 tag that has been extended on future units saying you need to
10 check for this in the future. And so we were doing the shake and
11 we were checking for these green lines, these rejections found in
12 the past that said check this feature again. We've moved that
13 back as well.

14 So, now that this check is being done back there and we have
15 a few left, we're moving them all back. We can say we don't have
16 to check for that defect here because our Boeing employees checked
17 it back at Spirit. That has been inspected. And so all of that
18 has allowed us to reduce the time of the inspection here but we
19 still do do an initial inspection when it arrives.

20 Q. Mm-hmm, yeah, I appreciate that too. I like it. And then
21 the other part of that was, you know, we've heard recently in the
22 news that Boeing potentially is going to buy Spirit or be the
23 owner of Spirit and then will that, will that help with that
24 dynamic as well then?

25 A. Yes.

1 Q. Because now it's all Boeing, right?

2 A. I think so. I think so. I believe it will. I think it will
3 help because we're all Boeing. I think it will help because today
4 we use a system we use for our external suppliers. We find a
5 defect. We do a change of charge. They're going to get charged
6 for it.

7 We ask them to prevent -- we send it to them. We ask them to
8 provide a plan for how to improve it. When it's an internal
9 defect you're on the same quality system. We still need those
10 systems but we'll operate smoother and cleaner and they can see
11 exactly the location and we'll see their systems and they can see
12 ours. It's all the same system and I think all of that will help
13 with that process as well.

14 Q. Okay. You talked about the I guess Shippside Action Tracker,
15 the Shippside Tracker?

16 A. Mm-hmm, called SAT.

17 Q. And we got a chance to peek at the SAT for this particular
18 defect as it traveled down the line and as we looked at it, we saw
19 that this defect was addressed on say day 18, day 19 of a, you
20 know, potential normal nine or ten day build, representing what we
21 would call in the airline business, operational pressure, level of
22 pressure.

23 So, when we look at the Shippside Action Tracker as it gets
24 past that nine or ten days, somewhere in that between day 9 and
25 day 18 we start to see dollar signs on the Shippside Action

1 Tracker, some of them maybe multiple dollar signs, maybe some of
2 them maybe even bold, maybe even some with colors on them. I
3 swear some of them were red, but don't quote me on that.

4 I'd have to see it again. To me at the frontline from my
5 airline perspective I see that as something that represents
6 pressure to the frontlines. And I'm curious is that a common
7 practice and if so, is it, has it changed since the accident and
8 is it, you know, like best we could, best I could tell was that
9 that came from like first, second or third level managers, I guess
10 is what you'd call them that would put, that input that
11 information on to the action tracker that the frontline would be
12 viewing.

13 And I'm just curious if that was considered? If we dug into
14 that action tracker process some and if that has been identified
15 as something that could represent pressure.

16 A. I cannot speak to, I cannot speak to the process of how the
17 Shippside Action Tracker adds to the pressure or what the dollar
18 signs represent or why they put them there. I do know it's not a
19 standard in the Shippside Action Tracker. I've been a part of that
20 for years. I'm sure it was representing something. I can't speak
21 to that.

22 I will speak to one or two things that I do want to comment
23 on that. We are having a lot of conversations with our employees
24 and we are, we have a survey that we're in the processing of
25 modifying to try to address one of the issues you're getting at

1 right now. And as we've gone out and we've benchmarked many
2 companies, one of the items that we actually have learned from one
3 of our airline customers, they send out sort of this very simple
4 survey.

5 And we're taking a part of that to add to ours, which
6 basically says, do you feel operational pressure because
7 operational pressure is a real part of the airline industry or the
8 aerospace industry to get your job done, to get your flight off on
9 time, whatever it might be.

10 The second question this team uses though with their
11 employees is do you ever sacrifice safety or quality for
12 operational pressure as the real indication that there may be
13 pressure but we can never ever sacrifice the safety or quality for
14 an operational pressure and that's the conversation that we really
15 want to have with our teams is we can never make a wrong choice
16 due to that operational pressure.

17 And we're working on getting that conversation more and more
18 prevalent around, it's one thing to feel operational pressure. We
19 may feel pressure. Jobs have to get done, there's time schedules,
20 things are tight sometimes but we can never sacrifice safety or
21 quality and if we need to make a different choice due to that then
22 we need to make that different choice.

23 And so that's really the message that we're going to get to.
24 I'm happy to go look into the role of SAT as we see that now.

25 Q. Okay. Yeah. And I only speak -- that's the only SAT that

1 I've --

2 A. That's the only one you've seen?

3 Q. -- I've really had a chance to view.

4 A. Okay.

5 Q. And it's for the event aircraft.

6 A. Yeah, okay.

7 Q. At the moments that the decisions were made to potentially
8 for example open that mid-exit door without a removal attention.

9 A. Yeah. I will look into it. I'm aware that there was
10 frustration from the floor during the event airplane for how long
11 it was taking us to get this issue resolved. And so I will
12 suppose those were related, yes.

13 Q. It was something else on my mind. And then you had mentioned
14 a little bit just now but I was curious and I know you haven't
15 been in this position for a long time and it's obviously a
16 different type of focus than what you had, but, you know, you talk
17 about the quality/safety versus cost and then it comes back to
18 what I was talking about.

19 Do you feel that currently or that when you're faced with
20 that, when you're in that position where you have to try to
21 mediate that, do you feel like the Boeing Company does a good job
22 to step back and say, no, cost what it may we have to go this
23 direction?

24 Do you -- I mean I know you're part of that decision and
25 I -- or do you feel that there can still be pressure at the higher

1 levels to say the show must go on? I mean we have to find a
2 balance here. I'm curious, I worry about that too.

3 A. I feel confident, I really feel confident that we will put
4 safety and quality above cost any day. Right now we are
5 rebuilding our trust with many, many stakeholders and as we
6 sometimes say it, one airplane at a time and that's with our
7 customers and that's with our regulator, that's with the flying
8 public, that's with our employees.

9 And the backbone of building that trust is safety and
10 quality. And I sincerely in my heart of hearts believe in this
11 comprehensive safety and quality plan. I believe that we're
12 taking the right steps. I believe the foundation is safety and
13 quality. We must simplify these processes. We must follow
14 through on all of this work and when we do the production will
15 follow. And if we get that mixed up it takes us backwards instead
16 of forwards and I believe our leadership believes that and follows
17 that.

18 MR. LEVANEN: All right. Thank you. That's good for me for
19 now.

20 DR. WOODS: John?

21 MR. PETRUZZELLI: Yep.

22 BY MR. PETRUZZELLI:

23 Q. As you mentioned that you get a daily email for missed or
24 removals or how do you validate the voracity of that data? I mean
25 if somebody doesn't do a removal, I would see that nobody knows.

1 A. Thank you for that question because that was my question when
2 first found out we had them. It turns out that when we find them,
3 they are typically found, typically by a quality inspector who's
4 come in to do the next level of a job, or even a manufacturing
5 person who has come in to do the next level of a job and they find
6 the job not in the condition that they would expect or when they
7 come in to buy off the paperwork to complete a job they realize
8 that that paperwork was not completed as a part of a job.

9 Perhaps they were stamping off the reinstallation and they'll
10 say that there was no paperwork to start with. So, that is the
11 level of how they are found. So, I believe I have faith in those.
12 The question is is it comprehensive and are we finding them all?

13 From that standpoint I think it's the audit activity. The
14 good news is our quality inspectors are good at saying when
15 something's not right. When it's not conforming, when it's, when
16 they find something that doesn't look right, they'll raise their
17 hand. We don't know that it's comprehensive but what it is is
18 it's an indication to us that there's something wrong.

19 And I'll mention one other thing that I forgot to mention
20 earlier but it's linked to this so if I could go back and add this
21 when we were talking about my confidence in the data. When we see
22 issues like this though the one other tool that we do use is we
23 put it on the risk register.

24 So, that's another item. So, removals are now on our risk
25 register as well, so as a way that we watch it in terms of our

1 removals and the steps that we've taken and so even though we know
2 that it's there and we have the measures that we're watching on
3 the risk register. If we have zero unauthorized removals, am I
4 100 percent competent we have none? No.

5 But if we have them, do I know the process is broken? Yes.
6 So, we'll continue to work back through here and work through that
7 process as we get them to zero.

8 Q. That kind of leads into my next question and going back as
9 far as I want to say 2012, 2013, there was, I'm going to ask you
10 to speak about verification optimization where we were taking
11 quality inspections off of operations. I understood the intent
12 then. The view from your seat since that time kind of walk us
13 through what that looks like from you?

14 A. Yeah. So, I wasn't super, super close to it at the time. At
15 the time I was running one of the programs and so I was aware of
16 it but peripherally. This was an initiative run out of the
17 quality organization at the time.

18 And as I understood it the intention was for quality
19 inspection that were redundant. For quality inspections that were
20 redundant or quality inspections that were going to be checked at
21 some other location or some other time or maybe the job was so
22 mistake proofed or something that you didn't have to do an
23 inspection. They went about removing the inspections. I will
24 tell you from where I sit now having gone back and looked at that
25 I will say several things about it.

1 If we were to undertake such an effort today, we would, it
2 would require and we would do a safety risk assessment on it and I
3 don't think that we did even the equivalent not having SMS back
4 then but not having done the equivalent of a safety risk
5 assessment so that we could so see it and understand the risks.

6 In the last five years we have added many, many inspections
7 back per airplane. And about 20 percent more inspectors than what
8 we had five years ago even at higher rates. We are undoing much
9 of what was done there is what I will say, we have undone it, and
10 I don't think that we appropriately controlled and looked at all
11 of the risks when they did it. That's my take on it.

12 Q. Appreciate hearing that. With that and I see a number of
13 what we call hotline to the FAA things related to this and related
14 to the changes of BPI 1581, and it seemed like we're going in the
15 right direction. Sitting as a quality inspector here at the field
16 as the front face to the FAA every day of the week, I don't think
17 we're there yet.

18 I hope I can encourage that to go forward. You did mention
19 though that we have 20 percent more quality inspectors. I know
20 we're talking here at the Puget Sound, right?

21 A. I'm actually talking BCA wide but here as well.

22 Q. Oh okay.

23 A. I don't know the exact percentage here but they're
24 everywhere.

25 Q. So, about two months ago every two weeks, the Friday after

1 payday quality here we have a meeting with our leaders. We have
2 been asking for help here for a number of inspectors and the team,
3 most of us that were team leads were not feeling that we were
4 getting that help.

5 It got elevated to the point where our director showed up and
6 one of our team leads, and I'm going to throw some numbers at you
7 here at the SDC, five years ago we had three first line managers
8 on day shift, three on second and two on third shift and one
9 second level for all of it.

10 We operated with one QA in the stall. Today we have three
11 second levels on first shift, two on second, one on third, nine
12 first lines on first shift, nine on second and five on third, and
13 a third level and we still only operate with one QA per stall, per
14 aircraft.

15 The workload that we have today compared with five years ago
16 here, we used to have 112 to 120 some, somewhere in there pieces
17 of paper we had to consume, that's up to about 560. I think the
18 last time I talked to Kendall (ph.) it as 560, 570 pieces of
19 paper, So, our workload's increased for still the same number of
20 people and of course the experience level is going down. Can you
21 speak to that?

22 A. This is the first time I've heard those numbers. And so
23 probably not well. I go look into it. I don't know, John. I
24 haven't been told that you've been asking for people and we've
25 been saying that. Let me go look into it.

1 Q. And we're not being told no.

2 A. Okay. Because what's what it seemed. By in large we're not
3 being told no. We're trying to staff --

4 Q. Yeah. We're not hearing that.

5 A. -- to the levels we need across the board.

6 Q. And there so many issues that come through. Frankly, I got
7 into this at the grade 9 job six, seven years ago when they opened
8 it up.

9 A. Right.

10 Q. I think there was that one green light I never finished to be
11 honest but I was able to get my way in. Recently they just opened
12 that up again. We know there's people in the factory environment
13 that have the skillset to come here. We're not getting the people
14 and it's not a function of --

15 A. Us saying not saying no, it's the --

16 Q. No. It's just not happening fast enough.

17 A. Yeah.

18 Q. There's not a sense of urgency.

19 A. I'll go follow up though because to my point, John, we're
20 not, we're not saying no. We're trying to make sure we have the
21 inspectors. We've increased, we've got Rex out there I know and
22 I've been working with the manufacturing leaders to make sure
23 they're releasing people without, you know, cutting off their nose
24 to spite their face, but releasing people as well and so I'll make
25 sure. But it's good to hear that we didn't say no, and we have

1 the reqs. Well just go work on the speech.

2 Q. And don't misunderstand that.

3 A. Okay.

4 Q. From the union's perspective I will say it's nice when we get

5 a communication like that where they say hey, good work at IAM and

6 were going to open this up to here.

7 A. Yeah, yeah. Good. Okay. Good. So, thank you.

8 Q. Do you -- going back to the number of inspections that were,

9 what's the word?

10 A. Put back in? Yeah, something.

11 Q. Yeah.

12 A. Reinstated, yeah.

13 Q. Reinstated, there you go. How long do you think it's going

14 to take to get us back to the appropriate level? And again I want

15 to qualify something. You talked about redundant inspections.

16 The thing I remember being pulled were putting pads next to the

17 airplane, there used to be a quality buyoff on it. Those are the

18 kind of things the original intent was was good.

19 A. Right.

20 Q. You don't need --

21 A. You can say fine. Right.

22 Q. Yeah.

23 A. Yep.

24 Q. So, putting that aside what's it going to take to get to that

25 last and final level -- not final level but better stayed with the

1 process to get better as we go on?

2 A. I guess I'll start by saying I think we're already at a much
3 better state than we were. And I think, I think this is a
4 continuous improvement thing, John. I think we are being as open
5 as possible to, I see it as possible, totally open.

6 We are being totally open to this feedback and I think, you
7 know, we've started things like the employee involvement teams. I
8 hope that you're on one. I don't know if yours has been stood up
9 yet or not but we are, we're not quite halfway through standing
10 them all up.

11 But we put this back in to give each team an hour a week to
12 kind of problem solve and come up with the things they need in
13 order to improve their quality or in order to their job better. I
14 think when suggestions come up from these teams and these teams
15 who are working on their own work and say we need, we need, we
16 should put an inspection back here.

17 And when the data shows it, and when we have defects and when
18 we, you know, whatever, and we go back and look, we're going to
19 balance that out and figure that out and with each one of these
20 corrective actions when we find that we need another inspection
21 we're going to keep putting them back in. So, how long will that
22 take? I think we'll probably have to stabilize at a higher rate
23 before we really know we have it right.

24 With each rate change the jobs change again. We go through a
25 little instability. So, I think it will be a couple of years to

1 really kind of get to that level where we're real stable with it
2 again.

3 Q. You mentioned something about with Troy's question about the
4 workforce and the union, and people coming in. You've been here
5 long enough to remember we used to have a blue streak king that
6 number is way down. But I don't know if you remember some of
7 those mechanics. I watched some of those guys do miraculous work
8 on airframes. Have you thought about expanding that group? I
9 mean we really don't have much of that anymore, that expertise.

10 A. Yes. And so blue streak's a term we used to use for kind of
11 people who could come in and do a emergent work on an aircraft
12 when something needed to be reworked. We now use a couple of
13 different groups. We use a group called AOG, which is our AOG
14 mechanics when they're not out that have also tremendous
15 experience to come in and rework various parts. We have a
16 structures group called SST.

17 Q. Super Super Tax.

18 A. Super Super Tax, right or --

19 Q. Strategic support team.

20 A. Strategic support team. See we all have a different name for
21 it, but SST which is a group that primarily does structures rework
22 when we need to pull from areas and we need rework. We have some
23 of those. Have we thought about expanding it? Yes. And we did
24 expand it when production rates went down and we pulled some
25 people over to that area but now the production rates have gone

1 back up, we've pulled some people back over.

2 So, yes, but it's certainly on the table and we're willing to
3 expand that as we go. And in fact having the right number of
4 highly skilled employees is a conversation that I had with John
5 Holden as well. I think we are aligned in our desire to make sure
6 that we have those right people to do that.

7 Q. Yeah. And they're just, like you said, those, I remember
8 those guys back in the day.

9 A. Yeah.

10 Q. Amazing the work they did.

11 A. Yeah.

12 Q. To the incident aircraft in the SAT the initial issue was the
13 five defective rivets that was identified at the beginning of
14 September and it was 1819 is when, this is the place I want to say
15 the word pressure.

16 It was almost the roll out position to go. There had been
17 multiple levels of management that had been asked the question
18 about is a removal required? To the best of my knowledge we have
19 not been able to identify specifically who did or did not do what.

20 There's been some accountability on two hourly people while
21 they're not losing any money have been basically, and we refer to
22 it as the penalty box. Is this something that you could look at
23 because it doesn't seem and the word I want to use is your just
24 culture. Can't we get to the point where we can actually have
25 that conversation and do the right thing?

1 A. I hope that's where we end up too. I don't have knowledge in
2 my current role. I'm going to assume they're not quality
3 employees because I don't, I'm not involved in it and so I'm not
4 necessarily involved in the personnel related aspects for anybody
5 who is not quality employee nor in this investigation but that's
6 something we can look for and I agree with you, I hope we get to
7 the point where it's a just culture as well.

8 Q. And because again there was so many level of managers that
9 I'm going to check and see if a removal anything. You don't see
10 the closure of that in that communication within the SAT system.
11 That really disturbs me.

12 A. Yeah.

13 Q. So, last thing, here's a softball one for you, we talked
14 about our seek, speak and listen. Use the experience you had
15 specifically with the one that myself and two other delivery
16 centers brought up, throw that out. I think that was a success.

17 A. Yeah.

18 Q. It's kind of dwindled down but take -- go with that.

19 A. Yeah. So, I think it was shortly after I had gotten my job
20 as the airplane programs leader. I don't think I had been there
21 very long. And this is an example.

22 And I think it was John himself who originally approached
23 Stan Deal who was our CEO at the time and said, we have some
24 concerns with the way the delivery center ticketing process is
25 running, the way the operational pressures are coming into it, how

1 we're doing work. So, we kicked off a team and it was myself, and
2 I brought in some of our leaders, the leader at the Seattle
3 delivery center was Katie Ringgold, who I think you may meet
4 later. She now leads the program. But she was leading the
5 Seattle Delivery Center.

6 We brought in the Everett delivery center, the Charleston
7 delivery center, the leaders, the quality leader Carole Murray
8 came in and we met with John and some of his counterparts from the
9 other delivery centers and we started by sharing data. We
10 listened to John and his team's concerns about the ticketing
11 process, our interface with the FAA, whether we were submitting an
12 airplane before it was really ready, whether there was too much
13 time pressure, how we're managing it.

14 We listened to the suggestions of the team. When our cut off
15 should be. Cut off point, you know, there were a lot of details
16 about the way the FAA tickets our airplanes today but we have to
17 present it to them by a certain time in the morning, then they do
18 document reviews and things and they have to have time to go walk
19 the airplane so that they can, you know, accomplish it generally
20 one first shift because that's a one shift operation.

21 And the team brought to us concerns about really making sure
22 that the work was done before we told the FAA we were ready to
23 walk it, and to present it to them. And we went through a process
24 of deciding how we make that decision and who gets to vote and
25 making sure that the quality team had a strong vote in that and

1 we'd get to say every day, yes, we're going to be ready.

2 No we're not, we concur with this and what time of the day we
3 needed to have our wrenches down and much of this was suggestions
4 by John and his counterparts from the programs about ways to make
5 sure that we were putting quality first and that we had a robust
6 process and we weren't letting operational pressures get in the
7 way.

8 And we met maybe once a month or I don't know what it was,
9 but every so often to talk about how that was going and we looked
10 at some data to make sure that we were listening and making those
11 improvements really on behalf of quality. So, did I miss anything
12 there, John, or is that --

13 Q. No. And kind of --

14 A. -- a rough summary?

15 Q. -- where are we? Yeah. That was great because I think the
16 big thing was and you alluded to it was quality had the final say.

17 A. That's right.

18 Q. And the question I remember very specifically, the question
19 you asked was, if I may quote, who by name are the people at the
20 three delivery centers? We actually gave you those three names
21 that has somewhat petered down where it's not as prevalent right
22 now. So, I'm hoping we'll get back to that.

23 A. Okay. Good.

24 Q. Was that a from a seek, speak and listen and let's must be
25 honest from an hourly person who sent an email to Stan Deal in

1 the, you know, late evening hours and they get to be able to do
2 that I thought was pretty cool. Did, was that a huge success
3 amongst you, your seniors and your peers?

4 A. A huge success, absolutely. It's a huge success because you
5 guys, the folks on the frontline raised their hand and said, I
6 have this concern. So, we said, great. Let's listen to it. What
7 do you think? How about this?

8 We'll make sure that, you know, we do this, this and this.
9 Yep. And then we'll get back together and we'll see how it's
10 working. Is this working, is this working? That's the way it
11 should work. It's the way it should work, at least in my mind.
12 Was it viewed as a success in your mind?

13 Q. I think it was because our big issue was, we wanted to see
14 that we're ready. But we proved that we could ticket five, and
15 six, and seven airplanes in a day if they were ready.

16 A. You sure did.

17 Q. We did.

18 A. Yep.

19 Q. And it wasn't just, you know, it was Charleston, it was
20 Everett and I remember sitting down in Charleston and the three of
21 us sitting there just banging our heads and I finally -- because
22 Charleston, you know, they plastic airplanes. We make baby
23 airplanes, they make big airplanes.

24 And I remember the conversation. I said, you know what, they
25 all look the same. They all got, they're round, they all got two

1 engines. They both got two wings, horizontal stab, vertical fit.
2 Once we got past that it was, it was pretty good. So, I hope to
3 see more of that. It was cool to be a part of. See more of that.

4 A. Me too. Cool. Thank you.

5 MR. PETRUZZELLI: Round one. Dan?

6 MR. MARCOTTE: Thank you. Let me get back to my section
7 there. Okay.

8 BY MR. MARCOTTE:

9 Q. So, I'm really interested on how stuff is getting down to the
10 floor, you know the communications, the messaging and I think it
11 will impact, over time it should impact just the culture. So, it
12 just becomes ingrained into what people do. So, you know, as you
13 were saying you already had a lot of messaging techniques to get
14 stuff from leadership to the floor.

15 And in past interviews people inferred heard that it might
16 not be very efficient, you know, and you said, you don't, your
17 messages don't always get down as you intend, right?

18 A. I know.

19 Q. So, kind of two things and you kind of touched some of it,
20 you know, how you're going to change that but also what's changing
21 in the content of the, you know, what's, you know, that's and, you
22 know, and how are you going to do it? You know whether it's the
23 manager talking points, what's the message and what are you really
24 trying to constantly reinforce that make a cultural change?

25 A. Great questions. And I'll hit a few thoughts off the top of

1 my head and because they're fresh on my mind they're probably
2 things we're still working on, not that we have done so I'll
3 caveat it with that. But culturally we've done some work on
4 laying out the attributes that we think are weak safety culture
5 and the attributes we think are a strong safety culture.

6 So, we want to continually reinforce these attributes of a
7 strong safety culture. One of them we talked about already which
8 is this, yes, there may be operational pressure but we would never
9 make a trade for safety or quality for an operational pressure.
10 It's always safety and quality come first.

11 One is the messaging on which we're really working on giving
12 about not having this culture that tolerates a deviation but
13 having this culture that really values compliance, compliance to
14 the process and discipline. We really want to give the message
15 when it comes to SMS at a simple level to employees. We're going
16 to do a whole bunch of things to try to improve the system and
17 help them.

18 But at a simple level what we need them to do is to follow
19 the process and be compliant and raise your hand if you have a
20 question or if you can't, or if you have anything that's not quite
21 right. So, you now raise your hand and we'll cover the rest. We
22 don't want a culture where employees just show up. We want a
23 culture where they free to speak up and that we want to continue
24 to reinforce that there won't be retaliation. We have an
25 antiretaliation process.

1 The speak up process has protections in it. We have the ERC
2 process now with the IAM and the FAA to try party talks, it's kind
3 of like an ASAP process with our speak up process and there's
4 protections in there. So, we need a lot of messaging around why
5 you should feel safe speaking up, that it's a safe environment,
6 that there's anonymous. You can do it anonymously. We have all
7 heard from people, oh, I'm not sure it's ever really anonymous.

8 We really want to reinforce number 1, I think it really is
9 anonymous. And number 2, if you're really worried about that you
10 can still, you know, report through some other venue. It's okay.
11 But you've just got to speak up so we will really know that
12 there's a problem. So, we really just want to continue to
13 reinforce not only the data itself but sort of these cultural
14 elements that are super important to us.

15 The just culture elements, we mentioned that a minute ago.
16 That we don't want to focus on who did it. We want to focus on
17 what happened in our process and how did this happen? And really
18 work just a culture and continue to focus on that. So, you know,
19 talk about the elements of the safety management system, the
20 reporting culture, the just culture, the learning culture. We're
21 going to learn from all of this. We're going to continue to get
22 better.

23 And so those are all the kinds of messages culturally and
24 there's a lot there so we'll simplify it and we'll make sure we're
25 hitting it in the right way, but that's where we really want to

1 go.

2 Q. Cool. You know in recognizing, you know, a culture change,
3 it's a long process.

4 A. It is.

5 Q. Right. It's --

6 A. It is.

7 Q. It's a long process. Personally, you know, we saw a lot of
8 success I feel with the go for zero, and a lot of that comes of
9 culture. Right? And I think one of the big successes for go for
10 zero was we made people feel comfortable. We encouraged them and
11 made them feel comfortable to call out their peers.

12 You know, their peers are anybody else they see saying, you
13 know, basically that's a mistake. You know, think about what
14 you're doing. Is any of the communication around the safety
15 culture going to be around getting people to feel confident or
16 comfortable to go to their peers or anybody else saying, you know,
17 you're not -- I don't think you're working a process, you know.

18 You're just not doing the job right. Now is that, is that
19 going to be, is that -- is there any thoughts on that in changing
20 the culture?

21 A. So, yes. And I love your analogy that the go for zero and I
22 share that. So, yes, we made it comfortable for people and we
23 stuck with it the same thing for a long time, which I think is key
24 to a culture change too. You know, this month we can't say this
25 and then that month we say that. Right?

1 Go for zero started in 2013 and then it was ten years of
2 consistency. And then we asked the woman who was the vice
3 president of environmental health and safety named Amy May at the
4 corporate level to come and lead our engagement swim lane. She's
5 the one who helped us put together the quality standdown. She's
6 helping us to put together the employee involvement team. She's
7 helping us put together our leadership training.

8 And we've also added some of the safety management system
9 training in there to work on all of these same kinds of things
10 because she started at the beginning of go for zero. And she was
11 one of the early architects that really helped us roll that out so
12 we brought her in to say help us learn from that and how can we
13 take these same things as we go forward here.

14 And so in our big comprehensive plan we have these seven swim
15 lanes and she's the swim lane owner of the employee engagement and
16 in how we really get our employees involved and she's helping us
17 through all of that and we're trying to pull some of those Sun
18 tactics in so we're still very much in the middle of evolving
19 this, working with the safety management system team who also
20 rolls that out to kind of put this all in place but it's
21 absolutely our thought, I'm with you.

22 That psychological personal safety, we have to be able to
23 tell each other, you have to feel free to report and speak up,
24 that's so key. So, we --

25 Q. Yeah. And you have --

1 A. -- working on it.

2 Q. I think you have to get people more comfortable in accepting
3 it too when somebody says you're not working safety, or you're not
4 working --

5 A. I know. I know. And it's hard.

6 Q. Yeah.

7 A. It's hard.

8 Q. And that's the thing that takes so long, it's the culture.
9 Right?

10 A. It is the culture. And I think the more we help people
11 understand that noncompliance and nonconformance can result in a
12 product safety issue, the easier it is to have that conversation.
13 So, you're not just picking on them because you don't like the
14 quality of the work.

15 You're picking on them because it's integral to this product
16 safety conversation and that's why safety management system is so
17 important. But we've got to really make that connection for
18 everybody so they can be a little more open to it.

19 Q. And you reminded me of something, you know when you had
20 the -- and I can't find it in my notes but reinforcing with
21 people, the new hires in training that if you're doing a job have
22 the paper and if you're removing something from an airplane, get a
23 removal initiated. It reminded me of something.

24 So, my background it was a long time ago I hired in there a
25 little bit before you did but before that I was an airline

1 mechanic and my first night in the hangar, you're with your lead
2 and his first thing he told me as we're walking around looking at
3 airplanes if you every take anything off an airplane write it down
4 someplace.

5 And also that if you're doing a job make sure you have the
6 right paper. And then when you're first starting with senior
7 guys, they're like, you always write something down, you know.

8 A. Yep.

9 Q. Are you putting anything in place with, to get the leads and
10 the senior guys to help reinforce with the new hires so it's not
11 just a training message but it's something they hear again and
12 again from people who are supposed to be helping them get off on
13 the right foot?

14 A. That's a good question. We put the peer mentors in place so
15 they'll have a dedicated person to go to. But I'm going to take a
16 note of that. It's a really good point in terms of really
17 training those peer mentors and the more experienced people on
18 really reinforcing that, kind of giving them the checklist of
19 things that would really help if they would reinforce it as well.
20 So, let me make a note of that. I love that. I love that so
21 thank you.

22 MR. MARCOTTE: All right. That's it for me on round 1.
23 Thank you.

24 DR. WOODS: Hoping over to Mike.

25 BY MR. RINEY:

1 Q. All right.

2 A. Hi Mike.

3 Q. Good morning. Thank you for taking the time. Earlier you
4 discussed the, and it really seemed to focus on the mechanic
5 portion of the assessment. And what things that they needed to be
6 proficient in. What assessments do you see for the quality
7 inspectors?

8 A. No. So, good. So, thank you. That was another thing that I
9 thought about that I needed to go back and just reinforce a little
10 bit because I talked about the brand-new people and I wanted to
11 talk about this too.

12 We do the assessments for our brand-new employees, mechanics
13 and quality and I will be come back and answer specifically what I
14 see for quality. But the other thing we did is we took all
15 mechanics who had been here less than one year and all inspectors
16 who had been here less than two years and we also did some of
17 these same assessment with them.

18 We did the assessment to make sure they could pull the
19 drawings, to make sure that they could pull the specifications,
20 that they understood that they could really do all the process
21 aspects. And so I just wanted to throw that in there that we did
22 it for mechanics with less than one year experience and inspectors
23 less than two years' experience to cover it broadly as well. And
24 so for inspectors we start with some of the foundational elements
25 that we do in our assessments. But it's even more important.

1 We assess our inspectors on some of our processes as well.
2 Do they understand the processes? Can they hold the processes?
3 Can they tell, make sure that someone's following the processes?
4 Another thing I was thinking that I probably wasn't thinking clear
5 enough earlier was our PROS and policies and BPIs start with the
6 quality manual and so as we kind of, you know, tree down from our
7 quality manual, we start with the discussion quality manual with
8 our inspectors.

9 And then we really look at their ability to look at
10 compliance items, process items, to do the inspection of the job.
11 We train them on things like finding a three point inspection
12 which we really do more than the mechanics which allows them to
13 write a tag.

14 We try them on how you write a good tag, what's on a tag, how
15 that process works at writing the tag. The three point inspection
16 is required on a tag. It's the point in space where you find on
17 an airplane where a defect which it typically is on tag where the
18 defect is created and it does take some training.

19 We have a new vehicle in there that we train them on now in
20 terms of how you actually calculate and find that three point
21 inspection so someone would know where it is. So, we have, we
22 take most of the same assessments that you have for a mechanic and
23 we add to it the things that are a little bit more specialty
24 focused around the quality inspector.

25 Q. Is the training typically longer for a quality inspector?

1 A. It is, it is typically longer for a quality individual. It's
2 more comprehensive. What I will say is if you have somebody
3 coming in from the outside without much area space experience it
4 is longer for a quality individual.

5 Our preferred state is what John was mentioning and I think
6 the mechanics prefer it and the quality inspectors as well which
7 is what we really love I when you get a very experienced mechanic
8 who has done this for a long time but chooses to come to quality
9 because at that point, we can really focus our training on the
10 quality aspects that perhaps they haven't been trained in.

11 But they know how to build. They know that process. The
12 know much of these other, and so that that point the training's
13 not necessarily more correct. So, it depends on the background
14 and the basis for which they come. If we get -- I did a seek,
15 speak, and listen the other day on the third shift of the Seattle
16 Delivery Center and we had a couple of new employees,

17 But both of them had come from the military and they had been
18 aircraft quality inspectors in the military. And so that's, you
19 train them on different things but they come with a good
20 foundation as well. So, it really depends let's say on the basis
21 but if they come kind of brand-new it absolutely is longer for a
22 quality inspector than a mechanic.

23 Q. You also touched on the final product acceptance that's
24 occurring in Wichita. And how would you describe now three or
25 four month into it the quality of the fuselages that are coming in

1 today?

2 A. The quality of the fuselages that are coming in today I
3 believe are higher quality than those before we went back to final
4 verification back to Wichita.

5 Q. Have you received any feedback from the Boeing teammates or
6 airline customers?

7 A. Yes. I'm not quoting percentages because our data can be cut
8 many ways and it's very confusing as I'm sure you have seen. And
9 so but what I will say that I have clear data on is the clean
10 fuselages are flowing through our factory in less flow time than
11 the ones before and so that's data that's really now confusing.
12 That basically says, and we're not traveling the defects.

13 So, we have the process in place that says, you know, we'll
14 rework the defects, we're not covering them up, we're not
15 traveling as many and our flow time is down considerably than it
16 was before. And so I have feedback both from the mechanics and
17 the leadership as well on the improvements to be able to build.

18 Q. Great. And my last question because you did speak about it a
19 few times on the employee engagement, to keep that momentum is
20 there, especially with the team members that are funneling up the
21 requests is there a tracking mechanism that states, you know, how
22 long it takes to close something if it's taken on as a project?

23 A. Good question. So, we track speak ups to closure and how
24 long it takes to close those and we watch them and we track them
25 and I manage those. One of my other weekly meetings we have right

1 now is a meeting, an SMS meeting where we track all of the speak
2 ups and the SRMs that our organization owns,

3 And so I have that outside even the build reviews and the
4 build board happens every week as well. But in terms of employee
5 involvement projects themselves we don't have a tracking mechanism
6 itself. We have encouraged the team to take on projects that can
7 be solved in less than a month. And so we've asked them to that
8 and then we've also started to incorporate a simple little
9 feedback mechanism that's starting to work.

10 I call it the bathroom feed, the airline, the airport
11 bathroom mechanism, which is, you know, when you go to the airport
12 bathrooms and there's like the five smiley faces in terms of how
13 was your bathroom experience you just click one.

14 And we're trying to incorporate something like that from the
15 EI teams because the EI teams on a given program have their
16 meetings on the same day and the same time every week. And what
17 we want to do is take those that have the frowny face and send the
18 leaders out to those teams so they can see what's going on and
19 they can help them so we're trying to keep it simple like that.

20 At some point we may go back to tracking the projects but
21 right now they have a way they can elevate and go get help if
22 that's what we're trying to get them to do.

23 MR. RINEY: Okay. That's all I've got. Okay. Thank you.

24 MS. LUND: Okay. Thank you.

25 DR. WOODS: Nils?

1 BY MR. JOHNSON:

2 Q. All right. You previously spoke of hiring personnel that are
3 probably less skilled or experience. I don't know what the right
4 word is. Have the, has previous skill experience and/or
5 qualifications been reduced to allow the hiring of less skilled
6 people or it is the same qualifications, it's just you had more
7 qualified applicants?

8 A. Yes.

9 Q. How does that work?

10 A. We didn't lower our qualifications or our skills. We have
11 always had some number of people come in, high school graduates
12 from example and we have a program called core plus that we work
13 with the high schools which is really great so we can get people
14 who come in right out of high school that have an aptitude and so
15 they're not, they don't have the right space.

16 So, we've always allowed for that but I think what changed is
17 just the number of higher skilled applicant's that were beyond the
18 minimum so the quantity of people with lower skill is really what
19 went up. It's not that we changed our requirements. It's just
20 that we had fewer of the higher skill and more of the lower
21 skilled.

22 Q. Okay. We've been told that processes different by location
23 and that's kind of confusing to me. To me if you come up with a
24 best process it should work regardless of as you grab for
25 locations. So, why are, why is it acceptable I guess as a user

1 quality person, I'm a former quality person by the way. So, why
2 is it acceptable to allow for different processes strictly based
3 on locations?

4 A. We should not have different processes strictly based on the
5 location. If there's a reason for it, you have, as we stated
6 earlier, the airplanes are somewhat different. So, if you have,
7 you know, an all-electric airplanes are somewhat different.

8 So, if you have, you know, an all electric airplane versus
9 one that has well whatever else, a composite airplane
10 versus -- that will drive a different process versus a medical
11 airplane. But purely based on location it shouldn't. It is one
12 of the tasks of myself and the people in our jobs so I'll call
13 myself is the all model quality leader or you'll later meet I
14 believe with Kim Pastega.

15 She's the all model manufacturing leader or Mike Flemming,
16 who's the all model airplane program leader. It is our job to
17 drive to consistent processes. Are we there 100 percent? No.
18 But are we driving hard? Yes, we are. We do not want different
19 processes by location.

20 Q. How are safety findings and corrective actions shared with
21 Boeing leaders? At what level of leadership is briefed and at
22 what frequency?

23 A. Could you repeat that one more time?

24 Q. How are safety findings and corrective actions shared with
25 Boeing leadership, at what level of leadership is briefed and at

1 what frequency?

2 A. So, safety findings and actions, we have several venues for
3 that but the primary one it of course trees down. Safety findings
4 can come from -- we've got many of them come from the engineering
5 ranks, some of them come from the fleet, some come introduction.
6 Where it all comes together at least at my level and the meeting I
7 attend.

8 We have a weekly safety management system board for the
9 business unit. It's chaired by Stephanie Pope. There are usually
10 60, 70, 80 people either between in the room and online. The FAA
11 typically attends this meeting. And the safety management system
12 it has a little bit of a rotation in terms of what items are
13 talking at which point.

14 But we basically talk all safety items at that point. And
15 the engineering has a recurring issue that they have very
16 significant safety issues. Let's say a design issue or something
17 going on the fleet that will be briefed almost every week.

18 But otherwise we look at our safety management system
19 controls, we look at any given controls. That we're looking at
20 nominals, we look at any recent events, we look at any findings,
21 we look at any FAA correspondence related to safety, or things
22 that we have been decided that are safety related through the
23 various aspects of our production system, so that's the primary
24 forum today.

25 Now if you break off of that we have safety review board on

1 each program and out of productions so any time an issue comes up
2 be it a manufacturing issue or an engineering issue it'll run
3 through that board. That's chaired by our chief project engineer
4 who makes a determination of safety. That's where a safety
5 determination comes from and then it flows back and then will flow
6 up to that meeting.

7 And then ultimately, we again brief those results at the
8 aerospace safety committee, which meets six times a year at the
9 board of directors.

10 Q. Okay. How is participation in Boeing's speak up program? Is
11 the participation rate tracked and reported out to leadership and
12 what level of leadership is briefed and at what frequency?

13 A. We review speak ups in some venue at least once a week with
14 Stephanie, the safety management system meeting that I just
15 mentioned also briefs it. I watch it very regularly. We have it
16 as one of our effectiveness measures on our comprehensive safety
17 and quality plan for the safety management system and engagement.

18 We've set a target that we would like it to increase month
19 over month. We do track the numbers. The first quarter this year
20 to first quarter last year, significantly up. I want to say
21 fourfold or fivefold and the key now is to keep it up. Since the
22 stand downs and the accident really drove it and it's come down
23 ever so slightly since then.

24 I'm waiting to see this last quarter which just ended the end
25 of June numbers. But I take it every month. There's been a very

1 slight gradual take down but we use three different systems to
2 really get our total picture. Employee reporting for our personal
3 safety is done through sheers, and enable-ons and systems like
4 that where we see that.

5 We then look at ethics reports. Many of our employees still
6 report any concern they have through ethics and that's okay and
7 we're all right by that. So, ethics reports are up significantly
8 as well.

9 And then there's speak up reports that are up significantly
10 and we track kind of all of those together on a monthly basis is
11 where I actually see the data and Stephanie Pope again our CEO
12 reports that out to the board in her briefing at least once a
13 quarter. They are all watching the quantity of the speak up
14 reports as we go.

15 Q. Okay. How receptive is leadership to suggestions from line
16 mechanics or leads?

17 A. I think really, I think really receptive. I think the
18 majority of this comprehensive safety and quality plan came from
19 mechanics and the leads and the inspectors if you will, the hourly
20 employees, the people on the floor. The training improvements
21 came from -- well I think across the board.

22 The training improvements came from them. The fact that they
23 basically said we have this problem with traveled work. We need a
24 better management system for traveled work. The processes are too
25 complex. The installation are too complex.

1 These are all the feedback that we received from the floor
2 that really became the foundation of these changes that we're
3 making.

4 Q. Okay. What level of leadership is briefed on FAA audit
5 findings?

6 A. The board of directors, myself, Stephanie Pope, the chief
7 aerospace safety officer of our company is now through our
8 internal audit. We moved over so they're autonomous and they have
9 complete independence.

10 So, FAA findings are briefed to Mike Delaney, who's our chief
11 aerospace safety officer. They are briefed to myself. They are
12 briefed to the board of directors in the aerospace safety
13 committee. Again we give them audit findings.

14 Every time we give an audit and we keep them now updated on
15 how we're doing in the FAA audit and then we brief Stephanie as
16 well.

17 Q. Have you ever seek an MED plug opened, closed, and safetied
18 on the MAX?

19 A. Yes.

20 Q. What did you think of it?

21 A. In complete transparency not until after the accident did, I
22 have any idea how critical those four pins were, I think was
23 probably my first takeaway. I now know. I think we all now know
24 but at the time it just didn't occur to me that that's the,
25 specially the other ones but that's the key to everything.

1 I think that wasn't as clear as I would have -- it wasn't
2 inherent to me I mean from my background. I don't know if it was
3 to you but that was my thought.

4 Q. A couple of questions on removals. I've reviewed a lot of
5 removals by the way. I'll give you a little bit of feedback first
6 and then I've got a couple of questions for you. The first thing
7 is that I saw a lot of inconsistency in the ones that I reviewed.

8 The second thing is that there was a lot of emphasis on all
9 the don't fall down, don't hit your head on this, don't do that
10 and the installation was a one liner. It just said, installed per
11 drawing. I come from the the other side of the world with
12 maintenance and we would have focused everything on bolts, put the
13 damn bolts back in kind of thing.

14 A. Yes, exactly.

15 Q. And not so much on the don't hit your head on, you know,
16 everything you walk underneath. I get the warnings and cautions
17 but I saw 99 lines of warnings and cautions and I saw a one-liner
18 for reinstalling.

19 It just kind of took me by surprise so I'll just give you
20 that feedback. How is Boeing insuring that the removals are
21 properly documented today? So, how is, that is Boeing doing now
22 to ensure that removals are properly documented?

23 A. We are -- again we have reiterated the training. We have
24 control, we've asked our employees as I mentioned earlier to pass
25 the training showing that you actually know how to document them,

1 can do the work, past that training and those are the people who
2 now write the removals so it's a more controlled group instead of
3 this broad group that aren't as well trained.

4 And we have our internal audit group going around and looking
5 at them. And in the very near future we are piloting, we are
6 starting as I said some data analytics and some tracking to be
7 able to look at them to see if we see problems areas or something
8 like that, kind of as a scan electronically to help us see them as
9 well.

10 I take your feedback about the consistency though and I do
11 know that it's on our list to work on but I will write that down
12 as well. So, thank you.

13 Q. Okay. You actually answered my next question, which was how
14 do we ensure that there are approvals written to the highest
15 standard and you just answered that so I won't ask it again. How
16 has traveled work at Renton changed since the accident?

17 A. Traveled work as measured by travelers at roll out. When the
18 airplane leaving the factory has reduced significantly. We are
19 under a red control band now as we are watching it but I think
20 more importantly and encouragingly we are running a process that
21 we're in the process of rolling out.

22 We now have it rolled out flow day 1 through 7 in the
23 factory. The factory runs through flow day 10, so we have another
24 three flow days to go but we're about 70 percent complete. We're
25 are changing the way we managed traveled work. And we are using a

1 quick and easy SRA so that when it leaves a position -- we use
2 flow day 3 a lot because that's when it leaves the tool.

3 This is the one where we ran our pilot and we've taken it
4 around but it doesn't matter. It's the same for any of them. We
5 list -- we get together and we decide what are the critical jobs
6 that need to be done in disposition. And then we then create a
7 document I will equate it to something like an MEL and it says
8 this job can travel one day, this job can travel two days, this
9 job is dispatch critical and you never want to dispatch without
10 this job done.

11 So, we list our critical jobs that need to be done. We
12 publish them and we put them on big banners out in the area so
13 that the employees can all see and know them and then every
14 afternoon the team gets together for any job that looks like it
15 might travel and they bounce it off the critical statement of
16 work.

17 And if it will travel, they then can either pull from kind of
18 this previous SRA or they ask themselves can I do it safely? Do I
19 have a crew lined up to do it? How long can it travel before it
20 gets covered up because that's what we don't want to do and we
21 create a list. This can travel for one day.

22 This has two jobs open, it can travel for two days. And we
23 decide whether it moves or doesn't move. And I will say about,
24 well I don't know -- over half maybe are now ready move. It's
25 certainly not everything. We hold airplanes on a frequent basis

1 and that's honestly why we've started up the third line so that we
2 have a place so that if one airplane gets held in this line,
3 something else that's ready to move can go to the other line.

4 And we're balancing these lines for a buffer so that we don't
5 move the parts using this safety analysis before they're ready to
6 move. And that's drastically changing the way we're managing
7 traveled work and it's having really positive results. And it's
8 being well received from the guys on the floor.

9 Q. I don't really know how to ask this but so the SAT was
10 talking about elevating from a tier 2 to a tier 3 to get this door
11 plug rework -- sorry the rivets rework accomplished on 8789.
12 There were tier meetings that were held. You kind of gave that
13 answer as the tier meetings should solve this.

14 In 8789's case it didn't solve it. Because you gave the
15 answer that that's kind of how you expect to solve it, I'm trying
16 to understand what it is you think didn't happen in 8789's
17 instance where a tier meeting was held but the right outcome
18 wasn't produced? Does that make sense?

19 A. Yeah. I think -- I'll say a couple of things, the tier
20 meeting did not provide the desired results. So, we're enhancing
21 the tiered meeting. It didn't get elevated to the level where we
22 could have gotten it take care of. It needed, it needed higher
23 level intervention sooner. It just did. And that's the purpose
24 of the tier meeting and it didn't work effectively and so we're
25 enhancing that. We're making sure that it works.

1 Secondly though I will say going forward I think this would
2 be elevated with that new traveled work process I just mentioned
3 to you because in this new traveled work process that would have
4 gotten covered up or it would have held jobs and it wouldn't have
5 been able to travel and at that point it would have said no, you
6 said I could travel to flow day 4 but I couldn't move past flow
7 day 4 and it would have been held and that airplane wouldn't have
8 moved because it would have been held.

9 That's part of why we really like that process because it
10 would have been identified as a job that's going to get covered up
11 as you continue and it would have held and that will get people's
12 attention.

13 Q. Okay. The last one for me this round. Does Boeing have a
14 policy that allows for these -- this is going back to John's
15 question where we have reports of multiple employees being
16 isolated. Does Boeing have a policy that allows for the isolation
17 for an employee during an investigation while on company premises?

18 A. I don't know the answer to that question.

19 MR. JOHNSON: Okay. Thank you.

20 MS. LUND: Thank you.

21 DR. WOODS: Okay. That was long. That was round 1. And we
22 are at the three hour mark. So, first I want to confirm if you
23 are okay to continue?

24 MS. LUND: Can I just check my schedule? I didn't even bring
25 my phones in here because I didn't want to be distracted.

1 DR. WOODS: And then the next thing would be if we need to
2 take a break. But then let's do that please. Let's go on and
3 take a break.

4 MS. LUND: Okay.

5 DR. WOODS: We are going to off records at 11:51 a.m. PT.

6 (Off the record at 11:51 a.m., PT)

7 (On the record at 12:03 p.m., PT)

8 DR. WOODS: This is part two of two recordings. We're back
9 on the record at 12:03. It's July 9th, 2024.

10 BY DR. WOODS:

11 Q. So, Elizabeth, to continue with the second round, the line of
12 questioning, I kind of want to talk about where your QMS and your
13 voluntary SMS merge.

14 But before that I read through the QMS manual and well,
15 there's a section on escapes which is essentially what I would, I
16 would consider this event is to have been an escape that got
17 through. It largely refers to escapes being a product of
18 manufacturing or engineering defects.

19 But what I want to know is, how does Boeing classify quality
20 control for discrepancies that are the result of human error?

21 A. I believe when we categorize something as a nonconformance or
22 a defect or an escape, we don't care what the cause is at the
23 definition. It was an escape. And then when I think when we have
24 an escape and we go back to do our root cause at our improvement
25 activity that's when we determine what the cause, the root cause

1 was of the defect or the escape and human error would be a
2 potential cause.

3 But I don't -- even in human error, we talked about this
4 earlier, we are working hard as we really work to embody SMS not
5 to just stop and say, human error, but to say why did we have this
6 human error?

7 Was it unclear documentation, was it confusing, was it the
8 environment? What other things went on? A question came, I think
9 it was Troy, I'm not sure, who said you know is the process you
10 want people to use just so complex?

11 So, I think that's the -- I don't know. But I will only say
12 whether it's human error or not, it's still an escape. We still
13 do root cause, and we are trying to dive deep enough into issues
14 to make sure that we understand all of the contributing factors
15 that we can fix then when we have them.

16 Q. And then going back to the BPI processes as a whole, I mean,
17 we discussed that the removal process specifically might not be as
18 clear and cohesive as we would like, but that's just one of many
19 BPIs that are out there. So, overall, how often does Boeing
20 review your BPIs to ensure that coherency and clarity?

21 A. We review them but we typically in the past have reviewed
22 them for a deficiency. And our response to many issues has been
23 let's add this to the BPI. Let's make sure this is clear. Let's
24 add this line to the BPI. Let's add that line to the BPI.

25 And what we have ended up with is through 50-60 years for

1 some of these, a complex set of requirements who have overlaps and
2 it's confusing. And one of the elements of this comprehensive
3 safety and quality plan that we are undertaking is to step back
4 and take what is now turned out to be a thousand pieces of command
5 media, writings, BPIs, PROs, D6 documents, and simplify them and
6 change really our whole process.

7 Change the numbering, change the architecture, and really
8 get, you know, intent, you know, include our quality manual,
9 intent at the top level and then you get to the how -- the what
10 and then the how, and we're really going to go back and clean this
11 up.

12 We think it will take us probably two and a half years-ish,
13 but this is a part of our commitment to the FAA to walk through
14 that. The FAA will be a part of our team. They're on our
15 advisory committee. They may be in the actual Board.

16 We're doing a great deal of benchmarking across not only
17 aerospace but other industries to really go back and try to take
18 some of the complexity out of this that's really been generated
19 from many years of add, add, add that's really ended up in a
20 complex command media structure.

21 So, we've started on that. We've had our first several
22 workshops. We have our teams formed. You can imagine it's deep.
23 We have a leader who's really doing a great job at starting it for
24 us.

25 Q. For my own curiosity as a human performance specialist is

1 there anyone on this team whose subject matter expertise is in how
2 adults absorb information?

3 A. That is a really fabulous question, and I don't know the
4 answer to that. But I'm going to write it down and go find out.
5 That's a great question.

6 Q. Because I recognize you have internal individuals and you
7 have the regulator, but I'm just wondering has Boeing ever
8 considered having maybe an independent subject matter expert who's
9 knowledgeable in how to establish policies, training programs all
10 built on how adults learn, think, read, and absorb information?
11 That was one of my, --

12 A. That's great thank you --

13 Q. -- curious questions. Anyways, moving back to what is in
14 place, at what point does Boeing's QMS interface with this
15 voluntary SMS?

16 A. We are working on, I will say, fully integrating them. We're
17 in the process today. Today we take recurring issues, we take
18 process changes, we take new processes or procedures and we roll
19 them into the risk register, we do SRMs, SRAs. I had mentioned
20 our rate readiness process, et cetera. And so, when we find
21 items, compliance type items, the things that we are working on
22 here, we have rolled those into our SRM.

23 So, in terms of our recurring quality or compliance items
24 that we're working on, we're working on significant changes to our
25 tool control process, to our work in process, to our FOD control,

1 and we take these, and our removals, of course, we take these and
2 we are rolling them into the risk register.

3 Where we are starting and leaning towards is also getting
4 much more proactive with our quality trends as we see them start
5 to trend in our data analytics. We're starting with our existing
6 data. Within a month or so, I think we'll have our first kind of
7 data out of that that we can start to pull up and start to look to
8 see if we have trends in certain items that we also need to put on
9 the risk register.

10 We're not quite there from a data analytic standpoint. We're
11 there for a mentality, I see speak ups on this, I see compliance
12 findings, I'm watching the data, this looks like it's recurring.
13 We've really got to go do something. But we're not really there
14 from a data analytics standpoint.

15 So, within the next month or so I think, we'll take our
16 quality data book, compliance and conformance and start to figure
17 out how to roll that into, from a data analytic standpoint, test
18 that and then start to roll that into the SMS as well.

19 We spent a great deal of time with Alaska. They've been
20 incredibly generous with us, helping us benchmark the safety
21 management system and we've gotten our data analytics team in
22 several meetings with the Alaska data analytics team really trying
23 to learn some best practices about how we really pull those
24 nuggets out in and how Alaska's been able to do it.

25 So, we're learning from that and we're going to start that

1 here in a few more weeks.

2 Q. You arguably are the head of what I'm going to call the
3 Boeing quality team. Is there an equivalent for you for the
4 safety management system side?

5 A. Yes. There is a leader of our safety management system. Her
6 name is Lacey Pittman, and she runs an organization whose job it
7 is to develop the policy and deploy the safety management system
8 and kind of watch the architecture of this system across the
9 enterprise, the deployment and the running of the system.

10 I think at some point your team may have interviewed Paul
11 Wright. Paul Wright is our SMS leader for BCA. He reports to
12 Lacey.

13 Q. So, then going down from you for those direct lines, at what
14 level does your quality team interface and collaborate with the
15 SMS leadership team equivalents?

16 A. At several levels. Paul has several people on his team
17 helping us work things. The quality executive team, we all
18 interface with them on speak ups, because the speak ups run
19 through that organization. So, when a speak up comes in it's
20 assigned usually an executive leader and then an investigator and
21 we run this process until we -- and their team reaches out if
22 you're not sure how to do it or works on the process and makes
23 sure you have the data that you need and that you're proceeding.

24 So we all work on that. They have people who help us through
25 any of the SRAs and SRMs, so they reach out to help us through

1 that. They, if you have an item that you want to put on the risk
2 register you go to them or they are with us a lot.

3 Paul is one of the -- a couple of the co-swim lane leaders in
4 our 90-day plan, he's with us, he's with the BCA leadership team
5 meetings and he frequently will say, let's think about that. This
6 may be something we ought to think about for an SRM or an SRA, or
7 how about this, or this looks like a new process or a new
8 procedure, let's remember.

9 And so, he's also there training us and helping us remember.
10 And then his team, he has different people who come to different
11 levels of the teams, and he has some people that come to some of
12 my quality team meetings as well and sort of play that same roll
13 for us. And so that's kind of the way it works today.

14 Q. Are there any triggers out there in either domain, quality or
15 the SMS side, are there any specific triggers that automatically
16 initiate, this has to go up the chain through leadership, this has
17 to become an SRA, that you are aware of? I'm just trying to
18 figure out what would be an example of that?

19 A. An automatic trigger? I don't -- there were requirements for
20 things we should do it on, right? And so we have that. I mean,
21 the new process, the significantly revised process, you know,
22 things that can cause a risk to the production system.

23 And so I guess in some ways that would be an automatic
24 trigger. But in terms of another way when you say when this
25 happens and immediately -- those are the kind of triggers we're

1 learning through them and we're doing them. We're figuring out at
2 what level process changes do it.

3 So I guess I -- beyond that there's the list of things that
4 we should consider to do in SRA on but I don't know if there's
5 anything like that's so clear that except for rate reviews are
6 automatic. Every rate review will have an SRM done on it. So I
7 guess there are a few things like that per the process that will
8 automatically do it.

9 Q. Can you give a high level -- so there's, you know, there's
10 four major components of an SMS. You have your safety assurance,
11 the risk management section, policy, and then promotion, to which,
12 it sounds like your speak up program might fall under the
13 promotion side.

14 And just culture certainly falls under the promotion side.
15 Can you give us a high-level overview of how Boeing approaches,
16 has approached each of those components?

17 A. I will try. Safety policy, when we went to deploy the SMS,
18 we set out a safety policy. It has the elements of it in our
19 safety review board that we have every week. We start with the
20 safety policy. We do a reflection on the safety policy. It was
21 signed by all the leaders and deployed. So, I think that's how
22 we've approached the safety policy.

23 We also then laid out kind of the organization. Our
24 accountable executive is David Calhoun, who is our CEO and then
25 each of the business units own it for their business unit. So

1 that's the meeting I attend every week is with Stephanie Pope,
2 which is the BCA safety management system. And I know they have
3 them for the other business units as well.

4 So, when I think about safety promotion, we have our safety
5 promotion center. I think we may have just recently renamed it so
6 if we did, I apologize. But we have a safety promotion center in
7 Everett. We have a digital version of this safety promotion
8 center. We have training that we've put out to employees. Every
9 employee has a safety management system training that they must
10 take every year.

11 New employees have additional training that they must take.
12 New managers have additional training they must take. We've just
13 developed a four-hour segment for our new employees coming into
14 the company that they do on day 2 in the company, that's four
15 hours on safety management where we really teach them about safety
16 management system, the criticality of safety in aerospace.

17 We show them a video that we developed as part of the safety
18 promotion center, right now that's on JAL 123, which was a JAL
19 accident from many years ago. And we talk about the learnings
20 from that and how critical it is. And so -- and then there are
21 various forms of awareness and posters and kind of things like
22 that for safety promotion.

23 For safety risk, it's as I talked about, it's the risk grid,
24 is the risk management system. We have a thing called a CRMB
25 that's also linked to that, a Compliance Risk Management Board

1 that's linked with our SMS risk register.

2 I will say we link -- speak up is probably part of safety
3 promotion but then it links with the risk register. If you have
4 recurring themes that are coming up, then it turns to the risk
5 register and so we do the safety risk management system.

6 We have the current level, you assess it initially and then
7 you have a current level and then you have your target level and
8 you watch your mitigation plans to ensure that you are marching
9 the risk down. And then we have our steps that we go through. We
10 have our tools, our bowtie analysis.

11 As we go to work these kinds of things, we have our risk
12 mitigation form with our steps that we watch and we track over
13 time and are you risks coming down like you expect them to? And
14 then we manage all of those up in our weekly build board and our
15 weekly SMS board at Stephanie's level.

16 And then safety assurance, I think is we watch a critical set
17 of metrics that each kind of organization has come and said here's
18 some metrics we're going to watch. Here are our control limits.
19 Let's see how we're performing in these control limits.

20 We certainly look at our audit activity as a part of that
21 internal, as well as our internal compliance activities to see how
22 we're performing around that. We watch our fleet data. We watch
23 how quickly -- we have the safety assessments and our safety
24 review boards.

25 So we look to see, you know, how is that trending? How are

1 we reporting? How are we resolving issues? How quickly are
2 things that we decide are safety issues getting through our
3 process and getting resolved?

4 So, I think those are the four pillars and at least those are
5 some immediate thoughts off the top of my head about how we're
6 utilizing them.

7 Q. Can you provide for us insight on how the transition -- I
8 guess let me back up. So, now it's the new rules come into effect
9 and that part 21 certificates have to incorporate a part 5 safety
10 management system. Previously you had involuntary SMS in place
11 but now that will have to move to a regulatory format.

12 So, with that can you give us some insight into how that
13 transition, what does it look like for Boeing?

14 A. I know that we've been doing some analysis on what parts of
15 our system will have to change, what that looks like. I'm
16 probably not the expert in exactly what those results are. I will
17 say we've -- I've been in a high level brief or two.

18 We think there's a few areas we'll go work on. But overall
19 we feel like we're on generally the right track where we embrace
20 the safety management system. We're excited about it. We're
21 committed to it. And so for us I think we'll make the adjustments
22 that we need to make per the rule if there's some things that
23 we're not quite in the compliance with.

24 And I think it will -- I think we will be -- I really do
25 believe we'll be fully compliant with the rule before the deadline

1 that I think is a couple years away. Is it 2027 or something I
2 think that it fully goes into effect. But we'll be ready. We'll
3 be ready. We're anxious and embracing it. We'll learn as we go.

4 Q. Have you been made aware of any key fundamental differences
5 that will be between the two programs as of to date?

6 A. I don't know what they are. I did hear there are a few
7 things that we're going to have to, you know, we would work on
8 modifying or something. I can't speak to what they are.

9 Q. Do you happen to know about the personnel response currently
10 for the voluntary system, will those personnel be changing for the
11 regulatory SMS?

12 A. I am not aware that they will be. It's relatively new. I
13 think we're still really figuring all of that out. But so, if
14 that decisions been made, I am not aware of it.

15 Q. Moving to the comprehensive plan that you've laid out at the
16 request of the FAA, there's several improvements that are listed
17 both for, within the production system and of course dealing with
18 supplier and supplier quality.

19 And there were some KPIs that were developed as a result and
20 were still within that plan. Can you give us a high-level
21 overview of how those KPIs were developed and finalized and how
22 you know, yeah, these are the ones that we want to present to the
23 FAA?

24 A. Yeah. So in our first meeting with the administrator at the
25 end of February, we had a lengthy meeting where we took him

1 through many of the activities that we had underway and the things
2 that we were working on. And it's at that time that the
3 administrator asked us to bring back this comprehensive plan
4 within 90 days that rolled all of these actions together with a
5 detailed implementation plan.

6 He also asked at that time that we come with a set of KPIs
7 for which would allow the FAA to see whether our production system
8 was operating within its nominal capabilities and that the FAA
9 could watch as just kind of a general indicator as the health of
10 our system.

11 So, we went off to develop these KPIs and we had several
12 conversations with our FAA counterparts where we started with a
13 proposal of four or five KPIs. The FAA came back and said, maybe
14 you ought to think about this KPI too. This is something that
15 seems important that we also watch. So, we said great.

16 Then another person in the FAA said maybe you ought to think
17 about this one too. So we said great. So, at the end of the day
18 kind of with this back and forth, and I'll say we had several
19 meetings, we kind of went back and forth. That's where we came up
20 with the six.

21 So, we made a proposal. They had some feedback. We
22 considered it back and forth and then we made a final proposal and
23 we said here's what we believe six representatives would be and
24 they agreed with that. So, that's how it came about.

25 Q. So, what changed from post-accident to prior to the accident?

1 What prevented these target areas from being identified before the
2 accident occurred? It sounds like if the FAA has been monitoring
3 certain things and Boeing's been monitoring certain things, why
4 didn't these target areas become a matter of focus prior to the
5 accident occurring? What might have prevented that?

6 A. I think they were. I think they were just in a larger suite
7 of other metrics. And I think the FAA really wanted to say, okay,
8 Boeing, you're probably watching, you know, how many ever, 50
9 metrics or something. I don't know if that's the number, but many
10 metrics.

11 Can you tell us which few? Give us the few that will really
12 tell us. And so I think we had a broader suite of metrics. They
13 were being measured. They were being managed. This was just an
14 ask to boil it down to a few that could be representative.

15 I think mentioned earlier but I think it bears repeating that
16 these are not new metrics. These are metrics we were already
17 using and we pulled out a suite. But it was really a change for
18 us to say here are the ones that we will say, you know, we will
19 give you full access to and that you can watch. And these would
20 be the ones we would say would really be representative taken as a
21 whole.

22 Q. So, can you explain then now that these have been identified
23 and you have done a comprehensive list of mitigations and I will
24 get to detail some of them in a bit, how do you intend to assess
25 that your mitigation plan is working?

1 A. Let me ask for a clarification. There are two, maybe similar
2 but confusing maybe words of the mitigation plans. So, if I can
3 have confusion on which one. In our metrics when we start to have
4 maybe a change in slope, or it crosses a threshold, we put in
5 place a mitigation plan. So that's one use of the word.

6 The second is these systemic solution sets that we have in
7 place that we're working on improving various things. That's sort
8 of also a mitigation. So, which of the two mitigations?

9 Q. So, the second.

10 A. Okay.

11 Q. For the comprehensive plan you had your key indicators that
12 you're looking at and then there was a list of sets of things that
13 Boeing intends to do to improve. How do you intend to track that,
14 that thing that you said that you would do is working in the way
15 that you wanted to?

16 A. So, we have, we've listed under each of these solution sets
17 or areas of improvement what we'll call an effectiveness measure
18 and we use that so we didn't confuse the term KPI. So we're in
19 effectiveness measure of each one, which are at two to three
20 measures that we are watching under each one to see if it's really
21 improving.

22 So, some of them can kind of cross areas but they are things
23 like recurring audit findings. We want that to go down. Or the
24 audit findings for some of these compliance areas we're working,
25 we absolutely expect that to go down.

1 One is our speak up as I mentioned, we would like to see how
2 speak up volume increase because that's an indication to us of how
3 far we've promulgated it to the floor. And do the people really
4 understand it on the floor?

5 SRAs, we expect our volume of SRAs to go up as we fully
6 deploy this, particularly the travel board management system. We
7 will watch our volume of SRAs. Is it really being utilized and is
8 it there?

9 For training our near term was did we get all of our
10 assessments completed and then longer term we have some feedback
11 around the feedback that we're getting from the floor, on the OJT.
12 So we tried to make this closed-loop system so that we get the
13 people on the floor and the peer mentors and the managers to get
14 feedback back in and we're watching that measure to see if the
15 training coming down to the floor is really sufficient.

16 And the self-assessments, we have a new element that we've
17 added for an employee to do a self-assessment. And if they're
18 saying they're not ready, that's a feedback. So we want the self-
19 assessments, you know, we'll watch that, and if it's not then
20 we're going to go back to training and address the areas of
21 whatever area they didn't feel comfortable in.

22 So, in each area we've listed some effectiveness measures
23 that we will continue to watch to let us know if the elements in
24 that section are successful.

25 Q. You were afforded essentially 90 days to bring us a plan.

1 FAA says Boeing bring us a plan. Do you feel that that 90 days
2 that you were afforded was in fact enough time to thoroughly
3 identify, vet and develop effective mitigations for the issues
4 that are present?

5 A. I think it, I think it was with a couple of caveats. We've
6 identified some issues when we went in to see the administrator
7 and he put that in place. And he -- I guess I want to make a
8 couple of points. The first is as much as we say the FAA asked
9 for this plan, and they absolutely did, we really view it as our
10 plan.

11 This is, this is a plan that we needed to do for us at Boeing
12 because they were the right things. So, if I would have had
13 another 30 days, would the plan had then been even more detailed
14 in some areas? Yes. But we're still making it detailed.

15 The thing is we're not assuming we can't add anything to that
16 plan. When we find something else that needs to be fixed, we're
17 going to add it in.

18 We have a gentlemen who had been assigned by the Board of the
19 Directors, his name is Admiral Kirkland Donald, as an independent
20 assessment. And he and his team have been in here. They've been
21 giving us some feedback. But he is about to -- and he's just
22 given us a draft of his first formal report of the things he
23 things he needs to work on.

24 There are a few things in there we're adding back into this
25 plan. So, although however long it is, it will get better but

1 we're not going to say there's nothing that gets added to it and
2 you can't get it better and we're learning as we go and, you know,
3 we're talking to the FAA and we're making progress.

4 So, it's getting more detailed and it's getting more
5 comprehensive all the time and I think that's part of continuous
6 improvements. We got some big elements and when we find more, we
7 add them in.

8 Q. So, you have been afforded the autonomy to build continue to
9 build on this plan as you go, it sounds like.

10 A. Absolutely. Incredibly so, yes.

11 DR. WOODS: Outside of some closing questions that I have,
12 that is all I have for this round. So, going back over to you,
13 Pocholo?

14 BY MR. CRUZ:

15 Q. Yeah, just a couple more. So, from your standpoint who do
16 you typically talk to with regards to the Boeing certificate at
17 the FAA, the principal inspector or who?

18 A. Yes. We have a weekly meeting with the FAA where we tag up
19 on various things. We have an RQSO tag up, where we meet with the
20 FAA weekly. We have the PC700 meeting once a month where everyone
21 attends.

22 And then I have a weekly call with John Piccola as well,
23 where John and I tag up at least once a week on kind of
24 overarching issues, whatever that might be. In this case, they
25 have a member of the AXO (ph.) panel, who's on their side, Linda

1 Navarro who's coming into town.

2 So last week Linda Navarro was on the call and we talked
3 about her upcoming visit if she wants to participate in our room
4 and have an update on the plans. So those are the kinds of things
5 that we would talk about.

6 Q. Okay. I know a big thing is messaging for you guys as far as
7 getting stuff down to the employees or mechanics that work the
8 airplanes. Based off of this investigation we've had discussions
9 with the FAA and their findings on their special audits.

10 I know you guys had a stand down because of the removals
11 prior -- after the accident, shortly after the accident. Based
12 off of some FAA findings they have identified still some removal
13 issues after the special, after the stand downs.

14 As you said messaging is a big part of that, right, and is
15 there something that you guys are trying to do better so that
16 after the stand down it's still happening? You still have removal
17 issues? I mean is --

18 A. Yes. I don't -- I know we have not comprehensive solved the
19 removal problem. So, and I mentioned a few of them earlier. We
20 had the original SRM in a workshop earlier this year. We're
21 working on simplifying it. We're working on changing the process.
22 We're working on continuing to improve it.

23 We've changed this visibility to a high level. We go back on
24 every one of them. We make sure we know what happened. And so
25 all of those I think are a combination of other things we're

1 doing.

2 I don't -- I think it probably -- I think the stand down was
3 important. It was important to say this is important everybody.
4 This is a big deal. We must do it. But on a system, that's big
5 and complex, that's not going to solve it all, so I think it's
6 going to take these other issues to really get to the full root
7 cause.

8 Q. Understood. The base of our conversations with the door crew
9 here in Renton, there have been -- they've, I guess given us some
10 information with regards to the door crew in Everett is a little
11 bit different as far as the work that's being done there? We
12 understand that.

13 Training, there's I guess more formal training for the
14 Everett door crew and not any training for -- and just OJT for
15 people here at Everett. Is that something that you guys would
16 consider doing as far as changes to the door crew here, versus --
17 you know, I don't know what the door crew is at South Carolina.
18 So I don't know. I can't speak to that.

19 But based off of the issues that we've learned from Everett
20 people. Well these are door crew people in Everett that came down
21 to Renton and they basically mentioned two separate training
22 programs. One that exists and one that doesn't exist.

23 A. Okay. I am not aware of this. But I will tell you, yes,
24 absolutely we would consider it. And I will, I'll go look into
25 it.

1 Q. Okay. One last question from me. Basically, we know based
2 off of the investigation we've obviously learned that there was no
3 removal paperwork that was I guess developed specifically for this
4 particular door plug.

5 And based off of no paperwork, the mechanics that had to move
6 the airplane outside the factory had to close the door, or close
7 the plug to save basically the airplane from environmental issues,
8 right?

9 Is there something in place if there is unauthorized removal
10 in the process that's currently going through where a mechanic
11 that has to close an assembly or whatever, that doesn't have the
12 paperwork, is there something in place that you guys are
13 developing to say, even though there's no paperwork please check
14 for bolts, whatever?

15 I know it's kind of hard to put that, because there was no
16 paperwork, obviously the person that's doing is not. But is there
17 something like a stopgap in place --

18 A. Yes.

19 Q. -- that you guys are developing of some sort. Right?

20 A. Two or three things come to my mind that we're working on
21 related to that. The first is the immediate stopgap of just the
22 inspections for the critical systems that we put in and why. But
23 that's very stopgap.

24 The second is part of our installation plan improvements that
25 we're working on, we've taken them based on many critical systems

1 on each of our models. And we are doing a design build assessment
2 where we're looking at how it's designed, how it's planned, how
3 it's built, and how it's inspected.

4 And in each of those areas, we're looking for highlighting
5 the critical areas. We're looking for mistake proofing, design
6 changes that we could do. We're looking for any confusion in the
7 documentation to make sure that it's perfect.

8 Better inspection technology to make sure that whatever those
9 critical parts are absolutely there. And so we're doing that
10 across the board. We have about seven of them complete right now.
11 And we're continuing to proceed through them in both safety
12 critical order and then resource availability as we march through
13 these.

14 And then the third thing that we're developing is on any of
15 these safety critical system identified, we're developing a system
16 and we got it in testing right now and it really looks pretty
17 promising, that will tell us for anything that's kind of labeled
18 this engineering safety critical system, if work was done anywhere
19 around that area, even without the paperwork and it's a kind of an
20 artificial intelligence based system that will let us know and
21 trigger us, that we need to go double check this system because
22 there was work done in that area even if there wasn't a signed off
23 quality date or they didn't touch it exactly but you were close
24 enough to this area, we need to go look at it again.

25 So that's kind of our analytics portion that we're using to

1 key us when we really need to go verify again.

2 MR. CRUZ: Interesting. Okay. Yeah, obviously we know that
3 the plug was closed and obviously that person whoever doesn't
4 really matter, doesn't know anything about a mid-exit door plug,
5 right, and what hardware needs to be put back on or not.

6 A. Right.

7 Q. All right so that's good to hear.

8 A. So those are the things we're trying to do.

9 MR. CRUZ: All right. Thank you. That's all I got.

10 BY MR. LEVANEN:

11 Q. On the part that Pocholo mentioned about the folks on the
12 front line and that you talked about earlier, when we talked to
13 some of them, we did get the impression that a lot of them didn't
14 want to rock the boat. They just wanted to come in and do their
15 job.

16 Maybe they don't even look at the big picture, maybe they do,
17 but they focus on just doing their job and not wanting to file
18 reports because they don't want to. And not that -- they didn't
19 really say they were in fear of their jobs but you can get the
20 impression that they just didn't want to rock the boat because
21 they want -- they like their job, they like coming to work, and
22 they want to keep it.

23 A. Yeah. They don't want to cause problems.

24 Q. Yeah. That's, I'm glad that you guys are taking steps for
25 that.

1 A. Yeah.

2 Q. You had mentioned the previous person that was in your role
3 at the time of the accident or at least the time that the plane
4 was when it was built. Were the same three -- did you say you
5 have three VPs that work for you now?

6 A. Yes.

7 Q. Were those same three VPs, did they work for the previous
8 person in that role?

9 A. I believe only one of the three did.

10 Q. One of them did?

11 A. Oh one of them, Hector, who you have met, worked for her but
12 he wasn't a VP at the time. He worked for a slightly reduced role
13 versus his VP role that he has now. Doug Ackerman, who runs our
14 supply chain quality organization was the Vice President of supply
15 to quality reporting to her and now me. The third one, she's
16 recently been moved into that position.

17 Q. Okay. Just curious. Then do you, how much involvement do
18 you get with regard to like ADs for example that might come out?
19 We had one that come out recently regarding oxygen generators.
20 Did you ever hear anything about that one?

21 A. I heard about it. I was not deeply involved in it. I did
22 know it was coming out. On the front end, in my role I would be
23 involved in maybe when we find an issue and we go to sort of
24 inspect airplanes or we see how far it is or we do our analysis in
25 the factory, I'm typically involved at that point.

1 Many times this has been worked with engineering in this case
2 or something else. And then I'm certainly aware when they come
3 out of the things we need to do in the factory. Typically, we've
4 already cut it off in the factory and we have clean airplanes
5 coming through. But if for some reason we didn't, then I would
6 immediately be involved if we had work that we needed to do in the
7 factory as well.

8 Q. Okay. Good. And the last one for me. This one was --
9 there's a photo of a slide that was widely circulated and it was
10 from 2019, and it was a strategic objectives, and I don't know if
11 it's an accurate photo or not. So, I don't want to just say that
12 for sure. You know, you know how these things go with the
13 internet. But it's a Boeing slide. It says strategic objectives,
14 and it said provide the faster delivery at the lowest costs, in
15 quotations. And in red it says, reduce the time it takes to
16 manufacture a plane from 18 months to 8 months in four years.

17 And then below that, it says, in red, it says reduce costs by
18 25 percent in five years. And I was curious I was told that if
19 this came out and about 2019, And I was curious if you had ever
20 heard of like something like this and if this would be a slide
21 that you might -- would you expect to see a slide like this today
22 in today's environment?

23 A. No. And I'm not familiar with that slide. I have not seen
24 that slide or heard those words.

25 Q. I don't want to read too much into it because for all I know

1 it's fake news.

2 A. Yeah. Well and I'm not familiar with it. I wouldn't expect
3 to see it in today's environment.

4 MR. LEVANEN: Okay. And that's it from me. Thank you.

5 MS. LUND: Thank you.

6 DR. WOODS: John?

7 MR. PETRUZZELLI: Quick comment only from us. The IAM
8 leadership and our membership care deeply about this company. You
9 talk with many of us on a regular basis. We are committed to it,
10 but please involve us in the process and use us for our expertise.
11 From my seat at the table, it gets really frustrating sometimes
12 when I see somebody say, an executive say, we already talked to
13 the union about this.

14 And I text John Holden, and he goes, I never heard about
15 this. There is expertise here. We're committed to this company.
16 We're committed to the fine public. Please take advantage of
17 that. Thank you.

18 MS. LUND: Thank you. And I know that that is true, John.
19 Thank you.

20 DR. WOODS: Dan?

21 MR. MARCOTTE: I don't have any more questions. Thank you
22 very much.

23 MS. LUND: Thank you.

24 MR. RINEY: Nothing more from me.

25 DR. WOODS: Nils?

1 MR. JOHNSON: Nothing from me.

2 DR. WOODS: Okay. With that I have some closing questions
3 I've modify depending on who we're talking to but they're usually
4 about around the same. So we would be respectful of your time to
5 get you out of here. But if you could give me like a 60 second,
6 what is your primary elevator pitch on what you want us to know as
7 a working group and an investigative team on this accident on
8 behalf of Boeing?

9 MS. LUND: First of all, we deeply appreciate the work that
10 the NTSB does and to help air traffic become even safer in the
11 work that you've done on this investigation. So I'll say first
12 and foremost, I say thank you very much. Secondly, I want to say
13 that on behalf of Boeing, we are committed to learning and getting
14 better and regaining trust and ensuring that we understand the
15 gaps that existed that contributed to this system and that we are
16 committed to ensuring those gaps are closed.

17 And that we're deeply committed to ensuring that through hard
18 work and collaboration and transparency that this never happens
19 again. And that we appreciate your help in ensuring that that is
20 where we go. And I think that you guys are doing a good job that
21 ensuring that we get there, and I appreciate that. So, thank you.

22 DR. WOODS: Thank you. And again, thank you very much for
23 your time because we have taken up quite a bit of it. So, with
24 that I want to ensure no other final questions around the room?

25 MS. NEWARK: Can we sidebar before we go off the record?

1 MS. LUND: Because there may be something I need to clarify
2 myself on, can I adjust over just a moment.

3 DR. WOODS: We are going to go off record at 12:47 p.m., PT.

4 (Off record at 12:47 p.m., PT.)

5 (On record at 12:48 p.m., PT.)

6 DR. WOODS: Back on the record at 12:48 p.m., PT.

7 MS. LUND: I just wanted to clarify one point to ensure that
8 I wasn't misunderstood. I think I may have misspoke. But I want
9 to clarify, earlier when you asked if I had the autonomy to change
10 the plan. I wanted to clarify that we have made a commitment to
11 the FAA and I can't change items that we have committed to the
12 FAA.

13 We have weekly meetings with them. We have recurring ongoing
14 conversations about our progress to the plan. So that part of the
15 plan is fixed. What I do have the authority to do is add
16 additional items where we find gaps, continue to improve and add
17 more fidelity to the plan, and we do that in conjunction with the
18 FAA.

19 But I didn't want anyone to leave with the impression that I
20 could just not do what we said what we're going to do. We would
21 never do that. And we're committed on doing that with the FAA.

22 DR. WOODS: Okay.

23 MS. LUND: So thank you.

24 DR. WOODS: Thank you for the clarification. Okay. With
25 that, okay. I thank you again, Elizabeth, for your time. We

1 really appreciated it and we've learned a lot throughout this
2 process.

3 So with that we're going to off record at 12:49 p.m., PT.
4 (Whereupon, at 12:49 p.m., the interview was concluded.)
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ALASKA AIRLINES BOEING 737-9 MAX
 IN-FLIGHT STRUCTURE FAILURE
 NEAR PORTLAND, OREGON
 ON JANUARY 5, 2024
 Interview of Elizabeth Lund

ACCIDENT NO.: DCA24MA063

PLACE: Seattle, Washington

DATE: July 9, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

Romona Phillips
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*

*

ALASKA AIRLINES BOEING 737-9

*

MAX IN-FLIGHT STRUCTURE

*

Accident No.: DCA24MA063

FAILURE NEAR PORTLAND, OREGON

*

ON JANUARY 5, 2024

*

*

* * * * *

Interview of: CAROL MURRAY, Vice President
787 Program
Boeing

Tuesday,
July 16, 2024

APPEARANCES:

POCHOLO CRUZ, Aerospace Engineer Investigator
National Transportation Safety Board

NILS JOHNSON, Maintenance Investigator
National Transportation Safety Board

SABRINA WOODS, Human Performance Investigator
National Transportation Safety Board

ERIC EAST, Air Safety Investigator
Boeing

JOHN PETRUZZELLI, Quality Team Lead
International Association of Machinists (IAM) Union

PHILIP BRIDWELL, ESQ.
(On behalf of Carol Murray)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Carol Murray:		
By Dr. Woods		6
By Mr. Cruz		28
By Mr. Johnson		35
By Mr. Petruzzelli		40
By Mr. East		45
By Dr. Woods		46
By Mr. Cruz		54

I N T E R V I E W

(1:15 p.m.)

1 DR. WOODS: Okay, good afternoon. It is 1:15 Eastern
2
3 Standard Time, July 16th, 2024. My name is Dr. Sabrina Woods and
4 I'm a Human Performance Investigator with the National
5 Transportation Safety Board. I am one of the investigators, along
6 with Pocholo Cruz to my right here, co-leading the Manufacturing
7 and Human Performance Working Group for Accident Investigation
8 Number Delta Charlie Alpha 24 Mike Alpha 063, involving Alaska
9 Airlines Flight 1282.
10

11 The NTSB is an independent federal agency charged with
12 determining probable cause in transportation accidents and
13 significant incidents and for promoting transportation safety.
14 The NTSB is not part of the Department of Transportation, nor are
15 we a part of the FAA. We have no regulatory or enforcement
16 powers.

17 But because we are a small organization, we do have parties
18 to the investigation that help inform the process along the way.
19 While our group is in about half, we are missing certain key party
20 members to this investigation. We do have some here in the room
21 that I'm going to have them introduce themselves to you, so you
22 understand who it is you're talking to. We're going to start off
23 with Pocholo to my right.

24 MR. CRUZ: Hi Carol, my name is Pocholo Cruz. I'm an
25 Aerospace Engineer with a maintenance background.

1 MS. MURRAY: Nice to meet you.

2 MR. CRUZ: Nice to meet you.

3 MR. JOHNSON: Carol, Nils Johnson. NTSB Aviation Accident
4 Investigator. My specialty is maintenance.

5 MR. PETRUZZELLI: John Petruzzelli. I'm representing the IAM
6 Union and (indiscernible) coordinator (indiscernible).

7 MR. EAST: And good afternoon, I'm Eric East. I'm an Air
8 Safety Investigator for Commercial Airplanes in the Seattle,
9 Washington area for Boeing.

10 DR. WOODS: Okay Carol, that's all the people that's going to
11 be talking and asking you questions at this time. Again, for the
12 record, we are missing some key members of the party that are
13 typically here. Typically, the FAA is always part of the
14 investigation. They could not be here for this. Other parties to
15 the investigation include a representative from ALPA, a
16 representative from the Alaska Air Group, and a representative
17 from Spirit Aerosystems.

18 As you can see, today we'll be using a digital recorder.
19 After the interview, we will send that recording off for
20 transcription to an independent company that transcribes and
21 certifies the copy. A copy of the transcript will then go on
22 forward to be a matter of public record in the docket associated
23 with this case.

24 We are here for you to share your insight, your experiences,
25 and Boeing's processes with the goal of preventing future

1 accidents. Each of these group members here will have a chance to
2 ask questions. We will all go one at a time. Usually, there are
3 two rounds with each person asking the bulk of their questions in
4 the first round, and then follow up in the second round. Please
5 answer the questions to the best of your ability. Just recognize
6 that, I don't know, is a perfectly acceptable answer. If you
7 don't understand a question, just say so. Ask for clarity. We'll
8 try to do so. We'll do the same if we don't understand an answer.

9 If any time you realize that you want to go back and
10 reiterate a question, or you misspoke, or you want to correct
11 something, please feel free to do so. You can go back and forth
12 between us and the timeline, while we'll be respectful and go in
13 order. You are always entitled to one person of your choosing to
14 serve as representative. I know that you have been afforded
15 counsel, and I do see counsel sitting with you at this time. I
16 want to ensure for the record that you are okay with the counsel
17 that has been chosen to represent you.

18 MS. MURRAY: Yes.

19 DR. WOODS: Okay. With that, counsel, thank you for being
20 here. Appreciate your time. Just remember that this is an
21 interview and not a deposition, so please refrain from answering
22 on behalf of your client or objecting to anything that takes
23 place. If you would please, for the record, introduce yourself.
24 State your full name, spelling your last.

25 MR. BRIDWELL: Sure. I'm Philip Bridwell. B-R-I-D-W-E-L-L.

1 DR. WOODS: Excellent. Thank you. That being said, if at
2 any time you need a break, just let us know. We'll go off record.
3 We'll make that happen for any reason. Then, once you are ready
4 to proceed, we'll go back on record, and we'll keep going. With
5 that, are there any questions?

6 MS. MURRAY: No questions.

7 INTERVIEW OF MS. CAROL MURRAY

8 BY DR. WOODS:

9 Q. All right. Okay. Starting off with the super hard
10 questions, hopefully first, if you would please, for the record,
11 state your full name and spell your last.

12 A. Carol Anne Murray, M-U-R-R-A-Y.

13 Q. All right. Thank you for that. We're going to go in two
14 parts because I know that we're talking about two different
15 timelines for you. To start off with, what is your current job
16 title and position?

17 A. Can I say, too, I want to say thank you guys for what you do.
18 It's important to the aviation industry as a whole, so thank you.
19 My current role is the Vice President of Manufacturing for the 787
20 program.

21 Q. Okay. And with that, this is a little unusual because we are
22 talking about a position that you held previously. What was the
23 position that you held prior to this?

24 A. I was the Vice President of Total Quality for Boeing
25 Commercial Airplanes and the Operations Council Leader for Quality

1 for the Enterprise.

2 Q. Okay, and how long did you hold that previous position?

3 A. About three and a half years.

4 Q. And about when did you transition to your new position?

5 A. About a month ago, so June timeframe.

6 Q. Okay. Again, going back to the previous position, how long
7 has that particular position been in existence?

8 A. I think the overall leader for quality at the BCA level has
9 been in existence for quite some time. Where it has changed is
10 the level of Vice President that it was, as well as the reporting
11 structure. For example, our Vice President positions are either a
12 three or a two. A previous person in the role was a three, I was
13 a two, and I reported directly to the CEO of Boeing Commercial
14 Airplanes, where I think in previous positions it might not have.

15 Q. Okay. So, you talked about in your previous position who you
16 had a direct line to. Who had a direct line from you?

17 A. Reporting to me directly were the quality leaders throughout
18 the value stream, starting from our supply chain. Our supplier
19 quality team had a Vice President and multiple directors, both
20 internal and external supply chain. Then we go into each of the
21 programs, and I had a quality leader for each of the Boeing
22 Commercial Airplane programs. We had a couple core leaders,
23 meaning they had our quality engineering team, our Boeing
24 production system team staffing, and then our team that worked
25 with the regulatory agencies, RQSOs, what we call them. Then

1 delivery is also under that grouping as well.

2 Q. Do you happen to know if that structure has changed since you
3 left the position?

4 A. It has. The new quality leader for Boeing Commercial
5 Airplanes has input another Vice President into the team. Now
6 there's a Vice President over the supply chain, both internal and
7 external, a Vice President over the core groups, and then the Vice
8 President over airplane programs. The Vice President over
9 airplane programs I had at one point, but it was an open position
10 when I left the role because it was working to be backfilled.

11 Q. Prior to the accident occurring, can you please give us a
12 high-level overview of what your roles and responsibilities are?
13 I know you've given us some job titles which give indication as to
14 what those roles and responsibilities are, but could you flesh
15 that out a bit more?

16 A. Absolutely. The term total quality in the BCA mindset was
17 that I was responsible for the quality system for everything, for
18 everyone, for commercial airplanes. So, whether that was an
19 engineering error or a manufacturing error, we would look at it
20 holistically around the quality management system as a whole, and
21 that was my responsibility is to manage, ensure that we are doing
22 the right things, to take the right actions on continuous
23 improvement for the quality management system, as well as manage
24 and maintain the relationship with our regulatory.

25 Q. So, what did a day in the life -- that was a kind of a high

1 strategic level overview -- what did a day in the life look like
2 for you?

3 A. It could vary very much by day. It depended upon what
4 perhaps challenges we might be facing within each of the airplane
5 programs, or whether we were working through, might have been a
6 response to an FAA audit, et cetera. A typical week carried
7 forward about an operating rhythm between my team, so I would look
8 at the overall health and operational level of my team, both
9 strategic and tactical, and I would report out on one day for --
10 to my leadership team within BCA, so my peers and my boss, and the
11 improvements or tactical things that we needed help with in doing
12 there, and then it would just vary based on that per day.

13 Q. Can you give us an overview of how does Boeing manage
14 quality? What are the timelines that you use, metrics that you
15 look at, that sort of thing?

16 A. There are a lot of intricacies on how we manage quality, so
17 I'm going to do my best and if we have follow-up we can go there.
18 We start with the quality manual, so each of the major business
19 units has a quality manual, Boeing Defense, Boeing Commercial,
20 Boeing Global Services, Boeing Research and Technology, and Boeing
21 Technology and Engineering, it's BT&E. Each of us have our own
22 quality manuals and our quality manual for BCA is the foundation
23 is the ISO 9001, where we have our aerospace standards that really
24 help govern.

25 Our quality manual tells us how we meet our production

1 certificate and it's a privilege to build airplanes and so we do
2 what we say and we say what we do and we protect our production
3 certificate by maintaining that quality manual. The way that we
4 manage to do that is we, I think about it in a couple different
5 aspects, we have compliance and we have conformance.

6 For conformance we have what's called a quality leadership
7 review every month where we look at the non-conformances that were
8 generated, where we see systemic trends, what we need to go do for
9 corrective actions, making sure that we have good containment and
10 that there's good plans in place for conformance.

11 For compliance we have compliance teams and we have a monthly
12 at that level with a quality management or a quality monthly
13 review that all programs talked about their compliance efforts,
14 where they had hot spots, where they needed to continue to focus,
15 where they were doing well, and they shared across the programs.
16 Again all about containment and then the strategic actions also.

17 Then we also had an operating rhythm with our regulatory
18 team, our FAA, that we actually had a weekly cadence, a monthly
19 cadence, where we would -- and the monthly was our what we called
20 the PC700 because it was a -- our production certificate and we
21 would vary metrics that we would review in that review based off
22 of the needs of the our regulators and then also we had just
23 standing topics that we would continue to talk about, for example,
24 airplane ticketing items and that would always be in there.

25 And then we have -- so that's at the kind of the leadership

1 levels and the regulatory level and then at the daily level we
2 have what we call tier boards and the tier board is out on the
3 shop floor at every single team and they talk about their metrics
4 including quality but they have people, quality, delivery, cost,
5 and innovation at the, at the team level.

6 So, our quality management system throughout Boeing has
7 multiple checks and balances in place. And then on top of that
8 structure are audits. So, we do internal audits, we do FAA
9 audits, we do self-assurance audits where we've got Kamishibai
10 (ph.) is one of the tools that we utilize and so that it
11 encompasses also to make sure it's kind of a plan, do, check, act
12 and we do what we say and say what we do.

13 Q. Within that structure are -- let's take for instance either
14 like non-conformances or some sort -- are those treated
15 differently if they happen from within the facility versus if they
16 are introduced from outside from a supplier?

17 A. They are handled or processed through the supplier quality
18 team for example if something comes in from a supplier, but the
19 visibility and the overall oversight and management still come
20 into the same quality leadership review.

21 Q. And how do you know when actions need to be taken or
22 mitigations need to occur? What is -- I guess, what is the
23 trigger for that when you're looking through this kind of data?

24 A. It could be multiple triggers. A trigger could be that we've
25 seen it before and so if we deem something systemic, we need to

1 take action. It could also be that it had a significant impact.
2 Let's say a multiple numbers of defects or the way that we measure
3 the magnitude of the rework that we need to be done is through
4 RCC4 hours. Those could also be triggers and they might have only
5 occurred once, but it was significant enough that said, hey, we
6 need to go do something about it. And then the team will go
7 directly and do containment and then do a root cause and then take
8 corrective action based off of the root cause corrective action.

9 Q. What does a root cause analysis look like?

10 A. It could be different. Oftentimes we use a Boeing problem
11 solving model, but we could use a justify of whys (ph.), we could
12 do a rapid problem-solving model depending upon the significance
13 of the event. We now do -- we do bowties (ph.) analysis or safety
14 risk management, a value stream map. You could do a multitude of
15 different root cause and corrective actions tools.

16 Q. At what level do you -- at your previous position were you
17 directly involved in that? At what level would you have to be
18 inserted if inserted at all?

19 A. So, based off of severity might be where that trigger for me
20 would come in but we -- when we brought -- when we bring forward
21 the quality leadership review, so the non-conformance data within
22 a certain program or a team, we also bring forward the solutions
23 that we are putting forward. So, we'll bring forward a root cause
24 corrective action plan and then what we're doing about it.

25 One it's to celebrate the team and to recognize the work that

1 they're doing on corrective action and the right mentality around
2 how to solve quality problems. So, something like that could come
3 into my purview on a small level, but then if something were
4 significant, I could also be the one that's kicking it off. So,
5 for example, a large SRM might be something that I would
6 personally get involved with and kick off myself.

7 Q. So, within these, I guess, root cause analyses and you're
8 developing a strategy for containment, how do you go about
9 developing strategies for assurance that the -- in other words
10 tracking that the containment has worked as desired over, you
11 know, indeterminate amount of time?

12 A. When we do a corrective action request it's called a CAR.
13 There is a cycle that's built into that process that will continue
14 to monitor it over time to make sure that it's been resolved. We
15 also will continue to look at that data month over month and where
16 we see repeats. If that comes back up then we'll go and revisit
17 the corrective action to make sure that the containment and the
18 corrective action plans were sustainable or effective enough.

19 Q. While I know we've talked a great deal about quality thus far
20 and the QMS, how would you categorize your involvement with actual
21 touch 737 MAX production in your previous position?

22 A. For me physically touching the airplane?

23 Q. No, for just your level of awareness, how involved with you
24 for the production side of things.

25 A. I have had a leader over the quality of the 737 production

1 line.

2 Q. What kind of information from that line was passed up to your
3 level?

4 A. It would be the same as I reviewed it with you, the quality
5 leadership review where we look at conformance and then the
6 Quality Management Review where we do compliance and then anything
7 that was in the PC700 review also. So, 737 had a rotating topic
8 within that program review also.

9 Q. I guess what I'm looking for in terms of production is what
10 knowledge do you have about the production rate and how it's
11 changed over -- for the 737 previous job and let's say the last
12 five years?

13 A. So, for rate readiness we do a comprehensive rate readiness
14 review, and I would be a part of that as the leadership team to be
15 able to say, yes, we're ready for rate, no, we're not.

16 Q. Can you tell us how the rate has changed over let's say the
17 last five-ish years for the 737 production line?

18 A. When I came into my role in quality we had just started back
19 up again after the crashes, and it was not at a high rate. I
20 don't remember the rate we were currently at. I do remember that
21 we had multiple rate reviews and we either said, yes, we are ready
22 or, no, we're not, and I remember both of those decisions being
23 made at one point and then the rates right now have been very,
24 very slow.

25 Q. And what about -- I read through the QMS, and it does talk a

1 lot about escape but it largely also talks about escapes in terms
2 of like manufacturing or engineering. I'm curious more about
3 escapes that are introduced through basic human error. So, when
4 we talk about that we talk about the technician. How
5 knowledgeable about how the level of technician skill, experience,
6 competencies have changed over the last five years?

7 A. I think as an industry we've had a new challenge that we
8 hadn't had before with proficiency and new people coming into our
9 space and I don't think it was a Boeing only, but I think it was
10 an industry-wide challenge.

11 Q. So, what has Boeing done to address how these changes in that
12 workforce might affect overall quality control?

13 A. We have added training, over 300 hours of training. We have
14 added skills enhancement centers not only for manufacturing but
15 for quality as well. We've added workplace coaches and a
16 significant amount of them to be able to be on the floor with the
17 teams to be able to help them real-time. We've added more
18 robustness around our on-the-job training. Once you leave
19 training, once you finish your classes and you're working with a
20 peer and then on the airplane you have to have a certain number of
21 touches before you would be able to be capable of doing it by
22 yourself and with a certain amount of quality.

23 We continue to improve around our training but those are
24 pretty significant changes that I've seen over the past five
25 years.

1 Q. Has it been long enough for you to see essentially positive
2 results, the desired results that you're looking for out of that?
3 Or is it still too early to tell?

4 A. I think with the changes that we've made since the 90-day
5 plan I think with the more robust OJT and the 300 additional
6 hours, we've seen already improvements out of that. We also did
7 product data definition tests for every mechanic that was less
8 than a year and two years out of quality to make sure that we had
9 that good baseline to check that. We've got a good understanding
10 or a good baseline of that PDD, is the acronym we use for that out
11 there as well. So, yes, we've seen positive gains.

12 Q. So, that has been -- you referenced the 90-day plan and I
13 will transition to that a little bit later talking about that
14 comprehensive plan -- but that is a reactive measure that has come
15 as of the accident occurring. I guess, I'm interested more in
16 what was identified, what was in place, and how were you able to
17 essentially audit whether or not it was working prior to the
18 accident occurring.

19 A. So, there had been a lot of training improvements that were
20 done prior to the accident as well, and those were part of what
21 we've seen improvements on or updates on now. I don't know the
22 specific details on what it was before versus -- and the
23 enhancements. I can't speak to that specifically.

24 Q. Okay. Moving over to --

25 A. Well, sorry. The quality and skills enhancement centers for

1 quality specifically were something new that I had put in place
2 three -- out of the three and a half years ago that I started
3 positioning. It actually came up from a speak up item that
4 somebody had an idea and we said, yes, that's a wonderful idea,
5 let's do it. And so, we put them at each of the main positions.
6 So, I know that that was an improvement that we had made over the
7 past five years.

8 Q. Pivoting just a little to suppliers and the quality control
9 that Boeing manages for its suppliers, we talked a little bit
10 about that essentially looking at things like non-conformances
11 that might travel a different path. However, when it comes up to
12 discussing the overall health, that comes -- it comes to the same
13 point eventually. But when it comes to identifying that there
14 might be a negative trend of some sort, who's responsible for
15 that?

16 A. And I'm sorry, I'm going to have to have you repeat the
17 question because I keep -- I'm thinking about the training pieces.
18 Can I go back to the training?

19 Q. Sure.

20 A. Okay. So, are you just looking for the manufacturing --
21 excuse me, the quality inspectors or are you looking at quality as
22 a whole when you're talking about the training or are you talking
23 about manufacturing?

24 Q. Training as a whole, I know that there will be some questions
25 probably coming that are particularly talking about production

1 level touch workers in the training, but I recognize that jumping
2 ahead in your comprehensive plan, there have been a lot of
3 measures for that particular training KPI. But I'm trying to
4 establish prior to the accident occurring, what was being done,
5 what's in place, for all, for everyone, for the touch labor
6 workers, for the quality control individuals, the foundational
7 training that maybe everybody has. I'm just trying to get a
8 better understanding as a whole.

9 A. Okay. So, for training, for quality, and I'll speak to that
10 because I know you need that piece of those. We had, within
11 quality, there's not just inspectors. There's also quality
12 engineers, there's our supplier quality reps. So, each of the
13 different teams has a various skill that we have trained for. And
14 over that course of three and a half years, we had specific
15 efforts for those specific skill codes and actually put in place
16 both technical and leadership development tasks for anybody in
17 those skill codes.

18 So, for example, if I'm a supplier quality representative, we
19 put specific training in place because we had brought in new folks
20 that needed that additional training. We had put in specifics for
21 that skill code across our internal and external supply chain.
22 So, there's specifics for each one of the different skills.

23 Q. So, for the production sides, now we're talking about --

24 A. Inspectors.

25 Q. -- technicians, actually.

- 1 A. Technicians, okay.
- 2 Q. So, I'm moving to technicians. How are they wrapped into
3 this new plan? This new - under the comprehensive quality and
4 safety plan going forward then?
- 5 A. You, I'm sorry --
- 6 Q. Yeah.
- 7 A. Just want to make sure I'm answering.
- 8 Q. Yep.
- 9 A. The question that I was answering was the before the
10 accident.
- 11 Q. Yep.
- 12 A. The question I think you asked me about is the 90-day plan
13 and the manufacturing tied in with --
- 14 Q. I am switching back and forth, sorry, because I recognize
15 that there are some things that were put in place beforehand that
16 are still continuing, correct?
- 17 A. Yes.
- 18 Q. Like they haven't stopped or ceased.
- 19 A. Correct.
- 20 Q. And there are some things that have been changed as a direct
21 result. Is that correct?
- 22 A. Yes.
- 23 Q. In response to the FAA's request. So, we've established the
24 quality side and that includes quality engineers, quality
25 inspectors, correct?

1 A. Mm-hmm.

2 Q. So, touch labor now, the production side, the technician
3 side, the floor workers, is it the same? These same enhancements,
4 some of them were in place before the accident and are continuing?

5 A. There were some that were in place beforehand and that are
6 continuing, yes.

7 Q. And then there are some that are new as of the development of
8 the comprehensive plan.

9 A. Correct.

10 Q. Okay. And is it still that position that is managing the VPs
11 under you? No, I guess who manages that now?

12 A. The training is a part of the vice president now that's under
13 -- or that's over core, the core within quality. Yes.

14 Q. Okay. There's a couple moving parts here. I'm sorry.

15 A. No, and I recognize that, and I thought there was confusion
16 so I wanted to go back.

17 Q. I appreciate it.

18 A. So, yes.

19 Q. And I think also because I recognize that the position you
20 held prior has changed somewhat.

21 A. Yes.

22 Q. And I'm also trying to reconcile what I know from what's
23 going on now versus before. So, yeah.

24 A. Right. I just wanted to make sure we're --

25 Q. We'll get through it together.

1 A. That's right. That's right.

2 Q. Okay.

3 A. So, if you don't mind repeating your supplier question.

4 Q. Going back to supply and quality control for supplier, I
5 guess just give an overview of how Boeing specifically manages
6 quality control for suppliers.

7 A. Okay. For our suppliers, there's multiple ways we check
8 health. When a supplier comes on board or they get a new
9 statement of work, we do supplier health assessments. We monitor
10 and track that on a weekly basis. We get health scores, includes
11 quality, safety, schedule, on-time delivery, all of that.

12 If there's something specific that we have a statement on, we
13 also look at that in our supplier quality team when it comes to
14 their performance on escapes. And if we go in and we are
15 monitoring or auditing them for both conformance and compliance,
16 we can manage those through a SER, which is an S-E-R, supplier,
17 something request, engagement request, lots of acronyms, sorry.
18 And we'll monitor and manage the corrective actions through that
19 SER to their improvements that they'll make in their production
20 system.

21 Q. What does the quality control rate look like specifically
22 coming out of Spirit Aerosystems over, let's say, the last five
23 years or since you were in the prior position?

24 A. In the prior position, we had given them multiple SERs. And
25 I personally flew there and gave them a letter of, basically, the

1 equivalent of a letter of investigation that the FAA would give to
2 Boeing to the Spirit leadership at the time, because we weren't
3 seeing any improvements in their conformance or compliance that we
4 need to in their four walls. And we were managing that together.

5 Q. Can you give us a high-level overview of what were some of
6 the concerns that you had with the supplier?

7 A. There were a lot of escapements coming into our four walls
8 from their sub-tier suppliers and from their factory.

9 Q. So, now, tying in the previous question about training, who
10 is ultimately responsible for training to Boeing fundamentals and
11 Boeing conformance for the supplier for Boeing products?

12 A. That was a lot of (indiscernible).

13 Q. It was.

14 A. Boeing is responsible for our Boeing products and maintaining
15 our production certificate, first and foremost. If they're a
16 supplier, we are responsible for their performance into our
17 production system.

18 Q. So, who's responsible for training them to ensure that
19 they're keeping up with the standard?

20 A. Training for their mechanics and inspectors are done within
21 their four walls. And so, they would be putting that in place,
22 and then we would have oversight of, is what you're doing from a
23 conformance and compliance sufficient?

24 Q. That's good, because that was where I was going with that
25 next is, I guess, who is ultimately responsible for making sure

1 that they're doing it right?

2 A. We are.

3 Q. And what do you use besides non-conformances to audit that
4 process?

5 A. To audit which process?

6 Q. That the training that they have is to the standard that is
7 needed to produce the quality that you want. I mean, I know you
8 know that if you have a series, an increase in non-conformances,
9 that maybe there's something wrong there. But is there any other
10 audit process that is in place?

11 A. So, we'll audit how they're doing to their quality processes,
12 too. We'll audit, basically, their quality management system as a
13 whole. Are you -- are they doing what they say they're going to
14 do and upholding to those standards? So, it's both conformance
15 and compliance back at the supplier as well.

16 Q. Transitioning just a little bit again into the intersection
17 between QMS and SMS. Again, from the point of view of your
18 previous role, how are those things interrelated?

19 A. The quality management system is how we execute. The SMS
20 manages how we keep our eye on product safety and personal safety.
21 The best example of where they intersect are our billboards for
22 SMS. And then how we were making improvements to our command
23 media, our Boeing processes, and procedures, with an SMS lens.
24 Being able to address safety risks with the amount of attention
25 that safety deserves, versus a peanut butter spread over all

1 activities.

2 So, those two are the biggest examples. The SMS boards, and
3 I led the billboard for the quality team, and then how we
4 integrated it into our command. Yeah.

5 Q. You mentioned earlier that one of the enhancements for
6 training had come up from, did you say a speak up?

7 A. Mm-hmm.

8 Q. In your previous position, what level were you involved with
9 that kind of feedback that was coming from (indiscernible)
10 employees?

11 A. I read every single speak up that came into the quality team
12 every week.

13 Q. Was that a personal choice or was that part of the duties of
14 your position?

15 A. I think it's both. It was a personal choice because I wanted
16 to hear the feedback. I think it's the best way to manage your
17 business is hearing that feedback and knowing where your hotspots
18 are. But then our leadership team reviewed them every week in our
19 reviews with the BCA CEO as well.

20 Q. Has that -- in your time previous, in the preceding three
21 years, has that always been the case?

22 A. Yes.

23 Q. And what can you tell me about the rate of that feedback
24 process, specifically speak ups? Has that changed at all over the
25 last three years?

1 A. Since the accident, it's increased dramatically. Yes. Which
2 is wonderful because we want people to speak up.

3 Q. Why do you suppose that is?

4 A. I think they feel that they want to be a part of fixing a
5 problem and raising awareness to an issue. And that's great
6 because you can't manage a secret. And in order for us to make
7 the system better, we have to know where the issues are.

8 Q. But arguably these issues didn't just arrive because there
9 was an accident. They were likely there beforehand. So, what's
10 the difference? Why not speak up before?

11 A. Could be that they thought they were getting the help that
12 they needed. Could be that they thought that now they'll get more
13 help because we're just leaning in more on those activities. With
14 the quality stand down, people knew that we were taking notes on
15 each of the actions and the help needs. And they were seeing
16 traction. And I think that when you see momentum, you say, hey, I
17 know where to get help, I know how to get help, and I'm going to
18 put it into the system.

19 Q. Going back under SMS, there's four, kind of, primary
20 foundations, I guess. We used to call them pillars. We're not
21 supposed to call them that anymore. Fundamentals, if you will, of
22 SMS. And one of those fundamentals is safety promotion. And part
23 of safety promotion is having that feedback system. How would you
24 rate Boeing is doing in safety promotion with their SMS plan?

25 A. I think it's good and it continues to get better. It's one

1 of those things that we're never done. Safety is not one of those
2 things that you can ever be done on. And you always have to
3 continue to talk about it, just every day. I love the videos that
4 they've brought forward. The JAL 123 (ph.), the virtual Safety
5 Promotion Center, the revamp of the brick-and-mortar Safety
6 Promotion Center that we just did. When you can link hearts and
7 minds with our true why around safety and safety promotion,
8 there's nothing better than the importance of what we do every
9 day.

10 Q. But do all the hearts and minds have that same level of
11 access that someone such as yourself in your position would?

12 A. Yes. The Safety Promotion Center, the online one now is
13 available to everyone. And the brick and mortar, we went through
14 a couple years ago getting all of our teams through those. So,
15 yes. We as a company have even put out training with those types
16 of videos and things throughout the years too. So, yes,
17 absolutely. In fact, we made it part of our incentive plan, I
18 believe last year, that every teammate would go through a safety
19 training.

20 Q. How confident are you that that message is being received in
21 the way that you want it to be received?

22 A. I'm confident. When you talk to employees about the
23 importance of the work that we do, they get it.

24 Q. Likewise, for instance, with some of these quality metrics
25 that you would look at, at the intervals that you would look at

1 them, how confident are you that you are being given the
2 information that you need to make solid decisions and that it
3 hasn't been filtered in any way?

4 A. I'm one of those people that likes to create my own decks,
5 and so I go straight to the information source oftentimes. But I
6 would never believe somebody to filter the data that would be
7 coming to me. It's about how you receive the data and about what
8 you do with the data. I think that makes the culture of
9 continuous improvement that you need, and I have no fear that
10 people were filtering data from me.

11 Q. All right. I'm going to pass off for now, go on and move on
12 to Pocholo.

13 BY MR. CRUZ:

14 Q. Carol, thanks for talking to us today. Since you were the
15 Vice President of Quality in Renton during when the fuselage came
16 through, what have you learned with regards to this particular
17 accident?

18 A. I was the Vice President of BCA at the time that the accident
19 happened, and when it immediately happened, we did full
20 containment. We did a line check. We looked at other airplanes
21 to see if we had risk. Then we looked at like statement of work,
22 so other doors or similar statement of work like the doors, and
23 did a line check on everything that was in final assembly. Then
24 we looked at the planning and made updates to installation plans,
25 both at Spirit and within our four walls.

1 We looked at the proficiency of the people doing the work
2 from Spirit within our four walls. We had immediately taken away
3 their -- well, we had taken away -- I can't remember the timing of
4 -- we took away their ability to buy off their -- or conform, say
5 that their work was conforming through Spirit Quality. We had
6 Boeing Quality that had to go look and say that their work was
7 conforming.

8 There's a multitude of things that we said, okay, we need to
9 go take immediate containment on, and then where we saw
10 vulnerabilities, start looking at where we need to go do
11 improvements. Like around our SAT system, we noticed that maybe
12 there was a confusion on whether it was authoritative or not, so
13 we put a big splash screen that said this is not an authoritative
14 source. Vulnerability like the removals, we went and did a
15 workshop on what else we need to go do for that process. And so,
16 it was a very holistic effort around containment and actions that
17 were taken.

18 Q. Typically, as far as you knew, which Boeing groups were
19 allowed to actually work on a mid-exit door plug?

20 A. Which Boeing groups were allowed to work on that? I believe
21 it was the doors team that was assigned that statement of work,
22 but not being on the manufacturing side, I don't -- yeah.

23 Q. Okay. Let's talk about supplier quality. You said you were
24 -- what types of issues were coming out of Spirit, either a little
25 bit prior to the accident with regards to the quality of fuselage

1 that were coming into Boeing and ready?

2 A. We had defects. Sealant was one of our biggest defects that
3 we had write-ups on. We had multiple escapements around the
4 window frame. Skin defects, those were our biggest bigger --
5 biggest drivers.

6 Q. Okay. Was there a lot of travel work coming into Renton from
7 the -- because of the fuselages from Wichita?

8 A. When you think about travel work, there was an inspection
9 being done as soon as it would come into our four walls, and then
10 that's when we would do the inspection and write things up. When
11 you think about travel work coming into Spirit, that would have to
12 be accepted by us to come in. Really, where we saw the majority
13 of the work statement was in the write-ups and positions
14 (indiscernible) zero.

15 Q. And specific to Supplier Assist, can you tell me a little bit
16 about that program that you guys have, Supplier Assist? Are you
17 familiar with that program?

18 A. Where the suppliers come in and help with statement of work?

19 Q. Yeah. Or discrepancies that they find, or that Boeing QA has
20 found and written up as an NCR or NCO.

21 A. I'm not sure I understand the question. Sorry.

22 Q. Do you understand -- I guess, do you know what the Supplier
23 Assist, how that process works within Boeing?

24 A. That is actually managed out of Supplier Management.

25 Q. Okay.

1 A. We will make sure that we have the right inspectors to help
2 partner with those folks, but the contract or the work statement
3 can be managed under Supplier Management.

4 Q. Oh, okay. Okay. I wanted to get back to the issue with
5 regards to root cause analysis that you talked about. You said
6 there were different ways to determine root cause analysis. If
7 there's a root cause analysis that's been written up by the
8 Quality Department, and you say there's certain teams that work on
9 those, correct?

10 As far as, let's say, if they find something, you guys did a
11 root cause analysis, and then maybe a month or two months later
12 that same issue comes up again. Obviously, there was an issue
13 with the root cause analysis that you guys determined was --
14 basically should fix this issue. Right?

15 A. Correct.

16 Q. The people that first started that root cause analysis, and
17 it comes up again, are those the same people that's going to look
18 at it again, or is it a different team, different set of eyes,
19 that looks at the original issue and determines that maybe there's
20 something else we could have done?

21 A. I think it might depend. In a perfect situation, I think you
22 always want the same people that did the original root cause to be
23 able to look at that and say, okay, well, this is -- it didn't
24 give us the effectiveness that we needed. let's go back and look
25 at the other countermeasures that we could have done and then take

1 different action.

2 Sometimes, if it's found in a different location, and maybe
3 it hasn't gotten all the way back to the point of origin where it
4 started from, you might have a different team that starts with
5 trying to figure out root cause. But oftentimes, you always want
6 the team that started it to know that it -- what countermeasures
7 you took, what was effective.

8 Q. Okay. During your time there, obviously, there's an issue
9 with removals. Do you know what the history of the removal BPI
10 (ph.) is?

11 A. I do. I have seen the history of the removals BPI.

12 Q. Could you, I guess, give us a quick brief of what the actual
13 removal BPI was and how it went through this process?

14 A. Yes. 1581 is our removal BPI. And over time, we -- when we
15 have seen issues with escapes or lack of adherence or something,
16 we would try to clarify or add in additional information into the
17 BPI to help make it where that anomaly wouldn't happen again.
18 Over time, it's gotten more complex. And now, an effort to
19 simplify has -- had started a few months back. I think the
20 workshop was in February or March.

21 Q. And do you know whether the removal issue was across not just
22 the 737 line, but the other production lines as well?

23 A. From a complexity standpoint or where we saw either a
24 voluntary disclosure that we made or a compliance issue, we saw it
25 on a few programs.

1 Q. Okay. And based off of the root cause analysis on that,
2 obviously, there was some work done by your team or your Quality
3 Department to try to, I guess, get a handle, or contain the issue
4 with regards to removal, right?

5 A. Correct. Not just from the BPI written process itself but
6 training the system holistically (indiscernible).

7 Q. And obviously, you know that there have been changes to that
8 BPI. Do you recall whether it was the same team that looked at --
9 did the first root cause analysis and another team comes in there?
10 Or with regards to the different production lines that had issues
11 with regards to that BPI, was it the same team that looked at that
12 root cause analysis?

13 A. I don't know that. What I do know is that we have one leader
14 now that's been in place for a while, that they are responsible
15 for any changes for 1581.

16 Q. Is that prior to the accident or after?

17 A. I don't remember when she was assigned. There's always been
18 a process owner, but I can't remember if it's -- I don't know.

19 Q. Okay. Has the FAA -- you said that you basically have
20 meetings with the FAA periodically.

21 A. Yes.

22 Q. Has this particular BPI ever come up through conversation
23 between Boeing and the FAA with regards to this particular BPI?

24 A. Yes, and that's part of the improvements that we've made over
25 time, our commitments through FAA letters are part of those

1 changes that have been made to the team.

2 Q. In your opinion, since you were the quality manager at the
3 time or executive at the time, why do you think there's a reason
4 why Boeing can't get the BPI correct throughout the production
5 line?

6 A. I think that removals -- there's so many different aspects of
7 either why you would do a removal or could do a removal, and I
8 think it's a complex situation that we're trying to make as simple
9 as possible.

10 Q. Okay. Did this ever come up as a high-risk issue with you
11 guys at the time as far as removals are concerned?

12 A. No, it had not come up, besides the changes that we needed to
13 make to the letter and being in compliance with the process.

14 Q. Okay.

15 A. And I will say, now there's daily visibility on any time that
16 we have not followed that and we have an unauthorized removal. I
17 get a daily email, and my team does a rapid problem-solving model
18 that day before anything that comes through with my
19 (indiscernible) in 787.

20 Q. In 787?

21 A. Yes.

22 Q. Out of curiosity, and I know this is probably a bit
23 different, since you were assigned here, has there been any issues
24 with removal since you've been assigned here?

25 A. Whenever we -- I'll give you a specific example. We had a --

1 it was written up as we had three unauthorized removals on an
2 airplane. The team did an immediate rapid problem-solving model,
3 and they found out that actually they didn't have an unauthorized
4 removal. It was written up on the wrong side, and there was just
5 confusion on a three-point location. And so, that's exactly why
6 we do the rapid problem-solving model is to be able to, if there
7 is a problem, address it immediately and put containment in place.
8 But it seems to (indiscernible).

9 Q. I think that's it for now. Thank you.

10 DR. WOODS: Anyone else?

11 BY MR. JOHNSON:

12 Q. Good afternoon.

13 A. Good afternoon.

14 Q. We've learned from previous interviews that many experienced
15 mechanics have left or retired from Boeing's organization over the
16 last five years. Given that most of the training is done through
17 on-the-job training model, how is the Boeing Corporation changing
18 training practices to offset the less experienced or inexperienced
19 labor force?

20 A. I do think that this is an industry challenge. We've
21 actually had many suppliers ask us about how we work through it,
22 and we've worked with our suppliers on how to use best practices
23 to improve overall. For OJT, the on-the-job training, we
24 specifically have a model where you watch the work being done, and
25 you're partnered with a peer. So, if I'm assigned to a certain

1 bar line, that person, I'll watch them do the job, and then
2 they'll watch me do the job, and then I'm able to do the job. And
3 you don't move through the gates until, one, you have the right
4 first-pass quality, and two, that the person that you're training
5 with says, yes, you're ready to move forward. And that's been a
6 big help.

7 Q. We've also been told that processes can differ by location.
8 Why would a process differ by location, like a BPI?

9 A. As we are going through our simplification efforts, the goal
10 is actually, it wouldn't matter what site you're at. But a good
11 example of why you might have a different process is, for example,
12 787, when it was set up, is on a common manufacturing execution
13 system called Velocity, where the legacy programs are within a
14 system called CMES, and that would be a difference of, you're
15 using two different systems, so you'd have two different
16 processes.

17 Q. Okay. Has the SMS program identified any risk to less
18 experienced touch labor at Boeing, and how is this risk being
19 mitigated?

20 A. We did an SRM, a safety risk management, when we were
21 onboarding a large number of people, and that's actually what
22 spurred, and this was three, approximately three years ago, and
23 that's actually what spurred a lot of the training improvements
24 that had taken place beforehand. So, that activity was part of
25 that effort.

1 Q. How are safety findings and corrective actions shared with
2 Boeing leadership and what level of leadership is briefed?

3 A. Depending upon the safety items -- so for engineering, I
4 think about our safety review boards, and that level of
5 leadership, it goes straight to the chief engineer for the
6 program. For safety risks, we have our boards for our safety risk
7 management, and we talk through where we're seeing risk, teams
8 bubble up risk, and we'll manage them on our risk register at that
9 point as well. And then if it's a high enough risk, then it goes
10 to our CEO, and then the accountable executive, Dave Calhoun --
11 excuse me, our CEO for the company.

12 Q. How receptive is leadership to suggestions from the
13 (indiscernible)?

14 A. Very much so, and I think you see that with our employee
15 stand-downs and the actions that we take there, and then our
16 speak-ups and the follow-up that we must do and do there.

17 Q. What level of leadership is briefed on findings from FAA
18 audits?

19 A. So, for every FAA audit, you have a leadership debrief, so at
20 that point is when any non-compliances would come up, and the
21 leaders would hear it real-time at the time of the outbrief.

22 Q. Okay. This is more of a generic question, have there been
23 any changes to the point when the chipset action tracker (ph.) is
24 being used?

25 A. We -- I mentioned the splash screen earlier to make sure that

1 it was being used only as reference and not as authoritative
2 documentation. And I'm not sure if there have been any other --

3 Q. On this other factor, these slides we're talking about that
4 has a throughput problem, we noticed there was a lot of confusion
5 as to whether or not it needed a removal generated. It seemed
6 like there was some struggling going on that was pretty well-
7 documented, but it wasn't clear what the resolution was, and it
8 just kind of evaporated at the end of the day. I was curious if
9 anything had been done to improve that system, and how it's being
10 used.

11 A. I know we were working through a workshop, I just haven't
12 been as close to those changes, and I know that there's an
13 elevation process within the SAT system as well, but again, just
14 haven't been close to --

15 Q. Have you ever seen an MED plug opened?

16 A. Yes, sir.

17 Q. What did you think? Complicated, not complicated?
18 Understand how it could have happened?

19 A. I think building airplanes is complicated in and of itself,
20 and I have a lot of respect for our design and manufacturing teams
21 that produce and build airplanes every day.

22 Q. Let's talk about removals a little bit. How is Boeing
23 ensuring that removals are properly documented? We can use today,
24 for example.

25 A. Yeah, so every day I get an email that we are constantly

1 looking out for, is the process being done correctly, and if it's
2 not, then an unauthorized removal is written. The unauthorized
3 removal then comes onto this daily report. The daily report, I
4 get -- I see it every single morning, and if we have one on our
5 787 program, I'm not talking in my role right now, then we do a
6 rapid problem-solving model to figure out what happened. It gets
7 documented by the K-level that the team in which the unauthorized
8 removal happened, and any containment or corrective action then
9 would take place.

10 Q. Are you seeing a lot?

11 A. No. I've seen -- and like -- I've only been on the program a
12 month. We just did a review at the Quality Management Review last
13 week, where I did get to look at it over time, and the trend had
14 been ticking up a bit, and Caroline (ph.), the quality leader for
15 the 787 program, and I, did a joint message out to the team at a
16 Tier 3 the next morning, talked about it at our Tier 3 at the
17 delivery center, and sent a note out to our teams with the facts
18 and data, and then we have a removals communication going out
19 actually today.

20 Q. Continuous removals, what is Boeing doing to ensure removals
21 are written to the highest standard?

22 A. We continue to monitor that process, and the removals have
23 been being audited from a core group of folks to make sure that
24 the people that were writing removals were competent and
25 proficient in that training.

1 Q. The last one I have for this round is, does Boeing have a
2 policy that allows the employee to be isolated during an
3 investigation following company purposes (ph.)?

4 A. Can you say that again?

5 Q. Does Boeing have a policy that allows for an employee to be
6 isolated during an investigation, so be removed from his duties,
7 his or her duties, in quarantine basically, or put into a non-
8 safety type job?

9 A. I think it varies based off the investigation. We have in
10 the past, and speaking just from experience, where we needed to do
11 an investigation, we would put somebody on leave with pay until
12 the investigation concludes. But again, we have multiple ways
13 that we can handle an investigation and just making sure that
14 we've got -- or we're getting to the information we need.

15 Q. Okay, thank you.

16 BY MR. PETRUZZELLI:

17 Q. Three and a half years, you said, right?

18 A. Yes, sir.

19 Q. Do you recall back -- so what, 2018 or 2019?

20 A. I think it was 2020, end of 2020. It was November 2020.

21 Q. Okay. Probably the tail end of this was still going on,
22 verification, optimization, whether we're dropping inspections,
23 you know, quality inspections off to manufacturing. One of the
24 things (indiscernible) ask the question of, have these inspections
25 been put back on? And we were told, yes, and we're still seeing

1 multiples not being put on. FAA is (indiscernible) CNPs and EIRs.
2 What can you tell us about where we're at with reinstating
3 inspections?

4 A. So, we added over 1,500 inspections since I came into that
5 role, and that was back in January when I pulled that number. And
6 we continue --

7 Q. This January?

8 A. Mm-hmm, over 1,500 per airplane. And we continue to assess
9 in each of the teams and programs of where we need to add or
10 change inspections.

11 Q. You added back 15 -- but it looks like in 2017, you were
12 doing 3,200 inspections for each MAX --

13 A. I don't know the numbers.

14 Q. (Indiscernible) team. What was -- I'm speaking to hourly
15 inspectors, (indiscernible), general inspectors, functional tests,
16 and TIs. What was that population, up and down numbers as roughly
17 as you can get them?

18 A. I don't know the numbers. I do know that it was between 2019
19 and January again when I pulled the data. It was about a 20
20 percent increase and that was before we added, I think that was
21 before we added probably almost 1,000 more. I know that because I
22 we started with, like, 5 -- I do holidays cards, and we started
23 with, like, 5,000 and then my last year of Christmas cards was
24 7,000. It was a significant increase.

25 Q. (Indiscernible) last year.

1 A. Should have.

2 Q. (Indiscernible) computer, so thank you. We started taking
3 (indiscernible) aircraft (indiscernible) 2020. Between, say, now
4 versus then, until you left, can you talk about the numbers and
5 the ebb and flow of what these numbers look like (indiscernible),
6 for example?

7 A. I can picture the charts. I can't -- I don't recall the
8 numbers right now.

9 Q. I think prior to the pressure dome (ph.) issue, I think we
10 were trying to (indiscernible) down, right? Three, four, five,
11 something like that per airplane.

12 A. Yeah, we were doing (indiscernible).

13 Q. Yeah. And post that it went up, you know, versus January
14 (indiscernible) up. So, that's kind of what I was looking for,
15 just to comment on it.

16 A. Yeah. Sorry, I don't remember the straight numbers. But it
17 continues to be a focus and we want to give a perfect airplane to
18 the regulator each and every time. I know for 87, our last ticket
19 was 1079 in Everett on July 5th, and we had two items zero FOD.

20 Q. Really?

21 A. Yes, sir. Team's doing a good job.

22 Q. We had one last week with five. (Indiscernible). How in
23 your mind has the process looked as far as us getting delegation
24 back from the FAA, since you came on? And I'm talking
25 (indiscernible).

1 A. Say that -- I heard delegation, but you broke up a little
2 bit.

3 Q. Talk about where you felt we were in that process to get
4 delegation back. There was a three-tiered proposal or Tier 1,
5 Tier 2 or I don't remember the exact (indiscernible).

6 A. Yeah.

7 Q. Talk about that and where we're heading and where it's at
8 now. You can use both 37 and 87 programs.

9 A. Yeah, really it was just around stability and making sure
10 that we had a stable process no matter who was ticketing. We just
11 wanted to make sure that we were repeatable and giving good
12 airplanes each and every time.

13 Q. Do you see that delegation coming back soon?

14 A. That is not my call.

15 Q. You can't offer an opinion?

16 A. That is not my call, sir. I deliver -- I try to do my best
17 to deliver a perfect airplane every single time to my regulator.
18 That is my job.

19 Q. The last thing is just to touch on the SAT that was generated
20 for this incident. We talked a little bit about the process for
21 people on the (indiscernible) or whatever. That SAT, have you,
22 one, read it in its entirety?

23 A. I have not read it in its entirety. I read pieces of it a
24 long time ago, and I don't remember the details.

25 Q. Would it be fair to say that there was a fairly active level

1 of management that was involved in that process and had eyes on
2 it?

3 A. Sorry, John, I can't remember. I imagine there was, but I
4 cannot -- I shouldn't speculate, and I don't remember.

5 Q. If there was a situation, using removals as an example, and a
6 situation where there was disagreement on is a removal needed and
7 employees directed, for example, to go do something and it's not a
8 removal. This is reality; it happens, unfortunately, to this day.
9 Where does that accountability piece -- or how do you -- can you,
10 at a leadership level, capture what you don't know?

11 A. Where there's a question where multiple people are in
12 disagreement, the ideal state would be to get everybody together
13 at the airplane and then go solve it together, figure out the
14 right process, get a SME involved with the process owner, and have
15 that conversation so that you can get a best -- what's the right
16 path forward?

17 And if somebody is being told to do something that is against
18 process, first and foremost, we want them to raise their hand, and
19 if it was their leader, to go above them or to somebody, another
20 leader that can help them. We never want somebody to deviate from
21 process.

22 Q. When somebody is -- I hate to use the word force, but leaned
23 on heavily to deviate from the process, what accountabilities are
24 there to (indiscernible) the first, second, third, and fourth
25 levels?

1 A. If we find that somebody is blatantly asking their team to
2 violate process, we will take corrective action and it will be
3 determined based off the investigation and our Employee Corrective
4 Action Process.

5 Q. I'm good for this round.

6 DR. WOODS: Thank you. Eric.

7 BY MR. EAST:

8 Q. All right. I think earlier Sabrina was asking a question
9 about safety culture and safety promotion and I think you
10 mentioned employees get it, and you also said that we're never
11 going to be done and we're going to continue to talk about safety.
12 How, in your prior role and this role, are we communicating that
13 to employees on the floor, both after the accident in your role
14 and in your role now on the program?

15 A. Well, immediately after the accident, we had our quality
16 stand downs across all sites on Boeing commercial airplanes and
17 fabrication sites and we even had a few of our suppliers do
18 quality stand downs also. Yesterday, we did our quarterly safety
19 and quality promise to continue talking through that. We actually
20 have safety and quality moments each and every day. So, every
21 morning, even at the leadership level for our Tier 4s, we start
22 with our safety moment and our quality moment.

23 MR. EAST: And is that safety moment, I'll say transitioning
24 more or including more product safety or workplace safety or a
25 little bit of both?

1 A. It depends on the day, but it's both.

2 Q. Yeah. Okay.

3 A. Yeah, it's both. And the quality moments can be both as
4 well. There was a crane (ph.) movement talking about product
5 safety and personal safety in one last week.

6 Q. That's it for me.

7 DR. WOODS: Okay. I think we're probably a little over an
8 hour. So, an hour and 12 minutes. How are we feeling? Are we
9 ready for a break? Or would you like to press on? Break? Okay.

10 MR. PETRUZZELLI: Yes, a quick one.

11 DR. WOODS: All right. We are going to go off the record at
12 1427 Eastern Time.

13 (Off the record.)

14 (On the record.)

15 DR. WOODS: Okay. We are back on the record at 1437 Eastern
16 Time.

17 BY DR. WOODS:

18 Q. I'm going to hop around, so I'm going to apologize for that
19 now because I have a couple follow-up questions, so it was
20 previously asked. Going back to kind of the whole BPI process,
21 just in general, as a whole, all BPIs, not specifically the
22 removal one, how do you ensure there's coherence and clarity
23 throughout all of them?

24 We've identified that maybe the removal BPI is not as clear.
25 It's been revised so many times. It's not as clear as you would

1 like. How do you make sure there are other BPIs that aren't out
2 there in the same position?

3 A. We have reviews of our command media that are supposed to
4 take -- or take place over time, and we audit them. We also
5 recognize that there's still complexities that we need to go fix,
6 and that's why we have this specific effort within the
7 Comprehensive Product Safety and Quality Plan to go and simplify
8 the processes because we do recognize that there might be overlap
9 and better ways to streamline the documentation, like what was
10 brought up earlier around different sites having different
11 processes. That's something that we should and are working
12 through to go change.

13 Q. I know during -- when we specifically talked about the
14 removal BPI, you had said there's different people who own those
15 processes and that you're going back to that source to make
16 changes, whatever, but how often is the end user actually brought
17 and rolled into that fold? How often is their feedback solicited?
18 Because they're the ones who have to use this, ultimately.

19 A. Actually, often. The process owners get direct emails from
20 people all the time that want or suggest changes, and then that
21 process owner would then manage, hey, is this a good idea? Is
22 this something worth taking into consideration? They would
23 ultimately then be able to do that.

24 Just like the removal process, you could also submit a speak-
25 up if the processes are working well. The document owner takes

1 sources from all sorts of areas. And the workshops that we do as
2 well, those include end users.

3 Q. Bouncing again to how much have you been involved previously
4 or are involved now with that transition from what was previously
5 your voluntary SMS and now the Boeing company is transitioning to
6 a regulatory SMS?

7 A. So, I head up our -- I was heading up the billboard for the
8 quality side under that role, and I currently sit on the 787 SMS
9 board.

10 Q. Are there any major differences between the two? And if so,
11 can you give us a high-level overview of what those might be?

12 A. I think the biggest difference with the billboard is it was
13 just very cross-functional. Well, I say that, very cross-
14 functional, but the 787 board is also very cross-functional. So,
15 the billboard had manufacturing quality and supply chain, all
16 executive leaders coming forward to look at it at the BCA level.
17 787 is similar, where it's the program leaders -- or excuse me,
18 the functional leaders for each of the areas on the program. So,
19 I guess in that regard, it's actually similar. I thought it would
20 be different, but no, very similar.

21 Q. So, do you foresee the key leadership positions having a
22 change in their responsibilities during the transition from a
23 voluntary SMS to the regulatory?

24 A. I haven't seen transition, no.

25 Q. And the timeline for achieving, I think it's something along

1 the lines of 36-ish months, give or take, do you foresee Boeing
2 having a problem meeting that particular timeline?

3 A. No, ma'am.

4 Q. And then my last transition is back to what we've
5 affectionately called the 90-day plan, but now it's more of a
6 comprehensive quality and safety program that you've moved into.
7 At the request of the FAA administrator, several improvements are
8 ongoing, being made, being introduced. Can you give us a high-
9 level -- well, first of all, were you involved in this process?

10 A. Yes, ma'am.

11 Q. Okay, so can you give us a high-level overview of
12 particularly how the six KPIs were developed and finalized? Like
13 why these six?

14 A. So, we worked it in collaboration with the FAA, had put
15 forward a grouping of suggested KPIs. We got feedback. We said,
16 okay, maybe let's change a few of them. We got multiple pieces of
17 feedback and ended up with the six KPIs that we have now, but it
18 was a collaborative effort to get there.

19 Q. So, my concern is that from all the -- and this is, again,
20 going back to your previous job -- from all of the metrics that
21 you have to look at, these KPIs, these different categories, have
22 always existed. They've been out there. What makes it different
23 now? Why were they not designated before as being target areas?
24 What has changed outside of the accident to all of a sudden make
25 these the key focuses?

1 A. What I love about the six-pack is it's very clear on the
2 upper and lower control limits in which we're managing to. It's
3 not just a trend, are we getting better or getting worse? But the
4 upper and lower control limits give us discreet, are you nearing a
5 time where you need to take some additional deliberate actions?
6 Are you past a point where healthy normals would be? And so,
7 those upper and lower control limits, I think, have been a real
8 improvement to those KPIs and how we're managing them.

9 Q. Let me refine the question. I guess what I'm asking is, out
10 of all the metrics that you have had before, and still have, it's
11 just that these six have been the ones that you've identified,
12 what's the difference between the past and now? Why now? Why
13 these six?

14 A. So, you're right. They've existed before in various places
15 or locations. To bring them all together and have the leadership
16 team rally around those particulars we know are going to give us
17 internal health, external supply chain health, and then stability.
18 And I think that's what gives us all a central point. It's not
19 just (indiscernible). For example, notice of escapements or part
20 shortages might have only been looked at from a supplier
21 management perspective, and now the whole team gets to look at it.

22 We had some of those metrics or most of those metrics in the
23 rate readiness, but now they're at the forefront of all of our
24 program reviews and our BCA level reviews so that we can be
25 accountable to those.

1 Q. How confident are you that you have the right six?

2 A. I think it's a great starting point. I don't think that we
3 have our eyes closed to other metrics either, and as we -- if
4 there are things that we are like, hey, we're getting really,
5 really good at this, but this one over here is something we knew
6 that we hadn't been watching but we really should that's a better
7 indicator, it doesn't mean that we're not looking at anything but
8 the six pack. It just means that that's what we've got that we'll
9 hone in on for the control measures and the corrective action
10 plans, but that doesn't negate anything else that we're doing in
11 our other forums or rate readiness or program reviews to make sure
12 that we holistically are whole.

13 Q. And then the reason for this comprehensive plan, again, this
14 was at the request of the FAA administrator, and you were
15 essentially given that 90 days to present your plan, to identify,
16 come up with mitigation strategies and present your plan. Do you
17 feel 90 days was enough?

18 A. Before even the 90-day plan was asked of us, we were looking
19 for all of the ways we needed to improve, and I do think it was
20 enough to say, this is what we're going to focus on now because
21 you don't want to just -- you have to start with the biggest
22 vulnerabilities that we had and go attack those and then
23 continuous improvement is always a journey that we'll be on and it
24 doesn't stop. After we're done with this plan, then it continues
25 on where else we need to continuously improve. It is a journey.

1 Quality is just like safety that you cannot stop improving.

2 Q. And, again, I circle back to what prevented these things from
3 being identified before?

4 A. The vulnerabilities, you mean, or what do -- can you say more
5 about your question?

6 Q. So, again, accident happens, there's a request of the FAA
7 administrator. I understand why you designated these six target
8 areas as the focus, the KPIs. What prevented them from being
9 identified before an accident happened?

10 A. What I want to make sure is clear is this wasn't an on-off
11 switch. There has always been improvements in work. We always
12 take action on our defect data, which is one of the KPIs in our
13 six-pack. We always are looking to how we can improve training or
14 our processes. The 90-day plan gives a lot more emphasis and
15 complete revamp in some of these areas, but it doesn't mean that
16 there wasn't something in work before.

17 Q. Out of that plan, which aspect of it are you the most
18 confident in and that you believe will see positive change the
19 quickest?

20 A. Oh, my goodness, that's hard. Because I've already seen
21 significant improvement in the work in process parts control. We
22 saw a 60 percent improvement when we implemented it on the 737
23 program, and I can't wait to get it implemented on 87. We're
24 working through it. We're hiring the right people right now to be
25 able to do that. So, I'm really excited about all of the

1 compliance efforts because we've seen significant improvements
2 there. We've seen significant improvements in training.

3 I love the SMS-QMS integration, the SRMs that we're doing,
4 moving from position to position. We just implemented it from
5 (indiscernible) -- from position 0 to 1 here on 787, and already
6 we're seeing the team bringing up, hey, we can't move this tonight
7 because we've got to go work on X, Y, and Z. Okay, well, on the
8 next airplane, how do we go prevent X, Y, and Z from happening?
9 The conversations just from starting it, we've just seen so many
10 improvements on it. So, it's kind of like choosing your favorite
11 child. But truly, the changes that we're making are significant,
12 and we're already seeing benefits, so it's hard to choose the
13 best.

14 Q. So, I like to balance my questions out. What change or area
15 do you believe is going to need the most nurturing to get it --

16 A. Process simplification.

17 Q. Okay.

18 A. Yes, ma'am. We have hundreds of documents that we need to go
19 streamline. If you map out our documentation right now, it kind
20 of looks like a fireworks show, and we've been told by our
21 regulators and our teams that our processes are complicated. And
22 it's going to take significant effort to go change that because
23 they're so intertwined. But we have the right team in place to go
24 lead the effort and to go do it. And I know we've got the right
25 work streams to go put the right focus on it, but it's going to

1 take some time.

2 And so, we all need to rally around. If I'm a different
3 site, I don't get a different process. Or if I'm using a
4 different system, I don't get a different process. And so, that's
5 going to take a lot of TLC, but we have the right team in place to
6 go do that.

7 Q. Okay. Well, I have one concluding question, but that is all
8 I have for my main boat, so I'm going to pass it off again.

9 BY MR. CRUZ:

10 Q. Okay. So, you talked about stopgaps or containments for the
11 removal process. What stopgaps do you have if it happens again?
12 If for some reason tomorrow you have an unauthorized removal that
13 was being done, what stopgap do you have in place that that issue
14 with regards to, let's say, there was some hardware that needed to
15 be reinstalled, and obviously there's no removal paperwork for it,
16 what do you have in place now that would prevent that particular
17 component or assembly going out without the correct hardware?

18 A. So, that daily note on unauthorized removals with the rapid
19 problem-solving model that goes behind each one is our way to say,
20 is the airplane back to being conforming? Is there additional
21 containment that needs to take place or a different corrective
22 action?

23 Q. Is that just on the 787?

24 A. No, sir. It's across all programs.

25 Q. So, everybody knows that we have one stopgap. If it happens

1 again, this is what happens -- this is what needs to happen as far
2 as processing is concerned.

3 A. Yes, and there's a PCA team that watches all the program
4 activities as well.

5 Q. Is that relayed to the FAA at some point?

6 A. I believe. I'm not sure. I believe it is at some -- we
7 share a lot of metrics within our PC700. I'm not sure if it's
8 been added in particular, but the FAA can ask for multiple data
9 sets at any time. So, I don't know if that one in particular --
10 let me say I don't know.

11 Q. Okay. Obviously, you have conversation (indiscernible) here?

12 A. I do.

13 Q. Okay.

14 A. Yes.

15 Q. Do you have any contact or touch points with Mr. Hager?

16 A. Mike Hager?

17 A. Yes.

18 Q. When I was in my previous role, yes.

19 Q. Okay, but not in this particular role?

20 A. Not normally, at least not from being in Charleston. Mike is
21 primarily focused on the West Coast.

22 Q. Okay. Getting back to the mid-exit door plug, you mentioned
23 that you believe that the door crews were the ones that would
24 typically handle issues with regards to the plug itself.

25 A. I believe that's the case, yes.

1 Q. Do you know if they have any formal training with regards to
2 the plug or 737 mid-exit doors?

3 A. We actually did take a look at the training and added very
4 specific details around the plug and the differences between the
5 door and the plug into their training. It was a PowerPoint
6 presentation. We did add that into that after the accident had
7 happened, as well as the rating document that teams work to.

8 Q. Do you know, prior to the accident, do you know what other
9 teams besides the door crew could work those doors?

10 A. I don't.

11 Q. Okay. Plug -- I'm sorry. So, thinking back to your time as
12 a quality executive in Renton, what kept you up at night?

13 A. It's always the question, are you doing enough? What aren't
14 you seeing or what hasn't bubbled up yet? Those types of things.

15 Q. And how do you deal with that?

16 A. Do your best to surround yourself with the best facts and
17 data that you've got, and you listen to the team to find out where
18 those hot spots are and take action.

19 Q. Okay. Since you're new in this role here, same question.

20 A. I have been meeting with the team like crazy. In fact, I
21 just met with our chief mechanics and inspectors yesterday and
22 love getting their feedback of where we need to continue to focus
23 and improve, and that's what I'll continue to do. I read all of
24 the 787s speak ups now, especially for manufacturing and quality,
25 and we also have the Pulse system out here, another way for

1 employees to raise their ideas.

2 Q. Thank you.

3 A. Thank you.

4 DR. WOODS: Anyone else?

5 MR. JOHNSON: I have nothing further.

6 DR. WOODS: John?

7 MR. PETRUZZELLI: No, I'm good, thank you.

8 MR. EAST: Nothing for me.

9 DR. WOODS: All right. Well, with that, that was a quick
10 round two. I really do appreciate your time. You're very busy
11 and you're coming into this role and you're trying to manage
12 probably keeping up with what you have done and then keeping up
13 what's new for you to do. And so, we do appreciate your time.

14 I would like to afford you the time. You knew that we were
15 coming and that we were going to ask some questions. I call it
16 the elevator pitch, right? If you want to give us a one-minute
17 elevator pitch to this working group, what is the biggest takeaway
18 that you want us to have? What do you want us to know as we walk
19 out of here and we continue with the investigative process for
20 this case?

21 MS. MURRAY: We know, I know, that building airplanes is a
22 privilege and we take safety and quality extremely important to
23 everything that we do. I fully believe in the activities that we
24 have outlined in the comprehensive product safety and quality
25 plan. And, again, it is an art of continuous improvement and that

1 won't be the end. And we'll just continue to keep our eye on
2 safety and quality. And thank you for your time. I can only
3 imagine the interviews and the time dedicated, so thank you for
4 what you do.

5 DR. WOODS: All right. Okay, then, with that, anybody else?
6 Thanks again. We are going to conclude this interview at 1457
7 Eastern.

8 (Whereupon, at 2:57 p.m., the interview was concluded.)
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ALASKA AIRLINES BOEING 737-9 MAX
 IN-FLIGHT STRUCTURE FAILURE
 NEAR PORTLAND, OREGON
 ON JANUARY 5, 2024
 Interview of Carol Murray

ACCIDENT NO.: DCA24MA063

DATE: July 16, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

Melissa Bousquette
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*

*

ALASKA AIRLINES BOEING 737-9

*

MAX IN-FLIGHT STRUCTURE

*

Accident No.: DCA24MA063

FAILURE NEAR PORTLAND, OREGON

*

ON JANUARY 5, 2024

*

*

* * * * *

Interview of: KIM PASTEGA,

Chair of Manufacturing Operations Council

Vice President of Manufacturing and Safety

Boeing

Wednesday,

July 10, 2024

APPEARANCES:

SABRINA WOODS, Human Performance Investigator
National Transportation Safety Board

POCHOLO CRUZ, Aerospace Engineer Investigator
National Transportation Safety Board

DAN MARCOTTE, Air Safety Investigator
Boeing

TROY LEVANEN, Director of Maintenance
Alaska Airlines

JOHN PETRUZZELLI, Quality Team Lead
International Associates of Machinists (IAM) Union

MIKE RINEY, On-site Investigator
Spirit AeroSystems

NILS JOHNSON, Maintenance Investigator
National Travel Safety Board

JENNIFER NOWACK, ESQ.
(On behalf of Kim Pastega)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Kim Pastega:		
By Dr. Woods		7
By Mr. Cruz		32
By Mr. Levanen		38
By Mr. Petruzzelli		41
By Mr. Marcotte		45
By Mr. Riney		47
By Mr. Johnson		48

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N T E R V I E W

(9:53 a.m.)

DR. WOODS: Good morning. It is July 10, 2024, and we are on the record at 9:53 Pacific Time. My name is Dr. Sabrina Woods and I'm the Human Performance Investigator with the National Transportation Safety Board. I am one of the investigators along with Petrillo Cruz to my left, co-leading the manufacturing and human performance working group for accident investigation DCA24MA063 involving Alaska Airlines Flight 1282. The NTSB is an independent federal agency charged with determining probable cause of transportation accidents and significant incidents and for promoting transportation safety. The NTSB is not part of the Department of Transportation or the FFA. We have no regulatory or inherent powers. We are a small organization, and we conduct investigations we do so in kind with what we call party members. Around the table you see here are parties that are here to help inform this process. So you have an understanding of who it is you'll be talking to, we're going to go around the room and do a quick introduction, starting to my left with Petrillo.

MR. CRUZ: Hello, Kim. My name is Pocholo Cruz. I am a cochair to this group. I'm an aerospace engineer with a maintenance background.

MR. LEVANEN: Troy Levanen. I'm a director of maintenance and engineering safety for Alaska Air Group, and I've been with the airline about 35 years.

1 MR. PETRUZZELLI: I'm John Petruzzelli. I'm here
2 representing the International Association of Machinists Union,
3 and I am an FAA coordinator quality inspector here.

4 MR. MARCOTTE: Good morning. I'm Dan Marcotte. I'm a Boeing
5 air safety investigator and I'm based in southern California.

6 DR. WOODS: Okay. Mike?

7 MR. RINEY: Good morning, Kim. Mike Riney. I'm a Spirit
8 AeroSystems Onsite representative here in Washington.

9 MR. JOHNSON: Good morning, Kim. Nills Johnson. NTSB. I'm
10 a maintenance accident investigator. My specialty is maintenance.

11 DR. WOODS: So, that's it. That's everybody that's going to
12 be asking you questions today. Today we're going to be using a
13 digital recorder. After the interview, we will send that
14 recording out for transcription to an independent company that
15 transcribes and certifies the copy. A copy of the transcript will
16 go forward later to be a matter of public record in the docket
17 that is for this case. We are here for you to share your insight,
18 your experiences, and Boeing processes with the goal of preventing
19 accidents. Each of the group members will have a chance to ask
20 questions. We are going to go one at a time, so each person will
21 ask their questions at a time. And there will be an opportunity
22 for the group members to have a follow-up round later to catch any
23 questions that they missed in the first round. Please answer all
24 the questions to the best of your ability. However, if it's you
25 don't know, it's outside of your purview, don't hesitate to say

1 so. If the question is not clear, please ask for clarity. We
2 will do likewise if we don't understand and answer. And if at any
3 time you realize you want to reclarify a question or if you want
4 to add on, feel free to go back and forth along the timeline to do
5 so. While we'll go in order, you're not held to those rules. You
6 can go where you please to answer how you feel. You're entitled
7 to have one representative of your choosing. I see here that
8 you've obtained legal counsel and that she's in the room with you.
9 I just want to confirm for the record that you are all right with
10 this legal counsel being with you during this process.

11 MS. PASTEGA: Yes, I am.

12 MS. WOODS: Okay, excellent. Counsel, if you would please
13 -- for the record, if you would state your full name and spell
14 your last.

15 MS. NOWAK: Jennifer Nowak. N-o-w-a-k.

16 MS. WOODS: Thank you for that. And please just remember
17 that this is an interview and not a deposition. Please refrain
18 from answering on behalf of your client or objecting to the
19 proceedings. However, if at any time you need a break, either of
20 you feel you would like a break, just say so. We'll go off
21 record. You can take that break for any reason you feel. If you
22 need to take a call or just want to step out, or if you want to
23 confer with counsel. With that, does anybody have any questions?
24 Okay.

25 INTERVIEW OF KIM PASTEGA

1 BY DR. WOODS:

2 Q. We'll get started with what's hopefully the hardest question,
3 which is if you would please state your full name and spell your
4 last for the record.

5 A. Kimberly Sue Pastega. P-a-s-t-e-g-a.

6 Q. Okay. And it is okay to call you Kim?

7 A. Yes, please.

8 Q. All right. Excellent. Thank you. What is your current
9 position and title?

10 A. I am the Vice President for Boeing commercial airplanes for
11 manufacturing and safety.

12 Q. And how long have you held that position?

13 A. I was named in December, and I started officially on --
14 January 4 was my first day in the job.

15 Q. January 4?

16 A. Yes.

17 Q. That's interesting timing.

18 A. It is interesting timing. Yes, it is.

19 Q. Okay. And who held the position prior to you then?

20 A. Scott Stocker.

21 Q. Okay. And how long has that position actually existed? Has
22 that been a longtime position here at the Boeing company?

23 A. Yes. Over the years it might've had just manufacturing and,
24 you know, independent of safety, but the position has been a
25 longtime position at Boeing.

1 Q. Can you give us a high-level overview please of what are the
2 rules and responsibilities of your position?

3 A. Yeah. So, first and foremost, as I said, I have
4 responsibility for the functional responsibilities for
5 manufacturing and safety. I lead the manufacturing function,
6 which is essentially -- you can think of it as all the people,
7 processes, and tools that support manufacturing across commercial.
8 I also oversee the environment health and safety organization for
9 commercial, as well as have a role in both of those in the
10 enterprise. From an enterprise perspective, I am the chair of the
11 manufacturing operations counsel and sit on the executive counsel
12 for the corporation. In terms of roles and responsibilities, you
13 know, in addition to the functional oversight, which you can think
14 of that in terms of, you know, all people-related types of
15 activities. Staffing, working in partnership with human resources
16 for talent management, leadership development, hiring, ensuring
17 that all of our programs have staffing. A big element is lean and
18 operational excellence in terms of our Boeing production system
19 plans, which is another, you know, framework around manufacturing
20 and our standards around that, not only, you know, across
21 commercial, but working across the enterprise through the
22 operations counsel. I, as I already said, oversee the environment
23 health and safety activities for commercial, and then -- oh, I
24 also have a role as the business leader with the international
25 association of machinists. In that role, I am part of the

1 national governing board, part of the joint counsel, and am also
2 part of the negotiations team that is obviously in progress right
3 now.

4 Q. So, that's a very high-level understanding of the total role
5 and responsibilities, but now if you could tell us what's a day in
6 the life of Kim like.

7 A. A day in the life varies a lot, as you can probably imagine
8 with something this broad but maybe I would frame it a little bit
9 this way. I will say I start most every single day with a tag up
10 and a touch with my own team. I have -- and one of the things I
11 probably didn't describe well earlier, but I'll just make clear.
12 The manufacturing team across commercial airplanes, only a portion
13 of that actually, and it's a fairly small portion, reports
14 directly to me. And the portion that reports directly to me,
15 there's two major pieces besides safety. It's what I would term
16 as factor support in all of our, you know, major sites. So,
17 they're doing maintenance kinds of activities. They're doing
18 plane kinds of activities. So, things that help keep our
19 factories running is the way that I would kind of equate it at a
20 high-level. And then I also manage our AOGNSST teams. In my
21 functional role, the processes, the procedures, the way that we go
22 about doing business, as well as making sure that all of the
23 businesses are equipped with the right manufacturing people,
24 processes, tools to be able to successfully execute their work is
25 how you can think about it with that framing. So, a day in the

1 life. I mean, I start almost every day with a tag up with my own
2 team. But it varies, you know, across the week and the month.
3 So, you know, Mondays I am typically spending a majority of my
4 time managing my own organization, as well as the broad functional
5 responsibilities that go across from our -- if you think a skill
6 team prospective or a people in process perspective. You know,
7 and then that goes all the way from managing my own team to a role
8 that I play in member of the BCA leadership team. So, I represent
9 the manufacturing function and am, you know, looking across the
10 whole business with the manufacturing plans. That's kind of
11 another day of the week. You know, another day of the week, I
12 might be with our airplane programs team, and again, part of that
13 leadership team and helping. The kinds of things that I'm doing
14 could be from looking at, you know, our -- how the business is
15 performing, looking at some of the improvement activities that
16 we're implementing, and I know we'll talk about it later but part
17 of a 90-day plan. I own some of those elements and my team owns
18 some of those elements, so I'm helping to develop and put those in
19 place. I might be part of -- I have a regular cadence with the
20 safety management system in my operation, so I'm monitoring the
21 business and throughout parts of the day or parts of the week at
22 different levels of the business. I might be traveling to sites
23 to go do -- you know, visit and see what's going on in a site, all
24 the way from doing -- participating in business reviews to going
25 down to the floor to see what's happening on the floor. And I

1 have, you know, regular cadences where I'm touching and helping to
2 monitor the business as part of the BCA leadership team.

3 Q. You touched on some of the -- I guess the function of those
4 under you, but for clarity, who has a direct line from you? In
5 other words, who are the people that report to you?

6 A. Yeah. So, our vice president of environment health and
7 safety reports to me and that organization. I have a vice
8 president of lean and operational excellence that reports to me.
9 And I have a director that reports to me that has what we -- our
10 -- their plane on ground and strategic structures team. So, those
11 are kind of specific skills that go out and do things either out
12 in the fleet or across our factories. So, those are -- and then
13 underneath them, they have, you know, teams that are reporting
14 through them. So, those functions report up through.

15 Q. And who is your direct line to?

16 A. I am direct line to Stephanie Pope.

17 Q. What is your and your position's level of direct involvement
18 with Boeing's QMS program?

19 A. From the QMS perspective, I would say there's a couple of
20 things. One is part of the functional role with people,
21 processes, and tools. I have ownership of any of the
22 manufacturing direct assigned processes that are part of the QMS.
23 I will give you some perspective. Manufacturing has about, in
24 rough numbers, a thousand, you know, processes and procedures that
25 are governed under the QMS that touch us. We own about 10 percent

1 of those. So, a large portion of even, you know, what we are
2 doing is governed either by engineering or quality but there is a
3 portion that we do have direct ownership to. And in others, we
4 might be a supporting role in that for the ones that are actually
5 executing the work. So, that's one of the roles in the QMS. In
6 terms of the QMS management system, I'm part of the QMS management
7 system. You know, if you think about our management system, our
8 QLRs and QMRs which manage conformance and compliance, I am a
9 leadership member of the team that, you know, looks at that
10 information to make sure that we're addressing any issues, as well
11 as part of the PC 700 team. So, I help participate in that as
12 well. And obviously, from a manufacturing functional perspective,
13 I mean, I guess you could say govern, you know, that we are
14 meeting the intent of all of the policies and procedures that
15 we're part of under the QMS.

16 Q. So, with that, what sort of tools are you looking at on
17 whatever weekly/monthly basis? Like, what sort of reports, what
18 sort of metrics are -- is your function most interested in?

19 A. Well, first and foremost, I'd say we don't do it in
20 isolation. So, we look at it from a value stream perspective.
21 But from a manufacturing function perspective, it goes all the way
22 from, you know, the shop floor on a daily basis up to -- you know,
23 with a cadence that's reviewing, up to, you know, the executive
24 level that is then monitoring data and trends. So, if you ask my
25 specific role, I dip into, like, you know, the tier meetings

1 occasionally, and that's really just a going to the floor and, you
2 know, it's a checkpoint and a validation. So, frankly, I've
3 spent, since I've been in this job, the vast majority of my time
4 spent in Renton down with the 737 team, but have had touchpoints
5 in, you know, multiple other areas in the first, what, six or
6 seven months as well. So, I will touch at that level, and that's
7 just more of is what I'm hearing, you know, at these levels
8 matching what I'm seeing down here. They go -- there are cadences
9 that each of the programs go through, so they'll be managing
10 daily, weekly, and monthly kinds of trends at the program level.
11 I participate in the airplane programs leadership team level, as
12 well as the BCA leadership team level meetings as, you know, a
13 member of both of those. So, in the airplane programs, the QMR,
14 the QLR, they're going to be looking at defect trend, they're
15 going to be looking at corrective actions, you know, and any
16 activities they're assigned. If some -- and some of those could
17 be, you know, manufacturing process assigned and some of them
18 could be assigned to a program, but it's isolated to that program
19 that we would be in a support role to. So, I have roles that kind
20 of see across the lens, looking through each of those. At the
21 BCALT level, you know, we are reviewing the production health,
22 which is a series of KPIs on a weekly basis, and then that
23 actually trees up into the top level BCA safety review and --
24 which some of the QMS trends are being monitored in, I think, on a
25 monthly basis where, you know, we're looking at whether or not

1 come of those trends for escapes or other things are in or out of
2 control. So, I'm a member of that as well.

3 Q. When you stepped in the role being relatively new, were you
4 given any sort of guidance or did you have overlap with your
5 predecessor that helped identify these are the things that you
6 need to do, these are the things that you need to focus on that
7 might be concerns coming up?

8 A. Scott and I have worked together for a long time and he and I
9 actually -- so, you know, I think I said that it was in, you know,
10 December when it was announced but I didn't come back and start
11 until, you know, January. So, Scott and I had actually met during
12 that timeframe right around the announcement and kind of gone
13 through what are some of the priorities for the organization, what
14 are some of the issues that we're working our way through,
15 etcetera. So, yes, there was a transition, and honestly, he's
16 still on speed dial, you know? So, I call back and forth. He and
17 I have worked together, he's worked for me, we've been peers, so
18 we've known each other for a long time.

19 Q. It's hard to say because it's such a short time from when you
20 took the position to when the accident happened. But when you
21 were announced in December and you had an idea of what you were
22 stepping into, did that change at all after January 5?

23 A. Yes. Yeah.

24 Q. Okay.

25 A. I mean, I can say that it did. You know, I think I was

1 coming into the role, you know, with three very distinct and clear
2 priorities, some of which obviously they'll talk about you'll know
3 have stayed. But you know, it was around our negotiations and all
4 the work that I'm doing with the IAM because it's a very big year
5 for both of us and a very key year, an important year. Some of
6 that was around continuing to advance our Boeing production system
7 and lean manufacturing, and then there was this role around I'll
8 say operational excellence with the programs. And the way I would
9 think it has changed -- I still touch those things, but you know,
10 as the -- immediately after, you know, as all of the activities
11 were sort of developing on what had happened, my focus really
12 shifted much more to a couple of areas. One was the 737 was going
13 through, you know, pretty significant slowdown and a lot of
14 different changes that were happening post-accident, and I have a
15 fairly significant background in, you know, having run our big
16 production programs in the past. And so, I stepped close to some
17 of that team to kind of help with some of the transition that was
18 happening during the time and how we were slowing down in some
19 other elements. Maybe a little bit closer than would've been
20 typical, but again, a role that, you know, the background and
21 experience served for, and I participated as the 90-day plan
22 started to develop in the portions that were applicable.

23 Q. I should've asked that earlier and I failed to. Apologies.
24 Give us a little bit of a background of your history prior to this
25 position --

1 A. Sure.

2 Q. -- because you've said you've had to pull on some of that
3 knowledge and resources. Can you tell us what you did before?

4 A. Yeah. And you guys can tell me how deep to go here. So,
5 I'll give you kind of the broad and then not necessarily go blow
6 by blow, every single position, because I've been here 33 plus
7 years. So, a long time. I too am an aerospace engineer, although
8 I haven't, you know, practiced that for a very long time, but very
9 proud of that. I will say the first -- I think it was somewhere
10 between 12 or 13 years was in engineering. So, multiple different
11 kinds of assignments that I stepped into. An executive
12 engineering role in one of our fabrication businesses in 2005, and
13 in 2006 stepped into a role leading the Triple Seven freighter.
14 The original Triple Seven freighter, since we're working on a new
15 one, and commenced to do that for a couple of years. Left that
16 both as the engineering leader and as the deputy program manager
17 and followed the Triple Seven freighter into production. And so,
18 at that point in time, I stepped into operations and took over in
19 early -- or sometime in 2006 the 777 manufacturing role. And
20 through that, you know, did that role for a couple of years,
21 became the program manager for the 67 for the first time after
22 that. Went to the 787 and had a couple of different roles that I
23 participated in as the deputy VP GM, as well as helping to lead
24 sort of the lean global production system is the way that I'll say
25 it. You know, as we -- that was a very different business model

1 and how did we -- the role was really around how do you
2 operationally stabilize, but I also, you know, lead final assembly
3 and some other pieces. I spent four years -- all of my career
4 except for four years was inside of -- has been inside of
5 commercial. But following the 87, I spent two years in defense
6 and took some of my knowledge from commercial and helped to
7 structure a fabrication business inside of defense. So, that was
8 really a restructure of existing to put more focus on capability.
9 Came back into the Puget Sound area and spent a couple of years on
10 helping with supply chain from a corporate perspective, and then
11 was asked to come back and take over the fabrication business for
12 BCA, which is a pretty large business, about 16,000 employees at
13 the time. That was when everything was shut down during the
14 pandemic. Did that for a couple of years. Was asked to go back
15 to the 67 and lead that, as well as the Everett site and
16 negotiations, and then stepped into this role. So, operations, a
17 little bit of supply chain, engineering, and program management.
18 Q. So, your current role -- and I know it's been since January.
19 You said you were kind of involved in ensuring that the people
20 have what they need to include the people themselves. So, you
21 talked about staffing, and it sounds like you interface quite a
22 bit with HR when it comes to your staffing levels. Could you go
23 just a little bit more into detail about that function? How do
24 you identify what your manpower standard looks like, what it
25 should be?

1 A. Yeah. So, first of all, from a manufacturing perspective,
2 manpower standard is set through a set of industrial engineering
3 standards. So, industrial engineering is a very key part that,
4 you know, is a support role to manufacturing. It's a very close
5 working relationship. But there are standards that each of the
6 programs and the businesses have depending a little bit on their
7 differences. A lot of commonalities in those standards but some
8 uniqueness to their particular -- what they do that they will
9 bring into it. They use those standards which, you know, will
10 include statement of work, complexity of the work, what are they
11 assuming for productivity, all of those kinds of things, and then
12 roll that up into a set of staffing requirements and types of
13 skills. Those get translated to my organization, and my
14 organization maintains a staffing standard around the needs of the
15 business. It is distinctly different than what -- so, finance
16 also forecasts, but what I hire to is what the business authorizes
17 me to hire to. That is the needs of the business could be higher
18 and could be different. So, we maintain that in a system, and I
19 use those requirements and work with human resources to then
20 create requisitions. There's, you know, a whole team that
21 supports human resources, and I have a little staffing team. It's
22 not huge, but a little staffing team that helps to kind of work
23 and put all of those things together and maintain it. And then
24 we, you know, monitor and manage all the -- along with human
25 resources, the interviews, the hiring, all of those elements and

1 pieces as it comes through. So, that's one of the kinds -- you
2 know, you talk about a day in the life? That's part of my
3 operating cadence on a Monday, right, is I'm looking at that to
4 see are we on plan? Are we off plan? Are we going to be able to
5 meet what we think the business needs?

6 Q. Do you have any insight into the -- for instance, the past
7 five-year history as to whether or not you've met those staffing
8 levels? How it's fluctuated?

9 A. Well, I can -- from the different perspective -- you know, in
10 some of the roles I was sitting in prior, I can tell you, you
11 know, earlier on with -- as coming out of the pandemic, the
12 pandemic we covered faster than I think we all anticipated or
13 expected. The staffing in the early part of trying to get it up
14 was not keeping pace. And we actually, you know, re-clocked some
15 of the program plans to the right in that five-year, you know,
16 history, because -- and it was -- I don't know the exact timing,
17 you know, and that wasn't my role at the time. But I can tell you
18 that, you know, during that timeframe, as it was coming up, we
19 were monitoring and managing whether or not we were going to have
20 the staffing capacity as part of our readiness activities. In
21 some cases, you know, staffing was pacing the rate that we would
22 come up on -- that we could come up internally early on. Later
23 on, it became, you know, supply chain starting to pace us because
24 that staffing problem was there. But in the early on, staffing
25 was even pacing us in the rate that we were, and we have controls

1 that we manage and monitor towards that across the system.

2 Q. And again, do you have insight on -- I guess prior to let's
3 say a year past and now, how would you describe the workforce
4 demographics? And by demographics, I mean experience level, skill
5 level, longevity with the company, that sort of thing.

6 A. Yeah. I guess a couple of things. The -- and some of this I
7 know because we looked at this pretty significantly, you know,
8 afterwards. I don't know the exact number off the top of my head
9 but there has been a shift in the experience level. We have many
10 more new employees today -- or at the beginning of the year than
11 -- from a demographic's perspective, and I would say there's
12 probably been a couple of year shift to the left of experience
13 level of the overall workforce. Again, I can get the exact number
14 if you need it.

15 Q. So, what role do you play in managing that? Does Boeing
16 perceive that as an issue? Or how do you suppose that essentially
17 decrease in experience prior to coming in a newer workforce
18 affects quality?

19 A. I think it's one of the things that we've done a lot of
20 reflection on post January 5, and that we've made some pretty, you
21 know, significant changes around because of some of the linings.
22 I can't speak to, because it wasn't in my purview, all of the
23 improvements that were done. Scott can, you know, through the
24 timeframe as the hiring process restarted. But you know, in
25 essence, we had started with everything that we had always done,

1 and there were some areas that he was working on to do
2 improvements. But it was much more about how could we get the
3 staffing pipeline to accelerate, be able to accelerate it because
4 there was a different talent pool that was out there. I think
5 post January 5, one of the things that we did was try to
6 understand, and I did some significant work probably in the late
7 January/early February timeframe, to try to understand how the
8 demographics had shifted across all of our programs, as well as,
9 you know, by shift in effect as well. And I think there was the
10 recognition that it had put a strain on our -- a significant
11 strain on our training system and the way that we had been
12 training, and as a result of that, we've made some pretty
13 significant shifts.

14 Q. Is there any difference between the different programs and
15 how I guess well situated you are when it comes to staffing at
16 this point?

17 A. At this point I would say no. So, we -- the staffing
18 pipeline was -- you know, had really recovered by the time that I
19 came and was very full. And as we have pushed -- you know, slowed
20 our production system down and pushed some of the requirements to
21 the right, we've actually slowed the hiring pipeline down a little
22 bit. And can you ask the first part of the question again? I'm
23 sorry.

24 Q. I was wondering is there a difference between --

25 A. The programs?

1 Q. -- the different programs and, you know, like maybe the 787
2 program is pretty flush, full up with what they need for staffing,
3 but you know, the 737 program -- I'm just trying to figure out if
4 currently there are differences --

5 A. Okay.

6 Q. -- between the different programs.

7 A. I would say that by and large other than critical skills.
8 So, you know -- and I'll put some perspective there for when I say
9 critical skills. We have hundreds of skills. Fabrication has 200
10 to 300. The programs might have 40 or 50. But 10 on the airplane
11 programs make up 80 percent of the total staffing. 75 to 80
12 percent, just to give you some perspective. So, there are -- but
13 you get into those pockets, and there are still some critical
14 skills, and you know, they might be the smaller pools, the harder
15 to find, that we are continuing to hire right now. Most everybody
16 is at capacity. What we are still working through is a result of
17 some of the changes we've made in training is proficiency. So,
18 when you say, you know, available people, we have people to do the
19 work that we have today, and we are monitoring their proficiency
20 to ensure that they will graduate and be ready prior to, you know,
21 any increases that we would have that they would need to be doing
22 productive on the job or on the airplane work.

23 Q. And this is a recent change, this drive to proficiency?

24 A. It is. I'll say -- but I want to clarify. We have always
25 had ways of looking at proficiency. What we have done is really

1 formalized and standardized it and separated to independent
2 governance, and I'll talk about what I mean by each of those. So,
3 you know, from prior, we are -- our metric was capacity, available
4 capacity. But each of the programs had a way that they would go
5 in and look at how proficient their employees were. And they were
6 measuring how many times they had touched the airplane, and they
7 were measuring their quality. So -- but it was done a little --
8 there were standards and general IA standards, but a little bit of
9 difference across in each of the different programs, and they were
10 monitoring themselves. So, as we did some reflection, you know,
11 with the change, you know, with what we learned with the
12 demographics -- because for us, the really large shift was in two
13 areas. It was in the volume of new people all at once compared to
14 the volume of experienced people, and -- I forgot my second point.
15 So, volume of new people. I can't remember the second point.
16 It'll come back to me in a minute.

17 Q. Feel free to --

18 A. But let's move on and then I'll jump in. How's that?

19 Q. Well, feel free to --

20 A. Yeah.

21 Q. -- interject if you remember it later. For these changes,
22 this new information that comes out, working for proficiency or
23 any sort of -- even if it's just environmental safety changes, how
24 does that information get down to the people who need it?

25 A. Yeah. I would say in multiple different ways. We use

1 multiple different forms of communication because we're a big
2 organization and we're broad and we're spread out. And so, if it
3 was environment, you know, health and safety, we might put it into
4 a weekly manager's talking points. We might, depending on what it
5 was, it could make a BNN, right, just depending. Not every single
6 kind of thing, but I'll give you an example. I know we -- we're
7 doing a safety and quality promotion day. That is going to be a
8 BNN, which is our Boeing News Now article today. So, there's --
9 we do use that form of communication. It might be talked at the
10 daily tier meeting at the tier floor, with instruction, you know,
11 to then use those talking points the next day or the next shift,
12 and roll those down, you know, through your crews. If it's
13 something that we need verification for people to know, we might
14 do it as a read and sign so that we have closed loop. So, it
15 really depends on, you know, the type of communication. Is it
16 information? Is it a process change? You know, all of those
17 different elements. But we'll use multiple forms of
18 communication.

19 Q. Is feedback solicited after the fact?

20 A. Yes. So, you know, I think we can do that in multiple
21 different cases. Are we perfect at it? I'm not going to try to
22 tell you that, you know, in an organization this big that you
23 wouldn't go find examples that we're not -- that we're perfect at
24 it. But we will sometimes take user groups, you know, on some of
25 that, and I'm trying to think of a specific example. We did a

1 process alert around removals earlier this year, and we actually
2 got a user group of people that were very knowledgeable in the
3 process to help us, you know, with some of the changes that we
4 were making but also even in the guidance that we were putting out
5 in that type of communication. And you know, share with them that
6 process alert. Walk through the changes that we're making.
7 Having them help us to, you know, make decisions on some of those
8 pieces. So, we are trying to solicit feedback everywhere we can.
9 And we always have as well a speak up system if somebody, you
10 know, sees something and needs help.

11 Q. What is your level of involvement with those speak ups as
12 they come in?

13 A. Yeah. So, I have in my cadence two areas. One, I -- in the
14 safety management system, I am a cochair of our bill board, the
15 SMS billboard. And so, we review speak ups on a weekly --
16 biweekly basis, because that meets every other week, the bill
17 board does. But in my own cadence, I have established and set up
18 a weekly meeting, which is my manufacturing and safety SMS and
19 speak up review. So, I do that on Tuesdays and go through, you
20 know, a little bit more breadth and depth of each of those and
21 make sure that -- validate whether or not, you know, they're
22 safety related or it's more information or correction, and then
23 help to monitor those to make sure that they're getting the right
24 support. And each of those also is established under one of my
25 executives.

1 Q. What do you see -- or where, I guess, do you see the
2 interface between QMS and SMS within Boeing?

3 A. You know, I guess I'll say a couple of things. One, I think
4 QMS really is an element underneath the broad umbrella of SMS.
5 So, I think that relationship is really key. And your question
6 was what do I see is --

7 Q. The interface.

8 A. -- the interface?

9 Q. At what points do they meet?

10 A. At what points do they meet? Well, so, the QMS management
11 system has a series, like, you know, from floor up to executive
12 level that touches that, and it's looked at inside the BCA safety
13 review where we're also looking, you know, and then inside our SMS
14 monthly review. Those connections are there. We are looking at
15 QMS trends in the BCA safety review, and again, I think I
16 mentioned this one earlier. So, things like, you know, escapes
17 from the fleet, escapes from factory to field. And when I use the
18 term escape, it's a nonconformance. We typically measure them
19 coming into the company from either -- or to the production, the
20 internal production system, airplane production systems. So, they
21 could come from either internal fabrication or the external supply
22 chain, because all of that is supply chain. So, that's considered
23 an escape if it gets into that production system. We measure
24 escapes from factory to field and then escapes to the fleet. So,
25 those kinds of metrics are the things that we are monitoring, as

1 well as, you know, overall defect trends and looking at are they
2 staying in -- within process controls. I can't tell you exactly -
3 - that's sometime in the last year I would say. I don't know
4 exactly when because -- but a year to a year and a half when we,
5 you know, got mature enough to start to bring it in with process
6 control lines.

7 Q. I thought you mentioned before but I might've misheard. Have
8 you been involved in the safety risk assessment or safety risk
9 management panel?

10 A. I have been involved with the safety risk assessment process,
11 you know, in a couple of ways. Again, post -- the traveled work
12 is -- SRM is one of the items that is underneath the bill board.
13 And you know, especially as we started to look at how were we
14 going to -- understood the influence of that risk and
15 vulnerability as part of the system was part of helping to
16 establish the pilots and then the activities through the standup
17 of the 737. And then, you know, continuing to monitor that as a
18 member, but that does roll up under the manufacturing part of it.

19 Q. I'm trying to better understand your position and what you're
20 involved with. Under processes, what is your level of involvement
21 with, for instance, the monitoring and regulation of BPIs withing
22 the company?

23 A. Yeah. So, I would say most of -- I mean, that really is the
24 function of our quality organization. So, Elizabeth Lund's
25 organization would be doing the monitoring of that, right? My

1 role is if we are deficient or not needing something, really
2 helping to lead or make sure that we have the right focus on how
3 do we close that if it's a systemic process issue. If it is, you
4 know -- so, our SMS structure is broken up because the resources
5 direct line report through the programs or to fabrication other
6 than those resources I talked about. So, it really depends on if
7 it's a systemic process. Then I get involved and my team would
8 help to go look at that and help to lead, you know, that along.
9 But quality is the one that's doing the monitoring and helping to
10 give us that feedback.

11 Q. So, that is where I'm going with this is that if BPI, for
12 instance, was found to be not deficient but insufficient, or if
13 it's been identified that the process isn't clear, isn't cohesive,
14 isn't meeting the needs and needs to be revised, that process
15 needs to be looked at and revised, then I guess I'm asking is that
16 where, like, your skill line would get involved?

17 A. Yes. But we've got -- I mean, there's literally roughly in
18 all of our command media about 100 or less that are in my direct
19 line. And if you think of anything that is configuration
20 management or any -- you know, it's all -- that's all going to be
21 engineering. Because the way that we are set up, manufacturing is
22 largely an execution-based organization, right? So, engineering
23 will govern what we do from a configuration management
24 perspective. Quality will govern -- and compliance and quality
25 will govern the conformance part of it. Many of my policies and

1 procedures are sort of how we operate in manufacturing. What's
2 our Boeing production system standards, you know, those kinds of
3 things. Tools that we might use that help us to understand the
4 business but don't necessarily have direct line authority to the
5 conformance because we execute that and others ensure.

6 Q. We've heard quite a few people talk about the rate rating
7 review. And across the fleets, across the different programs,
8 what are some of -- and again, I recognize it's been only a few
9 months, but what are some of the things, trends that you're seeing
10 out of how the rate rating review is conducted? What are the
11 considerations that are being made?

12 A. Yeah. A couple of thoughts. And I think what I'm going to
13 speak to is the piece that, you know, I'm most involved in, and it
14 really is around employee proficiency. And so, you know, it went
15 from the top level metric was really capacity, but there was
16 always an element of proficiency. But now the top level metric is
17 capacity and capability readiness. And so, that's been the really
18 big shift, is that while the intent was already -- always there,
19 it wasn't formalized as such or independently governed. And so,
20 in terms of employee proficiency, the -- we are now, you know,
21 managing with a closed loop training system, and I'll just give a
22 high level and you can ask more questions if you want. But
23 there's two components to training. There's classroom and bench
24 kind of training, which is foundational, and then there's on-the-
25 job training. It used to be, prior to January 5, that when the

1 employees were in foundational training, they were part of my
2 organization. So, they were hired in for someone else, but they
3 were part of my organization. They went through a series of
4 proficiency checks and then they were actually transferred to
5 whoever they were going to. If it was the 87 or the 37 or
6 wherever, or fab. And then the programs or fabrication would be
7 responsible for their on-the-job training. And so, there was
8 that, you know, literal kind of transaction that happened. And
9 the significant shift from an employee proficiency that we made --
10 and we cut this in, you know, because post January 5 there were
11 many people that were already on the floor or somewhere in
12 between. We had a plan for those folks that were somewhere in
13 between and we're still working that through. And then we have
14 cut in a plan that basically employees will stay under my
15 organization until we graduate them through a standard, through
16 the structured on-the-job training. So, a lot of what my, you
17 know, team has been doing is, you know, we have basically
18 standardized the approach for structured on-the-job training.
19 We're using IE fundamentals that are specific to the products and
20 informed by the products to help us. We have a set of criteria.
21 We have workplace coaches that we have put out into the businesses
22 that are in essence taking care of what I'll call a roster or
23 people that are on structured on-the-job training. And then we
24 have ensured that they have an experienced peer mentor -- or peer
25 trainer I guess I should probably call it. So, that employee

1 proficiency, as they go through, there's a final sort of - you
2 know, we're validating and verifying their capabilities along the
3 way with the help of experienced members of the workforce, with
4 the help of workplace coaches. And then at the very end of the
5 process, they go through a check of -- they can self-assess
6 whether they think they're ready to do the work or not, the
7 manager assesses, and then the peer trainer gives feedback that
8 they have, you know, met the qualifications, if you will. But
9 they -- we're not putting the peer trainers in a position to --
10 they're not overseeing the performance of an employee. I want to
11 be clear about that. But we have, you know, the ability that the
12 work's been done correctly. That's the way I wanted to try to say
13 it. So, we've gotten -- basically, tried to tighten up to a
14 closed loop system that helps give us the feedback that they are
15 ready to be, you know, independent on the airplane and graduated.

16 Q. Has Boeing ever sought the input of an external audit to its
17 training programs?

18 A. I don't know if they ever have. I mean, that's a big, broad
19 question.

20 Q. Sure.

21 A. I don't know if I can answer that. What I can tell you, we
22 actually are in the middle of -- and I don't know that we've quite
23 finalized, but we had a third-party that we've been asking to come
24 in and take a look at our training going forward as the workforce
25 is changing. And so, we haven't finalized those agreements yet

1 but we're in the middle of that.

2 DR. WOODS: That's all I have for this round. Pocholo?

3 BY MR. CRUZ:

4 Q. Thank you, Kim, for talking to us today. Since Boeing is
5 such a big company, how different is your role to Ms. Ringgold?

6 A. Yeah.

7 Q. Because you work with the manufacturing, right?

8 A. Right.

9 Q. I don't know if she's 737, but what is the role --

10 A. Yeah.

11 Q. -- just to give us some perspective.

12 A. Well, let me say a couple of things. Katy [phonetic] is
13 actually a program manager. So, she's a vice president and
14 general manager. She has a vice president of manufacturing
15 underneath her. And so, she has purview and oversight of the
16 overall program.

17 Q. Okay.

18 A. The manufacturing team obviously trees directly up to her --

19 Q. Okay.

20 A. -- but she does have a vice president underneath her who's,
21 you know, a part of -- because we have all kinds of -- as you
22 said, a big company, you know, you end up with all kinds of, you
23 know, horizontal and vertical relationships. So, they are dotted
24 lines to me from a functional perspective but a hard line -- the
25 vice president is a hard line to her.

- 1 Q. Okay.
- 2 A. Does that help?
- 3 Q. Yeah.
- 4 A. Yeah.
- 5 Q. There's a lot going on.
- 6 A. I mean, yeah, there is. And so, a vice president and general
7 manager, I mean, essentially is responsible for, you know,
8 ensuring the overall performance of the program, meeting customer
9 needs, all those kinds of things.
- 10 Q. Because you held that same role --
- 11 A. I did.
- 12 Q. -- in the --
- 13 A. Yes.
- 14 Q. Okay.
- 15 A. Yes, in multiple platforms. Yeah.
- 16 Q. Do you have any interface at all with the FAA as far as with
17 regards to manufacturing?
- 18 A. Yeah, through -- so, thorough the PC700 --
- 19 Q. Okay.
- 20 A. -- forms, yes. So, I do have some touch there.
- 21 Q. And who do you touch with the FAA?
- 22 A. And I will tell you it hasn't been super frequently because
23 of everything that's been going on. But you know, like -- well, a
24 couple of things I'll say, like Bryan Kilgroe [phonetic] --
- 25 Q. Okay.

1 A. -- you know, some of those folks that will be participating
2 in that. I was part of the brief out of the 90-day plans --

3 Q. Okay.

4 A. -- so representing my portions of that all the way up to the
5 administration.

6 Q. Okay. So, I would like to know from your perspective,
7 obviously, since the mid-exit door departure, what has your team
8 told you about that particular issue within the production, the
9 manufacturing side of the house?

10 A. Yeah. So, I guess I'd say a couple of things. And a lot --
11 first of all, I'll say -- you know, again, I'm going to refer to
12 the timing. I came in on January 4.

13 Q. Sure.

14 A. I, you know, saw the event, unfortunately, right before I
15 went to bed that evening on the fifth. It was very unfortunate
16 and horrific. And early on, as we were all trying to get
17 organized, you know, the BCA leadership team came together. But
18 probably within the first two or three days, there was, you know,
19 a clear separation of the accident and the investigation versus
20 what else was going on in the business. I was not part of the
21 accident investigation activities, and you know, all that went
22 from that. So, I was never part of any of the first-line
23 briefings, and all of that was really done on a need to know.

24 Q. Okay.

25 A. So, I don't have all the details or know of them. What I am

1 fully aware of, you know, is, like, things that were in your
2 interim report -- or the NTSB's interim report. And so, I have a
3 clear understanding of, you know, what some of those elements were
4 and was obviously, you know, helped to shape the activities that -
5 - you know, the three areas I was part of. The 90-day plan. Were
6 around training, which we've talked quite a bit about. The
7 compliance swim lane [phonetic] is co-owned between myself and my
8 team, one of my vice presidents, and supply chain, because they're
9 helping us with how we're going to separate some things. And then
10 the engagement element of it in terms of, you know, some of the
11 things that we learned from the quality standdowns and how we're
12 really trying to connect and help bring that feedback to our team.
13 So, when you talk about the -- you know, what the team has told me
14 through the investigation, it really is following what was part of
15 that internal report. I don't have any internal briefings of the
16 detailed.

17 Q. Okay. Did you deal -- do you deal with any supply or assist
18 issues?

19 A. Only indirectly. So, in my former roles, I have --

20 Q. Yeah.

21 A. -- in the past. As fabrication, I was doing that a lot. But
22 currently, if they needed to expand beyond -- because a lot of
23 supply or assist, if we need to go do that, it is -- first of all,
24 it's handled by supply chain as direct. They might come and see
25 if we have equivalent skills, but the vast majority of those types

1 of skills that can go out and assess the supply chain are in our
2 fabrication business. So, a lot of that in the past, you know,
3 when I was dealing with that, I would be getting subject matter
4 experts to help. But in my current role, only if they have to
5 expand beyond that for any kind of help.

6 Q. Okay. How much work, if at all, did you do with any of the
7 removal of BPis? Was there -- how familiar are you with that
8 particular removal, BPI?

9 A. I am familiar at -- I'll say, you know, I can't go down to
10 the 20th level of detail --

11 Q. Sure.

12 A. -- but one of my leaders, Alex Chao, was part of helping make
13 some of the adjustments with the removal of BPI. So, I am aware
14 of that.

15 Q. Okay. Have there been discussions within Boeing with regards
16 to the history of that BPI as far as revisions, when it started to
17 be -- have more issues or repetitive issues with regards to that
18 BPI?

19 A. I have not been part of detailed discussions around the
20 history of it. I was peripherally aware that there was an SRM
21 last year --

22 Q. Okay.

23 A. -- but wasn't, you know, a detailed part of any of that.

24 Q. Do you know whether there were any CMOs or VDRs with regards
25 to that BPI besides the 737 line? Other production lines?

1 A. I don't know all the details. You know, in my prior role as
2 the 67 VP GM, you know, there was -- I can remember one briefing.
3 I don't remember all of the details of it. But back in, you know,
4 when it was early on in the SMS last year.

5 Q. So, you had seen removal issues prior to this particular
6 position that you were in as a program manager in other production
7 lines. Is that --

8 A. I knew about that. And honestly, again, very peripherally
9 because it was early in the development of it. Removals were not
10 on my radar screen --

11 Q. Okay.

12 A. -- as something significant. They just weren't.

13 Q. Okay.

14 A. And it -- yeah, they just weren't.

15 Q. And in your previous -- like I said, in your previous
16 positions, you haven't seen any issues in other production lines
17 with regards to removals or unauthorized removals, is that
18 correct? No?

19 A. No. and I mean, I can talk all today about, you know, what
20 we are doing, what we've done.

21 Q. Yeah.

22 A. But do I recall at any point anything significant that
23 would've flagged that there was a real problem there? The answer
24 is no.

25 MR. CRUZ: Okay. Troy?

1 BY MR. LEVANEN:

2 Q. You mentioned the OJT program and how it has the mentor kind
3 of sign them off where they're kind of released to do things. And
4 then, of course, they self-assess and then their manager. Now was
5 that the way it was before January 5, or is that some of the
6 enhancements as a result or since then?

7 A. Yeah. It's the enhancements since then. And I should
8 probably be clear. Their mentor is not signing them off. They're
9 stamping off that the work was done correctly. Just to be clear
10 there.

11 Q. Okay.

12 A. But that is -- has all been post -- those enhancements I
13 talked about were post January 5. We had added significant
14 workplace coaches. When I inherited the organization, there was,
15 you know, well over -- you know, closing in on 200 workplace
16 coaches, and that had been a population that had been very small
17 probably coming out of the pandemic that maybe had been more
18 program specific. And you'd have to ask Scott the exact details.
19 When I inherited the organization, they were under me and you
20 know, we were continuing to grow that population. So, one of the,
21 I think, you know, really key and good investments that was done,
22 you know, post-pandemic was recognizing with a lesser experienced
23 workforce the power of these workplace coaches. One of the
24 enhancements or changes that we made that was a pretty significant
25 shift. They used to be out in the work areas, really in our skill

1 enhancement centers. And I always described it as it was a pull.
2 The employee had to come and ask for help, and that same employee
3 was also busy trying to get their work done. And one of the
4 switches that we did was we moved them, you know, fairly early on
5 in the probably February timeframe, we moved them to have that
6 kind of, like I said, roster into the work areas. We're still
7 growing on that. So, you know, it's all the way across 37. I
8 think, you know, it's maturing in the other programs. We've, you
9 know, tried to be smart about ratioing it and thinking our way
10 through all of those pieces. But you know, it's now got a
11 feedback loop in it versus somebody having to self-profess that
12 they need help and take the time.

13 Q. That's good. Speaking of Scott. You mentioned him a couple
14 of times, and maybe you said it and I just didn't catch it. What
15 position is he in now?

16 A. He is the vice president and general manger for the 787
17 program.

18 Q. Oh, 787.

19 A. Yeah. So, he's in Charlston.

20 Q. Okay. I know you have a lot of irons in the fire but just
21 out of curiosity what percentage of the time do you get to spend,
22 like, within the frontlines or on the floor, so to speak? I know
23 you said you do try to get there.

24 A. Yeah. I guess within the front lines or on the floor, I
25 would say at the beginning of this year far more than I typically

1 would've expected. And you know, as we were going through some of
2 the leadership transitions and change and the slowdown and re-
3 clocking the plan and getting in and helping, even -- I'm starting
4 to pull back now but here was a time when three to four days a
5 week I was at every tier four for the 737.

6 Q. Okay.

7 A. At least the morning one and sometimes the afternoon. And
8 you know, going out and talking to employees or touching the
9 floor, I pulled -- and less frequent there. You know, my role, to
10 try to go across -- like when I was running programs, you know, I
11 would have a seek, speak, and listen, and touch all different
12 people. That's not my direct line today.

13 Q. Yeah.

14 A. So, my going on the floor, you know, there was a significant
15 safety incident, and I went out with the team, or there was a
16 speak up and I went down and talked to the employee to make sure
17 we had closed loop. I don't have a standard that says I'm going
18 to hit every -- you know, this much this often. But my connection
19 to the tier meetings gets me to the middle management level of
20 connection. And I attend several other meetings or have, but I'm
21 starting to pull back from them, especially the 37.

22 Q. Got you. Do you get to spend -- have you got -- do you get
23 to look at the defects that come with the aircraft when they --
24 with the fuselage, for example, when it comes from Wichita? Do
25 you get to see the defects that the builds start out with or is

1 that at a lower -- I mean, a different level of what --

2 A. Yeah. I have insight into some of it just because of being
3 at some of the tier meetings, but not down to the level of, you
4 know, reviewing everyone. That is one, supplier quality is really
5 the organization that is managing that. You know, I am
6 significant -- I mean, I'm obviously aware of, you know, the
7 magnitude of the issue early in the year and how that has changed
8 and, you know, decreased over time, but -- and I know the
9 generalities but not -- I'm not down in the details of reviewing
10 everyone because that's really supplier quality.

11 Q. Okay. And actually, I think that's all for me right now.

12 Thank you.

13 DR. WOODS: Okay. John?

14 MR. PETRUZZELLI: Thank you.

15 BY MR. PETRUZZELLI:

16 Q. Focus on training. One of the things that really has amazed
17 me since January 5. I got put on this -- assigned to this by John
18 Holeman [phonetic]. And so, typically every Friday, I'm down at
19 the union and I'll touch base with him. And it's interesting.
20 I'll go across the street or across the hall there. Anywhere from
21 80 to 100 people you're going through a week, hiring. It's just
22 amazing to me. And it's been pretty consistent all year. So,
23 where are -- do they go -- what's the split? I mean, are a bunch
24 of them going to Everett or are they going to Auburn or --
25 generally. It doesn't have to be specific.

1 A. Yeah. Maybe I'll try to just answer it at a macro level.
2 You are going to see that to start to slow down a little bit
3 because one of the things that was very important to us -- you
4 know, as all this happened, we knew we were going to have to slow
5 down.

6 Q. Right.

7 A. But we made a commitment that anybody that we had already
8 given an offer to or was in our training system somewhere, that we
9 were going to honor that.

10 Q. Okay.

11 A. And as -- so, you know, that was an important part of keeping
12 our team with us and, you know, respecting the team that had made
13 a commitment to be part of the Boeing company.

14 Q. Okay.

15 A. So, you are going to see that start to slow down
16 significantly to just the critical skills, you know, here pretty
17 soon. Originally, some of the folks that were coming into Renton
18 were going to be part of backfilling the central west or east
19 line --

20 Q. Okay.

21 A. -- and some were going to backfill people that were going to
22 go up to Everett for the north line. So, that was part of our
23 training plan. And some of the people up in Everett were feeding,
24 you know, just ongoing demand for the 67, what the Triple Seven
25 needed primarily and changing (indiscernible), although those

1 might not have been the exact people to go do that work, and some
2 of them were people that were going to go to the north line. So,
3 part of why you were seeing that continued demand is because we
4 made a commitment and a decision to honor the team and get back
5 down to the levels that we needed.

6 Q. Okay. And comment on this if you would. I think it's only
7 been in the last few months (indiscernible) and IAM's retirees
8 were doing some of that. I don't see a lot here. You've got one
9 or two I think floating around here. But talk about -- is that --
10 how does that work from the company's perspective? Is it helpful?

11 A. Yes. So, it's the IAM enter program is what he -- John,
12 you're referring to. When I came into my job, Scott had started
13 with John and Kim Bilve [phonetic], as you probably know, about a
14 10-person trial. We in February asked John and Kim to expand that
15 as far as they could, and the IAM mentors -- we initially just had
16 a number, and I can get all the numbers, but we had a number and
17 then we said look, anybody you can get. And the feedback that I
18 am getting is that that has been extremely helpful for us. Now
19 these folks can -- they're only working part-time so, you know,
20 that's obviously one of the constraints from a business
21 perspective because you can't plan on a full-time head. But the
22 flipside of it is that they can actually help train on airplane.
23 So, we see that as a viable path and a path we'd like to continue.
24 Q. What kind of retirees are you getting? I mean, are you
25 getting the 97R09 field people or are you getting the 305? 30 --

1 or whatever the job titles are. Or is it all over the board?

2 A. I think it's all over the board. I haven't seen yet a
3 specific -- I know that we finally got to, you know, kind of the
4 total that we had all initially tried to target. I haven't seen
5 exactly where they've ended -- all ended up because they weren't
6 -- I don't know that 100 percent of them are even here yet, John.
7 I know we have some of the SDC and -- but we basically said help
8 us bring in, you know, whoever you can that we both think would be
9 viable and helpful to the workforce, and we have so far been
10 thoroughly successful with how that's helping.

11 Q. The last thing I'll ask about is -- it's kind of getting --
12 relates to training but it's more of inspection process and may or
13 may not be in your wheelhouse. The optimization rule of
14 inspections has been ongoing since 2012-ish. The company came in
15 and started putting back those inspections. What are you seeing
16 from your chair?

17 A. You know, I think the first point you made, that is not
18 directly in my wheelhouse, you know, as you commented or said. I
19 think overall what I look to is our quality engineering team,
20 helping to make sure that we have the layers of control in our
21 quality system.

22 Q. That reports up to you directly, right?

23 A. No.

24 Q. Oh, okay.

25 A. No. So, QE goes through the quality, all of it.

1 Q. Okay.

2 A. Yes. Yeah.

3 Q. Okay.

4 A. So, it's harder for me to talk about the specifics of that.
5 I'm, you know, peripherally aware of it from some oof my other
6 roles but not the specifics.

7 MR. PETRUZZELLI: Okay. That's all I have for you, I think.

8 MS. PASTEGA: Okay.

9 MR. PETRUZZELLI: Thank you.

10 BY MR. MARCOTTE:

11 Q. One second, please. Okay. So, I'm trying to understand your
12 role now at your present job. You know, what's your role in
13 communication to the people on the floor touching the airplanes as
14 we're trying to reinforce quality and people's involvement and our
15 reliance on them and how important it is to everybody. You know,
16 and you mentioned before there was, you know, manager talking
17 points and BNN articles. But at a high level, what's your - you
18 and your organization's involvement in that?

19 A. Yeah. So, if it is coming from something that is going to go
20 across all of our manufacturing operations or a very large
21 population of that, then we will step in and, you know -- and if
22 it's a policy or procedure change or whatever else, we will step
23 in and help with that kind of communication. I'll say, you know,
24 one of the learnings -- I was trying to think of an example over
25 the last -- which probably helps it mostly. I already, you know,

1 talked about the quality alert. So, that was done in partnership
2 with. Like, both Elizabeth and I approved that and released that
3 and ensured that it was going to hit the mark. I was trying to
4 think of, you know, some of the other results from the 90-day plan
5 in terms of some of the areas where we weren't meeting the intent
6 of compliance. We sent some very clear communication across all.
7 I would typically then coordinate that with Mike Fleming and his
8 organizational leaders. We would make sure that -- so, I might
9 help with that, you know, broad documentation. You would see some
10 of that coming from me as the vice president of manufacturing for
11 BCA, or it might come from me and Mike if it was going to his
12 organization. And I have a -- you know, Elizabeth and I have a
13 communications team that is shared that is also working in
14 partnership with airplane programs. So, we're trying to make sure
15 -- honestly, I mean, you know, you want to communicate the right
16 amount.

17 Q. Right.

18 A. And some of this you've got to overcommunicate and then some
19 of it you've got to make sure you're not blasting so much that
20 people stop listening to you.

21 Q. Yeah.

22 A. And so, we're trying to be thoughtful about how we go about
23 doing that and who takes lead and if it's a standard that we're
24 trying to drive. If we're seeing something that's systemic or
25 consistent, you know, I might put my voice into that. If it's

1 very specific to a program, the program is going to take lead on
2 that.

3 MR. MARCOTTE: Okay. That's it. Thank you.

4 MS. PASTEGA: Thank you.

5 BY MR. RINEY:

6 Q. Good morning, Kim.

7 A. Good morning.

8 Q. So, I was personally involved with this, but I don't think
9 anyone else here knows. But can you talk about some of the
10 changes, the immediate changes that occurred with the Spirit
11 Onsite team that your team had involvement?

12 A. Yes, thank you. So, the Spirit Onsite team, you know, right
13 after all of this happened, and you know, frankly, I think even
14 probably before we knew what we thought all of the vulnerabilities
15 were, we did know that some of it was associated with what was
16 part of their statement and worked, you know, back through. And
17 you know, Mike, what you're asking about is we had a team of folks
18 that was here from Spirit that was performing work. When I first
19 got there, there were concerns about whether or not that team was
20 sized right and was able to keep up with the traveled work that
21 was down the line. So, one of the first things that we did was
22 break away from our Boeing team. We actually have a leader that
23 kind of oversees that work now that reports up through
24 manufacturing. So, I helped to place that person under the 737
25 and get them in place and start to help to, you know, size the

1 work. But the second piece that we wanted to ensure was that our
2 -- anybody that was performing work inside our four walls under,
3 you know, our production certificate, that we had direct line in
4 terms of the pedigree of their ability to do work, and structures
5 work in particular. And so, we actually took all of the -- we
6 created training curriculum, which was -- I shouldn't say created.
7 We really utilized some existing training curriculum that we had
8 for our own structures mechanics. And we created a module or a
9 training program and sort of a test criteria to be able to ensure
10 that the Spirit employees that were onsite were capable of
11 performing the work to the expected proficiency that we would
12 have. We ran them through that whole process. The vast majority
13 came through successfully, and those that didn't went back to
14 Spirit and were either, you know, given supplemental training to
15 be able to ensure that they were capable or didn't continue on.
16 Some of those were contractors. And you know, that was another
17 way of addressing employee proficiency but really taking that
18 proficiency to the extent of taking it into our supply chain.

19 MR. RINEY: Thank you. That's all I've got.

20 DR. WOODS: Nils?

21 MR. JOHNSON: Thanks.

22 BY MR. JOHNSON:

23 Q. Good morning.

24 A. Good morning.

25 Q. Has the SMS program identified risks of less experienced

1 workers at Boeing? And if so, how is this risk being mitigated?

2 A. Yes. Well, I'll say it this way. We've identified a risk

3 around the training and proficiency of our employees. And that

4 risk went through a couple of iterations. There had been an

5 existing risk that was really about -- and I can't remember the

6 title, but it had been there since, like, 2022 that had gone

7 through many steps of mitigation, some of which was about were

8 they going to be there in time to be, you know, capable. A small

9 portion was about the training. We initially kind of attached to

10 that one and then said this doesn't really make sense, and you

11 know, elevated that back to serious and then said this doesn't

12 make sense, close that down, and opened a new one that was serious

13 that was very clear around the true situation that we were facing

14 into. So, that's what's in the system today. I have talked about

15 a lot of the elements of how we are mitigating that risk. That

16 risk has been -- it immediately was put, you know, into the risk

17 roster, and it was immediately put in as serious. And then I

18 think last month, I'm trying to remember the timing but it's not

19 too far in the distant past, we moved that back down to moderate.

20 And some of the steps that we've taken, we had an initial

21 containment. And so, I talked about the fact that many people --

22 when I came, and you know, this event happened and we really

23 understood what the risks that had transpire, the issue that had

24 occurred, many people were already out on the floor in SOJT, in

25 structured on-the-job training. And so, we effectively, I'll say,

1 put guardrails around that population, and we looked at that
2 population depending on whether it was manufacturing or quality.
3 And I'm going to clarify one thing. My training responsibilities
4 are administered for both manufacturing and quality. I don't
5 control the curriculum quality. So, you're going to hear me -- so
6 you don't get confused. You're going to hear me talk a little bit
7 about quality because we help administer their quality training as
8 well. But we put some guardrails around it for people that were
9 less than one year in manufacturing and people that were less than
10 two years in quality. And we actually kind of pushed that back a
11 little bit. So, we didn't just say -- you know, it took us a
12 little bit of time as we were working through it. We didn't just
13 say from -- I think that was March or April by the, you know, time
14 that we worked through that. We pushed it back I think to the
15 very beginning of February or something. And we segmented them
16 into people that would have been in the four to six-month range
17 versus people that would've been into the seven to 12 or up to two
18 years for quality. And in the -- we applied different training
19 criteria to each and developed that whole system that I talked to
20 you about which, you know, had several different parameters that
21 we were looking at. We were looking at touches. We were looking
22 at quality. We added new training around -- as the result of the
23 SAIs, their ability to navigate our production data as a separate
24 training model -- module. And you know, having a closed loop
25 criteria around testing and proficiency that they had to

1 demonstrate and pass. It was not a multiple-choice test. It was
2 a you didn't know what you were going to get asked kind of test.
3 We have added a module around compliance, which is something that
4 -- we always told people the rules. We never really trained the
5 rules in the way that we are today. And so, there's a module
6 around compliance that in the end has testing where they have to
7 go -- they get a whip cart and the whip cart isn't right, and they
8 have to go find what's wrong with it. Or they, you know, have to
9 go into a certain area and try to figure out where the FOD is or,
10 you know, all the different things in compliance. So, it's
11 demonstrated ability types of skills. So, all of those in the,
12 like, four to six-month population, they had to go through a
13 series of six different sorts of areas. Touches, quality, safety.
14 Did they understand and had they been briefed on safety in the
15 area and did they -- you know, all the hazards for industrial
16 safety. The compliance and the product data definition. And then
17 we have governance around all of that. So, we have now graduated
18 a certain portion of that population just in the last probably six
19 weeks. They're not all 100 percent graduated yet, and that's us
20 kind of, you know, working our way through it. The seven to 12
21 went through product data definition navigation and proof that --
22 you know, had to prove that they really understood how to navigate
23 the complexity of all of our systems, and they had to have a
24 manager in self-assessment. So -- because seven to 12, they had
25 had many more touches, right? So, there was -- they had met the

1 objective. So, that's what we did from a containment. And then
2 in quality, they had a proficiency test for everybody two years
3 and under. And no one was -- we controlled their ability to work
4 independently on the airplane until they were sort of released.
5 That's how we're controlling it. So, once we hit that criteria,
6 we lowered to moderate. And what -- we're finishing up the phase
7 because we defined all those requirements. We're getting
8 everybody through that part of the system, we're getting the
9 people that were already out on the floor through, and we've now
10 started to take the people that have -- I should say another huge
11 element that I missed. We had a tremendous number of people in
12 foundational training. And the very transparent answer is to not
13 overfill foundational training, we would have needed to release
14 those people. We put a stop and a hold on everybody that was in
15 foundational training. It lasted roughly eight weeks, and that
16 was the time that we were redesigning the same kinds of things
17 inside of foundational training where we had found weaknesses. In
18 addition to the things I talked about on the floor, we had gotten
19 tremendous volume of feedback from the quality standdowns. It was
20 -- depending on which one you were at, the number one, number two,
21 or number three, and I was on the stage for many hours getting the
22 feedback that, you know, training wasn't working. And we took
23 that feedback and used that design some new training into
24 foundational. And also, then we're putting the folks that needed
25 to -- it wasn't every single skill, as I talked about. It was

1 some of our more complex skills or more complex types of work.
2 And so, we have been adding that to foundational training as we go
3 as well. Foundational training was over capacity for a while
4 significantly by, like, hundreds of people. We actually took some
5 of those people -- and while we were redesigning it, you know, the
6 situation from our perspective, we wanted to make sure they were
7 going to get the right training before we allowed them to leave
8 but we also didn't want to leave them idle. So, where we could,
9 we actually took hundreds of people and had them go help Kit
10 [phonetic] or had them go help do something else or had them go --
11 it wasn't perfect I'm not going to tell you because it was a lot.
12 That volume has now come down because, you know, we have
13 systemically -- because of that freeze, we were able to then cycle
14 them through, and we're releasing them to the floor with fully
15 graduated to new requirements. There's one other piece that I
16 didn't hit on before when I talked about safety that I think is
17 really important. And it is super new and just starting to come
18 up the curve, but I'm personally really excited about it. It is
19 an SMS and safety culture training that we are putting into
20 foundational training. We've invested quite a lot in it. It will
21 be somewhere in that first week. We've done -- we've run several
22 courses now but it's -- they're pilot courses because we're still
23 training our trainers. But it is -- the first group just
24 graduated in the last I think two weeks, and some of the
25 testimonials from that are phenomenal. I mean, like, you know,

1 folks that were experienced, folks that came back to the company,
2 said this is the best training I've ever gotten. It's going
3 through -- you know, it's really a personal commitment to safety.
4 It is -- there's components about what is the SMS and what is your
5 role in it. There's a video about safety is life that for all of
6 us in this industry -- and I've had the chance to go to personally
7 when I was a 767 VP GM, the JAL Safety Center, which many of you
8 might have, and I will still tell you it was one of the most
9 impactful things in my life. You know, it takes them through the
10 JAL one, two, three. It takes them through all of those pieces,
11 and what does a personal commitment mean, and what is your role,
12 and why is it important that you do this. So, that is -- will be
13 spooled up and go across, you know, everybody that's in training,
14 and then we're going to have to contemplate what do we do with --
15 you know, do we expand it across the rest of the workforce that
16 didn't get that opportunity.

17 Q. I was going to ask that as a follow-up. How do you pick up
18 all the people who are already here?

19 A. Yeah. We're certainly thinking about it. We're taking --
20 you know, I'll say a couple of things. The training is -- I'm
21 incredibly proud of the work that the team has done and what
22 they've done. I wish we could all have, you know, 100 percent
23 hindsight. But I'm incredibly proud of the work that they've done
24 and what they've touched and what they've accomplished. And I
25 think we recognize that there are some really incredible things

1 here like that safety training that we need to take across to
2 everybody, and it's just a matter of time and scale.

3 Q. Okay. We've been told that some processes differ by
4 location. Do you have any processes that are different by
5 location and why?

6 A. That's a broad question. In an organization this big, are
7 there some? Yes. But I guess the example I'm going to use, I'm
8 going to use a training example, and I'm going to use the door
9 riggers training example. We have -- I talked about all the
10 skills that we have. And so, the complexity of training for, you
11 know, the 10 to 12 to 13 to 15,000 different jobs, it is -- I
12 mean, it's a complex product that we are building and that we are
13 doing, but we do have a really robust training infrastructure. It
14 is -- there are individual learning plans and -- for each of the
15 different skills, and those individual learning plans are set to
16 be standard by -- like, if they're 90 to 95 percent the same type
17 of work is being performed. That's kind of what I would say. So,
18 then anybody that is a 3005, or in the case with a door rigger, a
19 30605 or whatever, would go through that IOP. There's also a
20 component of training that is what we call an area learning plan,
21 and the area learning plans are specific and they are specific to
22 the product. It's not necessarily site-based if you will, but
23 it's specific to the differences in the product or the statement
24 of work or the type. And so, when -- you know, rigging doors, the
25 37 door is not the same as the 87 door, it's not the same as the

1 Triple Seven door. And so, there are some areas where we have to
2 -- we can't have 100 percent standardization of commonality
3 because the products vary. So, I guess that's how I would answer
4 that in that specific one.

5 Q. Okay. Talk about how leadership is briefed on safety
6 findings and work frequency.

7 A. Say more about safety findings. What do you mean? Are you
8 talking about in general on SMS, or are you talking about in terms
9 of the accident?

10 Q. Probably SMS.

11 A. Okay. So, from an SMS perspective, there is a management
12 system and a management cadence that is standard. So, you know,
13 when I inherited the organization, it was every other week because
14 I am a cochair along with two others of the bill board. I have
15 added my own weekly -- because the bill board consists of
16 manufacturing, supply chain, and fabrication. So, that's pretty
17 big. So, I have added my own review on a weekly basis for
18 manufacturing because, you know, in my domain. Then on safety
19 findings, there's the BCA safety review that's happening every
20 week that I also participate in. The SMS frequency, I believe
21 once a month up to BCA. So, weekly to biweekly to monthly. I
22 think to quarterly at the CEO level. So, you know, that kind of
23 frequency would be going on. And then, I mean, down to teams that
24 are working on some of these depending on the severity of it. You
25 know, some might be full-time dedicated. Some might be part-time

1 working daily.

2 Q. Okay. How is participation in the Boeing speak up program
3 going? Is the participation rate tracked and reported out to
4 leadership? At what level and at what frequency?

5 A. Yeah. Well, a couple of things. I can tell you that, you
6 know, this year versus last year, you know, through the first
7 quarter of this year, there was about a five-fold increase in the
8 number of speak ups. So, we are -- it is maturing. It is
9 accelerating as it has accelerated significantly post January 5,
10 and we expect to see, you know, a continuation of that. I think
11 -- again, I look at these also weekly. I am tracking all of them
12 to make sure that they have the correct oversight, and then I have
13 triggers in place that say if it, you know, goes red, I need to
14 hear about it, or if it hits -- even if it's green, if it hits a
15 certain aging threshold, then I need to hear about it. And I also
16 get a briefing packet, you know, each week that I kind of go
17 through and make sure that I've seen the details of those and
18 understand. So, there's already an assessment that's done of
19 whether it's safety or not outside of me, but we've got multiple
20 filters and I'm still -- the volume is still such I can look at
21 each and every one coming through manufacturing right now, and I'm
22 still touching and doing that.

23 Q. Okay. What is Boeing doing to ensure that removals are
24 written to the highest standard?

25 A. Yeah. Great question. I'll say, you know, a couple of

1 things in terms of all of the actions that we've taken from a
2 removal's perspective. And what I would tell you as the end
3 result of several different actions, we have significantly I think
4 bolstered the knowledge and experience, and limited the number of
5 people that actually can initiate or buy off removal. You know,
6 it was in general an activity that in the past either
7 manufacturing or quality could do and was an expectation of our
8 employees that were independent that they could go out and do. We
9 have changed that very significantly. Many steps that were taken
10 to the ultimate -- I won't go through those unless you want me to.
11 But I mean, the end result of where we are today, and there's
12 still work to be done, is that quality has to validate an
13 initiation. Those that are going to be doing a removal have to
14 now pass a qualification, a very rigorous qualification. I talked
15 earlier on about using a user group and feedback group. Those
16 were hand selected people that we knew were extremely
17 knowledgeable in that process to help. So, we know the level of
18 rigor of that is there. We have put controls in the CMES system,
19 kind of the manufacturing execution system, that only allow people
20 to stamp it off that have those verification that they are
21 qualified to do that work. And we have also added, you know,
22 additional buy off steps independent for quality, where that used
23 to -- manufacturing used to be able to buy their own off. So,
24 those are the levels of controls that have been put in place.
25 There are still, and even as of this morning -- I talked about my

1 tag ups earlier. You know, there is an ongoing process
2 improvement workshop to continue to simplify, you know, and try to
3 continue to simplify that. So, we're not stopping but we have put
4 very significant additional controls in place.

5 Q. Okay, last one for this round. You mentioned you deal with
6 systemic issues. FOD, tool control, undocumented maintenance are
7 all things identified by the FAA as long-standing problems at
8 Boeing. What are you doing to fix these systemic issues?

9 A. So, FOD and tool control. When you say undocumented
10 maintenance, say more.

11 Q. They were talking about undocumented removals.

12 A. Okay. I was thinking maintenance more in terms of the
13 maintenance. Okay.

14 Q. Oh, no. I'm sorry. Undocumented processes is what I
15 should've said.

16 A. Okay. So, I'll talk about tool control first. Tool control
17 has -- you know, it has been a long-term systemic challenge. We
18 have six, seven million. I mean, you know, the Everett site --
19 and don't quote me exactly on this. I'm just trying to give you a
20 general ballpark. The Everett site is probably dealing with
21 three, four, five million tools, and the Renton site two or three
22 million. And so, you know, the magnitude of the challenge of
23 trying to control every single one of those in every single step
24 is large. We have, I think, recognized a couple of things. From
25 a containment perspective, we have really driven back hard in the

1 interim, the near term, the requirements that each of our
2 employees needs to be following to be compliant. That said, I
3 think we recognize that there is still an opportunity for error in
4 those, and I think the track record would say that. And one of
5 the very significant shifts that we are making is that we are
6 going to have our fulfillment team, which is part of our supply
7 chain team, independently help us with check in and check out so
8 that you have sort of an independent verification again, versus --
9 you know, you know what's going in, you know what's gone out, and
10 you know that everything has gotten back, versus asking somebody
11 to, you know, take care of every single piece. There's still an
12 ultimate -- going to be an accountability and a responsibility
13 there, but that second layer of control to know it's gotten back
14 is going to be the real key.

15 MR. JOHNSON: Okay, thank you. That's it for me.

16 DR. WOODS: Okay. With that, we have gone an hour and 45
17 minutes. So, I'm going to insist on a break --

18 MS. PASTEGA: Okay.

19 DR. WOODS: -- because I'm sure everybody needs it. So, we
20 are going to go off the record at 11:40 Pacific Time.

21 (Session Paused at 11:40 a.m.)

22 (Session Started at 12:04 p.m.)

23 DR. WOODS: Okay, we are back on record at 12:04 Pacific
24 Time.

25 BY DR. WOODS:

1 Q. I want to go back to talking a little bit more about the SMS.
2 Right now, Boeing is under a voluntary SMS system, and you've
3 talked a lot about the different components which you're involved
4 in with that. I want to know a little bit more about the new part
5 five rule, 4.21, has now essentially mandated a regulatory SMS.
6 Are you involved in that transition from the voluntary to the
7 regulatory? And if so, what are some of the key differences?

8 A. I guess I'm not -- I wouldn't say I'm involved directly
9 because -- indirectly as a participant in the changes that will be
10 coming through, but not necessarily directly. I mean, we have SMS
11 being implemented across the organization from -- through our
12 chief aerospace safety team, right, and that team. So, we're
13 participating with them in the changes, but I'm not directly
14 involved that I can answer that.

15 Q. Okay. Do you perceive your role changing at all in the
16 regulatory SMS?

17 A. I don't know -- yeah, I don't know how to -- I don't know
18 that I foresee my role changing. I mean, I've been in a role of
19 the, you know, chair of the SMS, but I guess I see it maturing as
20 we continue to, you know, learn and infiltrate and SMS culture
21 across all of our organizations. But I guess I can't, you know,
22 say specifically to exact changes.

23 Q. We've talked quite a bit about what was previously known as
24 the 90-day plan, moving more into a comprehensive --

25 A. Comprehensive.

1 Q. -- plan, and that you were involved in the development of --
2 I think I heard at least three of the KPIs for that, or at least
3 three of the KPIs directly integrate with work function. Can you
4 tell us a little bit more about your role and how those KPIs were
5 identified?

6 A. Let me clarify. I was involved in three of the initiatives.
7 So, not necessarily three of the KPIs specifically. So, the KPI
8 that's most directly tied to, you know, the work that I'm doing is
9 the employee proficiency. Obviously, the rest of them -- all of
10 them were designed really around how do we know that we're
11 operating a system that is stable. And so, from a general
12 perspective, obviously several of those also touch on that. But I
13 wouldn't say that I specifically -- I think, you know, we worked
14 with some of our past standards, and I certainly helped provide
15 some input, but I wasn't specifically accountable to the other
16 five KPIs.

17 Q. Under that, the one that you had that direct interface with,
18 I read that there was essentially the enhanced OJT that we've
19 talked about before and 300 hours of coursework. Can you go back
20 over how that coursework was developed and how it was determined
21 that it's going to be the right fit to get you from where you are
22 now to where you want to be?

23 A. Yeah. So, in terms of the coursework, there were two or
24 three different areas that were specifically focused on, and maybe
25 a little bit more than that. But you know, there was the SMS

1 piece itself I talked about. There was the component around the
2 product data definition and helping to really strengthen and
3 bolster those activities. There was coursework where we had
4 gotten feedback through -- you know, directly from our employees
5 through the quality standdowns where some of our new team members
6 were on the job still having trouble performing some of their
7 work. And that was -- really, those themes were in four or five
8 key areas. And again, it was some of our more complex type of
9 work to do in an actual airplane environment than what you might
10 do in a classroom and bench kind of setting. We took feedback
11 from, you know, the trainers. We took feedback from multiple
12 different sources to help us kind of say this is the areas that we
13 think that we need to bolster. We -- and set different teams of
14 experts to help in each of those areas. So, I won't go through
15 all of them, but in the case of, like, SMS, we actually -- or the
16 safety culture training, we actually, you know, collaborated and
17 partnered with our SMS implementation team as part of helping with
18 that, along with all of our curriculum teams. And some of the
19 critical kind of production skills, we pulled some of our very
20 senior experienced -- well, some of the folks, you know, workplace
21 coaches that could help us that had done that kind of work before,
22 as well as some folks that might be in management today that, you
23 know, started and worked significant portions of their careers to
24 help us to kind of figure out how to design some of that in more
25 of a real airplane type environment. So, we tried to use multiple

1 different, you know, feedback loops to help to bolster. And the
2 ultimate feedback loop that is not fully in place yet, you know,
3 because it's going to be monitoring that system over time.
4 There's going to be an opportunity to create a feedback loop all
5 the way through which says as people go out, you know, how are
6 they performing their work in SOJT? How are they performing it in
7 Andon? We haven't had in the past formalized feedback loops like
8 that, and that will be, you know, some of the follow-on work that
9 we still have to go as we continue to build out the training. So,
10 I think one of the probably important things we've done to make
11 sure is understood. We've done a tremendous amount to contain and
12 get it to, you know, what I'll consider to be a healthy level, but
13 there's still opportunity to continue to, you know, improve that
14 system. And we think one of the best ones is going to be what are
15 the results of those mechanics and quality inspectors that have
16 come through this improved training, and are they tracking earlier
17 -- you know, better results on airplane earlier. So, those are
18 the next steps.

19 Q. Thank you, because that was actually going to be my next
20 question is how do you know it's working? How do you ensure that
21 these plans are essentially going to yield the results you want?

22 A. It has to be some way of closed loop and feedback.

23 DR. WOODS: Okay. That is all I have for this round. Moving
24 on. Pocholo?

25 MR. CRUZ: Just a couple.

1 BY MR. CRUZ:

2 Q. In your role, are you also -- are you -- do you identify that
3 maybe -- we're told, basically, a door crew, a 737 door crew,
4 doesn't have a formalized training. Is that something that you
5 have looked into or is that something that's needed with regards
6 to the 737 production line?

7 A. Yeah. And I'll take some of my earlier comments and really,
8 you know, try to help to clarify or answer that question.

9 Q. Yeah.

10 A. You know, I think from my perspective, you know, from that
11 statement, there was the IOP -- you know, the training and
12 foundational --

13 Q. Sure.

14 A. -- the IOPs. There was some area training --

15 Q. Yeah.

16 A. -- the kind of on-the-job training formalized. So, I truly
17 do believe as we now have that system that says, you know,
18 bolstered IOP, we've got the area of training so that you come out
19 with some of the specific things that you might need to know to do
20 the door rigging activities. And then that feedback loop with the
21 structured on-the-job training, I think that really is the closed
22 loop system that we're looking at. And so, in essence having, you
23 know, expanded and ensured that the foundational training is
24 really delivering everything that it can until, you know, to the
25 point that we really have to be on product, and then having that

1 closed loop system that says -- with workplace coach, you know,
2 peer trainers, and the assessment process through SOJT, I believe
3 the training experience will feel differently to new door riggers
4 in the future than it might have felt in the past.

5 Q. You guys are going through a lot of foundational training and
6 a lot of more training, right? Is there a point in time that you
7 think all that foundational training will have to be recurrent?

8 A. Well, some of it already is. I mean, so, you know, when you
9 get into the foundational training flow, you know, there's
10 portions of it that are introduction to the company or
11 introduction to the basics of manufacturing. But there are
12 portions of that that are the qualifications as it marches
13 through, and you learn all those pieces that are the
14 qualifications and certifications to be able to demonstrate
15 proficiency. And those have -- the qualifications and
16 certifications, the certs that an employee holds, have a time
17 limit to them. So, there is a recurrence where they have to come
18 back and get refreshed. And you know, that helps us protect
19 things like, you know, what the standard is and how it should be
20 being done, but it also helps us protect if people were trained
21 with a bunch of certs and then they don't actually go out and do
22 them in practice very much, right? So, you've got that time
23 limited control.

24 Q. Okay. All right. So, my last question to you is what keeps
25 you up at night in your current role?

1 A. What keeps me up at night? Now, that is a big question. I
2 reflect a lot on, you know, just the generational shift that has
3 happened in the workforce. And this is a broad answer but to a
4 broad question. The generational shift that has happened, and you
5 know, really trying to reflect on what else. Because you know,
6 fundamentally, the system that we had for training had been very
7 similar for decades. But you know, it wasn't short cut. There
8 weren't a bunch of things that were different. You know, what
9 really changed was the volume of people that, you know, were
10 coming through the system and the experience level of this
11 generation of workers. And that is what I forgot to say earlier.
12 When I said, you know, I lost that thought, that is what I forgot
13 to say earlier. Those -- and when I think about, you know, I
14 don't know how far to the end of my career, but I'm 34 years in.
15 So, I mean, a lot of what I reflect on, and part of my job is
16 making sure that manufacturing is going to be prepared for, you
17 know, not just this year and next year but the next generation.
18 Those are the kinds of things that are keeping me up right now,
19 right, because I'm trying to think -- and I think that is the
20 essence of what SMS is asking us to do, which is, you know, what
21 else? What have we missed? What is different? And how do we
22 transition from, you know, a lot of institutional knowledge to
23 things that are inherent.

24 MR. CRUZ: Thank you. Troy?

25 BY MR. LEVANEN:

1 Q. Thanks for bringing up that generational shift. And that --
2 you're absolutely right. The workforce has changed, and not just
3 changed generationally but since COVID, and that's kind of what
4 keeps me up at night as well. But I appreciate that you're asking
5 what else or what next. You're trying to look around the corner
6 because I think most of us in this room would agree the next --
7 we're not going to see another door plug, right? It's going to be
8 something else, right? Like what else? How can we use our SMS
9 especially? Don't take that off. Speaking of that, how about
10 removals? I know you've talked about it a lot but -- and you
11 mentioned that the removals are now, like, a specific group, like
12 inspectors that are -- people that are allowed to write removals
13 and buy off removals and authorize. But in the event of our
14 accident, there were procedures and processes in place to document
15 removals that didn't get followed. So, in this case, those
16 enhancements might not have helped -- wouldn't have helped
17 possibly in that situation because the undocumented maintenance
18 that was performed. And I'm just questioning, do you -- are you
19 concerned that by having it -- making it potentially even more
20 complicated to generate removals, that there still -- could still
21 be a pretty high risk of people deviating from the process to kind
22 of save time or under operational pressure to -- well, it's
23 inconvenient. I've got to go find my lead and he's not available,
24 and there's a certain inspector. Well, he's not available. How
25 about if we just pop this door open and get these things done.

1 And you know, like that kind of a mentality. It concerns me a
2 little when it becomes even more specific, you know, but maybe --
3 what's your thought on that?

4 A. I guess what I would say is there are -- we have multiple
5 layers of controls that are in place. I mean, we have a system
6 that has humans in it. Absolutely. I mean, a lot of, you know,
7 what builds an airplane has human interaction in it. And in every
8 one of those, I mean, we have to figure out do we have multiple
9 layers of controls to try to protect. I think at a macro level,
10 the answer is yes. You know, from -- and that is absolutely what
11 the QMS has to do is look at multiple different layers of control.
12 I'm not going to speculate, you know, if someone's going to try to
13 circumvent the system. What we've got to make sure -- I don't
14 know that we're making it more complex. Now somebody's got to --
15 you know, do they have to wait to have somebody else come and do
16 that work? Yes. But we have that case in other areas in the
17 production system if they don't have the certs and they don't have
18 the skills.

19 Q. Yeah.

20 A. It's no different than that. And you know, I think an added
21 layer of protection of them knowing that they don't have the cert
22 to do the work should be a higher precaution, and it is truly the
23 people that are -- what you have mitigated the risk to is not the
24 people that really didn't understand all those different pieces.
25 You've mitigated the risk to the people that are going to

1 intentionally go around it.

2 MR. LEVANEN: Yeah. True. No, I appreciate that. Thanks
3 for making the enhancements to the removal process. And I think
4 you've covered everything else. Thank you.

5 MS. PASTEGA: All right.

6 MR. PETRUZZELLI: Just real briefly for me then.

7 BY MR. PETRUZZELLI:

8 Q. You talked about generational workforce. Up until 10 or 15
9 years ago, we were having third, fourth, fifth generations. Has
10 that demographic dropped in this last --

11 A. You know, I don't know that I can answer that, John. I can't
12 tell you. I can tell you I'm second -- or I'm first generation,
13 but I've got a second generation here.

14 Q. Okay.

15 A. Yeah, under me. I'm happy to go get more information if
16 you're interested.

17 Q. Yeah.

18 A. Yeah.

19 Q. We talk about that every once in a while.

20 A. Yeah. I don't know.

21 MR. PETRUZZELLI: I'll pass it to Dan.

22 BY MR. MARCOTTE:

23 Q. I just have one quick follow up to Pocholo's question. You
24 know, if we're going to make more of the training recurrent, and
25 you talked about where we have our new hire training. It's around

1 Boeing. You know, how to operate in Boeing. And your discussion
2 I think mostly was around certs and more of the traditional
3 recurrent training we've had. But the foundational training, we
4 did add a lot of stuff. QMS and SMS. Do you see any recurrent
5 training coming on SMS and QMS to reinforce its importance or your
6 role?

7 A. First of all, I'm going to say that those would not be
8 directly in my purview to do.

9 Q. Okay.

10 A. But I would -- there is always recurrent training around
11 those as well. So, I don't know the exact plans, you know, along
12 some of those lines. What I am aware of and what I can talk about
13 is -- and I think an opportunity to continue to help drive the
14 safety culture, and one of them major changes that we'll be
15 starting, it's either July 15 or 16, I can't remember the exact
16 date, will be our first ever safety and quality day or
17 recommitment. And so, this is as you, you know, think about the
18 quality standdown that happened, you know, which was vast and
19 significant. 70,000 employees. We've contemplated how do we
20 actually continue that and continue to reinforce. And so, the
21 safety and quality day will be -- it won't be a full pause like,
22 you know, that was of all production, you know, at each site. It
23 will be an opportunity for everybody to reflect. And you know,
24 there will be certain planned kinds of events that are planned to
25 be done I believe quarterly as we go forward to help to continue.

1 So, you know, from a training perspective, I'm going to look to
2 specific plans both to -- you know, it'll be Elizabeth working
3 with us and Paul Wright and that organization --

4 Q. Okay.

5 A. -- for the SMS.

6 Q. All right.

7 A. But I think you're going to continue to see that.

8 MR. MARCOTTE: Thank you.

9 BY MR. RINEY:

10 Q. In our conversations with Elezabeth yesterday, one of the
11 discussions was the peer trainers and specific talking points or
12 message points that the peers or workplace coaches should
13 potentially have with the new individuals coming out on the floor.
14 Is that something that you guys have thought of from the training
15 team? Like, specific reinforcement.

16 A. Yeah. Thought of? Yes. Fully operationalized? Not yet.
17 You know, and again, I think as we've, you know, gotten this
18 architecture in place and we've gotten -- we have a system that we
19 can now see across the 737. Is everybody paired up? You know,
20 are the workplace code ratios right? You know, how are they
21 progressing? We have built a system down to the -- where a
22 manager can go in and see all of their employees and how they're
23 progressing. I am looking to -- I want to put a lens where an
24 employee can see their own. We're not there yet. And you know,
25 another part of this is going to be how do we continue to train

1 the trainer, if you will, and you know, continue so we can - the
2 workplace coaches are cored up by program now, so they're getting
3 that kind of instruction. They're working across the peer
4 trainers. That will leave some next steps and there's some
5 opportunity there. And it's -- you're absolutely right.

6 MR. RINEY: That's all I had. Thank you.

7 MR. JOHNSON: Nothing more from me.

8 DR. WOODS: Okay. With that, just make sure no other further
9 questions? Okay. I would like to conclude with just one question
10 which is that -- we appreciate, first of all, you taking time out
11 and talking to us about your processes and helping us understand
12 better. If there is one thing that you want us, this working
13 group, to take away, like this is your 60-second elevator pitch
14 that, like, Kim would like us to know, what would that be?

15 MS. PASTEGA: That is a big question too. Well, you know,
16 it's not a 60-second elevator speech at all. But I would just say
17 I think, you know, the comprehensive safety and quality plan that
18 has been put in place I think looked vast and it looked wide, and
19 it looked with really fresh lens on -- across -- frankly, across
20 all of our, you know, commercial production and business. And
21 that, you know, I, and I think we, believe that those actions --
22 you know, understanding the issues. We understand them, we own
23 them, and we are committed to the things that we have -- you know,
24 all the six or seven areas that we believe will address those
25 going forward. It's going to take some work, it's going to take

1 some time, but the company and the individuals, you know, are --
2 that like myself, that are in positions of authority to do this
3 have made that commitment, and I think we believe that that is the
4 right plan and path going forward as informed by many
5 stakeholders.

6 DR. WOODS: Okay. All right. With that, again, last chance.
7 Any other follow up questions?

8 MR. PETRUZZELLI: I was going to ask who is Paul Wright? Is
9 he -- what's his title, just out of curiosity?

10 MS. PASTEGA: That's -- oh, gosh. Director -- title exactly
11 -- let me get it for you rather than just -- but he --

12 MR. PETRUZZELLI: He's the SMS guru?

13 MS. PASTEGA: Yes, for BCA.

14 MR. PETRUZZELLI: Okay, got it.

15 MS. PASTEGA: Yes, for BCA.

16 MR. PETRUZZELLI: Thank you.

17 MS. PASTEGA: But you know, exact title, I don't want to spit
18 it out --

19 MR. PETRUZZELLI: That's fine.

20 MS. PASTEGA: -- and be wrong.

21 MR. PETRUZZELLI: No, I'm curious what his role --

22 DR. WOODS: Senior Director of Safety Management System.

23 MS. PASTEGA: Thank you.

24 MR. PETRUZZELLI: Got it.

25 MS. PASTEGA: I was going to speculate and say it, but I

1 don't want to speculate here.

2 DR. WOODS: All right. Okay. With that, thank you again for
3 your time. We appreciate it very much. And we're going to go off
4 the record at 12:30 Pacific Time.

5 (Whereupon, at 12:30 p.m., the interview was concluded.)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ALASKA AIRLINES BOEING 737-9 MAX
 IN-FLIGHT STRUCTURE FAILURE
 NEAR PORTLAND, OREGON
 ON JANUARY 5, 2024
 Interview of Kim Pastega

ACCIDENT NO.: DCA24MA063

DATE: July 10, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

Amber Manross
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*

*

ALASKA AIRLINES BOEING 737-9

*

MAX IN-FLIGHT STRUCTURE

*

Accident No.: DCA24MA063

FAILURE NEAR PORTLAND, OREGON

*

ON JANUARY 5, 2024

*

*

* * * * *

Interview of: EARNIE REDDIC, Quality Senior Director
737 Program
Boeing

Seattle, Washington

Wednesday,
July 10, 2024

APPEARANCES:

SABRINA WOODS, Human Performance Investigator
National Transportation Safety Board

POCHOLO CRUZ, Aerospace Engineer Investigator
National Transportation Safety Board

TROY LEVANEN, Director of Maintenance
Alaska Airlines

JOHN PETRUZZELLI, Quality Team Lead
International Association of Machinists (IAM) Union

DAN MARCOTTE, Air Safety Investigator
Boeing

MIKE RINEY, On-site Representative
AeroSystems

NILS JOHNSON, Maintenance Investigator
National Transportation Safety Board

JENNIFER NOWAK, ESQ.
(On behalf of Earnie Reddic)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Earnie Reddic:		
By Dr. Woods		7
By Mr. Cruz		27
By Mr. Levanen		37
By Mr. Riney		38
By Mr. Petruzzelli		44
By Mr. Marcotte		54
By Mr. Johnson		57
By Dr. Woods		61
By Mr. Cruz		64
By Mr. Levanen		67

I N T E R V I E W

(12:47 p.m.)

DR. WOODS: Good afternoon. It's July 10th, 2024, and the time is 12:47 Pacific Time. My name is Dr. Sabrina Woods and I'm a human performance investigator with the National Transportation Safety Board. I am one of the investigators, along with Pocholo Cruz here to my left co-leading the manufacturing and human performance working group for accident investigation number DCA24MA063 involving Alaska Airlines Flight 1282.

The NTSB is an independent federal agency charged with determining probable cause of transportation accidents and significant incidents for promoting transportation safety. The NTSB is not part of the Department of Transportation, nor is it part of the FAA. We have no regulatory or enforcement powers.

We are a small organization however, so who we have on board to help inform that process is what we call party to the investigation. Around the table here, you're going to see certain members of those parties to the investigation. So you have an understanding of who it is you're talking to, I'm going to have them introduce themselves to you as we go around starting with Pocholo.

MR. POCHOLO: Hi, my name is Pocholo Cruz. As Sabrina said, I'm a co-chair to this group. I'm an aerospace engineer with a maintenance background.

MR. REDDIC: Nice to meet you.

1 MR. LEVANEN: Hi, I'm Troy Levanen with Alaska Airlines.

2 MR. PETRUZZELLI: Hi, I'm John Petruzzelli. I'm representing
3 IAM Machinist Union, and I am qualified right here,
4 FAA coordinator team lead.

5 MR. REDDIC: Nice to meet you.

6 MR. MARCOTTE: Hi, I'm Dan Marcotte. I'm a Boeing air safety
7 investigator. I'm based out of Southern California.

8 MR. REDDIC: Nice to meet you.

9 DR. WOODS: Right here.

10 MR. RINEY: Good afternoon, Earnie. My name is Mike Riney.
11 I'm Spirit's onsite leader here in Washington.

12 MR. REDDIC: Nice to meet you.

13 MR. JOHNSON: Nils Johnson, NTSB. I'm an aviation accident
14 investigator. My specialty is maintenance.

15 MR. REDDIC: Nice to meet you.

16 DR. WOODS: And that's also for you. So, Earnie, today we
17 will be using a digital recorder. After the interview, we will
18 send that recording out for transcription to an independent
19 company that transcribes and certifies the copy. A copy of the
20 transcript will be go forward to be a matter of public record in
21 the docket for this case.

22 We are here for you to share your insight experiences in
23 Boeing processes with us with the goal of preventing future
24 accidents. Each of these group members here will have a chance to
25 ask questions. We'll do so one at a time, and there will be an

1 opportunity for follow up questions after everybody's kind of had
2 a first round.

3 Please answer all the questions to the best of your
4 recollection, to the best of your ability. However, recognize
5 that if you don't know the answer to a question, I don't know is a
6 perfectly acceptable answer. If you don't understand, please say
7 so. We'll clarify.

8 And at any time you realize you want to add clarity, or you
9 misstated something, or you just want to go back and reiterate,
10 please feel free to do so. While we'll be respectful and go one
11 at a time, you can definitely move around as you see fit.

12 You're entitled to have one representative of your choosing.
13 I see here that you have counsel with you. I just want to ensure
14 for the record that you're okay with the legal counsel that has
15 been afforded to you.

16 MR. REDDIC: I am, yes.

17 DR. WOODS: Okay. With that Counsel, if you please introduce
18 yourself stating your full name and spelling your last.

19 MS. NOWAK: Jennifer Nowak, N-O-W-A-K.

20 DR. WOODS: Thank you so much for that. And just please be
21 advised that this is an interview, not a deposition. So, please
22 refrain from answering on behalf of your client or interrupting
23 the process. However, with that, Earnie at any time if you feel
24 you need a break for any reason, please do not hesitate to say so.
25 We'll pause the recording, you can take care of what you need to,

1 and then we will begin when you're ready.

2 MR. REDDIC: Okay.

3 DR. WOODS: So, with that, do you have any questions?

4 MR. REDDIC: No questions.

5 DR. WOODS: All right, excellent. Thank you.

6 INTERVIEW OF EARNIE REDDIC

7 BY DR. WOODS:

8 Q. So, we're going to start off with hopefully is the hardest
9 question that I have for you, and that is if you would please
10 spell your -- I'm sorry, say your name, and spell your last.

11 A. My name is Earnie Reddic, R-E-D-D-I-C.

12 Q. Thank you, Earnie. And what is your current position and
13 title at Boeing?

14 A. I am the 737 Quality Senior Director.

15 Q. And how long have you held that position?

16 A. I've been back on 737 for about -- almost three years.

17 Q. In this position?

18 A. Mm-hm.

19 Q. Okay. Who held the position prior to you?

20 A. Prior to me, the position was Steve Carlson.

21 Q. Okay. Before we get into the details of your position, have
22 -- what other positions have you held within the Boeing Company at
23 all?

24 A. Positions I've held within the Boeing Company, I started off
25 as a structures mechanic, and then I transitioned from a

1 structures mechanic to a first line manager in operations, and
2 then, senior manager in operations. And then, transitioned to
3 quality, then transitioned -- as a senior -- then I went back into
4 operations as an M-Level superintendent. And then, I went into
5 operations -- or manufacturing environment again as a director.
6 And then, after I spent time as the director in operations, I went
7 into operations as a quality leader. And then, I transitioned to
8 senior quality leader at -- in BCA, all in BCA, different program.
9 787, 777, 67, startup EMC, CI&R referred, SST support. I think
10 everywhere except for the 47 program.

11 Q. Okay, and the position that you are currently in, how long
12 has this position existed? Has it been a longstanding position
13 within the company?

14 A. The 737 director has been a longstanding position within the
15 737 program.

16 Q. Okay, so with that, can you please give us a high-level
17 overview of what are the responsibilities of the position? What's
18 your role?

19 A. So, today -- my role today, I manage areas of the business
20 from the PA program, to wings assembly, to final assembly, to
21 preflight, paint, SDC delivery center, offsite locations. So, I
22 manage another site offsite where we have our offsite airplanes
23 and our offsite activity. I manage Victorville. We do our catch
24 and release, and our paint activities.

25 I also manage our SST which supplies support to the inner

1 factories, which is like a support team. And I also operate and
2 manage the AOG that supports the fleet activity to the customers.

3 And I have the customer interface team that also does
4 everything locally from customer support throughout the build
5 process, but also throughout fleet integration back to in-service
6 investigation activities of that nature. It's about 2,000 people.
7 And then, underneath me I have executives that individually are
8 boot-side on the ground in those different areas that I just
9 named.

10 Q. How many people have a direct line to you?

11 A. I have three executives under me that divide all that work
12 stated that I just noted, and one M-Level and they all manage
13 those individuals swim lanes consistently every single day to
14 other people.

15 Q. And who do you have a direct line to?

16 A. I am directed to the new role of the vice president in -- of
17 quality, that then hardlines directly to Elizabeth.

18 Q. You said now. Who is it --

19 A. We didn't have one. Originally --

20 Q. What was the position before?

21 A. It was originally, we were -- we didn't have an airplanes
22 programs quality leader. That role was just established. So,
23 before it was just a direct hardline to the head of quality.

24 Q. With that change, did your roles and responsibilities change
25 as well?

1 A. No, still on all (INAUDIBLE). It never changed.

2 Q. So, to confirm, has it changed since the accident at all?

3 A. It has changed since the accident by adding an oversight from
4 a VP role of airplane programs.

5 Q. But has your role changed at all since the accident?

6 A. My role hasn't changed since the accident.

7 Q. Okay, so with that, what's a day in the life of Earnie
8 Reddic? What do you do on average each day? What consumes your
9 day?

10 A. So, on the -- my day, my day is -- when I start my day every
11 day, I first connect with my team around 5:30 every morning. So,
12 I have a standing meeting every morning at 5:30 every morning
13 where I can connect with all of the individual -- three
14 executives, one M-level getting an update on safety, activities,
15 what our productivity release for the day, any concerns, any
16 risks, and we kind of have a standard script that we go over every
17 morning, and that kind of level sets us to how things are going
18 across the different areas because they're all not here in the
19 Puget Sound.

20 We go through that every single day. That allows us then to
21 establish if there is help needed, or concerns in activities. And
22 then, my schedule that I rotate between all of the areas during
23 the weekday. So, I spend established days in final assembly,
24 established days in wings, out at the delivery center, and then
25 selectively during the month I travel to the other additional

1 sites.

2 But my day starts out every day with the tag-up with all of
3 my leaders to get an overview of previous day performance,
4 previous day activities, and kind of ensure that is there any help
5 that is needed that's happening throughout my production system
6 environment.

7 Q. So, during that -- those day-to-day activities, how do you
8 know things are going well? What are your indicators?

9 A. So, I have -- we have an operating rhythm and a cadence where
10 it would someone is, like, a Tier 1 meeting where I can do down to
11 the crew level and I get to interact with all of the personnel
12 front line inspectors and hear all of the daily ins and outs of
13 the production system.

14 All the -- any of the safety concerns, any of the things that
15 may have in a tier meeting, Tier 2, which is my -- the next level
16 up where we can go, and everything is elevated to that level.
17 Then, I visit some of the Tier 3 activities which is another level
18 of elevation as we walk through different activities that's
19 happening within the build frame.

20 And then, at midday we have a Tier 4 which brings in all of
21 the senior leaders across the production system where we integrate
22 and look at various -- everything from health of the employees,
23 health of the production system, maybe help needed from the people
24 or the customers, and that is a standard everyday Tier 1, Tier 2,
25 Tier 3, Tier 4 activity in -- every single day.

1 Q. What are some hot bed issues that you look for that might
2 indicate that things are not going well?

3 A. Control lines are set within areas that I go look for. We
4 work hours nonconformance. Obviously from a people perspective,
5 there's people -- every day I look at how our people are doing
6 from an injury, if there was injuries, if there was anything that
7 triggered a concern from a people perspective first.

8 Then, from a production sense of perspective, I look at
9 previous days, defects, nonconformance, escapes, ticket writeups,
10 FAA findings, things that we have control limits that we watch on
11 our metrics on our dashboards that say if things are within a
12 certain control limit if certain are concerning, then that
13 triggers me to go engage with my leaders to see how things are
14 going, or ask if there's any help needed.

15 Q. How directly are you involved with Boeing's QMS system?

16 A. I am directly involved in the QMS system, and that is because
17 every single thing that my team does links into ensuring compliant
18 parts are installed in an airplane, and compliant parts are never
19 delivered that escapes to a customer. So, from a compliance
20 perspective and a conforming perspective, my entire team focus is
21 compliance and conformance.

22 Q. I want to step through an overview of how you manage that
23 quality control within your production line. What are some of the
24 timelines that you use, meaning what do you review daily, weekly,
25 monthly?

1 A. From a weekly perspective, we have a running-the-business.
2 So, every week we have a run-the-business dinner -- running-the-
3 business activity. We cover everything from employee proficiency,
4 so how we're doing around our employees with training, how we're
5 doing on employees with the assessments for SOJTs and et cetera.

6 We also have dinner running-the-business where we review the
7 production health and production risk. So, we review during that
8 activity five trends, rework hours, defect hours, nonconformances,
9 those items during that running-the-business activity.

10 And then -- and that's within my lower teams that we run --
11 that establish of running-the-business is every single Thursday
12 where we have a rotational agenda that touches on all of those
13 different KPIs or metrics around just my portion of the business
14 across all of the value streams.

15 And that's a running-the-business portion of it, which
16 includes finance, which includes health and safety EHS, which
17 includes our SMS review, which includes our -- again our employee
18 proficiency, and I'm trying to think of the other one. But it's
19 all around the discipline and cadence. Every Thursday, running-
20 the-business.

21 Q. I should have clarified. Is all of this since the accident
22 or was it in place before the accident?

23 A. My running-the-business activity was in place consistently
24 before the accident.

25 Q. So, let's talk metrics. What sort of metrics are you most

1 interested in that tell you the health and the quality of your
2 production?

3 A. So, there -- the health of the production system, incoming
4 NOEs, so how are we doing to incoming escapes to our production
5 system? How are we doing with the amount of rework that we're
6 either consuming or the amount of rework that's in our production
7 system?

8 Our employee proficiency, how well are people trained or how
9 well are our people able to be able to execute to their work based
10 on their capability? How is traveled work -- or are we able to
11 consume our traveled work in our allotted time for flow throughout
12 the production systems?

13 And the other one that we look at that that's considered
14 important is really around the health of our supply chain, because
15 when the health of our supply chain is paired with the flow of the
16 production system it becomes standard, and the work becomes
17 stable. So, the inconsistencies in the supply chain is an
18 indicator of instability that drives into the teams' ability to do
19 the work on a consistent basis.

20 Q. How do you know when an action needs to be taken?

21 A. We've matured as we've started to -- so, I'll use the example
22 of traveled work. We've established -- SRA as our control limits
23 for traveled work. So, there is -- each of our flow days is
24 designed by established amount of days. So, we've established a
25 safety review assessment that says traveled work reaches a certain

1 threshold that allows us to understand is that threshold
2 manageable by the employee or in the position to be able to
3 consume the work in a timely manner while driving risk.

4 So, if the traveled work assessment review is within that
5 minimum threshold, those jobs can still be worked in safe manner
6 of the employees, or safe in manner of the system. If it starts
7 to get higher, that triggers us to then have the conversation
8 where we have our SRA reviews that says the traveled work is
9 higher than our teams can consume.

10 And that's why I raise my hand and say inside the factor if
11 wings are peaked, I'm going to stop that production for the day
12 and we're going to install a production pause date to allow the
13 teams to be able to consume that work and be able to allow them to
14 catch back up on the work before the work moves through the rest
15 of the system.

16 Q. And when was that threshold established?

17 A. We established the traveled work threshold post -- after
18 January.

19 Q. So, what was the process before the accident?

20 A. The process that we added before the -- after the accident
21 was the threshold for the SRA for review to mitigate -- to really
22 evaluate the risk.

23 And then, we involved quality now in that risk assessment to
24 make -- to help make the determining factor on whether or not
25 traveled work has exceeded its ability to continue to go through

1 the production system.

2 And then, I in quality are chairing the yes or no from a
3 threshold perspective on whether or not traveled work can be
4 stopped or should be stopped in that traveled work assessment when
5 we do our safety measure review against traveled work.

6 Q. But again, then prior to the accident how was traveled work
7 being handled?

8 A. Traveled work didn't have a defined process when it came to a
9 safety -- our view of the style of traveled work. Traveled work
10 was assessed based on criteria, or based on certain milestones,
11 but there was not an official governance board, and there was not
12 an official team that met and discussed the thresholds when you
13 trigger those thresholds that we have today.

14 Q. So, you've been in this production line for three years in
15 this position. Prior to the accident, how had the rate of
16 traveled work changed? So, let's say from three years ago to
17 January 1st.

18 A. The rate changed, as in --

19 Q. Was it increasing, decreasing, stayed the same, stagnant?

20 A. Well, coming out of COVID there's been like a massive --
21 there was a massive supply chain shortage. So, it was
22 inconsistent because your parts and demands were inconsistent.
23 So, your traveled work was kind of a roller coaster because of the
24 supply chain interruption.

25 So, it was just a drastic change in that supply chain that

1 didn't allow for that true stability throughout the traveled work
2 in the production system. And that has started to stabilize
3 today, but if you go back in a three-year window, it was affected
4 a lot by the incoming fluctuation of the parts for the supply
5 chain.

6 So, traveled work would be -- you'd have flat moments, then
7 you'd have peaks and valleys of higher traveled work when all the
8 parts come in, or when the parts do finally catch up to the
9 production system.

10 Q. And that same vein, how has the production changed over the
11 last three years?

12 A. Since the production rate hasn't -- since January obviously,
13 the production from January -- prior to January, production rate
14 was just catching to the 30 -- just around the 30 -- I think we
15 hit, like, 32 back in the end of December. And then, in January
16 we slowed production rate down.

17 And then, since January as we put in our different SRAs
18 around milestone management, traveled work, safety assessments,
19 flow day criterion through the production system, we've slowly
20 step-function our rate each month.

21 So, each month we step-function our rate to where we went --
22 I think in January we went as -- to a lower rate. And if you look
23 back now from January till now, each month has been a slow and
24 steady improvement, but drastically lower travelers, and lower
25 defects in the rate.

1 Q. Going back to prior to the accident and the rate that you
2 were sustaining, that 30 to 32 output per month, in your opinion,
3 was that sustainable?

4 A. The previous rate prior to the accident, we had demonstrated
5 that with our healthy supply chain, and our workforce, and our
6 traveled work that we were stable. We had demonstrated stability
7 from the middle of last year to the end of the year.

8 So, consistency from a performance perspective and a
9 consistency from a defect perspective, and we were just starting
10 to stabilize. So, I would say we were showing trends of
11 improvement on the production system middle of last year as we
12 were trending towards the end of the year.

13 Q. You've been within the BCA for a while, and you've been on
14 different programs. So, I'm going to talk like last decade or so,
15 and not just with the 737 Program, talking about workforce.
16 Describe how that workforce has changed over the last decade?

17 A. Workforce changes, curiosity. I mean, the workforce -- at
18 one point when I first came into the workforce, you had a lot of
19 seasoned people, people who have been in the aviation for long
20 periods of time. And therefore, you had mentors and people you
21 could partner with and people you could align from specific
22 skills.

23 As that has transitioned over time is where we've had --
24 we've been able to interject that with, like, workplace coaches,
25 more people that are truly designed for that -- those roles

1 because the workforce, seasoned workforce has slowly transitioned
2 to new roles, or are retired and those types of things. So, you
3 notice that the workforce over time has shifted from an experience
4 perspective.

5 And you have noticed that the ability of tons of long-term
6 aviation employees are -- is where you're really now partnering
7 them with the new people, and you're really transferring that
8 knowledge from a workforce perspective.

9 Q. We've heard from quite a few people that, similar in the same
10 vein, that the -- you know, you've seen the transition from
11 between a seasoned workforce that had prior aviation experience
12 rotating out, and then you have a newer generation who maybe
13 doesn't have quite as much experience coming in.

14 How are you bridging that gap? How are you seeing that gap
15 being bridged to ensure that the level of quality remains high,
16 even though, you know, long gone are 30-year technicians, and now
17 you're entering two-year technicians?

18 A. So, I'll speak from my evidence. When I go to the training
19 center the other day with my inspectors, they now have a fuselage
20 where they take half of an airplane, and the new people are able
21 to go actually work hands on and demonstrate on an airplane.

22 Now, when I first came in back in the day, I didn't get that
23 luxury to learn to be working hands on, on an airplane. I learned
24 in the training room, a classroom, but I learned with partners
25 that I was supposed to be connecting with. But in today's

1 environment, they actually are working on a physical portion of an
2 airplane.

3 And so, troubleshooting, inspection points, and those types
4 of things, they're getting the opportunity to get the hands on, on
5 a physical airplane early to create the confidence in the product
6 early, versus potentially introducing your learning moments on the
7 actual product itself. And that's even in the training centers.

8 When I was just in the training center today, they had full
9 shadow boards, and full training aids that replicate our setup --
10 simulate real situations for different skills. And the new people
11 were able to use those, touch those, but it felt and looked as if
12 it was really on the aircraft are really in the -- part of the
13 airplane.

14 And it allowed the people to be able to have those
15 touchstones and make those errors, ask the questions, and make the
16 mistakes with what we have now, which is great, which is the
17 skilled workplace coaches.

18 So, you have electrical workplace coaches, quality workplace
19 coaches, mechanic workplace coaches that are there with the people
20 that provide a lot of oversight. And so, it's the investment up
21 front is stronger.

22 It seems that, you know, your -- that's what up front can
23 give you more real time experience on a product, or real time
24 experience on real life scenarios like fault co-finding, you know,
25 flight squad resolutions, et cetera, that you're getting today

1 that will help plant the seed with -- obviously with refreshers
2 and trainings throughout the way to the workforce that wasn't
3 allotted before and you earned all of that experience on the job
4 or on the airplane.

5 So, I do see that the investment in what we're doing over the
6 last couple of generations around getting all of that upfront
7 ability for people to have that during their initial training
8 builds confidence and the ability to go learn their work early and
9 do it with confidence before they ever touch the product. And to
10 me, that's been a powerful shift in comparison to even how I came
11 into the system training.

12 Q. And when did you see that shift occur?

13 A. After COVID. So, the transition really started to transition
14 after COVID from a real upfront, hands on simulation, more like
15 product, like activities, really started to turn its tide.

16 Q. In your position, how do you track and manage escapes?

17 A. In my position, there's a couple different avenues I manage
18 escapes. So, there's managing escapes at my working team level.
19 So, at my working team meeting, my personal teams where I manage
20 escapes from position to position as a part of our -- in the
21 morning reviews.

22 I look at the -- we have a matrix that we look at escapes
23 within, say example, the production system, and we manage all the
24 escapes on previous day escapes, what corrective action we're
25 doing. Then, we're making sure we have containment, making sure

1 we have corrective action in place.

2 But then, there's the broader escapes where I manage the
3 escapes at a weekly integration level with the FAA where I go over
4 where we are from a trends perspective with its escapes, how are
5 we doing, and what are we doing from a corrective action trends
6 perspective.

7 So, there's the down and in managing of the escapes from a
8 daily perspective. Then, weekly there's the interaction that I
9 have with the FAA to manage the, how are we doing and showing what
10 we're doing to manage the escapes in an FAA perspective.

11 And then, in between those I have meeting activities around
12 the senior leaders where we do our regulatory reviews of escapes,
13 our internal audit reviews of escapes, kind of in between as we
14 go, review those internal Boeing.

15 So, all the way from the -- my team perspective all the way
16 to the FAA perspective, metrics and reviews is on all the escapes
17 from finding nonconformance, component reliability, fleet activity
18 that feeds back in, in-service investigations, note of
19 escapements, those type of things.

20 Q. Does that process differ at all if the escape is lack for a
21 better word homegrown, versus if it's introduced from a supplier?

22 A. Homegrown meaning self-caused?

23 Q. Yes.

24 A. Versus an escape introduced from --

25 Q. Or let's say an NCO for instance because I would kind of

1 pattern that under a form of escape. So, something that's
2 introduced from a supplier --

3 A. Does it change?

4 Q. -- a defect noted, is the process changed.

5 A. The process doesn't change. Any escape regardless if it's
6 self-created or given to you requires a corrective action of
7 containment. You have an escape versus a job is to ensure that
8 the escape is contained, and you ensure the escape is contained,
9 that you have corrective actions that mitigates it.

10 The corrective action plan that mitigates it could be a
11 temporary solution meaning a change is only good for x-amount of
12 lines numbers while we incorporate the permanent change, whether
13 it be a supplier with a machine -- excuse me, a machine update, or
14 it could be a change to a drawing revision at a supplier, et
15 cetera.

16 But even if it's internal where it's something like an escape
17 from -- that a person did from torquing something incorrectly,
18 et cetera, we don't -- they are treated with the same level of
19 corrective action requirement.

20 Q. How does Boeing track and communicate production information
21 throughout the building process?

22 A. Can you give me clarity on production information?

23 Q. Things like notifying of an NCO, something that needs to be
24 reworked, being able to get the people that you need to rework
25 that task. How are those I guess touch-level processes

1 communicated? What are some of the different tools that you use?

2 A. So, everyone of NCOs or production requirements are a job.
3 It's an assignment, so work assignment for someone. So, for --
4 and I'll use the example for my teams, each of them every day,
5 they have a crew meeting.

6 They have tag up every single day. And the tag up is where
7 everyone gets their job assignments, and if someone has an NCO or
8 an escape work they had to go do, all of it's assigned and level-
9 set at that time, so people are aware of at the lowest level, we
10 have an issue. Here's the issue we've got to go solve, et cetera,
11 at the lowest level.

12 And it's all because it comes in a form of a nonconformance
13 record, or it comes in the form -- some form of documented work
14 instructions. And we communicate that at the lowest level, at the
15 crew meeting level, at the working meeting level every day to the
16 actual workforce that gets their assignments and do all those
17 types of activities.

18 And from a leadership and people perspective, we communicate
19 those at the Tier 1, Tier 2, Tier 3, which is different levels of
20 first line senior management, quality management, et cetera.
21 Tier 1, Tier 2, and Tier 3 is how we mitigate those every day to
22 elevate ones that are concerning, or help is needed along the
23 lines dealing with those activities.

24 Q. From your position, what are your expectations for how the
25 ship side action tracker should be used, and what kind of tool it

1 is?

2 A. In my role in quality, a ship sideline tracker isn't
3 associated to me. The ship sideline tracker is a tool that's used
4 by the mechanics who have an ask in their position for something
5 to be -- helped with.

6 So, if you need a ladder, you don't have hoses, you can get
7 put it in the ship side action tracker, and someone would bring
8 you a hose, or someone would bring you a -- but my quality
9 organization, that is a -- we don't use the ship side action
10 tracker.

11 Q. Yeah, I wasn't necessarily asking about how you use it, but
12 more like how you expect it to be used within a quality system.

13 A. I don't -- there are no links between this SAT system --

14 Q. Okay.

15 A. -- and the quality management system.

16 Q. At what point does the QMS interface with your SMS, or
17 points, plural?

18 A. From a people perspective when you look at some of our risk,
19 and we look at risk assessment SMS, you know, one of the things
20 that stands out the most is as we've transitioned our workforce to
21 speak up and being able to feel comfortable to voice their
22 concerns around potential items, whether it be processes or
23 conformance concerns, or escapes, those measures, and the speak-up
24 system has helped kind of -- really as we started this real
25 journey of SMS at a people perspective that can provide a platform

1 for everyone, which has spawned a lot of opportunities for us to
2 understand early kind of what's happening across the production
3 system.

4 And then, when we think about our SMS and QMS integration
5 around a lot of our safety risk assessment analyses, now we've
6 matured our safety risk assessments around things like rework
7 hours, or FOD risk to ticketing airplanes.

8 We now have control limits, and now we're focused on control
9 lower limits and high limits, et cetera as we're going through
10 those, and that's all under our journey as we've started to derisk
11 various potential concerns within the production system.

12 And to me that's, you know -- but the most powerful one seems
13 to be the voice of our employees, and providing that initial
14 platform for people to help us be the eyes and ears across the QMS
15 in a safe fashion. To me, that was the first catalyst that's --
16 that helped kind of really get people open to the safety
17 management journey.

18 Q. And what role were you involved in as far as responding to
19 speak-ups, or reading them when they come in, or however that
20 process works?

21 A. At my level for 737, I am on the SMS 737 Board. And that --
22 what the entails for me is I -- when speak-ups are assigned to the
23 737 Program, then I get the privy of being able to see those
24 incoming speak-ups and be able to look into those incoming speak-
25 ups as they're being assigned or assessed for the program.

1 DR. WOODS: Okay. That's all I have for this round. So,
2 moving on. Pocholo, you're up.

3 MR. CRUZ: Thank you. Earnie, thank you for talking to us
4 today.

5 MR. REDDIC: Sure.

6 BY MR. CRUZ:

7 Q. So, you mentioned -- I'm sure you know obviously why we're
8 here with regards to the particular incident on 8789.

9 A. Yes, sir.

10 Q. What do you know about 8789? What do you know about the
11 issues with regards to that particular fuselage or line number?
12 Were you aware of when it came to the factory and, you know, what
13 were you told about it?

14 A. So, to my -- so, for me when that airplane came through the
15 factory, I am aware of the speak-up written against the airplane
16 for the workmanship concern that the airplane had on the speak-up
17 item. And then, obviously, through containment efforts and
18 activity we've done since the accident, I've learned a lot about
19 that fuselage.

20 Prior to the incident, my privy of knowledge was around my
21 team's speak-up that was written around concern over a workmanship
22 issue around some rivets. But after the incident, my knowledge of
23 the containment actions that I had to put in place, I learned a
24 lot.

25 Q. So, what were you told after the accident as far as -- or

1 what does -- has Boeing told -- what have you learned after the
2 accident?

3 A. About the incident?

4 Q. About the -- yes.

5 A. Okay.

6 Q. Yeah.

7 A. I just want to be clear about the incident.

8 Q. Right, yes.

9 A. So, throughout the course of the -- of different containments
10 and different interactions that had to be -- that I had to be
11 involved in since the incident, I've -- you know, I've learned
12 that the -- through the photos that we had to review, and
13 activities of the plug is at the fore -- since the retainer bolts
14 based on the SAT photos that I've observed that I could clearly
15 see three visible bolts on that airplane that was in reference.

16 Before that, I didn't -- I wasn't in that level of detail to
17 understand the arrester bolt clarification. But in my journey in
18 the containment activities I had to, you know, be a part of that
19 journey to add those items -- excuse me, those corrective action
20 items in play.

21 And so therefore, I was able to, you know, go back and step
22 through what the door plug looks like, how the steps work, et
23 cetera, and that to me was the -- to be able to see and the
24 awareness of how the arrester bolts in the conversation came to
25 be.

1 Q. As far as the mid-exit door plug, typically which group of
2 Boeing employees would work an actual door plug, you know?

3 A. Yes, the door plug is performed by our doors team. So, we
4 have a team dedicated to working various doors, but doors teams
5 within the production system.

6 Q. Okay, and are you familiar with the supplier assist
7 through -- for Spirit?

8 A. I'm not the expert, so I wouldn't say that I'm --

9 Q. Okay.

10 A. -- I'm knowledgeable on the process.

11 Q. Okay, well what do you know about the process for supplier
12 assist?

13 A. If we go -- so, if we -- if we're requesting for assistance,
14 we have to go sign up or go request that assistance.

15 Q. Okay.

16 A. So, you go sign -- the team signs up. They request that
17 assistance through, you know -- it could be a vendor, it could be
18 AOG, it could be SST. And then, that -- signing up for that
19 assistance then allows you to coordinate the effort to be able to
20 provide whatever request that you're being asked for.

21 Q. If suppliers need access to a specific component, are they
22 allowed to open or get access themselves, or do they contact
23 Boeing for access?

24 A. Process-wise, anything on the airplane that's been conforming
25 on that airplane requires documentation by somebody on Boeing to

1 do any form of removal or access to the plane. So, suppliers that
2 come into our system still have to be -- follow our Boeing
3 requirements for either coordination and that's why you sign up,
4 and you have to have a representative.

5 You know, if you're ASST, you've got to -- and you're being
6 asked to come work something, you have to be -- you have to have a
7 Boeing representative to assist you with that activity because
8 everything that you're getting the systems with requires a Boeing
9 interaction.

10 Q. Okay, and you mentioned a door team would typically be the
11 Boeing group that would access or work on mid-exit door plugs. Is
12 that correct?

13 A. Baseline work activity done on any of the doors is done by
14 the doors team. When I say baseline meaning baseline IPs, meaning
15 production IPs, meaning IPs that initially touch or baseline jobs
16 that do those doors.

17 Q. Do you know which shifts the door team particularly works?

18 A. I do not.

19 Q. Okay. How familiar are you with the removal of BPIs?

20 A. The 52-pager beyond -- I've read the BPI many times,
21 different times, but this is one of our lengthier BPIs.

22 Q. What is your assessment on that BPI since you've read it
23 numerous times?

24 A. As a part of our quality and comprehensive safety plan, I
25 think it's -- we've really understood and identified that we owe

1 simplicity to -- we need to recommend media including a removal
2 BPI. And we've been doing the same wins and making the
3 corrections to our removal process as a part of that. And that is
4 a part of the realization that command media activity could use
5 simplification.

6 Q. Has there been anything from the quality standpoint to looks
7 at trends associated with that BPI?

8 A. Yes, sir. So, as a part of our comprehensive and safety
9 plan, one of the key items is command media simplification. So,
10 that BPI and other BPIs that have been our end up production
11 system for airplane production systems are all going through a
12 overhaul and assessment for simplification, so yes.

13 Q. Okay, and you mentioned you have weekly meetings with the FAA
14 to look at trends I believe is what you said, right?

15 A. Yes, sir.

16 Q. Has any of the trends that you've identified post or prior to
17 the accident involve the removal of BPI?

18 A. Remove -- or revolve the BPI?

19 Q. Yeah, revolved around any trends associated with that BPI.

20 A. We don't -- no, not that I'm aware of.

21 Q. Okay. Do you know the history of that BPI?

22 A. I personally don't. I know I've seen the BPI go through
23 remediations and changes over the years, but not followed it
24 enough to say how many changes that's been revised over time.

25 Q. As far as quality is concerned, you worked for the quality

1 department. Do you do internal audits regularly?

2 A. Yes, sir.

3 Q. Have you done an internal audit or anybody in your team done
4 an internal audit regarding removal BPI?

5 A. A part of our internal audits performed, we do audits on
6 removals. So, in other words let's say every day we perform an
7 audit, and if we look across an airplane or we're inspecting an
8 airplane in our audits in our internal audits, and we see parts on
9 the airplane that are not identified, we take those parts,
10 identify those parts, see if they have documentation or proper
11 documentation associated to those parts.

12 If those parts do not have proper documentation, we write
13 unauthorized or (INAUDIBLE) those parts, then it triggers us to go
14 and do an investigation against the potential team associated to
15 it or the potential purchase associated to it, and that's an audit
16 that we perform as a part of an internal audit daily.

17 Q. Okay. Is it your team, or the quality team that provides any
18 voluntary disclosures to the FAA?

19 A. That is not my team directly that is quality. Our regular
20 partner for quality does interact with the FAA's liaison, and also
21 our VDRs, and also our -- some of our internal audit regulatory
22 pieces. So, it is a part of quality, just not a part of my
23 quality.

24 Q. Okay. Have you been told, or have you been given any
25 information with regards to how many VDRs related to removals have

1 been reported to the FAA?

2 A. In my pursuit of working through our removal updates, so
3 we've been working towards simplifying some of our removal
4 updates. To my preview, I've seen our removals that we've shared
5 with the FAA around how many instances of unauthorized removals
6 we've shared with the FAA.

7 Q. Have you been made aware with regards to removal issues not
8 just on the 737, but the rest of the production aircraft through
9 the years?

10 A. I look at the database at my level for all of the unauthorize
11 removals across all programs to look for trends.

12 Q. Okay.

13 A. So, yeah I look at those each week as a part of our removal
14 verification process to compare, you know, how many removals we
15 initiated versus how many unauthorized removals initiated to see
16 if there's an opportunity for learning from other programs. And
17 that's -- that is a weekly cadence.

18 Q. And is that something that -- and what's your assessment
19 of -- if you look at trends, what's your assessment of the removal
20 of BPI besides obviously you wanting to simplify it? Do you think
21 it's an issue between production?

22 A. The production system has a process that allows you to remove
23 parts from the airplane. And the opportunity is it's to remove
24 parts of the airplane across the production system is daily. So,
25 if you go look across the airplane programs, you can see the

1 volume of opportunities or removals, but those are all per process
2 because, you know, process is designed around swapping components,
3 swapping out seats and connectors, right?

4 And the process from a removal BPI perspective ensures that
5 you have proper documentation for any form of removal allowed.
6 So, trends-wise you might said that there's a trend of a lot of
7 removal, but your production shipments is designed to have
8 components that fail, or components that are damaged.

9 So, you have those volumes of activities, but you use those
10 trends -- to review the trends to see where you allow your risk,
11 right, from an individual program perspective. But from a
12 document and process perspective, you know, our system is designed
13 to have the ability to swap and replace parts as long as we adhere
14 to our removal process and provide the proper documentation for
15 the removal process.

16 Q. Okay, so what about unauthorized removals? Is there a way
17 for you guys to track that?

18 A. Yeah, we track unauthorized removals based on corrective
19 action cards that we initiate from the finding of an unauthorized
20 part.

21 Q. Okay.

22 A. Anytime there's a part found on a -- found, it requires a
23 corrective action record associated to it. It allows us then to
24 try and trace that back to, like I said, either -- not looking for
25 a person always.

1 Q. Sure.

2 A. But trace it back to a team or a particular area, so that we
3 can have a stand-out, awareness, communication et cetera, to
4 mitigate or potentially reduce that -- the teams' lack of
5 awareness of that removal.

6 Q. After the accident, we were told that Boeing put a stand-out
7 together to have a discussion with regards to the issues that was
8 found on this particular accident, right? Discussions with the
9 FAA have noted that after that stand-out, they had an issue of
10 undocumented removal at Moses Lake. Are you aware of that?

11 A. Yes.

12 Q. Can you comment on -- this was after the stand-out and
13 everything. Obviously, everybody's more aware of the issues of
14 unauthorized removals. Can you comment on that finding by the FAA
15 after a stand-out?

16 A. Well, my comment is every -- when the removal process is
17 clearly defined, any component that has been conforming and
18 attached to the product requires proper documentation to do
19 anything with it.

20 So, every person's required to properly document a removal.
21 And any removal, anything that's found that's not properly
22 documented, we have -- we just -- we have to hold the people
23 accountable and drive the corrective action that are associated to
24 it because the process is very clear. It requires documentation.

25 It's already been -- it's a conforming product that's been

1 conformed to whatever component or part of the airplane there.
2 So, any form of removal that is done with an unauthorized removal
3 is someone not following the process.

4 MR. CRUZ: Thank you.

5 MR. REDDIC: Yes, sir.

6 BY MR. LEVANEN:

7 Q. Yeah, just on that removal thing one more time. Is your team
8 part of the team that's authorized to write removals, or is that
9 separate people?

10 A. No, sir. Underneath my umbrella I have quality folks that
11 are authorized to write removals. So, some of my team leads,
12 quality inspectors, they can write removals. So, there are folks
13 underneath my team that can assist with writing removals.

14 Q. So, do you have -- okay, perfect. Do you have quality
15 assurance and quality inspectors under your umbrella, or no?

16 A. Say your definition of quality assurance versus inspectors.

17 Q. Quality assurance would be -- well in the airline perspective
18 that would be like a person -- a QA inspector would be somebody
19 that, you know, would come around and oversee the QC quality
20 control inspectors, and see that they're doing their job, that
21 they're writing the removals correctly or whatever. Just kind of
22 they're another layer of oversight over the quality department.
23 Do you have those people at Boeing, or no?

24 A. Under my preview, I have quality inspectors. So, these are
25 the people that are partnered with the mechanic performing the

1 work that provide oversight of the work that is being performed,
2 right? So, if the work construction say buy offs for every single
3 operation, or work construction say buy off specific operations.

4 Not within my organization, I have a quality engineering team
5 that helps monitor and audit my inspectors that allows us to
6 understand the proficiencies and the requirements for how our team
7 does the quantity of inspections, the enhancements of the
8 inspections. But it is our quality engineering assistants
9 combined with my quality boots on the ground inspectors.

10 Q. And you have both of them?

11 A. Like, I only have inspectors, not the oversight.

12 Q. Okay.

13 A. Yes, sir.

14 Q. Yeah, that would the equivalent to our QAs.

15 A. Yes, sir.

16 Q. And then, I think somebody asked you, but is there another
17 layer to with an internal audit or internal evaluation that
18 oversees all of that, or just the two?

19 A. I guess for clarity, I think what you're asking me just for
20 clarity is so from an oversight perspective -- so, we have a
21 regulatory quality team that does -- helps us, that does all of
22 our internal audits. How are we doing with our internal
23 processes, right, so internally?

24 Q. Yeah.

25 A. Then, we have our own compliance teams that we use that help

1 us also manage our compliance to some of our processes that we do.
2 Then, we have the -- then, we have an audit team that performs
3 audits, a third layer of audit teams that performs audits that is
4 not through our regulatory department which is -- that is
5 associated to now our SMS side of the organization, but also
6 provides sample audits in the production system.

7 And then, we have what's called our PI audits that are done
8 weekly by our local ASI ODA members. And then, we have our FAA
9 audits which are done by the FAA designated needs audits. So,
10 there's like three -- in any given week, you could have five to
11 six different audits occurring by different organizations.

12 Q. Okay, just last question on that. Were all of those in place
13 before the January 5th accident?

14 A. The level of oversight and the level of audits has increased,
15 but the structure and the occurrence was present.

16 MR. LEVANEN: Okay. All right, thank you.

17 BY MR. RINEY:

18 Q. When you have your 5:30 meeting with your team, like what
19 does that consist of, like, when you say your team? Like, how
20 many representatives are there at that meeting?

21 A. So, my immediate team because of the way our team's structure
22 is, is all my next level executives. And then, their second in
23 command, their -- we call it our -- we call it superintendents.
24 But basically, it's like the new layer down for them. So, it's
25 three layers down of people that we all meet together.

1 So, it's the executive on that team, plus their next layer
2 down so that way we're getting consistent messaging. They are the
3 people that people typically see all the time and interact every
4 day with the teams. But it's the -- those three layers of people
5 that we -- that connect every morning with me.

6 Q. And how many -- like, roughly how many people does that
7 represent in the meeting?

8 A. I think that's 13 of them.

9 Q. Okay.

10 A. 14 of them.

11 Q. Okay, and then just along those lines, I know the meeting's
12 at 5:30. Does everybody have, like, a start at 4:00 in the
13 morning? Or how do they -- how do you feel they are prepared to
14 get good information at 5:30 in the morning?

15 A. Well, we operate 24 hours a day. And so, each of the teams
16 that came in with their own cadence on how they do their tie-ins
17 and how they transfer information, and kind of how they capture
18 it. And we tried many different ways. It doesn't work at 6:00 in
19 the morning, it doesn't work at 7:00 in the morning.

20 And 5:30 just seemed to work for everybody when it comes to
21 being prepared, being, you know, being aware around their
22 activities. And that's kind of how we narrowed it down over time
23 to say what works best for everybody to be able to have the
24 information, understand what's occurring, et cetera. And that's
25 because again in between -- everybody's operation's operating

1 24 hours a day.

2 Between their standard tie-ins or different mechanism of
3 communication, they have to get all that in order in order to even
4 provide, do you know what I'm saying, provide a concrete
5 conversation in the morning time. And so, again, we've tried --
6 sometimes it's been too late because we try too late in the day,
7 sometimes it'd be too early. So, that sweet balance for the team
8 in general has been at 5:30.

9 Q. So, that's when you feel like you get your best information.

10 A. Yeah, and throughout my team, for my term personally I
11 connect to my team real time. We seem to -- we do a really good
12 job at connecting, you know, with the same people that --
13 sometimes we might have a mass group text message.

14 And that's -- we also do midday updates, or midday
15 communications throughout the day just so we're all staying on the
16 same page. But we have a -- you know, with technology the way
17 that it is we do, you know, ticket releases.

18 How did we do today with ticket releases? How are we doing
19 on, you know, issues that happen throughout the day? And that
20 keeps us kind of in the chatter with each other just in case
21 something happens. And then, hey, call me, et cetera. But it's
22 not just a 5:30, and then I don't talk to anybody either.

23 Q. Yeah. Okay, that's great.

24 A. It's just --

25 Q. When you mentioned traveled work, are you referring to work

1 that kind of starts, and then continues into a different flow day
2 within the build? Or does that also include the work that comes
3 from Spirit, for example, on the rail?

4 A. To clarify what I mean by traveled work, each position has an
5 established number of work to consume in the time that is in a
6 position that work is designed to be done in that position. And
7 if that work is unable to be achieved in that position, then it's
8 traveled. I guess that's my easiest way that I think of the
9 logic. That work can still be in any -- it's any work.

10 Q. Okay.

11 A. Reworks, Spirit work, it doesn't matter. It's all work that
12 is planned today in this position. And if you're unable to do
13 that work per the plan, tomorrow the jobs that you were unable to
14 consume is traveled.

15 Q. Okay, that helps. And then, with that, since they started
16 doing the inspections on the fuselages before they'd come from
17 Spirit with both Spirit and Boeing inspectors and doing the rework
18 in the -- in Wichita, have you seen a lower quantity of traveled
19 work since then? And do you keep that as a metric or just -- or
20 maybe if not, then what is your gut feeling?

21 A. I've been personally involved with the transition of FPV and
22 the -- excuse me, final product verification, and our improvement
23 of defect production coming into Renton site. So, I've been going
24 back and forth between Spirit and Renton site. And I could say
25 that the defect reduction coming into the fuselages has made a

1 drastic improvement, and that's been from enhanced inspections
2 that we added at Spirit.

3 So, I took my teams here back to Spirit to train some of the
4 inspectors what to look for, how to look for certain items. And
5 then, as we worked through that, what we were doing here in Renton
6 there, it allowed that team on their doing their inspections there
7 to be more proactive, more understanding of the fuselage. And
8 it's yielded reduction in the fuselage defects as is coming in
9 when we receive it on the Renton end.

10 Q. That's great. And then, on the Renton end, does your team do
11 the flow day zero, or flow day one initial shakedown which maybe
12 has been changed since it came from --

13 A. Yeah.

14 Q. -- they're doing some in Wichita now?

15 A. My team in Renton originally did flow day zero that people
16 were referencing as a flow day zero --

17 Q. Yeah.

18 A. -- as a part of the move back plan for final product
19 verification in Wichita. That is what is -- was used to be known
20 as flow day zero.

21 Q. Okay.

22 A. So, when the fuselage gets to my team now in flow day one,
23 they start work versus prior --

24 Q. Yeah.

25 A. -- you started flow day zero.

1 Q. Yeah.

2 A. Which in Wichita now is final product verification.

3 Q. Okay.

4 A. So, when it moved back.

5 Q. Yeah, okay. So, you don't -- now you can skip that -- or not
6 skip that step, and now you don't have to do that inspection when
7 it comes to you. Do you do a different level of inspection in
8 flow day one then?

9 A. Yeah. No, and to be clear, the plan for the addressing the
10 enhanced inspections of Spirit allows for early detection and
11 resolution of defects or potential escapes in their production
12 system. When the airplane -- excuse me, when the fuselage still
13 arrives here, we still have our standard fuselage inspection that
14 we do of the fuselage here that if we find any nonconformance or
15 defect on the airplane, we write a corrective action tied against
16 the airplane, and we route that back to them.

17 The volume of defects that we once saw before has started to
18 trend down in a positive direction because we now have that FPV at
19 Spirit that has allowed us to do that flow day zero there. But
20 our team still has their standard inspections of the receipt of
21 the aircraft, and the standard inspections of the fuselage.

22 The difference is in today you go to install blankets on an
23 airplane, you can go in and do an inspection of the fuselage, and
24 then install your blankets versus before, you did that inspection
25 and you had to correct all the nonconformances prior to installing

1 your blanket.

2 And today when they do those inspections, they're finding
3 that those have been corrected or -- and fixed and addressed and
4 now conforming at Spirit. And so, now when you -- now you get to
5 start your installation of your blankets closer on time.

6 Q. Got it, okay. Thank you, and last question. Maybe you said,
7 or maybe we heard, but who's your direct supervisor?

8 A. My direct supervisor is the airplane program's vice president
9 of quality.

10 Q. And what's the -- what is that person by name?

11 A. Anna.

12 DR. WOODS: She's brand new.

13 MR. RINEY: Brand new, I'm sorry.

14 MR. REDDIC: Yeah, we just -- this woman --

15 DR. WOODS: I have not yet met her.

16 MR. REDDIC: Yeah, the role is brand new.

17 MR. RINEY: No worries. Okay, got it. All right, that's all
18 for me. Thank you.

19 DR. WOODS: All right, thank you. John?

20 BY MR. PETRUZZELLI:

21 Q. Speaking of the inspector -- the quality inspectors in
22 your -- our organization, compare and contrast our head count.
23 Let's pick from June of last year until -- excuse me, July of last
24 year to July of today. What's our -- how has that head count
25 changed?

1 A. July of last year until now?

2 Q. Yeah.

3 A. From a quality perspective head count from last summer to
4 this summer, my head count has grown because I've increased
5 footprints for stall capabilities at delivery and ticket areas.
6 And I've also made adjustments for some of my storage sites and
7 activities.

8 So, my quality inspection team from last summer to this
9 summer has grown. I believe last summer I was around probably
10 high 1,300s and 1,500s maybe, somewhere in that branch. And I
11 think as of this morning closer to 2,000.

12 But again, we've had very intentional stall increase
13 capability at preflight, intentional paint improvements where
14 we've had -- now we're doing more -- we're painting more airplanes
15 than some of the offsites. We are, you know -- as we've increased
16 some of our stall capability here on the areas for the airplanes,
17 but increased since last year.

18 Q. So, speaking specifically then to the Seattle Delivery
19 Center, which is here where I'm at, five years ago we had three
20 first line managers on day shift, three on second, and two on
21 third. One for second level for all shifts. We operated with one
22 QA per stall. We were banging out at 52 a month at that point.
23 We never did break rate. 57 here, wings we did.

24 Today, we have three second levels on first shift, two on
25 second shift, and one on third. We now have nine first lines on

1 first, nine on second, five on third -- a third level, and we
2 still only operate with only one QA per stall.

3 Our workload increased substantially. The numbers I recall,
4 we used to have to consume 112 pieces of paper back then. The
5 number is closer to 560 now. So, we've added three times more
6 managers. When inspectors shared the stalls, we haven't added
7 any.

8 A. That's an interesting point for Seattle Delivery Center
9 because I do a staff interview each week. And I actually just
10 came from a stall before I came up here, and on average, I see
11 about three inspectors per stall.

12 Now, the requirement that I set forth with the team I know is
13 not one per stall because I just came from preflight where they've
14 got three out in the stall in preflight. So, maybe that's just
15 that we -- I mean, that's an assumption that we've got one per
16 stall.

17 But I can tell you that I just said hello to most of my
18 inspectors as I just came out here to the SDC today, and there's
19 not one inspector per stall and they all wave and say hello to me
20 when I'm in the stall, so.

21 But to your question, what's changed and why do we have so
22 many managers and people now, that part of it, the dynamics have
23 changed. You can go look at what it takes to manage some of the
24 interactions now for the team between what it takes to ticket an
25 airplane, you take away from a lot of resources and you need to

1 have a lot of that oversight. And so, the increase in the
2 management's perspective is because we've had so many new
3 requirements, that we've managed to process the ticket airplanes
4 is what's driven that part.

5 But the stall capacity from an inspector perspective
6 standpoint didn't shrink. And like I said, I can only speak to
7 that from a personal perspective because I go visit the stalls,
8 and I just came from out of the stalls just a minute ago before I
9 walked up here. And I'm very tied into the staffing teams and the
10 people in the stalls.

11 So, if we have a gap to close with someone in a very
12 particular stall, I'll follow up with that in a second. But our
13 staffing requirements are pretty clear when it comes to stall
14 capability and matching stall capability to how many inspectors
15 should be in per stall.

16 Q. This got brought up about month and a half, two months ago,
17 on our weekly -- biweekly QAT meetings. [REDACTED] actually ended
18 up coming to this meeting. Looking at today's crew list for
19 today, there's three stalls that have two people in them. The
20 remainder of the stalls have one, sir.

21 Our FAA conformity team, our coordination team which I'm one
22 of the TLs on, our numbers have actually gone down. We're a
23 little bit slower now. Obviously, we're not ticketing as many
24 aircraft as we were. So, we're boots on the ground. I'm sorry, I
25 just don't see it that we have more people, and the people we all

1 work with down here don't see it.

2 A. So, maybe outside of here I have an action to go sit down
3 with the team on the topic.

4 Q. Okay. You mentioned with regards to the inspector, you used
5 the word oversight versus acceptance. Which of those roles do you
6 see the quality inspectors performing, sir?

7 A. When I was asking for clarification on what he meant by
8 inspectors or assurance.

9 Q. Yeah, right. You said something about -- you used the word
10 oversight and --

11 A. No, I was asking for clarification.

12 Q. Okay.

13 A. I was asking for clarification on whether it was meaning
14 inspector from a quality or oversight. I wasn't sure what exactly
15 he meant.

16 Q. Okay.

17 A. So, to me oversight is the things that we put in place to
18 govern how our quality inspectors are hired, quality inspectors
19 are doing versus an inspector who manages -- excuse me, provides
20 daily interactions to the process that's occurring within the
21 production system. So, just asking for clarification --

22 Q. Okay.

23 A. -- because I wasn't sure exactly what his meaning was.

24 Q. I've got you. I'm tracking you on that. How many tubes have
25 we returned to Spirit? I've heard one or two. And when they --

1 let me qualify that. When I say returned it, does it make it all
2 the way out here, and they put it back on the train and send it
3 back, or does it --

4 A. I won't say I know the number, but I know what we did. We
5 had a situation where fuselages didn't meet the threshold of
6 acceptable amount of open statement of work.

7 Q. I've got you.

8 A. And so, we turned them around on the rail cart and we sent
9 them back.

10 Q. Okay, and it was related to open work, not quality issues
11 specifically?

12 A. Well, inside of open work can be many things. And those, you
13 know, they just -- it was -- we sent them back on the rail cart.
14 It was en route to us --

15 Q. Wow.

16 A. -- and we sent them back.

17 Q. What else? We talked about PI audits done by ASIs and ODAs.
18 PI audits, are ODAs doing primary -- what do they call it,
19 PI audits?

20 A. A couple of them I went and did with Jessie and them before
21 they participated in some. And again, it's just -- I think it's
22 more of a learning atmosphere as we transition future
23 conversations around that. I don't know who does the audits.
24 Right now, all of it's done through FAA.

25 But there's been -- some of those activities they've been

1 doing has been an opportunity for them to train certain people.
2 Most of -- all of our audits are done by Jessie's team and the ASI
3 team.

4 Q. Right, but they're starting to include in the PI audits, the
5 ODAs?

6 A. They're included in all of the conversations leading up to
7 it. They don't perform the audits. The audits' only performed by
8 the FAA.

9 Q. Right, but are they tagging along so to speak?

10 A. I think instances where a couple of them have been there, but
11 not in the sense of performing the audits.

12 Q. Right.

13 A. But just from more of an awareness of how the audit works and
14 kind of how the activity's occurring.

15 Q. What else? You've talked about accountability with the rule
16 process. You said something along the lines of someone who is not
17 following the process. In this incident, the SAT system shows
18 that the initial issue was identified September 1st. It didn't
19 get resolved until September 19th.

20 There was a lot of communication and traffic from leaders all
21 the way up through third level asking the question, or that they
22 were going to identify the answer to is a removal required.
23 What's the level of accountability when our leaders aren't -- one
24 doesn't understand the process and then see that it's followed?

25 A. I'm not familiar on the details you're referencing in that

1 particular instance of whatever transpired leading up to this --
2 that SAT system. But even with the complexities of the BPI
3 associated to removals, it's pretty clear that a part that's
4 installed on an airplane requires a removal. And the expectation
5 is that a removal is written for a part or a component that is
6 installed in the airplane.

7 Q. And I would agree with you on that, but again -- and I know
8 you're -- you didn't -- you haven't seen that SAT is what I'm
9 hearing you say. But in that SAT, there were multiple levels of
10 management that were making comments in the SAT system that said,
11 we'll check if a removal is required. That's concerning to me.

12 A. Any situation where I'm not sure about a BPI, I always say
13 I've got to check. I've got to go recheck the BPI. I've got to
14 go confirm if the BPI, what the BPI says, right?

15 Q. Right.

16 A. Because no one can -- not everybody can remember most of
17 these BPIs off the top of their head. So, in most cases you've
18 got to go back and go check the BPI, just refresh yourself to make
19 sure.

20 Q. What have you seen from your seat from the accident? So
21 basically, from the first of the year till today, the number of
22 FAA findings on each aircraft that we're ticketing? And I'm not
23 looking for a statistical breakdown, but I mean have you seen it
24 trending upwards, downwards? What are you seeing as the issues
25 from your chair?

1 A. Since the -- you said since the incident?

2 Q. Basically, the first of the year.

3 A. Got it. The FAA findings at tickets -- when an airplane has
4 tickets, it's -- since January has continued to trend down when
5 you look at defect count, and when you look at FOD count. There
6 was a time between January and March to where it was flat, but
7 it's now starting to step function itself in a downward position.

8 Q. And again, I'm speaking to FAA findings as a result of
9 ticketing.

10 A. As in the result of the ticket numbers --

11 Q. Right.

12 A. -- that come from the ASI written.

13 Q. And your assertion is that they've gone down?

14 A. You look at the -- I look at the metrics every week because I
15 have to talk to the FAA on these exact same metrics. And I talk
16 with them every week on the defect count and the FOD count of what
17 we find to ticket and document on ticket.

18 And since the beginning of the year, we've had flat spots
19 where we didn't get any better or worse. And over the last couple
20 of iterations, the numbers have started to trend in the lesser
21 perspective. And I review that every single week with the FAA and
22 our PC Center under review with ticket escapes.

23 Q. So, for example, today we had two aircraft were submitted for
24 ticketing. One of them had 15 escapes, 6 FODs, and the other one
25 had 8 and 3.

1 A. That is correct, and every one of those tickets you refer, I
2 get that alert and I get the notification before you get it. And
3 I also go through each of those, and we do the vetting process.
4 So, whichever ones get vetted with ASI is not a write up because
5 what they put in that ticket finding is not substantiated. That
6 is just what they deem is needed to be explained.

7 And once that's been reconciled, that is what counts on the
8 record for ticket findings, not what comes out on the alert that
9 you just read today. So, when I go to the FAA, we've already
10 concurred on what was engineering acceptance, or what was
11 clarification of conformance, and those are the final numbers that
12 get associated to that aircraft after the aircraft is considered
13 delivered.

14 The ones that you look at that you see today, yep, some of
15 those could be 10, 12, 13, whatever. All of those have to go
16 through the next step, which is verification of true
17 nonconformance or escape because during ticket walk, it's just
18 identifying items and then we have to go back to verify those
19 items.

20 Q. And just for clarity sake, that alert that goes out with the
21 list of the FAA pickups is sent out by me, so. Respectfully, I
22 think our numbers have gone up drastically since September and
23 October of last year. They've gone up really -- they've spiked
24 very high since --

25 A. Well, since last year, yes.

1 MR. PETRUZZELLI: Yeah, well I'm talking this year. Since
2 September, all the way to September spiked, tapered off towards
3 the end of the year. Obviously, since January it spiked up. We
4 hit a flat spot. It spiked back up. I'm just not seeing it
5 trending down. So, thank you for your -- that's all for me.

6 DR. WOODS: Dan?

7 BY MR. MARCOTTE:

8 Q. I just want to go quickly on one aspect of the 90-day plan,
9 and it's mostly to do around communications with employees. You
10 know, it's like, how's the message getting from you to the front
11 line employees, front line inspectors? You know, what -- has
12 there been a change in focus on your messaging since the accident,
13 since the 90-day plan? You know, really it's how are you getting
14 the word down to the floor consistently?

15 A. So, from my lens and my position, from our initial quality
16 standdown that developed the actual quality safety plan, what I've
17 been doing is I have been meeting with my direct leaders in
18 sharing our progressive steps as we work our way to the 90-day
19 sharing with FAA, walk them through kind of where we are within
20 the journey, how the plan was developing once we were able -- once
21 we had the, you know, the official plan.

22 I've been sharing that in my weekly staff meeting with my
23 team to allow the team to ask questions or see, you know -- get
24 additional insight into the activities that's happening. When I
25 go down to the crew meeting when we're doing seat, speak, and

1 listen -- we call them seat, speak, and listen, or we call them
2 round tables.

3 Q. Yep.

4 A. We call them many different things. So, I've been doing
5 those in hotspots to try to get down to the first ground level
6 leaders, to talk to them and share some of the wins that came out
7 of some of the activity that we're doing.

8 Monday, this coming Monday, I have one this coming Monday
9 where we're actually going and sharing some of the quality
10 standout kinds and improving. So, we have these where employee
11 put in kinds and improvements and requesting assistance for
12 tooling and those types of items to make their jobs more
13 efficient.

14 So, we're going to do a show on Monday to go share some of
15 those new tools that we're building, some of those new
16 improvements for the team so they understand and see that how
17 those -- how items from the quality standout are happening real
18 time and then give them that availability, and also make sure that
19 all of them have the link to the dashboard that allows them to
20 read real time some of the action and activities that we have.

21 So, trying to go at it from a direct face-to-face
22 perspective, a one-on-one perspective, and a holistic
23 communication of here's where you can get additional info
24 perspective. But trying to do it seven ways, seven times seven,
25 different opportunities to share with the team.

1 Q. Okay.

2 A. And then, provide a space for them to ask questions for
3 clarity, and so I can, you know, point them in the right -- you
4 know, assistance or bring in additional systems if needed with
5 clarification of items.

6 Q. Okay. Around communication in the six KPIs, do you have any
7 -- is there any type of plans for communication -- you know,
8 communicate them down to the people on the floor so they can see
9 their linkage to them and, you know, that will influence them more
10 as they -- throughout their day?

11 A. Yes, sir. We've started to introduce the six pack, that's
12 what we call the metrics for the six KPIs, into our operating
13 rhythm. So, our operating rhythm is when we pull our teams
14 together and we're measuring performance, or we're measuring those
15 items. And now, we're stepping that function down into how do we
16 make sure that it gets into the teams' hands, so the teams can see
17 it?

18 Q. Right.

19 A. Right now, we're educating and making sure that all the
20 managers and people who understand it, understand what data goes
21 into it, understand what happens when you hit the control line,
22 what are the corrective action plans you have to have so that
23 people understand how to -- how they fit into the KPIs. And then,
24 stream that down to the hourly people so that they see how they
25 fit into the work --

1 Q. Right.

2 A. -- or defects, et cetera.

3 MR. MARCOTTE: Very good, thank you.

4 MR. REDDIC: Yes, sir.

5 DR. WOODS: I'm actually going to hold us there because we
6 have gone for an hour and a half now. Typically, we go a full
7 round before we consider a break, but I think it's warranted at
8 this point. So, with that, I am going to go off record at 2:14
9 Pacific Time for a break.

10 (Off the record.)

11 (On the record.)

12 DR. WOODS: We are back on record at 2:33 Pacific Time.

13 Mike?

14 MR. MARCOTTE: All of my questions have already been
15 answered, so I don't have anything really.

16 DR. WOODS: All right then. Nils?

17 MR. JOHNSON: Most of mine have been.

18 BY MR. JOHNSON:

19 Q. You spoke about earlier, is there a requirement for skill,
20 experience level, or qualifications for a new hire?

21 A. Just for clarification, are you referring to the employee in
22 general, or are you referring to inspectors?

23 Q. Let's do both.

24 A. There is criteria for specific skills, so depending on what
25 skill your -- excuse me, what skill you're requesting. Some

1 skills require less, you know, experience or less technical
2 knowledge. It just depends -- it's just every one of them has it
3 on basis of requirement skill, whether it be a mechanic or it be
4 inspector in some. It just depends on the skill that you're
5 inquiring around but, you know, have their own criteria.

6 Q. Okay. We've been told that in the past, many of the quality
7 control inspections have been removed from the IPs. What is being
8 done today that I guess resolve --

9 A. So, I guess to answer your question, I'm not pertinent to
10 this conversation of removing IPs. My quality engineering team
11 that audits my performance of quality inspections of 737 are put
12 in place to help determine which of our IPs require additional
13 inspections, or which IPs based on trends of potential risk should
14 get oversight inspections, or if certain ones have hit a threshold
15 that's eligible for a moving inspection, and that is all done
16 through my quality engineering team. So, in my role and my teams'
17 position, that is all handled through our core engineering
18 assessments.

19 Q. Okay. How receptive is Boeing leadership to suggestions
20 provided by touch labor? Are you guys willing to accept
21 recommendations from the floor?

22 A. Our quality standdown in combination, even prior to it with
23 the speak up recommendations, come in many areas where the
24 recommendation comes in addressing nonconformances, or
25 compliances, or escapes, or even simple recommendations have been

1 positive for simpler improvements, you know, making it easier to
2 get to your work location because we've located the wrong toolbox
3 on the wrong side of the building.

4 And so, the feedback and opportunity for feedback is -- or
5 recommendations from the shop floor has proven to be valuable, and
6 that's a part of whether it be encouraging people consistently to
7 speak up and talk to their leader, or talk to someone they feel
8 comfortable with, or submit or speak to a form of SMS, like speak
9 up itself. But the feedback has been -- has yielded positive
10 results when it comes to listening to the voice of the workforce.

11 Q. Can you share with us what Boeing is doing to ensure that
12 removals are written at the highest standards?

13 A. As a part of our product and safety plan and the
14 simplification of the removal process, the removal BPI will
15 continue to go through a simplification journey. Initial updates
16 that we've done as of today, like we're moving restrictions for
17 anyone to write removals and adding tighter controls to who can
18 write a removal, and being able to implement additional training
19 for how removals are written.

20 And also, adjusting the IT input of the removal of how you
21 fill out the removals, or avenues that we're working through to
22 kind of step function to the long term goal which is make the
23 removal process simple. And from a, how you fill it out
24 perspective, to how someone executes to long form or short form
25 when it comes to the removal process.

1 Q. All right, last one for this round. The FAA has assured with
2 us that FOD tool control and undocumented work are three systemic
3 problems that are -- Boeing has been having long term. What is
4 Boeing doing to correct these systemic issues?

5 A. Those are three items that are clearly documented in many
6 forms of our FAA findings.

7 Q. Excuse me, sorry.

8 A. So, as a part of some of the items, we've instilled -- I'm
9 going to speak 737 specific, parts control. Recently, with our
10 parts control, we take that responsibility of parts control, and
11 we tighten the requirement now where we have a very defined
12 process that brings parts in, checks the parts in, checks the
13 parts out, validates proper identification for those tools, and we
14 move that ability to what we've established a true parts team to
15 help them manage those. I've reduced those risks from anyone
16 being able to touch those parts.

17 Containments of FOD and activities around FOD containment,
18 there's been a development of -- inside of the production system
19 in the factory where we put in these new catch basins that catch
20 when they do drilling and shave up on the airplane where it would
21 be able to catch those produced at occurrence drilling to reduce
22 the FOD opportunities.

23 And all of those types of things have been improvements that
24 we've been working as a step function in conjunction with all of
25 the, you know -- with the actual letters and findings we've gotten

1 from the FAA. And so, each of those has -- each of those letters
2 has triggered a corrective action plan, and those corrective
3 action plans have resulted in verifications that we have to go do
4 to show that we can sustain those.

5 And so, as we've been working through the implementation of
6 those small activities of improvement, we have to establish those
7 verification points back to say parts control sustainability, with
8 sustainability and FOD sustainability.

9 So, as we've been implementing those items, we have those
10 follow up verifications that say how we're doing as we're pacing
11 to address the overall corrective action of parts with the tool
12 control. And that is what is -- and every one of those items like
13 I've said require an extensive BPS and a corrective action plan to
14 show proof of sustainability.

15 MR. JOHNSON: Thank you, Earnie. That's it for me for now.

16 DR. WOODS: Okay, that concludes our first round. And we
17 just had a break, so I'm going to continue on with -- I just have
18 a few more follow up questions involving the SMS. We're already
19 talked about a couple of different things and the aspects of how
20 the QMS interfaces with the SMS.

21 But up until recently, Boeing was operating under a voluntary
22 SMS program. That requirement is now going to change as an
23 introduction of FAA's new rule for Part 5 or Part 21 of
24 operations.

25 BY DR. WOODS:

1 Q. And so, how do you see that transition from a voluntary SMS
2 to a regulatory SMS going? Do you anticipate any major changes in
3 your function as a result?

4 A. How do we -- how do I see that journey going?

5 Q. Mm-hm.

6 A. I see the journey as we - from an education awareness and
7 bringing the people along in the SMS journey, I see it going where
8 people are curious. People are intrigued and asking around, risk
9 mitigation, and what are the things we're doing to be proactive to
10 it.

11 So, I don't see it as a resistant journey from the collective
12 teams, whether it be, you know, the broader Boeing because as
13 we've now started to look at mitigations like things that affect
14 people real time like we do as a part of our risk SMS, we look at,
15 you know, work that can be performed in our production system
16 based on conditions of the airplane for powering down. Risk
17 mitigation, what form of work can be performed, what area based on
18 configurations of the airplanes.

19 And the teams are understanding that that's the SMS approach.
20 That's a risk assessment to their work statement, and balancing
21 those. And so, people are correlating these activities to their
22 work real time. So, I think the journey in full fledged of
23 proactive assessment is people are understanding that it's a part
24 of their daily regiment, and that how that applies to the work
25 they're doing every day.

1 So, I see it as being a journey as we continue to mature
2 through this journey as a welcome and receiving perspective
3 because it's viewed as, you know, being proactive to potential,
4 whatever that potential may introduce into the system.

5 Q. And with that, what's the technician -- in your opinion,
6 what's the technician's role in that process?

7 A. One of the -- in my opinion, they do the work every day.
8 They're the touch folks who see the product every day. So, having
9 the direct ability to provide the feedback, the insight, or the
10 awareness of some of the risks is important because the people who
11 do the work every day are the people that have the best knowledge
12 of the end product.

13 Q. How do you define positive safety culture?

14 A. Positive safety culture? People who come to work and are
15 okay with being accountable to safety, and being able to do your
16 job in a safe fashion. Because positivity, you can -- you should
17 be able to come to work, be okay with being held accountable to
18 doing your work in a safe quality compliant fashion, and still
19 enjoy what you do because the environment around you is designed
20 to help you eliminate or make you aware of potential risks or
21 potential concerns.

22 And you can come to work, and you don't feel that, you know,
23 every day is a new journey. Every day I'm struggling to figure
24 out, can I do this? Every day it's the -- and you're okay with
25 saying, hey I'm held accountable if I do something or if I feel --

1 I'm okay with that accountability by having a structured
2 discipline system in place.

3 Q. So, if what your take is on what constitutes a positive
4 safety culture is a snapshot for today, is that what you currently
5 see on the floor?

6 A. The quality standdown and activity tells us we have a long
7 way to go still. I mean, every -- with all the eyes and ears that
8 people have given us nuggets and opportunities for improvements,
9 this is a long journey. I mean, and it's evident because every
10 day when you meet someone and people have new work experience or
11 new sets of eyes and ears, they're providing their feedback to us
12 that's -- we have a long way to go still.

13 Q. What level of confidence do you have that you will get there?

14 A. I'm positive and confident because the workforce and the
15 people that are what make the system work. And the more we
16 continue to be open and transparent around what's working and
17 what's not working, then I'm committed to those improvements.

18 DR. WOODS: That's all I have for this round. I do have one
19 concluding conclusion that I ask, but I will do so after
20 everybody's gone again. Pocholo?

21 MR. CRUZ: Yep, a couple more, Earnie.

22 BY MR. CRUZ:

23 Q. Have you or any of your inspectors that you know of work
24 directly with the mid-exit door plug issue previously, previous to
25 the accident or post-accident?

1 A. Have any of my inspectors work directly or had worked on an
2 issue with the door plug? To my knowledge, none of them had dealt
3 with an issue on a door plug from my inspectors to my knowledge.

4 Q. Okay, so based off of this investigation, obviously there was
5 unauthorized removal from this particular plug. From the quality
6 side, what stopgaps does the company -- has Boeing done to ensure
7 that if something happens like this, unauthorized removals, what's
8 going to happen?

9 What are you guys going to do at this point knowing that all
10 the stuff that's happening now, you've had another unauthorized
11 removal even after the standdown, is there a stopgap? What
12 stopgaps have you guys developed in place? If this happens again,
13 this is what we're going to do as Boeing company?

14 A. So, I'll go back from a -- I'll go people and process. So,
15 from a process perspective we've -- when it comes to removals,
16 we've added oversight on our auditing enhancements to be proactive
17 to try to detect early risk for removals from a process
18 perspective.

19 We've introduced enhancements within our build plans, so we
20 had additional inspections we've done within our build plan to
21 have second sets of inspections at the tail end of the build to
22 see if things have been disturbed, to see if there's been any
23 changes.

24 We've done what we call a nonpoint inspection awareness where
25 we've taken critical build criteria of the aircraft, and when we

1 go to preflight or ticket, we added additional verbiage and
2 oversight with the notes that say, hey let's go look and inspect
3 these critical areas.

4 Based on engineering requirements and say, let's go look at
5 those to provide that one additional oversight prior to the
6 airplane flying or prior to the airplane being ticketed from an
7 enhancement of our build plans and our enhancement of our
8 inspection criteria from a process perspective changes that we've
9 done since the accident.

10 And from a people perspective, we've instituted new -- one
11 controls within who performs the removal requirements. We've
12 instituted the mandatory sit, sign, and training requirements for
13 the removal process itself. We started the corrective action
14 investigation for unauthorized removals to trigger a, how do we go
15 find -- you know, address the team or the persons associated to
16 the removals.

17 And then, almost daily when I go to the crewmen and the teams
18 at their tier conversation and kickoff, is the -- is that reminder
19 and conversation about removals and unauthorized removals so that
20 people are aware of the risk of unauthorized removals because --
21 so that if someone does it from an accountability perspective, we
22 -- we're very clear that you have to take action to the individual
23 person from an accountability perspective.

24 Q. Okay, this is my last question? What keeps you up at night
25 in your current role if anything?

1 A. If I would say something that keeps me up is stability, just
2 say stability, right? You know, production system has to maintain
3 stability because stability to me is just one of the things that's
4 my watch items.

5 MR. CRUZ: Okay, thank you.

6 MR. LEVANEN: A couple of follow up questions.

7 BY MR. LEVANEN:

8 Q. Back on what you just said about the removal. With changing
9 -- I know there's enhancements. There's been communication and
10 standdowns. With changing the criteria for who can generate a
11 removal, has it lowered the amount of undocumented removals, or do
12 you have a way, a KPI or a way to check that?

13 A. I have not compared prior incurred based on those changes --

14 Q. I know --

15 A. -- from a controlled perspective.

16 Q. I know it can be pretty hard to quantify because sometimes
17 you don't ever know about the undocumented removals, right, before
18 or after. I'm just -- part of my concern is that if it's harder
19 to find a person to generate the removal, and there's only certain
20 people and people might say, well I don't -- I can't find an
21 inspector so I'm going to skip that step and just go ahead and go
22 with it.

23 A. When we first restricted the -- we limited the process for
24 removals, we restricted that down to team leads because it allowed
25 us then to go reassess the training and the requirement for it.

1 Once we did that, we did a sign and read that allowed every -- the
2 folks who did that training to be able to take removal classes --
3 removal -- write removals.

4 So, as of today the folks who have taken that training can
5 write removals versus just the original small population of folks
6 that were initially, but that was the initial containment. The
7 initial containment was we needed to make sure that a limited
8 audience could write removals as we were working through
9 corrective action plans associated to the removal BPI.

10 And that is what spawned the new training, and the approach
11 to the removal requirement training. And then, once everybody
12 took that sign and read, and the folks who took that training,
13 allowed us to open that span of control up to people to be able to
14 write removals.

15 Q. Okay, that helps. Thank you. And then, my last question, on
16 the KPIs that you talked about, the six pack, how many of those
17 would you say directly kind of apply to your team, and the
18 specifically, which ones are they of the ones that, you know, that
19 your team can help with that?

20 A. When you say my team, you're just referring to quality,
21 right?

22 Q. Yeah, the quality team.

23 A. I've got you. Quality, you know, quality of our rework
24 hours. The quality of our incoming escapes. The quality of our
25 traveled work. Every single one of them, employee efficiency,

1 every single one of them applies to quality organization and the
2 folks in the production system.

3 MR. LEVANEN: Okay, that helps. Thank you.

4 DR. WOODS: John?

5 MR. PETRUZZELLI: One question relating to post flight
6 inspection, intermediate inspections here.

7 Q. Has there been any discussions at the executive level to
8 eliminate the requirement that an inspector only gets -- is
9 allowed for -- to do the entire meeting inspection in four hours?
10 Or just -- has there been any conversations to not have that
11 requirement?

12 A. I personally have not been preview or had conversations with
13 others.

14 Q. Do you know if it's a requirement, or you don't know?

15 A. Yeah, I'm not -- I have no preview of it.

16 Q. Okay.

17 A. I can go -- yeah, I have no knowledge of it.

18 MR. PETRUZZELLI: Okay, that's all I have.

19 MR. MARCOTTE: Just one second please. Well, actually I
20 don't think I have any more questions. Sorry about that.

21 MR. MARCOTTE: One second please.

22 MR. PETRUZZELLI: That was worth waiting for, wasn't it?

23 DR. WOODS: It was, thank you.

24 MR. RINEY: I'm still good. No further questions for me.

25 DR. WOODS: Nils?

1 MR. JOHNSON: Nothing for me.

2 DR. WOODS: Okay. All right, so with that, I -- just one
3 concluding question, and that is -- well first we want to thank
4 you for taking time. You're a busy guy, and so we appreciate you
5 taking the time to come and help educate us about your processes
6 and what is that's going on behind the scenes here.

7 If there was one thing that you want this particular working
8 group to understand and to know, if we walked out the door and
9 recognize about you, your team, what you're trying to do here,
10 what's your, like, 60-second elevator pitch as to what that is?

11 MR. REDDIC: That the quality organization is committed to
12 our team and our people. We're committed to our team and our
13 people to me is super important that people come first, and that
14 people know that they're a part of the solution. And in having
15 them voice in quality is a powerful thing, and I think that when
16 you think about quality organization, people have to feel
17 empowered to be a part of the quality organization.

18 And so, to me it's about ensuring our people feel that
19 they're a part of that solution. So, to me it's those strong
20 quality team members that I'm really looking to really want to
21 connect and see that value when you walk across our floor, or if
22 you walk across our teams.

23 DR. WOODS: Okay, thank you.

24 MR. REDDIC: Thank you.

25 DR. WOODS: Last chance? No questions?

1 MR. JOHNSON: No, thank you very much..

2 DR. WOODS: Okay, once again sir, thank you for your time.

3 We greatly appreciate it. We are going to go off record at 2:57

4 Pacific Time.

5 (Whereupon, at 2:57 p.m., the interview was concluded.)

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ALASKA AIRLINES BOEING 737-9 MAX
IN-FLIGHT STRUCTURE FAILURE
NEAR PORTLAND, OREGON
ON JANUARY 5, 2024
Interview of Earnie Reddic

ACCIDENT NO.: DCA24MA063

PLACE: Seattle, Washington

DATE: July 10, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

Denise Woodman
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*

*

ALASKA AIRLINES BOEING 737-9

*

MAX IN-FLIGHT STRUCTURE

*

Accident No.: DCA24MA063

FAILURE NEAR PORTLAND, OREGON

*

ON JANUARY 5, 2024

*

*

* * * * *

Interview of: KATY RINGGOLD, Vice President and General Manager
737 Program
Boeing

Renton, Washington

Wednesday,
July 10, 2024

APPEARANCES:

SABRINA WOODS, Human Performance Investigator
National Transportation Safety Board

POCHOLO CRUZ, Aerospace Engineer Investigator
National Transportation Safety Board

DAN MARCOTTE, Air Safety Investigator
Boeing

JOHN PETRUZZELLI, Quality Team Lead
International Associates of Machinists (IAM) Union

MIKE RINEY, On-site Investigator
Spirit AeroSystems

NILS JOHNSON, Maintenance Investigator
National Travel Safety Board

JENNIFER NOWACK, ESQ.
(On behalf of Katy Ringgold)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Katy Ringgold:		
By Dr. Woods		7
By Mr. Levanen		36
By Mr. Petruzzelli		42
By Mr. Marcotte		49
By Mr. Riney		52
By Dr. Woods		59
By Mr. Cruz		70
By Mr. Cruz		73
By Mr. Levanen		77
By Mr. Petruzzelli		79
By Mr. Riney		84
By Mr. Marcotte		85
By Dr. Woods		86
By Mr. Cruz		30

I N T E R V I E W

(7:10 a.m.)

1
2
3 DR. WOODS: Good morning. It is July 10th, 2024 and the time
4 is 7:10 Pacific. My name is Dr. Sabrina Woods, and I'm the Human
5 Performance Investigator with the National Travel Safety Board. I
6 am one of the Investigators, along with Pocholo Cruz, here to my
7 left, co-leading the Manufacturing and Human Performance Working
8 Group for Accident Investigation No. DCA24MA063, involving Alaska
9 Airlines Flight 1282. The NTSB is an independent federal agency
10 charged with determining probable cause of transportation
11 accidents and significant incidents, and with promoting
12 transportation safety. The NTSB is not a part of the Department
13 of Transportation or the FAA. We have no regulatory or
14 enforcement powers. Although we are in charge of determining
15 probable cause, we cannot do that on our own. What you see here
16 at the table are parties to the investigation that help inform the
17 process. And so you know who it is you're talking to, I'm going
18 to have them take some time out to introduce themselves, starting
19 here on my left, with Pocholo.

20 MR. CRUZ: Good morning, Katy. My name is Pocholo Cruz. I
21 am as Sabrina says, a Group Chair for this particular group. I'm
22 an Aerospace Engineer with a Structures and Maintenance
23 background.

24 DR. WOODS: Good morning, Troy.

25 MR. LEVANEN: Good morning. I'm Troy Levanen. I'm the

1 Director of Maintenance and Engineering Safety for Alaska Air
2 Group.

3 MS. RINGGOLD: Good morning.

4 MR. PETRUZZELLI: John Petruzzelli, and we're with the
5 International Associates of Machinists Union, and I am a Quality
6 Team Lead here for our recording right here at the field.

7 MR. MARCOTTE: I'm a Boeing Air Safety Investigator, and I'm
8 based out of Southern California.

9 MR. RINEY: Good morning, Katy. Mike Riney. I'm Spirit's
10 Onsite leader here in Washington.

11 MR. JOHNSON: Nils Johnson, NTSB. I'm an Aviation Accident
12 Investigator. My specialty is maintenance.

13 DR. WOODS: So that's it, Katy. That's everybody that's
14 going to be asking you questions here today. We thank you for
15 your time and for coming out and helping to inform us about your
16 processes. To capture those thoughts, we are going to be using a
17 digital recorder. After the interview, we will be sending that
18 recording out for a transcription to an independent company that
19 transcribes and certifies the copy. The copy of that transcript
20 will go forward to be a matter of public record for the docket for
21 this case. Our goal is of course to prevent accidents. Again,
22 we're here for you to share your insight, your experience, and to
23 share with us Boeing's processes. Each of these Group Members
24 will have a chance to ask questions. We'll ask questions one at a
25 time. So one person will go at a time. There will be an

1 opportunity for each Group Member to ask follow-up questions in
2 the second round, after each person has had their first turn.
3 Please answer all the questions to the best of your recollection
4 and your ability. However, if you don't understand a question,
5 please ask for clarity. We will do the same if we don't
6 understand an answer. If at any time you don't know the answer.
7 I don't know is a perfectly acceptable answer. If at any time you
8 want to go back and refer to somebody else's questions, feel free
9 to do so. While we will be respectful of our timeline, you can go
10 back and forth as you need to. You are entitled to have one
11 representative of your choosing. I see here that you have legal
12 counsel with you. Thank you for that, for being here. I want to
13 confirm and get on record that the person sitting to your right is
14 in fact legal counsel that you have chosen to be here with you.

15 MS. RINGGOLD: Yes, ma'am.

16 DR. WOODS: Okay. With that, counsel, if you would please
17 for the record state your full name and just spell your last.

18 MS. NOWAK: Jennifer Nowack, N-O-W-A-K.

19 DR. WOODS: All right. Thank you, Jennifer. Just please
20 recognize that this is an interview and not a deposition. So
21 please refrain from answering on behalf of your client or trying
22 to object. However, with that being said, if at any time you need
23 a break for any reason, just let us know. We will go off
24 recording. We will pause. You can take care of what you need to
25 and then come back and we will go back on record.

1 MS. RINGGOLD: Okay.

2 DR. WOODS: So at this time, are there any questions about
3 any of that?

4 MS. RINGGOLD: Mm-mm.

5 DR. WOODS: All right, perfect. Okay. With that, is
6 everyone ready?

7 INTERVIEW OF KATY RINGGOLD

8 BY DR. WOODS:

9 Q. Okay, we're going to start with the super hard questions
10 straight off the bat which is, if you would please for the record
11 state your full name and spell your last.

12 A. Sure. It's Katherine Ringgold, R-I-N-G-G-O-L-D.

13 Q. Okay. And however you have stated that you would like to go
14 by Katy?

15 A. Yes, please.

16 Q. Okay, all right then.

17 A. Mm-hm.

18 Q. So with that, Katy. What is your current position and job
19 title here at Boeing?

20 A. My position at Boeing is the Vice President and General
21 Manager of the 737 Program and the Renton site.

22 Q. Okay. And how long have you held that position?

23 A. I've held this position since about mid-February of this
24 year, 2024.

25 Q. And who held that -- that was after the accident. So who

1 held that position prior to you?

2 A. That as Ed Clark.

3 Q. Okay. Can you give us a quick high-level overview of your
4 history with the company?

5 A. Sure.

6 Q. Did you -- held positions prior to the one you hold now?

7 A. I did. So I've been with the Boeing company going on 13
8 years. Started in Charleston, South Carolina, so maybe I'll just
9 work backwards and I won't provide extreme detail. But prior to
10 this position, I was the 737 Leader. So I was here actually in
11 the building adjacent at the Seattle Delivery Center. My title
12 previous to this was 737 Vice President of Delivery Operations.
13 And so I had the responsibility for a pre-flight team, our paint
14 teams, our storage teams, including Moses Lake, as well as --
15 which was really exciting -- the delivery of all the airplanes
16 here from Seattle. Prior to that position I was in Charleston,
17 South Carolina, as I mentioned. I was the Director of Delivery
18 Operations there. So I was on the 87 Program. Prior to that, I
19 held a number of roles in business operations and quality. Before
20 coming into the company, I mostly did defense contracting sort of
21 all over the world, as I traveled with my husband who was active
22 duty in the Air Force. And then, you know, to start my aviation
23 career, I was a Maintainer on C-130s. I was in Avionics
24 Maintenance Troupe in Tucson, Arizona in the Air Force.

25 Q. Okay, thank you for that. The position though that your

1 currently hold. How long has that, I guess for lack of a better
2 word. How long has that position been in existence?

3 A. Yeah, that -- I mean, the Vice President and General Manager
4 role, as far as I know, has been in existence as long as the 737
5 Program has been around. So the typical organization of airplane
6 programs is that every airplane program -- so 37, 47, 67,
7 et cetera, has a vice president and general manager. So I'd just
8 say for decades.

9 Q. Okay. Has that role -- has the responsibilities assigned to
10 that role changed at all, let's say within the last year?

11 A. Not to my knowledge. It's very consistent.

12 Q. Okay. Well then with that, if you would please give us a
13 high-level overview of what are the roles and responsibilities of
14 your position?

15 A. Yeah. I think obviously the engagement with our customers is
16 one of the primary responsibilities. Making somewhat day-to-day
17 decisions. But in most cases, more broad decisions that affect
18 months and years to come. You know, things like understanding
19 when we'll be prepared for rate. Things like strategy relative to
20 our business extension of the 737 Program in China. Decisions
21 like should we start a north line in Everett? And so, broader
22 decisions like that, but also very involved in the day-to-day
23 production activity and delivery activity as well. Obviously,
24 identification of continuous improvement efforts. What do we need
25 to do to get better in metrics that might be poor performing, or

1 how do we celebrate a team when the metric is a great performing
2 metric at the moment. And so sort of just monitoring the health
3 of the business and taking action accordingly. And then obviously
4 engagement with the workforce. How do you motivate, inspire and
5 cultivate a team that is the best airplane builders in the world.
6 And so I think that that is the current responsibilities of the
7 job I hold.

8 Q. So that's a high-level overview of the job itself. Tell me a
9 little bit more about a day in the life of Katy. Okay?

10 A. Well, I won't go through like, minutiae of when I come in and
11 all of that stuff.

12 Q. Okay.

13 A. But it starts pretty early. It begins typically with a check
14 in with my Vice President. So I have a manufacturing vice
15 president that leads the factory. And a -- or excuse me -- a
16 delivery vice president that leads the delivery operations, my
17 former role. Typically, it's a walk down the hallway to the
18 functional leader's, quality engineering, et cetera. Popping in
19 and just connection in terms of anything emergent. Do they need
20 any help?

21 Moving into the morning, and as you can imagine, is a series
22 of status meetings on how is the business performing? That is
23 both in the factory. So I'll be out in the factory having a
24 meeting. Understanding that and then it's followed by a program
25 level discussion. And so you know, that leads me up until about

1 mid-morning or so. Depending on the day. Some days are meeting
2 heavy. They're -- you know, yesterday for instance it was a
3 series of all leader meetings where I got a thousand leaders
4 together and we talked about the plan. I do that about once a
5 month, for all shifts. That was followed by our employee
6 engagement activity, which is one of my favorite days of the week,
7 which is every Tuesday. That's an hour out on the floor while all
8 work stops and we engage with the workforce on you know, what
9 problems do they have in their work area? Where do they need
10 leadership help? Where do they need functional help? The
11 afternoon followed by another series of meetings, as you can
12 imagine, including our monthly quality leadership review meeting
13 where we looked at data and we deep dove for defects that we have
14 within our factory that we are working to resolve.

15 Q. Okay.

16 A. And then I had my second shift all leader meeting and then
17 that was it for the day, at about 6:30. So you know, I would say
18 it's 30 percent active engagement with the workforce out on the
19 floor. As you can imagine, I've spent a lot of time on the
20 factory floor. In the last four months, it's been my focus. The
21 other balance of the time, the 70 percent is strategic planning
22 and mostly discussions in meetings and performance reviews for
23 business.

24 Q. You mentioned two of your -- the direct lines from you. Are
25 there others?

1 A. I have another leader that reports directly to me that
2 oversees our operation in China. And then essentially I have an
3 executive office administrator. But the rest of the organization,
4 if we're speaking about hardline reporting and reports up to the
5 two vice presidents that I mentioned.

6 Q. And who do you have a direct line to?

7 A. Yeah. My direct supervisor I'll call it, or leader in the
8 organization, is the Airplane Programs leader. By name, that's
9 Mike Fleming.

10 Q. Okay. When you stepped into this role in February, were you
11 for lack of a better word, given some sort of play book or
12 continuity binder or rules of engagement that Boeing wanted you to
13 follow?

14 A. There's definitely no play book for the job. Now I will say
15 it -- I was set up as strong as I could be, knowing that for the
16 last several years I've been on the program, leading the program,
17 knew the people, knew the customer, knew our regulator, many of
18 them by name, knew our audit teams, knew the SMS team. And so I
19 came with the I think foundation of at least acknowledging the
20 state of the business on the 737 Program and obviously in Airplane
21 Programs. There's a business operations team that prepared me as
22 I came in to sort of day one, which as you can imagine -- a
23 personal story. I was on vacation when I got the call in Tucson
24 -- on Phoenix, Arizona. It was mid-winter break for our kids.
25 And got a call about 18 hours after vacation started. And so as

1 you can imagine, it was an interesting week and it was immediately
2 fly up to Washington. And so, but the first day was a lot of
3 obviously engagement with the team as the announcement was made.
4 But certainly, hours and then ultimately days with the business
5 operations team who walked me through here's the operating rhythm.
6 Here's the priorities of the program, which I knew because I was
7 already on the program. But there certainly wasn't a play book.
8 Now, we definitely have contingency plans should an emergency
9 happen, all of that. You mentioned kind of a, you know, a
10 continuity book. We certainly have plans relative to contingency
11 and business continuity. But there's certainly no play book for
12 the job.

13 Q. As far as direct involvement is concerned. What is your
14 direct involvement with Boeing's QMS Program

15 A. You know, I -- just the example I gave yesterday about a two-
16 hour meeting in terms of reviewing our quality management system
17 health. And we see that in a number of ways. You know, that is a
18 large portion of my job. My partnership with my quality team, you
19 know, led by Ernie Reddick, who I know you'll interview as well.
20 You know, we spend a lot of time together. And so I would say my
21 role in it is to monitor, take action and make sure that we're
22 appropriately addressing risks in the business associated with
23 quality, and make decisions to improve the outcome every day. And
24 that's done a number of ways, whether it's data reviews, audit
25 reviews, action planning, setting expectations, prioritizing

1 quality and compliance. That's my role.

2 Q. So breaking that down just a little bit more. What are some
3 of the metrics that you focus on when you do these reviews?

4 A. So yesterday we will take the very large business, you know.
5 We've got final assembly, we have wings, we have paint, we have
6 preflight with delivery ops. So a lot of segments of the
7 business. We'll look at our quality performance and specifically
8 number of defects per airplane. But we'll get very precise and
9 break that down by area. Because when you see it, it's sort of
10 the rolled up level. You can't really see where you need to
11 focus. And so we'll start treeing down into the business units to
12 understand where we need to put more attention, understand where
13 we may need to apply more inspection or apply a corrective action.
14 And so not just number of defects. We also measure re-work hours.
15 So the number of hours associated with the defects which matters
16 as well, because not all defects are created equal. A paint drip
17 is certainly very different than something that might be more
18 significant and require more of our attention and focus and risk
19 mitigation. We also look at our supplier quality defects. So
20 what are the defects coming in to us, both by number and hours.
21 And then certainly our audit findings, both internal audit. So we
22 have a compliance team that is outside of, you know, the audit
23 team that is in our organization that walks around the floor and
24 identifies if we have tool control issues, if we have time and
25 temperature sensitive material issues. So we'll review that data,

1 as well as internal audit, as well as any other, you know, FAA
2 audit corrective actions that we have open. Those are the types
3 of metrics and data that we review.

4 Q. And the timelines for these reviews. Is there an incremental
5 system that you use? Is it weekly this review happens? Monthly
6 this? Walk us through that please.

7 A. Yeah the, I mean, the operating rhythm is relatively complex.
8 And I will say underneath my reviews, there's also cascading
9 reviews by area. And so those start building up into what I saw
10 yesterday. And the expectation is that we're not actively working
11 the, you know, kind of problems and the solutions in the meeting
12 with me. I'm getting the results of the actions and getting
13 presented by special teams. And so at the working level, it's
14 much more frequent obviously than at my level. But it is weekly
15 at the working level. We also have obeya rooms where we're
16 problem solving different opportunities within the factory and
17 within the businesses. But from a how frequently is the quality
18 management system reviewed? It's certainly discussed and reviewed
19 daily at this kind of tactical level. And then weekly we have
20 what we call a one-plan meeting, and that's identifying all the
21 opportunities there. Not just quality. They could be safety
22 improvements, engineering redesigns, a bevy of things. And then
23 at the monthly level, there's a larger, broader QLR.

24 Q. All the information that you review when it comes time to
25 come up to your level. How is it that you determine what is

1 important out of that?

2 A. You know, I think my background, working on airplanes and the
3 individuals I have on my leadership team with deep engineering and
4 quality experience. In many cases -- and the individuals that I
5 trust below me. We prioritize what's important. We typically do
6 it by, you know, first of all is there a safety risk to the
7 airplane? If yes, it follows a whole different, much accelerated
8 path. If no, well what is the impact to the build, the customer,
9 the production system. And then those are prioritized
10 accordingly. So we may just look at the number of hours of
11 impact. But beyond safety, we start triaging it that way.

12 Q. What level of confidence do you have that the information
13 that you're being brought -- because you are rather high up. So
14 this information has to be aggregated and brought to you. What
15 level of confidence that you have that you're being brought the
16 proper data?

17 A. Good question. You know, I've only been in this role four
18 months. And so my role is to listen and observe and then get my
19 factory shoes on and go verify. And so that may not always be my
20 approach. But given, you know, I'm still getting to know some of
21 the leadership team. I don't believe the charts or the data or
22 the information is diluted maliciously at all. I think in some
23 cases it may be that it's also what they believe and that's what
24 they're telling me. But I think the truth is always at the floor.
25 So I typically -- if I'm being talked through a project. I will

1 make a note to get out to the floor to that area and go engage
2 with the mechanic or the inspector or the engineer and say hey,
3 what's going on with this? I've heard a lot about this topic.
4 And sometimes those sources perfectly align. And sometimes you
5 frankly learn more at the floor than you did in the meeting. So
6 that's how I approach it.

7 Q. Going back to production itself. Being that you've been on
8 two different sides now for that overall production team. How has
9 the production rate changed let's say over the last five years?

10 A. Yeah. Well, I've only been on the program for just over
11 three years. And so from my vantage point on that. When I came
12 to the program, we were in the high 20s per month, low 30s per
13 month. And so I did participate in rate readiness reviews as we
14 made decisions to take our rate from 31 to 38. And prior to that,
15 I can maybe, you know, I was very busy on the 87. So you don't
16 intimately know every program. I do know that obviously after the
17 grounding and after the factory stops we sort of meticulously
18 stepped our way up to the rate that I saw when I joined the
19 program, which was the high 20s. And so that, that's my knowledge
20 of the rate history.

21 Q. We've heard the term rate readiness review before. Can you
22 please give a high-level understanding of what does that
23 encompass? What does that mean?

24 A. Yeah, good. Good question. So all -- I've participated in
25 rate readiness activities on the 87 as well as the 37. But I'll

1 describe my experience on the 37 and what the expectation is for
2 the process. And every sort of microcosm of the business. And
3 I'll just call that supply chain. I'll call that you know, maybe
4 a piece of the business. The name is preflight. It's an area
5 where we have about 400 teammates. And they're responsible for
6 flying the airplane received from the factory for the first
7 flight. And so in each one of these microbusinesses, they're
8 assessing their health to change from the published rate we're on
9 to the published rate that is next. They'll review some of the
10 things I've already walked through -- quality data, tooling,
11 equipment, facilities. So you may -- in order to go up in rate
12 you may need to build another stall. You may need to buy APU
13 stands. So it's a whole tooling and equipment review, quality
14 review. Do you have the appropriate staffing, inspectors,
15 engineers, all functions? And essentially we use a template to
16 grade ourselves. And there's lots of challenging questions sort
17 of built into the process that we've learned from over the years.
18 And then that all sort of rolls up to, in the past, who would have
19 been Ed Clark, a the VPGM of the program. And we review our
20 status or our health to the next rate at a weekly level. And then
21 as you get closer to the decision, that starts accelerating and
22 it's more and more time dedicated to the reviews. And so it's all
23 functions. It's will we have enough parts? Do we have enough
24 people? Have we engaged with the FAA? The FAA also participates
25 in our rate readiness reviews so that they are an active

1 participant in them. And so that is the process. Obviously it's
2 less strong the further you are from the decision. And then the
3 process as you approach, our rate break starts getting very, very
4 intense.

5 Q. Throughout that process, is -- and maybe you've said it and I
6 just didn't hear the words I thought I was looking for. Is there
7 a safety risk assessment conducted?

8 A. Yes. Though for our rate break to 38, that there was a
9 safety risk management activity, and that was part of our review
10 board. I did not participate in the SRM for that. But as I
11 acknowledged it, most of what I described in the rate readiness,
12 that all fed into that bowtie activity and the activity to
13 establish what risks would be out there. Similarly, we have an
14 SRM open right now for the activation of the North Line, right,
15 which is some time away. But that is also an element of
16 increasing rate and establishing more capacity in the program.

17 Q. In your experience, has the answer ever been no?

18 A. Yes. Yes, the answer has been no. When I first got to the
19 program -- and the answer was no on the 87 before I came to
20 the 37. I participated in two separate rate readiness review on
21 the 37. The first year on the job where both reviews ended with
22 no. And so those were driven primarily by supply chain health and
23 staffing. And so the answer in my experience as an executive
24 leader, which has only been about six years now. The answer has
25 been no far more than it's been yes, as an outcome of the reviews.

1 Q. You mentioned staffing, so let's touch on that. Similar to
2 the rate, production rate changes over the last well three years
3 then I guess, since you've been on the 737 Program. How has the
4 staffing changed?

5 A. Well obviously, our staffing has increased. And sort of out
6 of the pandemic, we were rehiring and backfilling employees that
7 were lost and decided to either leave the company or you know,
8 move out of Puget Sound, et cetera. As you think about it, we
9 also had to relocate a number of employees to our storage sites.
10 So a lot of the primary employees, the corps of the 37 went to
11 Moses Lake. We also had a site in San Antonio that pulled some of
12 engineers and support functions. That is not a union site, so we
13 did not lose any machinists or inspectors from that. But we also
14 had a site in Victorville. And so that all needed to be
15 backfilled. And so it's been an increase in staffing. And then
16 you know, there'll be a lot of conversation about the caliber of
17 talent that's available in the industry. This is not a Boeing
18 problem. This is an industry problem. It's not as cool as it was
19 25 years ago when I worked on airplanes to work on airplanes,
20 unfortunately. And so it is. It's difficult to attract the
21 talent necessary. And so I would say those are the changes I've
22 seen in staffing over the last few years.

23 Q. So with that, today. Describe the demographics of your
24 workforce. And what I mean by demographics is that experience,
25 skill level, longevity with the company, prior experience in

1 aerospace anything prior to coming to the company.

2 A. Yeah, I don't have specific numbers like this percent has
3 this many years.

4 Q. Just general.

5 A. Yeah. I -- generally it is different than it was 10 years
6 ago. You know, I would say 10 years ago we were closer to 50
7 percent of employees with more than 10 years. Today I would say
8 we are at 25 or 30 percent, and it certainly depends on the area
9 as well -- 25 or 30 percent that have more than 10 years. And so
10 certainly a shift in you know, tremendous experience level. A lot
11 of individuals left the company for retirement. But generally a
12 shift. And depending on the area, those numbers can be different.

13 Q. Have there been any assessments on how those changes over the
14 last 10 years might affect quality control?

15 A. You know, we certainly discuss it a tremendous amount. We
16 acknowledge it to be a risk. To my knowledge, there's not been a
17 formal, you know, safety risk assessment on just sheer risk that
18 our employees have less proficiency than they had before. We
19 focus on, you know, on-the-job training. You've heard a lot about
20 some enhanced training that's been happening periodically over the
21 last few years. A whole lot of it obviously since January. But
22 improvements to training have been going on the last several
23 years.

24 Q. So are you using training as that vehicle to bridge the skill
25 gap for lack of a better word so that it doesn't affect quality

1 control? Is that the -- I guess, is that the only tool that
2 you're using at this time?

3 A. Yeah. I mean, if you have a workforce that -- well first of
4 all, you need to acquire the best talent you can, right, coming in
5 the door. Whether that's prior military or prior experience on
6 airplanes. Train them well. On-the-job training, and then
7 support them after the fact, right? Listen to them. Engage with
8 them. Understand where they don't feel comfortable. Obviously
9 management oversight. And so those are other tools. But training
10 is the primary vehicle to take a workforce that needs to be more
11 proficient and make them that, so you reduce quality risks.

12 Q. What types of training do all personnel get regardless of,
13 you know, what I guess job code they are?

14 A. Yeah.

15 Q. What type of technician they are.

16 A. Well you know, you've got foundational training and then
17 you've got, you know. If you're asking about all employees across
18 the entire company regardless of function. Or if you're really
19 getting to like, mechanic and inspectors. And maybe let me ask
20 it. Are you everybody-everybody or really the touch labor that
21 works on the airplane?

22 Q. Touch labor.

23 A. Okay, got it. Thank you. You know, it's an introduction to
24 the quality management system. It's the fundamentals of tool
25 control. It is obviously our safety policies, our you know, just

1 interaction, how to operate here, what are the basic principles of
2 how you'll behave in the Boeing company. Kind of that HR platform
3 of what do we accept and what are the norms and how do we expect
4 you to behave? And then you start treeing into very specific
5 based on the skill code and the job code of that employee. And so
6 for a structures employee, that's certainly going to be very
7 different than an electrician. And so, but the root of all this
8 is welcome to the Boeing company. Here's what we expect of you.
9 The work we do is incredibly important. Here's elements and
10 what's expected as part of the QMS. Here's what it is. Here's
11 what the SMS system is and here's how we expect you to operate
12 within the bounds of the company, what you're responsible for.
13 And so that's kind of the stepping stone, and then they start
14 branching out to their skill.

15 Q. Are those fundamentals reiterated at any time or is it kind
16 of a one time when you get here thing?

17 A. Yeah. As far as I know, formal training, it's a one-time
18 whenever you get here. Now, when you start getting into the
19 technicalities of job code. You'll certainly have a bevy of
20 recertifications. That is much more on, you know, on a seal, you
21 know, running a bead of seal. You're practicing and you're
22 testing and validating that you can still do the work. So those
23 are on an annual reoccurring basis. Obviously annually, we have
24 an ethics recommitment process that we go through. That's every
25 employee. But from a quality management system and safety

1 management system. As far as I know, it is sort of a one-time
2 thing and we don't re-do it.

3 Q. How is training documented? Where is that repository of
4 information as to what people should be trained on kept?

5 A. Yeah. So it's in a number of you know, sort of D-documents
6 is what we call them, and standard operating procedures. As far
7 as each individual. They have what we call a learning plan. So
8 it's available in a computerized system that everyone can access,
9 including their manager. Those learning plans and if there's any
10 delinquent training. That's also something that I would see at my
11 level, at the program level. But each one of the managers and the
12 directors are managing and making sure that the learning plans are
13 getting completed.

14 Q. How and how often does Boeing solicit feedback from those
15 touch-level technicians?

16 A. Relative to training or relative to anything?

17 Q. About -- I guess relative to anything. But training
18 inclusive, about the products that they receive, the training, the
19 documents that they receive, the (indiscernible) received. How
20 often does Boeing make contact with those technicians to determine
21 how successful those products are being?

22 A. Yeah. I think I'd defer to our training leader for any
23 feedback in how that process is relative to training. But I will
24 answer, you know. I think at the leadership level, you know, at
25 the first-line leader. There's a daily tier one. And so this is

1 outside of training. But that is the moment where employees
2 should be raising their hand and asking for help if they need it.
3 Hey, I don't feel comfortable on my bar line. Now if they don't
4 want to say that publicly in front of their team, which is totally
5 understandable. The relationship they have with their leader
6 should open up those conversations and those doors. And if they
7 need better training of if they don't feel comfortable.

8 Q. I read through the Boeing QMS manual. And it -- particularly
9 the section that talks about escapes. I think it's fair to say
10 that we will label this instant as an escape that had occurred.
11 How does Boeing track escapes of any nature.

12 A. Again, I think I'd separate it into process escapes and then
13 nonconformances that were generated that were not identified at
14 time of creation. So I'd say that there's two escape channels.
15 In terms of escape on the product, a nonconformance. We don't
16 meet type design and it wasn't identified either you know, at the
17 supply chain or it wasn't identified within our own walls.
18 Obviously the minute it is identified through a series of, you
19 know, Swiss cheese inspections that we have along the way. It's
20 flagged and it typically is a nonconformance record, an NCR, but
21 not always. Could be a pick-up and other vehicles. And
22 corrective action is the process to get that back to the
23 originating shop.

24 Now, the corrective action could go back into the supply
25 chain. That's a different system. Or it could be within our own

1 corrective action systems through CMES. In an ideal world, every
2 one of those is identified what's their point of origin. So you
3 could say Flow Day 1 (ph.) found something and they know the work
4 is done in Flow Day 1. They would code the NCR as a Flow Day 1
5 job, at which time a QAI, a quality assurance investigator, would
6 get involved and they would assign a task out to the manager to
7 say hey, we think that there's been an issue here. And then at
8 that point, the manager would have responsibility to work with
9 quality and engineering and figure out root cause and then, you
10 know, ask for help if they need it. Because managers are very
11 busy out on the floor. And then get to root cause of the issue
12 and make the necessary actions. Some of that comes through in the
13 QLR that I just discussed with you, and various other activities.
14 And so that's the broad process as it should occur.

15 Q. You talked about asking for help, which is a great pivot to
16 how does Boeing track and communicate or expect production
17 information to be communicated throughout the build process?

18 A. You might need to clarify production information.

19 Q. So actual -- anything that pertained to like for instance,
20 NCRs. I need help on this thing or we need to go back to
21 Flow Day 1 to provide a correction or a mitigation on something
22 that was found in Flow Day 4. How is that information supposed to
23 be communicated, processed, tracked and retained?

24 A. Okay. If it is relative to a defect, as I just discussed.
25 That uses the CMES system. So our common manufacturing execution

1 system. And we generate a CAR, a corrective action record. And
2 so those would all be housed in the machine that is CMES. There's
3 certainly other ways to activate that process or similar
4 processes. Frankly, a mechanic can just raise their hand or an
5 inspector and say hey, this is interesting. I don't know. There
6 seems to be something wrong here. The manager would get engaged.
7 But in all cases it's still going to be documented in CMES.
8 That's the Bible of everything that we do. You can't work or fix
9 an issue on the airplane relative to the product outside of that
10 system. And so everything would be housed there. Certainly in
11 the tier one and employee involvement. You know, yesterday an
12 employee involvement, I helped a mechanic who -- and I'll give you
13 an example. There was a heat shrink on the back of a connector
14 that wasn't being heat shrunk. And so he was doing it every time
15 he got the airplane. And I said well, thank you for doing that
16 and writing it on a pickup. But that we've got to understand
17 where that's coming from and what the requirement was. And so you
18 know, that's just an example. But in all cases, that's got to get
19 into CMES, right, for work on the airplane and then to drive the
20 corrective action across. Now I made a couple calls and made sure
21 that it wasn't just going to expect that the system would work and
22 it would work fast. So I accelerated the system a bit by several
23 calls yesterday. And so I call that a rather benign defect.
24 Obviously every defect is -- needs to be rectified. But you know,
25 it's a 10-second heat shrink. And you know, he's just been kind

1 of putting up with it. And so there's other ways to raise your
2 hand and call attention to quality improvements. But CMES is the
3 core machine to do that.

4 Q. So in our conversations with others, we have learned a lot
5 about the Shipside Action Tracker, the SAT. That also seems to be
6 another form or communication tool. Can you tell us a little bit
7 more about how you expect that tool to be used?

8 A. Yeah. So Shipside Action Tracker is a valuable tool. And
9 really it is sort of an extension of the Andon in Lean Management
10 System. So you pull the Andon. You essentially need help. Now
11 not all levels of SATs are the same, right? You could have a line
12 stop SAT or you could have a -- they have a term for it. I won't
13 use it because I'm not sure I know it perfectly. But sort of a
14 SAT that you'll work behind the scenes. It doesn't affect a
15 current airplane. A good example and this is also from yesterday.
16 You know, the team in Flow Day 8 was typically getting carts
17 delivered to the floor that when they pulled the protection off
18 the floorboards of the airplane, they would load it up on the
19 cart. Okay? That cart was not being delivered every morning as
20 you would expect it to be in the factory. So something had been
21 happening for a couple weeks. So they used the SAT system to
22 engage fulfillment on this problem that they were having. We also
23 -- obviously Anchorage -- some phone calls but we wanted to make
24 sure that we have traceability of the issue in case it comes back
25 next week and the next week and the next week. So this particular

1 issue had nothing to do with the airplane. But it's just a
2 production system challenge. And so not every SAT is a problem on
3 the airplane necessarily. It can be just a challenge or a problem
4 in the production system as well that needs to get resolved. And
5 so it's a way to ask for help for many, many, many functions.
6 There's probably 30 available functions you can assign a SAT to,
7 maybe even more. So it's an ability to scour those production
8 system problems and make sure that we're addressing them and
9 they're not coming back, and that we have good corrective action.

10 Q. What's the highest level on the management into leadership
11 chain that you would expect that would be reviewing the SAT?

12 A. I think that is at the first-line leader level. Now at my
13 level I'll hear we have a Tier 4 SAT or a Tier 3, whatever the
14 highest level. We have a Tier-X SAT in for that. And so I'll
15 hear things about SATs being put in, but I don't review and I
16 don't expect that even the directors or senior managers are
17 reviewing every SAT in the system. But certainly the first-line
18 leaders.

19 Q. I want to move into talking a little bit more about the SMA.
20 But you've been talking to me for a while. It's been -- we're
21 pushing about 50 minutes or so. So I think I'm going to go on and
22 let -- first check in with you. How are you feeling?

23 A. I'm good.

24 Q. Are we in need of a break? Is anybody else in need of a
25 break? We're good? Then I'm going to go on and pass around.

1 A. Okay.

2 DR. WOODS: Think about some things and we'll come around
3 again for the next round. Pocholo?

4 MR. CRUZ: Yep.

5 BY MR. CRUZ:

6 Q Katy, thank you for talking to us today.

7 A Mm-hm.

8 Q. Obviously this incident is the reason why we are looking at
9 the process, the production process within Boeing. How much do
10 you know? I know you came into your job in February of this year.
11 Based off of the information that Boeing was able to gather since
12 this accident, what did you know about the plug door itself?

13 A. Mm-hm. Well, I'll say I'll probably know as much as anybody
14 knows from reading the media, right? And so I was not involved at
15 a detailed level with the accident. I obviously do know that
16 there was defects common to or very, very close to the mid-exit
17 door plug. In order to rectify those defects, you know, the plug
18 needed to be opened. That we have photographs of the plug ibn
19 fact opened within our factory. And we have no authorized removal
20 or documentation that indicates who may have opened the plug.
21 Retaining bolts were not installed. Airplane flew 150-plus times
22 before the plug departed. I obviously know that we believe that
23 the team that would open the door -- the mid-exit door plug is
24 part of the door team because no one else would be familiar with
25 that statement of work and within our factories. When someone

1 needs something they call the team that owns that commodity. But
2 that we haven't fully identified who that may have been.

3 Q. Okay. So your job is mostly on the production line and
4 making sure everything goes smoothly. Prior to your position,
5 your new position. Has there been a lot of travel work coming
6 from Wichita into the Boeing factory here at I mean, generally? I
7 mean, what would you say? How would you characterize that?

8 A. Yeah. And I want to kind of decipher. I think traveled work
9 is different than defects that come into the factory.

10 Q. Okay.

11 A. And so, the answer to that question is, there has been little
12 to no traveled work that has come in from Wichita. Now if the
13 real question is, have you identified defect on the fuselage upon
14 receipt from Wichita? I would say yes, that there have been a
15 number of defects prior to my role.

16 Q. Okay. And have those defects that you've seen. Have they
17 been recurring?

18 A. Mm-hm.

19 Q. Same issue every time and what was done?

20 A. Yeah.

21 Q. If that was the case.

22 A. Yeah, so I can't speak in detail to what was done last year.

23 Q. Sure.

24 A. As you can imagine. As the delivery vice president, I was
25 very, very focused on you know, the customers and --

1 Q. Sure.

2 A. -- you know, smooth operation within my own business. But
3 now that I'm in this role, I do understand the history. Because
4 obviously, I've been asking a whole lot of questions, just like
5 you.

6 Q. Yep.

7 A. When we find a reoccurring defect we generate multi-unit NCR.
8 You may hear these referred to as green lines. They're
9 essentially extensions back into Spirit, back into Wichita, using
10 our supplier quality team that says hey, here's evidence that we
11 have found this particular thing two or three times. And so at
12 that point we will extend the multi-unit to cover Spirit's
13 inventory and ship in place and drive that back into their
14 factory. On any given airplane last year, we had a number of
15 those green lines that covered that inventory. Because there's
16 ship in place at Spirit, meaning they're finished and they're just
17 waiting to get on the train. those multi-lines were then starting
18 to be rectified within the factory, right? Because Spirit had
19 already finished them and they were sitting outside. And so
20 that's how we would address chronic defects that we saw from
21 Spirit. But we certainly -- when you see, you know, an issue on a
22 bracket, it could be a one-time thing. It's just a mistake. Or
23 it could be a more chronic issue. So we've -- we certainly have
24 seen both.

25 Q. Okay. Based off of this issue, we know that Boeing asked for

1 supplier help with regards to -- could you explain that process
2 with regards to having Spirit come in and do work on the Boeing
3 product here in Renton?

4 A. Yeah. So we have vendors and suppliers that work on our
5 premises. Not just in the factory, but here at the delivery
6 center. Obviously we have two million parts that come together --

7 Q. Sure.

8 A. -- to build a 737. And so in some cases we use our suppliers
9 to do that work, because they're the experts at the product in
10 question. So not just Spirit, but CFM. We'll have Goodrich here.
11 We'll have Honeywell on occasion. So lots of suppliers do work on
12 our premises. They are part of our QMS. They have requirements
13 for training. They have requirements for documentation. They
14 have requirements for, you know, drug screening for instance. And
15 so the process there is if you find a problem and you need
16 supplier engagement, we call an organization within supplier
17 management and we ask for vendor assist or supplier assist. And
18 so that is the current process as it takes place. Over the years,
19 Spirit employees have had a presence in our factory and on our
20 flight line in a sort of ever changing number of head count that's
21 been here, you know. And I'll call that over time approximately
22 20 people from Spirit have always been at the Renton sites.

23 Q. Okay. And with regards to supplier assist. If there's a
24 need to gain access to something on the airplane, who typically
25 would get that access for Spirit?

1 A. The Boeing team.

2 Q. Okay. And then you mentioned also that I believe you said
3 the door crew are the people that would typically open a door. Do
4 you know if there's specific training for the door crew with
5 regards to gaining access to a mid-exit door plug and -- or any
6 other training that they are required to take before they're able
7 to work on the airplane?

8 A. Yeah. I know now far more than I knew, you know, maybe
9 before this role. That the training for the door crew is no
10 different in foundational. So classroom training --

11 Q. Yeah.

12 A. -- than any other general mechanic. That there are no
13 specialty door classes that are taken. Now as you come out onto
14 the factory floor and you're introduced to your work team.
15 There's obvious expectations around on-the-job training. And I
16 think you know, just being from maintenance. I spent many months
17 in class. But when I got out on the flight line, I was still not
18 ready. And that's where on-the-job training really comes in. And
19 so they're -- both of them are necessary. Obviously, experiential
20 learning is far more valuable than anything else, especially when
21 you are touching airplanes. And so, but to my knowledge, there
22 are no formal classes that are specially classes for the doors
23 team on the 737 Program.

24 Q. During this investigation, we've learned that there's
25 different -- the door team in Everett has more specialized

1 training because of the type of product that's being produced
2 there. Since you came from the 787, is there also a different
3 type of expectation or training for door crews for the
4 787 program?

5 A. The only difference I know is that there is a rigging
6 certification on the 787. That that is the only difference I
7 know. And I believe that to be just the complexity of a wide-body
8 door versus a 737 door.

9 Q. Mm-hm.

10 A. But that's the difference that I recall from leading in South
11 Carolina. It was definitely a certification associated with it.

12 Q. Okay. And you also mentioned that CMES basically houses
13 everything. Is CMES also used on the 787?

14 A. The 78 uses Velocity. They're the only program that doesn't
15 use the legacy manufacturing execution system.

16 Q. Do you know what Everett uses?

17 A. Depending on the program. So Everett still has 87s, so they
18 would be using Velocity.

19 Q. Oh.

20 A. But Everett uses the common manufacturing execution system.

21 Q. I was going to ask. How different are the two systems or are
22 they -- and what are the similarities and the differences between
23 the two systems?

24 A. Yeah, I have not gotten into those systems.

25 Q. Yeah.

1 A. And you know, generated NCRs. That's never been my role in
2 the company. And so I couldn't really answer that. I know some
3 people love one and some people hate one.

4 Q. Yeah.

5 A. And some people love the other. So people have very strong
6 opinions on which one is better but I don't because I haven't used
7 either intimately.

8 MR. CRUZ: Okay. I think that's all I have for you right
9 now. Thank you.

10 MS. RINGGOLD: Thank you.

11 DR. WOODS: Troy?

12 BY MR. LEVANEN:

13 Q. Hey, good morning. You mentioned a JT -- OJI program.

14 A. Mm-hm.

15 Q. Or OJT program in this case. Do you feel like there's a
16 documented OJT program for when they get out there? I know it's
17 part of the process. But do you feel like it's a solid robust
18 process right now? Are there any accidents going on with it?

19 A. (No audible response.)

20 Q. We -- some of the people we visited with talked about their
21 thoughts on it.

22 A. Mm-hm, yeah.

23 Q. I was curious what your thought was.

24 A. I think depending on the area. Over the years, there are
25 areas of the business that do it very, very well. And there are

1 areas of the business -- and I don't call it maybe the interiors,
2 you know. The interiors team has a broad scope of work that they
3 do. And so on-the-job training becomes more and more difficult.
4 Because you may only do a job once every two months, right, on a
5 certain thing. And so I think depending on the area and the
6 nature of the work. Some teams are much better at documented on-
7 the-job training and what's expected. There's certainly
8 improvements that are going on now in terms of testing out on the
9 SOJT. Validating that you can navigate product data definition.
10 Those things were not happening you know, seven months ago. And
11 the rigor and the OJT and the -- oh, excuse me -- at structured
12 OJT that's required to be put in now a system and a tool that's
13 been designed has been some of the improvements that we've seen.
14 We obviously have more work to do, you know. I carried around my
15 training record and had people stamp it, right? And that was a
16 long time ago. But it's that same concept that we truly need to
17 get the rigor to -- into the point where you cannot do a job
18 unless you've had a certain number of stamps in the system.

19 Q. Yeah.

20 A. And we're working towards that.

21 Q. Mm-hm, that's great. So you had mentioned removals and for
22 this accident, you know. We're aware of that. We have not found
23 a removal for opening that door, the mid-exit door plug or closing
24 it for that matter. And how do you feel -- with the time that
25 you've been in your position. How do you feel like Boeing has

1 improved or changed the removal processes and/or training to help
2 prevent something similar in the future?

3 A. You know, I think simplification of the process and many of
4 our processes, but especially this one. You know, the removal
5 process BPI is about 50 pages. And so you know, in order to
6 understand that we certainly need to simplify it. Make it clear.
7 Over the last several months, we have rolled out training. As
8 many of you know, we reverted to only team leads can write
9 removals for a period of time where we developed the curriculum.
10 We had everything take it, be able to sufficiently pass the
11 training. And I think this was a great enhancement. You not only
12 needed to pass the online sort of curriculum training. But you
13 had to have someone oversee that you could correctly generate one
14 in the system. So a coach of sorts or an audit of sorts that
15 validated. Because lots of people can pass an online test. But to
16 demonstrate you can do it. So I think that's been a tremendous
17 improvement. We certainly had far more communication and
18 expectations and leadership engagement on documentation. In our
19 business, documentation is everything. And making sure that
20 everyone at all levels, in all areas of our business know that.
21 If it takes you 10 minutes to do the job and 25 minutes to do the
22 paperwork, that's what it is. And so those are the changes that
23 I've seen.

24 Q. So in the case of the door plug. The you know, looking at
25 the Shippside Action Tracker. It was getting kind of like days 13,

1 14-ish and we started seeing dollar signs appear on the Shippside
2 Action Tracker. Some of the bold, maybe big. And like from an
3 airline perspective I would say that would represent like,
4 operational pressure. And so you know, we think it's possible
5 that that could have contributed to the door plug being open
6 without documentation. Because the pressure was starting to build
7 on that specific thing. So you feel like with just using the
8 leads or for example, less people being able to create removals
9 that that will help mitigate what happened in that event in terms
10 of maybe people -- if it's a hassle to go find a lead to generate
11 a removal, they might just pop it open. Let's get this thing
12 done. This thing's late kind of thing?

13 A. Mm-hm.

14 Q. What do you -- do you think this -- do you think we're where
15 we need to be to help prevent it in the future in a pressurized
16 situation like that?

17 A. You know, I do want to step back and correct myself. For a
18 period of time, it was only the team leads while the curriculum
19 was being developed. That was about a month, give or take. It is
20 now to -- does not need to be just team leads. As long as you've
21 sufficiently passed the training and been audited that you can do
22 it, anyone can write a removal. Not anyone, but the right
23 functions. Manufacturing can write a removal. We've also
24 embedded -- and I think this is certainly an enhancement. The
25 quality organization into the okay to remove for that part. Now

1 that doesn't prevent what you alluded to as someone just quickly,
2 under the veil of night, trying to remove something. But what it
3 does prevent is a mechanic saying I need to remove this part and
4 this part number. And quality comes and observes and visits the
5 area and says hold on. You've got the wrong part number there,
6 which is also a risk in our system. And so it will mitigate any
7 challenges for errors in the intended removal. You know, from a
8 -- what you started with in terms of dollar signs in the SAT. I'm
9 not familiar with those icons in the SAT system. You know, I
10 think there are real operational pressures in our business, of
11 course. They're in every business. And so I don't think the
12 current removal process improvements are done. We still have a
13 number that are, you know, in the near future to be implemented to
14 make it simpler. You know, how do we get to sort of a one or two-
15 click removal? And we can't make things so burdensome that people
16 avoid doing them, to your point.

17 Q. Yeah. Good, thank you. Do you think -- so you mentioned the
18 supplier health with you know, 20 or so contract structures
19 employee. Had a couple quick questions about that. Do you think
20 this proposed acquisition of Spirit by Boeing will help manage
21 that as far as now would that be Boeing employees that do the work
22 that is found on the -- when it gets to the factory?

23 A. Yeah. I don't know how that will work in the future after
24 the acquisition. But the first part of your question. Do I think
25 it's a good idea or do I think it will help? I do think it will

1 help. You know, when you are intimately dependent and you have
2 one supplier. Vertical integration is supply chain strategy that
3 we've used for years, and I do think it is the right choice. In
4 the future when everyone in Wichita has a Boeing badge, I'm
5 unfamiliar if the individuals that will be here in Renton with us
6 will still be a contract workforce or if they'll be a Boeing badge
7 workforce. And so I don't know that answer. But I would expect
8 it is typically the same people, just wearing a, perhaps a
9 different shade of badge, so.

10 Q. Okay. And then you mentioned the defects that are found when
11 the fuselage gets to the factory, you know. We'll call it
12 traveled work, but the defects setting. It comes with it. And we
13 know that those are now being looked at before they leave the
14 factory. Do you have a metric that shows the difference in the
15 number of defects found on a build now from what it was before?
16 And I know you haven't been here for a long time to compare it.

17 A. Mm-hm.

18 Q. But do you have a metric for that?

19 A. We do. And although I haven't been -- in this job, we
20 certainly have the data going back many, many, many years and
21 months. And so we look at it weekly. And it has improved.

22 Q. Okay, let's see if I had one more. And then we also -- do
23 you think there's any dynamic with like in the accident. When we
24 were doing some of the investigation. We felt like there was a
25 little bit --- or I felt like there was a little bit of a dynamic

1 between union and non-union where you have a union shop and a non-
2 union Spirit contractor is coming in to fix a discrepancy in that
3 environment and maybe to support -- interface. And are you --
4 have you had -- are you aware of that here now? Or do you -- did
5 you ever see that dynamic and do you think it's a factor?

6 A. Yeah. I don't personally see that dynamic. I know everyone
7 wants to do the best thing for the airplane. And when you have a
8 defect coming in and you might think it's from a certain place,
9 that can cause tension, right, of I just want to do my work but
10 you're here doing your work. And so that, that's tension that we
11 have to recognize of course exists in business, in all businesses,
12 especially when you're building things. But I don't see that as
13 being anything visibly behavior on the floor, at my level.

14 MR. LEVANEN: And I think that's good for me. Thank you.

15 MS. RINGGOLD: Okay.

16 DR. WOODS: Thank you, Troy. John?

17 BY MR. PETRUZZELLI:

18 Q Katy, I remember you always saying this. How do you lead?

19 A. Love your people fiercely. Their problems are your problems.
20 Be the mayor, and words matter. So I have kind of some slogans.

21 Q. That is so.

22 A. But it is people first, every moment.

23 Q. How is that different from your predecessor, the current
24 role?

25 A. I won't speak to that. I think he was a great leader and

1 leaders are all different because we're all human.

2 Q. Okay. Speaking of training, foundational training
3 specifically. We were told yesterday that if someone's struggling
4 or has challenges in foundational training, they are able to be
5 held there until they can demonstrate proficiency.

6 A. Mm-hm.

7 Q. Is that a high percentage of new hires these days?

8 A. I don't know that, John. I'm not close enough to the
9 training organization. But I do know that that happens and we do
10 hold people. And we help them provide additional training, but
11 I'm not sure of if it's higher or lower or what the numbers are.

12 Q. With that, I got a phone call last night after we left, from
13 one of our union representatives that kind of threw me for a curve
14 ball. There are that we know of, six people here at the field now
15 that were hired as Grad 4 mechanics that had not completed
16 foundational training and are working here and at Plant 2. One,
17 do you know about that?

18 A. No.

19 Q. Okay. Because that seems to be conflicting with -- well, we
20 want to go finish their foundational training. So that one kind
21 of threw me for a curve ball last night. As far as our gaffing
22 (ph.) here. What's your perception of the people, number of
23 positions and people that we have today to -- relative to five
24 years ago?

25 A. Mm-hm. So the number of staff that we have from a touch

1 labor perspective. And when you say here, do you mean the program
2 or the field here?

3 Q. I would say the program.

4 A. Okay, the program level. Well you know, that is very rate
5 based. And as many of you know, five years ago we were at a rate
6 of 47. And so head count was very different. But generally
7 speaking, if you just look at it from a per airplane level. We
8 have far more staffing than we had five years ago. And so even
9 at this delivery center, and I wasn't here five years ago. But I
10 know you were, John, and many others. But you know, we were able
11 to do far more in terms of volume of deliveries with far less
12 people. And so in some cases, you know, we had added additional
13 staffing because of recoveries that we've been under just, you
14 know, the nature of the business today versus then.

15 Q. Yeah, interesting point though. It was five years ago we had
16 to consume what, a hundred and -- 1,220 pieces of paper?

17 A. Mm-hm.

18 Q. Now I think last I heard from Ken (ph.) it was 560 pieces of
19 paper here. So workloads have basically gone up four fold.

20 A. Mm-hm.

21 Q. But again, it segue ways into what I was going to ask. Five
22 years ago for example, and I'm going to speak to here. We had
23 three first time matters, and this is QA -- on day shift, three on
24 second and two on third, one second-level for all shifts, and we
25 operated as one QA per stall. Now we have -- we still only

1 operate with one QA per stall per aircraft. We have three second-
2 levels on first shift, two on second, one on third. Nine first
3 lines on first shift, nine on the second but five on third and one
4 first-level. And yet we still are only operating with one QA. So
5 our workload has kind of gone up four times with the number of
6 pieces of paper we consume. And our first-line managers and
7 second-level managers never has gone up exponentially and yet
8 we're still where we are. How does that fit with we've added more
9 people?

10 A. Mm-hm. You know, we've certainly added more specialty teams.
11 And you know, the coordinator team which is one that you're a part
12 of. You know, we have a totally different ticketing process than
13 we had five years ago.

14 Q. Yep.

15 A. And that process drives head count. And you know, there's
16 certainly things that have changed over the year. Five years ago,
17 when we were at a hundred pieces of paper, we were delivering NGs,
18 right?

19 Q. Yep.

20 A. And we had dialed in like, you know, just a fully well-oiled
21 machine. And so you know, I think just the business is so
22 different that it's difficult to say well why isn't it like this
23 if it was like that then?

24 Q. Yeah. I want to clarify something on that, and Elizabeth
25 pointed this out yesterday. We're not being told no, we can't get

1 those people. We're just not getting them and I think that's a
2 function of the hiring process and the --

3 A. Yeah.

4 Q. -- what you're talking about in the industry.

5 A. Yeah.

6 Q. Rate wise, what are you -- what is the rate currently in the
7 factory?

8 A. Yeah. Published rate is 38. We all acknowledge we are
9 under-producing to rate 38. I won't get into detailed numbers
10 because every month is, you know --

11 Q. Okay.

12 A. -- a shade different. Since the accident, we obviously
13 slowed down the factory tremendously. We've implemented the
14 changes at Spirit which slowed product coming in the door. All of
15 the other changes we've described, we needed to take a breath and
16 implement those in a controlled way so it wasn't just chaotic
17 change. Change, change is good but change can also be a risk in
18 the system again to safety and process control. And so I'll just
19 state that at this point, the factory's producing at in the 20s.
20 And I won't get more specific than that.

21 Q. And I noticed this last night. Like in the charts that we
22 see for what we're going to apply them for, for ticketing 57s in
23 number. That doesn't go against that whole 38 piece if the
24 puzzle? Not related, right?

25 A. Not at all.

- 1 Q. Okay, all right.
- 2 A. Yeah. Because the delivery center is still processing --
- 3 Q. Storage.
- 4 A. -- storage inventory. And so the published rate is the
- 5 factory production rate.
- 6 Q. Got you. Got another one? Last thing is on removal of
- 7 inspections. A number of years ago we started a process here
- 8 called verification optimization. A number of inspections were
- 9 removed. There was a lot of activity with the FAA through hotline
- 10 complaints or written complaints. I know the union put up --
- 11 pressed on that pretty hard. We're being told that inspections
- 12 are being returned to this system. From your seat, how does that
- 13 look today?
- 14 A. Mm-hm, yeah. I don't have visibility of precisely the number
- 15 of inspections, you know. It was 2,700 yesterday. It's 2,710
- 16 today, you know, that level of detail. You know, I know within
- 17 our QLR and in various quality reviews that we will use inspection
- 18 or additional inspection as one of the levers. But I think we can
- 19 all agree. Inspecting and quality is not the way through any
- 20 quality problem. It's designing and building in quality. And so
- 21 it doesn't mean we're averse to adding inspections when necessary.
- 22 We certainly have and we will continue. But the focus would be a
- 23 design and build in quality approach in all cases.
- 24 Q. With that said though. The FAA has come in and a number of
- 25 -- I don't remember all their acronyms, but worse than we are.

1 That have come back and literally said in their formal findings,
2 you cannot give this conformance decision to a mechanic. It has
3 to be -- and we continue to hear that we, the company, has been
4 putting all these back and yet we're still seeing and hearing
5 that. Do you see these -- does it -- do these inspections come
6 back?

7 A. Mm-hm, yep. I think in some, you know, just as I answered
8 before. I don't know of broad sweeping inspection removals that
9 occurred years ago. I think that was probably not in my purview
10 at that time. I wasn't at this site or you know, I was on the 87.
11 But I think where appropriate, we'll always bring an inspection
12 in. And if it's not appropriate and there's another solution,
13 that's what we'll defer to.

14 Q. CMES 787 I believe use a CMES post ticket.

15 A. They do.

16 Q. Yeah.

17 A. Yeah,. thank you.

18 MR. PETRUZZELLI: I'm good for round one.

19 DR. WOODS: Okay. Thank you, John. Dan?

20 MR. MARCOTTE: Thank you. Just one second.

21 BY MR. MARCOTTE:

22 Q. All right. So you know, I was interested, you know. It's
23 pretty obvious with your, you know, where you came from as a tech
24 and you like to go back to the floor yourself and learn things.

25 A. Mm-hm.

1 Q. So do you take a different message now, post-accident, you
2 know.

3 A. Mm-hm.

4 Q. When we figured out what went on with removals.

5 A. Mm-hm.

6 Q. And you know, later one we worked with the FAA, came up with
7 the 90-day plan. Has that changed how you communicate or what
8 your focus of communications are when you're talking to people on
9 the floor?

10 A. I don't know that it's changed my communication or my
11 leadership approach, you know. I haven't changed a whole lot. I
12 think -- and I've said this to the media during Media Day. I
13 think that the team is bruised as, you know.

14 Q. Yeah.

15 A. No one wants to be a part of an accident. And they need to
16 feel proud and confident because proud confident people build
17 great airplanes. And scared and worried and bruised people,
18 there's risk to that. And so it really is uplifting this team and
19 reminding them that they are proud confident airplane builders.
20 And if they need help we're going to get it to them. And so I
21 think obviously, I weave the accident and the effects of it in my
22 messaging. But it's more around just keep your head up. Put your
23 head up, right? And we're going to take the following actions and
24 it's one day at a time, right?

25 Q. Okay.

1 A. Just build the next best airplane.

2 Q. Nope, that's great. Has it changed any, you know, generally
3 there's a process with leadership then put on building like,
4 talking points.

5 A. Mm-hm.

6 Q. Or trying to have a continuity of a message from you down to
7 the first level. So I guess -- so in that had -- is there any
8 changes or changes in focus on just the overall communications to
9 the floor, help get everybody with common priorities or on the
10 same message?

11 A. Yeah. I mentioned earlier when we talked about a day in the
12 life. Yesterday I had gathered all my leaders together across the
13 whole 737 Program, and all the footprints, including China. And
14 continued. I didn't say, you know, didn't lay out the priorities.
15 Because I had done that a few months ago.

16 Q. All right.

17 A. And it is execute the comprehensive safety and quality plan,
18 enact a people-focused production system, wage a relentless war on
19 defects, and then lead, don't manage your teams.

20 Q. Right.

21 A. And those are the messages that I have been, you know, the
22 battle rhythm of the program since I have taken the seat. And so
23 we just updated the team on those plans. And then they get an
24 EKSSERT (ph.) and a video of that. And then they are to take that
25 and craft it in their own way as they cascade that down through

1 the teams.

2 Q. Okay.

3 A. We also use weekly videos, which I'm out on the floor with
4 different functions or a guest. And they're showcasing an
5 improvement. Or for instance, Troy, you had a lot of questions
6 about the removal process. I had a video with one of the union
7 stewards about his opinion of the removal process, how is it
8 working? Does he think it's stronger? And so every week the whole
9 program sees a video of me out with the team, talking about
10 various improvements.

11 Q. Mm-hm.

12 A. Or you know, in some cases they may be talking about a
13 problem that they have and how they think they're going to solve
14 it. So that's a new enhancement to the communication for the
15 program that I've brought forward.

16 Q. Has there been any thoughts on how to, you know, the six KPIs
17 in the plan, you know. Is there any thoughts and communication to
18 get at least the intent of the KPIs to the floor, you know.
19 What's in it for them, you know? How do they relate to the KPIs
20 or you know, help a common focus.

21 A. Yeah. So I just presented the KPIs to the leaders yesterday
22 in detail.

23 Q. Yeah.

24 A. Now, we talked a lot about there's KPIs and we worked on
25 deciding which ones were the best ones in partnership with the

1 FAA. But for the first time yesterday, all the first-line leaders
2 and everyone in between saw detailed the six, and we saw how we
3 were doing and were we lower than the control limits or within and
4 what was the trend. And we talked about why each one of them is
5 important and why the combination of the six are the most optimal
6 way to assess the factory health. And so at this time, we're only
7 at the first-line level to introduce it and really get into the
8 nuts and bolts. I think the future of that is depending on where
9 you are in the company. If you're an engineer or one of those
10 might matter more than others.

11 Q. Right.

12 A. But the next step would be how do we operationalize that at
13 every level in the program.

14 Q. All right. Thank you.

15 A. Thanks.

16 DR. WOODS: Okay. Mike?

17 BY MR. RINEY:

18 Q. You already answered my question on how -- your involvement
19 in the 90-day plan and the KPIs. So my next question was going to
20 be about what new activities have you seen since the incident that
21 may have highlighted focus on different areas such as the
22 removals?

23 A. Mm-hm. You know, we've talked about almost every element of,
24 you know, the 90-day plan or the comprehensive safety and quality
25 plan. We have to quit calling it the 90-day plan at some point.

1 We're past 90.

2 Q. Yep.

3 A. And so we've touched on a lot of it, you know.

4 Simplification of the complexity, the training improvements, the
5 compliance improvements, the defect reduction activity, you know.

6 I think the one that's most promising is the way that we intend to
7 engage our workforce. And I don't want anybody to thing well,
8 before we just didn't talk to our workforce. We didn't think
9 engagement was very important at all. That wasn't, you know.

10 It's not that starkly contrasted. But we acknowledge that, you
11 know, we could be better and tomorrow we'll be even better than
12 today. So I think the employee involvement activity that we're
13 doing, you know, the Kaizens that are coming from that time that
14 you just take a breath and quit building and talk about what you'd
15 like to see different. This is going to be super powerful. So
16 that's probably the one that's most near and dear to my heart.

17 Q. Something that I've noticed from the Tier 4 meetings is there
18 is now, based on the removals. If there's an item that's
19 identified, you know. There was a mis-removal.

20 A. Mm-hm.

21 Q. That that now goes out and that makes it Tier level, correct?

22 A. It does. It does. Just this morning I sent a note because
23 we were not on the report, which many days the 37 Program is not
24 on the report, which is great. I just sent a note out to the
25 leaders and said thank you. This is the report we must stay off

1 of, right?

2 MR. RINEY: I think that was it for me.

3 DR. WOODS: Okay. Thanks, Mike. Nils?

4 MR. JOHNSON: Well, I think it's still morning. Good
5 morning.

6 DR. WOODS: Yep. It feels like evening, right?

7 BY MR. JOHNSON:

8 Q. We've been told that processes differ by location. To me a
9 great process would work irregardless (verbatim) of geographic
10 location. Why is there a difference?

11 A. I am aware that in some of our BPIs it -- at the beginning of
12 them it will say applies to. And it may apply to Everett but not
13 Renton. And so you are correct, Nils. Now I will say the broader
14 big sweeping sort of pros don't typically decipher a location. I
15 can't speak to exactly why. I haven't been personally responsible
16 for drafting BPIs. And I've only ever worked at two sites, so.
17 But you know, back to Troy's question I believe about CMES and
18 Velocity. Sometimes it's system differences. Sometimes it's
19 maybe logistics differences. But I don't know intimately why we
20 would have that. But I predict it is system based and just
21 nuances at a site that may require that.

22 Q. Okay. How are safety findings and corrective action shared
23 with Boeing leadership? At what level are they shared and at what
24 frequency?

25 A. Mm-hm. And so safety risks or even product costs that are in

1 the system that get reported to the fleet. Those come into my
2 safety review board. We have a safety review board above my
3 level, at Stephanie Pope's (ph.) level. And although I don't
4 attend, I am aware that Calhoun (ph.) also has his own review
5 board of any safety risks that get to his level. And so certainly
6 like many meetings and series. It is a trade organizational
7 approach to who should be the board chair for the particular risk.
8 So I have a SRM review and a board review once a week. And then I
9 present any risks that Stephanie wants to see at her level once a
10 week as well.

11 Q. Okay. Have there been any leadership driven changes to
12 policies or practices since Flight 1282?

13 A. Certainly. I mean I think some of the things we've talked
14 about today. Definitely the removal process, you know. There's a
15 number of others that you know, Elizabeth and comprehensive safety
16 and quality plan are evaluating need to either -- bless you. Need
17 to either be simplified or need additional clarity. And so I'm
18 more intimately involved with the removal process. Obviously
19 that's very you know, pertinent and you know, the driving force
20 within our factory right now to make sure documentation is a
21 priority. And so that's the one I'm most intimately familiar with
22 but I'm aware of many more.

23 Q. On the subject of removals. I've reviewed a lot of removals
24 during this investigation. I guess I would share one thing with
25 you. I saw a lot of inconsistencies.

1 A. Mm-hm.

2 Q. And also on a 99-step document, 98 of them are don't bump
3 your head on this, don't fall off a ladder, don't touch anything
4 that's electrically charge, et cetera, et cetera. And I get the
5 safety aspect. But there's a one-liner that says install, and it
6 says install per drawing sheet 17. And it's just like, I come
7 from a maintenance background, 30-plus years. And we would punch
8 up remove bolts, install bolts, and you know, the things that are
9 really critical to the jobs from a tactical perspective.

10 A. Mm-hm.

11 Q. And I don't see that in your documentation, just to share
12 that with you.

13 A. Yeah.

14 Q. With that said, what is being done to ensure that removals
15 are written to the highest standard?

16 A. Mm-hm. Yeah, I think one aspect, and I did speak of it as
17 bringing quality into the process for the okay to remove. And so
18 when a removal is written, that is written by a manufacturing
19 personnel, a mechanic. And then, so most of the fields that
20 you've just described would be populated at that point. And then
21 they put the task on the board for a quality inspector to come
22 into the process and at which time they do and they're reviewing
23 those. And so I think that's certainly enhancement for
24 standardization and accuracy, by all means. Additional changes to
25 the template that you made reference to, how many stamps and how

1 many operations that might be just too much. It might be pointing
2 someone that this is more important than the actual work that's
3 being done, which isn't the case. That I believe is some
4 additional layered enhancements that are coming very soon. And
5 then making sure that if it's a field to be filled out you can't
6 bypass it. Some additional controls within that activity. And so
7 that's what I believe is already happening and what I think will
8 strengthen it furthermore.

9 Q. You mentioned tool control earlier. The FAA has also
10 identified the tool control as a top four issue. What is Boeing
11 doing to correct the tool control issue?

12 A. Yeah, we talked a lot about training. One of I think the
13 most pertinent, you know. We talk -- tool control training in the
14 past was a 30-minute PowerPoint. You can't lose control of your
15 tools. They're really important. Make sure they're etched. And
16 PowerPoint is great and you can certainly learn facts by that.
17 But there is a hands-on now compliance assessment that's built
18 into foundational training where they have a mother box and they
19 have a rack of consumables and they have a whip rack. And it
20 looks like a simulated shop area. And that's how people learn,
21 right? And so that's being done. You know, and we have to
22 remember, there are thousands of people that are no longer in
23 foundational training that need that refresher and need a good
24 reminder and sort of a level set on expectations. And so a course
25 like that is moving around. Like, the whole toolbox and all of

1 that is moving around the Renton site and wing shops, and we're
2 taking teams through that. I personally took the class and I
3 passed even though I haven't touched that type of work in 20
4 years. But and it was really tricky. I mean, there were some
5 hidden secrets and you had to find all the problems. It was
6 really, really good. And so I think that's the most meaningful
7 because it gets people out. You have fun, you know, you test your
8 skills. And then just expectations. The size of our compliance
9 teams have increased. We expect much more daily audits of our
10 areas to make sure they're compliant. So those are a few changes.

11 Q. Okay. How is participation, the Boeing Speak Up System
12 Program? Is the production rate -- or is the participation rate
13 tracked and reported out to leadership? At what level and at what
14 frequency?

15 A. Yeah. I have 202 open today on the 737 Program. And so you
16 know, our -- as each of you know. Our numbers in terms of
17 reporting have increased since the accident. That's good. Lots
18 of people asked me, isn't that bad? No, it's good. And so we
19 continue to trend that. I deep dive the open Speak Ups every
20 week, so that's how I know how many I have. I certainly look at
21 the aging ones. I remind the team every meeting, the intent is
22 not just to close them and to get the number down. It's to
23 effectively understand them and acknowledge where we see pockets
24 of trouble and then take action to those pockets. And so at my
25 level, it's weekly. But at the working level, they're reviewing

1 their smaller subsets of them, you know, at their frequency, which
2 is probably more frequent than weekly.

3 Q. Okay, last one for me for this round. Does Boeing have a
4 policy that allows for the isolation of employees during an
5 investigation while on company premises?

6 A. I'm not aware of a policy that does not. No.

7 MR. JOHNSON: Thank you.

8 DR. WOODS: Okay. With that we have definitely -- we are
9 right at an hour and a half. So I'm going to suggest we go and
10 take a break at this point before we get into our second round.
11 So we are going to go off record at 8:36 Pacific Time.

12 (OFF RECORD, 01:26:35)

13 (ON RECORD, 01:26:39)

14 DR. WOODS: Okay, we are back on the record at 8:45 Pacific
15 Time.

16 BY DR. WOODS:

17 Q. All right, Katy. I would like to ask a couple follow-up
18 questions based on what my colleagues have mentioned. And then
19 I'm going to move it to a different category. But going back. I
20 know we've talked a lot about particularly that removal of BPI.
21 And I wasn't clear. Have you actually had a chance to have eyes
22 on that specific process?

23 A I have, yes.

24 Q. Have you read through it?

25 A. I have.

1 Q. What did you make of it?

2 A. I think I made reference before that, before it was recently
3 changed it was 50-some pages. I don't know precisely the number
4 of pages it is now. I believe it has gone down. I think, and I
5 gave my opinion and I've given my opinion to the process experts.
6 And many would agree for many of our processes. It's too complex.
7 It needs to be simple. It needs to be straightforward and we need
8 to leave no question or doubt or curiosity with the process and
9 many others. And that's part of the improvement plan.

10 Q. So given that. That's just one out of many processes out
11 there. How often does Boeing take time out to review BPIs in
12 general to ensure that it's consistent with its coherence the
13 clarity?

14 A. Yeah. Each one of the BPIs has a timeframe that it gets
15 reviewed. I don't -- I'm not aware of precisely what that is. I
16 believe it is not, you know, months. It is more like a year or
17 more, formal review. But in many cases, informal reviews by the
18 working team are happening down and into the business units, and
19 changes are coming forth to the process expert of that BPI very
20 frequently. And so there's a change board for that and obviously
21 everybody needs to align and decide if the process is going to be
22 changed. So that process is ongoing throughout time.

23 Q. Do you happen to know if the actual user gets to be involved
24 in that process?

25 A. I have been a user, you know, many, many years ago as an

1 independent contributor. And I have been asked my opinion of does
2 this make sense? Is this clear? And so I would like to say that
3 I believe that does happen because I have been asked in the past.
4 It was a quality process where I was the expert form a customer
5 perspective and they called me to make sure that I was align. And
6 so I do think that happens and I'm not sure at what, you know, is
7 it broad enough or is it deep enough. But I believe it does
8 happen.

9 Q. At what point does Boeing's quality management system
10 interface with its voluntary SMS?

11 A. You know, I think they dovetail in many ways. And so you
12 know, I started becoming much more familiar with the SMS program,
13 well, probably within the last three or four years. And it wasn't
14 clear and evident when I joined the company 13 years ago that we
15 had a SMS program. And so obviously we're on a journey. And the
16 journey is years and not months. But you know, in ways that I see
17 the SMS and the QMS complementing (ph.) one another and
18 dovetailing is part of our SRM activity, will identify risks.
19 Whether that's product or process or people or you know, what have
20 you. And in some of those risks, the potential mitigator to the
21 risk or containment to the risk pulls on elements of the QMS. So
22 we talked about an inspection or we talked about a design change
23 or we talked about, you know, a training element. Those sort of
24 rainbow over both of those systems. And so but that's how I see
25 those interplaying.

1 Q. And what about their respective leadership teams? The
2 leadership team for the QMS, the leadership team for the SMS. How
3 often do they interact and have meetings and what sorts of things
4 are discussed?

5 A. Yeah, there's really no leadership team for the QMS. That's,
6 in my mind, that's everybody and every element in their business,
7 you know, following that structure and architecture, and it
8 touches everybody. And so now for the SMS team that help support,
9 for instance, Elizabeth and her quality SRM review board, or they
10 support me and other program leaders. Ultimately they are coaches
11 for us as we learn and become experts ourselves. And that's where
12 I see the integration happening the most. At my weekly review
13 board this week, you know, [REDACTED] (ph.), our leader of the
14 SMS will come and he'll join and he'll observe. He'll help me
15 make recommendations. He'll help us look at things, not
16 differently but perhaps ask these probing questions that make use
17 think more thoughtfully about risks that might be out there. So
18 they're well integrated. Most of the time we see them obviously
19 the most when we engage with our customers on SMS best practices,
20 which we do quite often. We just had a customer here for a week
21 sharing. So we'll see them then, but we're constantly in
22 communication with them.

23 Q. Okay. So SMS has essentially a four-component program. And
24 the components are safety assurance, safety risk management,
25 safety policy, safety promotion. So it's a four-point question

1 but I'm going to go one at a time. Describe how Boeing approaches
2 for instance safety policy under the voluntary SMS program.

3 A. You know, I think that is what we've already described. The
4 architecture of you know, our written governance in terms of how
5 we'll manage risk, how we'll -- sort of the framework is how I'd
6 describe that in terms of policy.

7 Q. And then risk management we've talked quite a bit about.

8 A. Mm-hm.

9 Q. But again, a high level. How does Boeing approach safety
10 risk management?

11 A. Yeah, I think it's making sure that everyone knows that they
12 not only are welcome to report, that they should be reporting and
13 that reporting is good. And that, you know, we're seeing risks in
14 the system whether it be from Speak Up or acknowledging change,
15 you know. We're going to change a process. That's a risk. We're
16 going to change our production system. That's a risk. So this
17 constant sort of metal detector over the business, scanning for
18 what risks might be out there, and communicating that people
19 should be bringing them forward.

20 Q. Okay. And then safety promotion. How does Boeing approach
21 getting this information out and encouraging what Boeing defines
22 as a positive safety culture?

23 A. You know, I think that's everything from the BNN articles to
24 the materials you'll see posted around the factory floor that talk
25 about Speak Up. The communication that I do, the weekly videos.

1 We have opportunity just like the metrics to operationalize what a
2 safety management system feels like and looks like to the average
3 employee. And we've got work to do to go drive that down and in
4 where it makes sense to the employee beyond just I have to wear my
5 belt cap, right? We're very, very good at personal health and
6 safety. But the concept of a safety management system in aviation
7 and elevating risk or hazards and mitigating them and bringing
8 them forward, we've got work to do there to get it past sort of
9 the management ranks.

10 Q. And then lastly, safety assurance, which is essentially how
11 do you ensure all this is working?

12 A. Mm-hm. Well, I think it's through the audits. And maybe
13 that's not necessarily the word, but a constant reviews of the
14 outcomes of some of our SRMs, having the experts participate,
15 calling in a third-party to say hey, look at what we're doing and
16 see what you think. All of which we do. So I think those are the
17 strongest elements of it.

18 Q. So currently, the commercial airplane side is held under a
19 voluntary SMS that's been in place for a few years now. However,
20 the new rule has passed just recently that will move the voluntary
21 Part 5 SMS for Part 21 to a regulatory SMS. How is that
22 transition going and what if any do you foresee are the
23 differences between the two programs?

24 A. Yeah, I'm definitely not an expert in what we would have had
25 to do as voluntary and what we will now be transitioning to is you

1 know, a requirement. I would trust that we built the structure
2 and the architecture when we weren't forced to do it in a way that
3 would have transitioned and built into, you know, we knew that was
4 going to happen over time and we acknowledged that. And so I
5 trust that [REDACTED] and the rest of the team and you know, and the
6 leadership team has built it in a way that it will be somewhat
7 seamless. But I can anticipate we may have more oversight now
8 that it's a requirement, of course.

9 Q. Katy's point of view. What does a positive safety culture
10 look like?

11 A. That every member of the team reports hazards and risks
12 without any fear of any retribution. That we have a healthy and
13 really active reporting system. That we have a just culture,
14 meaning that when a mistake is made or an escapement happens to
15 either process or product that the first question we ask is not
16 the five who's but the five why's. And that we seek every
17 opportunity to fix a underlying issue and not just blame a person
18 for it. So, and just to be a learning culture. That that's what
19 I see as a healthy safety culture.

20 Q. Shifting the question slightly. Put your take of safety
21 culture over the top of what's going on current day. How do those
22 two -- are they similar or are those two perceptions different and
23 if so, how?

24 A. And maybe let me make sure I understand the question. What
25 I've just described as compared to the current environment.

1 Q. Correct.

2 A. Okay. You know, I think like every business I've ever worked
3 in, including the Air Force. There are things to be done and ways
4 to improve and ways to get better. And you know, once again, in
5 such an enormous organization there are certainly pockets of
6 optimal, you know, benchmark level safety culture. And there are
7 areas where we got work to do. And you know, at the roll-up level
8 it's kind of in between. And so you know, I think the Speak Up
9 system coming alive is a good indicator. Not that it was dead,
10 but the numbers tripling and staying consistent of more reporting.
11 I think that's a good indicator. I think in some of our other
12 reporting systems where it's anonymous, I've seen that number of
13 requesting in anonymous has gone down and they're providing their
14 name and saying I want you to get back to me. That's a healthy
15 system that doesn't have fear of retribution. Do we have more
16 work to do? Of course. And so that, that's kind of how I see the
17 Utopia world I describe overlaying the current environment.

18 Q. Shifting a bit to other quest of the FAA administrator.
19 Boeing is to provide essentially a plan, a get well plan. And I
20 know we call it the 90-day plan although it's past that now. So
21 let's just call it that comprehensive plan that was presented.
22 There were several different elements within that, changing the
23 production system in the supply chain. Within that, you
24 identified six KPIs that you wanted to focus on. Can you give us
25 a high-level overview of how those KPIs were developed and

1 finalized? What made Boeing decide, yep, these are the ones?
2 A. Yeah. Yeah, we'll say it was you know obviously we had
3 internal sessions at the leadership team level. Mostly the Vice
4 President and the general managers of the program along with
5 Elizabeth, along with the quality leaders, along with -- it was
6 really sort of everybody on Airplane Programs' leadership team.
7 We knew we needed to establish the metrics. We knew we didn't
8 want it to be 50, right? And we knew we wanted to get down to a
9 number that was around three or four, was kind of the initial
10 thought. We obviously brought in some of our core business
11 metrics and said oh, not really this one. That, that doesn't seem
12 to be the right indicator. And there's never just one. There's
13 always this kind of stack of them in any business. And so that
14 was a series of you know, discussions and iterative sessions to
15 come to kind of a core set. Elizabeth was really the leader of
16 this. But certainly, she sought insight from everyone, at which
17 point she started discussions with the FAA around well what do you
18 think? You've seen us in rate readiness. You, you know, would
19 you like to see something different? And so there was a bit of a
20 back and forth, and I didn't participate in that. But she did
21 share with the rest of the leaders. And in many cases we felt
22 very strongly and totally were aligned with the FAA. And in some
23 cases, they made recommendations that hey, I think this one would
24 be really powerful and really important. And so at the end of all
25 of these sessions and discussions we landed on the final six.

1 Those six aren't new, although there is certain nuances to some of
2 them in the way we've approached and added enhancements to them or
3 twists to the way we measure them. But they are core metrics that
4 we have looked at in the past.

5 Q. Being that they did exist in the past. And we've heard from
6 people that we've talked to here at Boeing and from the people
7 that we've talked to at FAA that there's some recurring themes,
8 right? FOD always seems to be a problem. Too control always
9 seems to be a problem. You know, work coming in from the supplier
10 or nonconformance always seems to be a consistent problem. What
11 assurance do you have now, using the same metrics that you've had
12 before, that this is it, that you've got a good handle on a good
13 fix this time, post-accident?

14 A. Yeah, I think five months into a whole lot of change. You
15 have to acknowledge that the change road in front of you is not
16 short. And that it's an enormous ship to turn, you know that old
17 phraseology. But you know, the power and maybe the deep
18 assessment of the business is far greater than I've ever seen
19 before. And I can just look back at 13 years and there's been
20 much more history behind that. But I would say this is the most
21 comprehensive assessment of the business in assessing it in where
22 we're -- not everything needs to get thrown out, right? This
23 isn't like a wholesale over-change or changeover. But we have
24 identified the areas with the deepest risk where we need to take
25 the swiftest action. And I think this is broader change than I've

1 seen happen in the last 13 years, so I'm inspired by it and
2 motivated by it. Obviously this is also a -- not an ever-changing
3 plan. But you know, something tells me in the next three months,
4 as we understand more and we start to make change that the change
5 will morph a little bit. And you know, the more we talk to our
6 teams the more we'll understand what they want to see. And so
7 while the plan is comprehensive and it isn't frozen either, and it
8 needs to be modified as we start stepping into it and continue
9 down the journey.

10 Q. As you touched on -- very large organization. There appears
11 to be a lot of change to come. There's a lot to wrap kind of your
12 brain, your hands around. Was 90 days enough time to be given to
13 come up with essentially a plan? You were afforded that 90 days
14 by the FAA. Does that feel like it was enough?

15 A. You know, I think if the rules, so to speak, of the 90 days.
16 And I will say, I wasn't the one going over to D.C. to meet with
17 Whitaker. And I -- and you know, and so I have to defer to what I
18 know of, you know, kind of the ground rules. If the rules had
19 been you have 90 days and whatever you tell us from 909 days is
20 the only things you can do and you cannot change the things you
21 put forward, then I would say no. But that's not how it has been
22 advertised. Now we're not going to wildly flip the page and say
23 oh, just kidding. We're going to go do all these other things,
24 right? But back to that comment of we believe this to be the core
25 principles necessary of change, you know. But in six months will

1 that, you know, slightly modify? I think it will. And if those
2 efforts are improved and not degraded, I can't imagine a world
3 where someone says no, you can't change that plan, right, if it
4 means the outcome would make us better. So given that it's not
5 frozen, I think 90 days was sufficient.

6 DR. WOODS: Well, that is it for me for this round. I do
7 always have some concluding questions that I ask after everybody
8 else is gone. But we're going to go on and pass it back off to
9 Pocholo.

10 BY MR. CRUZ: Okay, just a couple more from me.

11 Q Since you basically mentioned you did -- you're very familiar
12 with the removals process. Has your team given you a background
13 of what the removal process was or what the history of the removal
14 process is?

15 A. Yeah. I have, because I have, you know, I've been in the
16 company 13 years and was in the quality organization. So I was
17 close enough to know, you know, that there has been a number of
18 process changes over the years. And like many of our processes,
19 something happened to prompt a change. And frankly, I think
20 that's why our processes get far too complex is because everything
21 that happens, we make a change and a change and a change and then
22 we find ourselves in a really, really complex process. So I'm
23 only familiar that there has been a number of changes, but not
24 specifically what those changes are.

25 Q. Okay. I don't know whether your team has given you a -- for

1 the record, it's basically a Boeing presentation on the history of
2 the removal process.

3 A. Okay.

4 Q. Obviously there's been, since 2013 to about 2024, about I
5 think 10 to 12 different changes to the -- that specific BPI.

6 A. Mm-hm.

7 Q. The BPI, like you said, is about 57 pages long. I don't know
8 whether that's been changed recently. But since I believe spring
9 of last year is when the last revision was. Based off of this
10 information that Boeing provided the NTSB. Obviously those --
11 some of those revisions to the removal has been because of
12 voluntary disclosures of the Boeing company, as said. Some CMPs
13 from the FAA and LOIs, right, was basically what drilled those
14 changes.

15 A. Okay.

16 Q. And are you aware that those changes also involve other
17 product lines besides the 737?

18 A. I would have been aware. I believe the BPI covers all
19 programs. And so in that too, yes, it would touch all programs.

20 Q. Okay, and then specific to that. Do you know it's been an
21 ongoing issue with regards to removal.

22 A. Mm-hm.

23 Q. It's not just on the 737 line as we discussed. It's been 67,
24 777, 87 line. Could you give us a sense of how come Boeing is
25 having issues or why Boeing cannot fix the issues regarding

1 removals on those specific, you know. We talk about different
2 processes, right? There's different process between production
3 lines as well. Can you give us a sense of why Boeing hasn't been
4 able to fix the issues regarding removals?

5 A. I'll give -- certainly not factual. It is my viewpoint.

6 Q. Sure.

7 A. Undocumented maintenance is the biggest lingering problem in
8 our industry, and it's the biggest risk of any operator, of any
9 MRO, of anyone -- of military as well. It is a pervasive problem
10 in our industry. Some have battled it with far more success than
11 others. You know, on the 37, I don't know specifically the
12 number, although I have been told that before on any given month,
13 we document thousands and thousands of removals. And so we know
14 the volume is high and I believe -- and this is once again, not
15 factual, my opinion. When you have to do something many, many,
16 many, many times and you make it complicated and burdensome, you
17 have a conflict in the -- what will actually happen at the working
18 level and that will result in the challenges that you've walked us
19 through. So our call to action is make it easy, make it clear,
20 make it simple, and expect it and hold people accountable to it.
21 And really communicate why it's so important.

22 Q. Mm-hm. Now, you mentioned you have discussions with the FAA.
23 Who do you interact with, with the FAA?

24 A. Yeah. Typically it's the ASIs that are here doing ticketing
25 process. You know, that was really my former role is hear the

1 delivery center really, really deeply. In some of our audits that
2 occur across the program it would be Brian Kilgroe (ph.).

3 Q. Okay.

4 A. It would be the other Brian, and I always forget his last
5 name.

6 MR. CRUZ: Mr. Hagar (ph.)?

7 DR. WOODS: Oh, and Kanopp (ph.)?

8 MS. RINGGOLD: Yeah, it's Kanopp.

9 MR. CRUZ: Oh, Kanopp. Yeah, okay.

10 MS. RINGGOLD: There you go.

11 BY MR. CRUZ:

12 Q. Okay.

13 A. And Kilgroe and I go back maybe 10 years, back to the 87. We
14 worked together when I was in the quality organization. But
15 usually Kanopp and Kilgroe.

16 Q. Okay.

17 A. Yeah.

18 Q. Based off the discussions. We know you guys had stand downs
19 after the accident and basically tried to highlight the issues,
20 the importance of documenting removals. Based off the discussions
21 with the FAA and their ASIs, I believe after -- and they did a lot
22 of special audits since, since the accident. They mentioned that
23 they have found issues regarding removals after your stand downs
24 as well. Are you aware of that?

25 A. Yeah. I was in the special audit investigate out brief for

1 the program. And I know that we had a number of findings to go
2 resolve. I think you -- a stand down is valuable. A stand down
3 is, one, one activity that has to be combined with many, many
4 others to be effective.

5 Q. Sure.

6 A. And so I don't think anyone was maybe -- ever believed that a
7 one day stand down was going to fix the removal process. And so I
8 wasn't surprised that rapidly, the special investigation -- the
9 audit happened really days after the accident and that, you know,
10 they found issues. The change that -- in the journey we're on is
11 far more than a week long, so.

12 Q. Okay. When you were working the 787 line, were you aware of
13 any issues regarding removals while you were there?

14 A. You know, I think going back to my comment about the biggest
15 issue or perhaps the biggest risk in all of aviation is --

16 Q. Yep.

17 A. -- undocumented maintenance.

18 Q. Yep.

19 A. I was. I was a quality manager and a quality senior manager
20 at that time. So in many cases, I had to go develop corrective
21 action and in some cases make sure that it, if appropriate,
22 changes were made in the organization. So yes, I was.

23 Q. When you were there in South Carolina. When you found those
24 changes, was there any communication here to make changes to that
25 BPI or how does that work?

1 A. Absolutely.

2 Q. Okay.

3 A. Yeah. So when a BPI is up for a potential change.

4 Q. Yep.

5 A. Sites that it applies to have their process experts get
6 together. There's discussions. We usually have sort of a process
7 tree that's designed with potential changes, I guess.

8 Q. Okay. So with regards to this particular investigation, like
9 we discussed. There was some unauthorized removals that you --
10 that we found during this issue. If for some reason this thing
11 would happen again, do you have a stop gap process in place to
12 basically say hey. If this happens again, this is what we're
13 going to do or you know, if there's hardware that needs to be
14 installed is there something in the process that you guys have
15 with regards to if this happens again, how do we deal with it?

16 A. In terms of if we identify an unauthorized removal happens.

17 Q. Yeah.

18 A. Yeah. It, you know, Mike alluded to a new sort of visibility
19 for risks around removals. You know, we aren't perfect at this
20 today. And to your point, we have identified areas where it's
21 much more complex. And I'll give examples of when we do a major
22 repair in the factory, like a skin change. There could be 50
23 removals that need to get written.

24 Q. Sure.

25 A. And so as part of the process, we've designed sort of an

1 extension to engineering to help us go plan those removals,
2 instead of having a mechanic dig through all of this, drawing
3 trees. And so in many cases where we're flipping levers to ask
4 for more support across the system instead of just putting that on
5 the backs of the mechanics. So that's one element of it in terms
6 of corrective action. When we know there's going to be extensive
7 removals, let's just default to engineering and we're going that
8 repeatedly. In terms of corrective action. I think every
9 situation is different. My expectation is if one of my leaders
10 knows there has been a removal that was not written or not
11 authorized, they go out to the area. They understand what work
12 was in the area. Because you can usually come to, you know, an
13 understanding of what was happening. In discussion with some of
14 the mechanics they say oh well, I knew that this required a
15 removal and I did write that removal. But there was some, you
16 know, sub-assembly that came with it and I wasn't aware that that
17 piece, even though they were attached, actually needed another
18 piece of paper too. So once again, back to you know, the
19 simplification of it and better understanding of exactly the
20 requirements, what fields need to be documented. So some
21 continued education for sure.

22 MR. CRUZ: Thank you.

23 MS. RINGGOLD: Yep.

24 BY MR. LEVANEN:

25 Q. Yeah. Good point on the removals. I looked at one of our

1 other airplanes that they had to take a mid-exit door plug out for
2 because it had been written up for dents when the plane was about
3 done. And I came up with about 12 cards, 12 documents that were
4 generated as a result of that, most of those removals. So you're
5 right. There is a lot that goes with it. At you level and
6 through the years. Do you get to be involved with the actual
7 SRMs? Like, and currently do you get to sit in on -- in the
8 actual SRMs? Or do you just review what the SRM topics are?

9 A. Mm-hm, good question. Over the last three years is really my
10 exposure to the SRM process. When I was in my former role, now
11 that was also as a vice president. And so I wouldn't get into
12 kind of the working sessions where the bowties were all. But you
13 know, I was kind of brought into like the mid-tier level. And I
14 love detail so I'll find my way in meetings like that, even if
15 they don't want me there, just to listen and learn and see how
16 it's all transpiring. And so I'd say I've been in sort of the
17 development of the SRM and the bowtie and the mitigation actions.
18 But mostly now, I see the report out of what the team is -- has
19 found and concluded and what they suggest. And then phase by
20 phase, I'll be a voting, you know, obviously the chair board for
21 that activity.

22 Q. Mm-hm. When you're reviewing do you find they have questions
23 and then you send them back and maybe even some challenges
24 sometime of what their outcome is?

25 A. Absolutely. Now there's certainly been cases where someone

1 else has done that before me and they've done a very good job of
2 pressure testing it, so to speak, and asking that probing
3 question. And but, you know, probably half the time, as it's
4 presented to the whole leadership team, not just me. You know,
5 chief engineer and director of engineering, director of quality
6 collectively will have questions and will say you're not ready to
7 move onto the next phase. Let's go explore this. So there are
8 some send backs.

9 Q. Okay. And then I was going to ask what level do you get
10 involved with the ADs that come out on the 737?

11 A. Yeah. Obviously awareness through the Fleet Chief is the
12 number one activity. I would say at the delivery center in the
13 former role, I was a bit more active in that just because it
14 affects our day-to-day business and if I'm with the customers or
15 was here all the time. But usually that comes in through our
16 Fleet Chief office and then they'll engage with me and we'll talk
17 about it as a program. What is the issue? When's the AD going to
18 come out? What do we know about it? Things like that.

19 Q. Just as an example. We had an AD, recent AD or we have a
20 current recent AD about oxygen generators. And I was going to ask
21 if you were aware of that one and knew about it?

22 A. I am. I've been out on the airplane and watched many people
23 moving the orange pad around inside of the PSU. So I know a lot
24 about it.

25 MR. LEVANEN: All right, perfect. Thank you.

1 MS. RINGGOLD: Mm-hm, thank you.

2 DR. WOODS: John?

3 BY MR. PETRUZZELLI:

4 Q. You talked about just culture. And Nils asked a question
5 about is there a process for people to be taken off their work,
6 put aside. There are two individuals that have been what we
7 affectionately refer to in the penalty box for approximately four
8 months. We see no evidence for that, these two guys were the
9 ones. Is this being reviewed to be corrected? Because the damage
10 to those two men has been really bad. HIS (ph.), we did a site
11 committee tour a couple months ago, down the road. And I had the
12 pleasure of meeting one of his dad and the subject came up. And
13 to watch a grown man in tears because his son's there really
14 affected me. And --

15 A. Yeah. I'll say that I was not part of the decision to remove
16 the two individuals from their roles. I am aware that it
17 happened. It happened just as I was coming into the role.
18 Although I'm not aware of an HR policy that supports it. I
19 suspect there may be one, you know. I don't know every rule in
20 the HR handbook. And so if it's being reviewed, it is not being
21 reviewed at my level. Because ultimately, I didn't hold authority
22 to make the decision. So I also don't hold authority to undo it.
23 But I do know that it is very sensitive and that there are two
24 precious people impacted by it and my heart goes out to them and
25 his father. But I am not reviewing it periodically to change it.

1 Q. Let me ask this then. Can you ask the appropriate people
2 about that?

3 A. Yes.

4 Q. Thank you. That's all I have. No, I did have one more
5 question. What did you take from here over to your new role? And
6 I heard this second hand I think through one of our first levels.
7 I don't know. It was kind of (indiscernible), so I'll just ask
8 you. What did you take from here over to there to help us over
9 here in the big picture of the airplanes?

10 A. The focus on quality has to be where we spend all of our
11 time. And you know this -- the work that you said is being done
12 out here is the nature of the inspections you're doing at the
13 delivery center to prepare the airplanes for ticket. So the level
14 of scrutiny goes up the further you go in the production system.
15 Because the closer you are to the, you know, the end of the
16 moments, right? And really, a healthy system takes that level of
17 scrutiny and pushes it back. Because then, the days at the
18 delivery century are just frankly a celebration with the customer.
19 And they see a perfect airplane and they get to go take it and put
20 it in service. And so it is really -- what I have taken from here
21 is the eyes of the customer and the eyes of the delivery center
22 employees. And I have taken it back into the factory. Now, we
23 got work to do.

24 Q. Sure.

25 A. Foreman's saying it's not there. But that. That's what I

1 took away from my last 10 years at delivery center.

2 Q. Delivery Center. Any early successes that you would want to
3 share?

4 A. You know, I think the trust of the team is maybe the success
5 is just walking around the factory floor and engaging with the
6 team. In the first few weeks, I got a lot of eye rolls. Oh,
7 great. We got a new leader. Here we go again. And a lot of
8 comments like oh, we see a lot of you now, but that won't last.
9 And so I spend about 30 percent of my day out on the floor and
10 make sure I walk wings and final assembly every day. And I've
11 gotten comments like well, I guess you're not going anywhere.
12 Hey, come over here. I got a problem.

13 Q. Good.

14 A. It's like, okay.

15 Q. That's good to hear.

16 A. So that's the success that I see.

17 Q. That's good to hear.

18 A. Sure.

19 MR. PETRUZZELLI: That's it for me.

20 BY MR. JOHNSON:

21 Q. Just one thing, to follow up on Pocholo's , you know what.
22 Because he put it -- the stop gaps put in place since the
23 accident. And you kind of talked in generalities. Could you be a
24 little more specific to the MED plug, you know.

25 A. Sure.

1 Q. What if we didn't have removals for the bolts again, you
2 know.

3 A. Mm-hm.

4 Q. What's been put in place to keep another MED or is there any
5 other critical components or systems that we've reviewed and you
6 put stop gaps in place around those?

7 A. Yeah, sure. I mean really specific, down to the mid-exit
8 door plug. You know, visual placards both at Spirit and when the
9 fuselage arrives get affixed to the structure as do not disturb.
10 Do not open. Contact quality, right? And so good stark visual
11 in-your-face, right, on the inside of the airplane. And then even
12 once fully built, down line, Flow Day 6, another placard gets
13 affixed on the side wall to make sure that that's not disturbed.
14 Now that's very tactical. Ultimately I think each of you know, we
15 have a design change that Will (ph.) is working through the
16 process for the mid-exit door plug. And so that comes back to
17 inspecting and quality is a great stop gap and in some cases
18 necessary. But designing and building and mistake-proofing is the
19 way to go, especially in our industry. And so that, that's the
20 mid-exit door plug. Engineering has also done a full assessment
21 of what we'll call design critical. And this isn't the first time
22 we've ever done it. But really taking a look at -- no one ever
23 dreamed that not putting in a few bolts would result in this. No
24 one could have ever, ever said oh, let's run an SRM on that
25 because that might happen, right? And so it's only after the fact

1 that you start reflecting on things like that. And so,
2 engineering's done a full design critical build review mostly
3 around pressurization, mostly around five flight controls. You
4 know, obviously passenger doors, mid-exit doors, plugs. And we've
5 instituted additional inspections during key processes, during the
6 factory flow and even as far out in to the delivery center and
7 preflight. So those are some additional controls we've put in
8 place. And all elements of those were also just like the plug,
9 going back to say is there an enhancement to any of our designs
10 that we should be considering, that is an employee chooses to not
11 make a removal, that the design would account for that, or a
12 documentation that the design feature would account for that. And
13 in all cases that may not be possible.

14 Q. Mm-hm.

15 A. But those are some activities.

16 MR. JOHNSON: Okay, that's it. Thank you very much.

17 MS. RINGGOLD: All right, yep. Thank you.

18 DR. WOODS: Mike?

19 BY MR. RINEY:

20 Q. So my final question is, what intentional things has Boeing
21 done since you've been in your role, in the factory, to prevent
22 the risks around travel work and rolling out of the factory?

23 A. Yeah. I think the effort that we have underway, which is
24 move ready criteria. You know, I said it to my leaders yesterday.
25 There is not a world where there is zero travel work. It --

1 frankly, it doesn't exist. And I know that's utopia. And just
2 like our safety policy, we're going to go for zero and we're going
3 to methodically try our best to get there and work like dogs. It
4 really is about managing traveled work, restricting traveled work,
5 applying a lens of safety to when we do -- we must travel work.
6 And then at a volumetric level, knowing that we will -- if you
7 looked in the factory today, we stopped both lines last night and
8 we didn't move anything. Because we had a couple airplanes with
9 some power on challenges. And so we elected to just stop
10 everything and get ourselves healthier. I don't know that that
11 decision would have been made six months ago or seven months ago.
12 I wasn't making those decisions then but perhaps it would have
13 been. But those are the types of things that I see more about
14 being bolder, making sure that we're recognizing that accumulation
15 of work will just drive the schedule pressure that we want to
16 avoid for our teams, so. But we also want to build airplanes
17 because we need to for our customers and meet those commitments.
18 And so move ready criteria, making it visible. I think before it
19 was sort of this mystery of when we should or shouldn't move the
20 line. And so creating these banners at critical work stations
21 that say hey, this al has to be done and then you get to move the
22 line makes it really clear and makes the teammates get involved as
23 well. And we're not fully through that. We really started at
24 Flow Day 3 to 4. We've done 4 to 5 and 5 to 6. And so we're just
25 kind of in the middle the factory making sur that we understand

1 how this is going to work. But it's proving to be valuable. At
2 the teammate level we still have work to do to convince them
3 because they're still a little suspicious that -- even though we
4 do stop the line all the time that you know, it's not just go, go,
5 go, right? So we got some more work to do from accounts
6 perspective.

7 MR. RINEY: That's all I got.

8 DR. WOODS: Thanks, Mike. Dan?

9 BY MR. MARCOTTE:

10 Q. Last one for me. And you've kind of hinted around on this,
11 so I'll ask you directly. How receptive is Boeing leadership to
12 suggestions from mechanics or leads about how to fix things?

13 A. I can only say from my perspective and maybe what I've
14 observed. When I hear or see a mechanic go to their manager or
15 their senior manager, it's generally met with a okay, well tell me
16 more. Tell me. They're really quick to tell you everything
17 that's wrong. And then I like to say, okay. Well, you have my
18 job tomorrow. How would you fix it? Oh, I don't know, you know.
19 And some of them know exactly. But many of them are like well, I
20 don't know. That's your job, right? And so I think it depends on
21 the context of the problem, you know. Some of the things we're
22 getting were simple problems to fix. So it makes you wonder why
23 it's even out there and we didn't do something faster before. But
24 you know, I think we're listening longer and deeper than we ever
25 had -- have.

1 MR. JOHNSON: Thank you.

2 DR. WOODS: Okay. With that, I want to ensure there's no
3 follow-up questions before? Okay.

4 BY DR. WOODS:

5 Q. So you had a little bit of time, and we do appreciate the
6 time.

7 A. Mm-hm.

8 Q. We know that we've carved out of your schedule and that you
9 are very busy. But you've had a little time to know that we
10 wanted to talk to you. What is the one thing you want to leave us
11 with? Give me like a minute, two-minute long elevator pitch as to
12 what you want this working group to know and to take away from
13 here?

14 A. Yeah. I'll speak on behalf of the 737 Program. And you
15 know, and I said it before. But our priorities are to execute the
16 comprehensive safety and quality plan, and to not just take the
17 plan and go march out with it. That if as we go to an enact
18 change that if something makes more sense than maybe we thought
19 about four months ago, that you know, our role as leader, my role
20 as the leader and my role as an element of the plan is to go raise
21 my hand and say I think this makes more sense. So that's the
22 first priority of the program, ensuring that I am expecting a
23 people-focused production system. And a lot of people ask what
24 does that mean? We have a very complex business. But at the
25 heart of all of our choices and all of our change, it's the

1 employee in the middle. And it's not just the mechanic and
2 inspector, but definitely that the engineer and the HR
3 representative and the leader. And so is what we're doing as we
4 turn the click, click, click around this whole complex system.
5 Does it make sense for everyone that it's going to involve, and
6 going out and listening and making sure that they know that change
7 is coming. Change fatigue is a really big thing. And so I do
8 worry about the changes that we're making compounded, will they be
9 the right thing for the heart that's in the middle of the system.
10 The third priority is waging a relentless war against defects.
11 And I've encouraged every person that works for me. If you're not
12 spending -- leader at least. If you're not spending at least 50
13 percent of your time on quality, you aren't meeting my
14 expectations. And so that's product quality and working any
15 issues back that we've identified. And then really just expecting
16 my leaders to love their people. Care for them fiercely and that
17 every problem your team has is your problem, not theirs. And
18 that's the way I expect this program to operate. And so maybe
19 that's what I'll leave you with is just the core priorities of the
20 program. As I've said, I am inspired and hopeful from seeing the
21 change that I have seen in just the last, you know, five months of
22 the development of the plan. How we'll go drive the plan down and
23 into the business units. And so it's not necessary for me to be
24 hopeful. But it's most necessary for the hope to be at the
25 working level. And that's our next steps is to make sure that

1 they feel the same as I feel.

2 DR. WOODS: That's it. Thank you.

3 MS. RINGGOLD: Yep.

4 DR. WOODS: So with that, again, last chance? Again, thank
5 you very much for your time.

6 MS. RINGGOLD: Yeah, of course. With that, we are going to
7 go off record at 9:30 Pacific Time.

8 (Whereupon, at 9:30 a.m., the interview was concluded.)

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ALASKA AIRLINES BOEING 737-9 MAX
 IN-FLIGHT STRUCTURE FAILURE
 NEAR PORTLAND, OREGON
 ON JANUARY 5, 2024
 Interview of Katy Ringgold

ACCIDENT NO.: DCA24MA063

PLACE: Renton, Washington

DATE: July 10, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

Suzanne Ventura
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*

*

ALASKA AIRLINES BOEING 737-9

*

MAX IN-FLIGHT STRUCTURE

*

Accident No.: DCA24MA063

FAILURE NEAR PORTLAND, OREGON

*

ON JANUARY 5, 2024

*

*

* * * * *

Interview of: SCOTT STOCKER

Vice President and General Manager

Boeing

Charleston, South Carolina

Tuesday,

July 16, 2024

APPEARANCES:

SABRINA WOODS, Human Performance Investigator
National Transportation Safety Board

POCHOLO CRUZ, Aerospace Engineer Investigator
National Transportation Safety Board

NILS JOHNSON, Maintenance Investigator
National Transportation Safety Board

ERIC EAST, Safety Investigator
Boeing

JOHN PETRUZZELLI, Quality Team Lead
International Association of Machinists (IAM) Union

PHILIP BRIDWELL, ESQ.
(On behalf of Scott Stocker)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Scott Stocker:		
By Dr. Woods		
Error! Bookmark not defined.		
By Mr. Cruz		29
By Mr. Johnson		39
By Mr. Petruzzelli		47
By Mr. East		55

I N T E R V I E W

(7:23 a.m.)

DR. WOODS: Good morning. It's July 16th, 2024 and the time is 7:23 Eastern. My name is Dr. Sabrina Woods and I'm a human performance investigator with the National Transportation Safety Board. I am one of the investigators along here with Pocholo Cruz to my right, co-leading the manufacturing and human performance working group for accident investigation number DCA24MA063 involving Alaska Airlines Flight 1282.

The NTSB is an independent federal agency charged with determining probable cause of transportation accidents and significant incidents, and for promoting transportation safety. The NTSB is not a part of the Department of Transportation nor are we a part of the FAA. We have no regulatory or enforcement powers.

However we are a small organization and so what you see here in the room is parties to the investigation that help us with the investigation and help to inform the process. So you have a better understanding with who it is you're talking to I'm going to have the people in the room introduce themselves to you starting with Pocholo.

MR. CRUZ: Scott, I'm Pocholo Cruz. As Sabrina says, I'm the co-chair for this particular group. I'm an Aerospace engineer with a maintenance background.

MR. JOHNSON: Nils Johnson with NTSB. Aviation accident

1 investigator and my specialty is maintenance.

2 MR. PETRUZZELLI: I'm John Petruzzelli. I am with the
3 International Association of Machinists Union. I am a quality
4 inspector Boeing field and FA coordinator is my day job.

5 MR. EAST: And good morning, my name is Eric East. I'm an
6 air safety investigator for Boeing commercial airplanes in the
7 Seattle Washington area.

8 MS. WOODS: And just so you know Scott, we are missing
9 several parties to the investigation that are typically in the
10 room at this time. We are currently missing the FAA who is always
11 party to an investigation. We are missing the ALPA party member
12 and a party member from Alaska Air Group representing their
13 maintenance department.

14 Today we will be using a digital recorder. After the
15 interview we will send that recoding out for transcription to an
16 independent company that transcribes and certifies that copy. The
17 copy of the transcript will go forward and will be a matter of
18 public record in the docket for this case.

19 We are here for you to share your inside experiences and
20 Boeing's processes with the goal of preventing future incidents.
21 Each of these group members will have a chance to ask questions.
22 We will ask the questions one at a time.

23 Each person will go one at a time and then there will be an
24 opportunity for each member to ask follow up questions after that
25 first round. Please answer all the questions to the best of your

1 recollection or your ability.

2 If you don't understand a question or if it is not within
3 your purview for what you do for your job, just say so and if at
4 any time you realize you misstated something or want to go back
5 and reiterate something, please feel free to do so.

6 While will be respectful of going one at a time, you can
7 certainly move back and forth amongst the people to get the
8 question answered. You are entitled to have one representative of
9 your choosing. I see you have counsel sitting here next to you.
10 I want to make sure and for the record that this person is the
11 person that you have chosen to be your representative?

12 MR. STOCKER: Yes, it is.

13 DR. WOODS: Okay. With that, thank you counsel. Thank you
14 for being here. Please just recognize that this is an interview
15 not a deposition so please refrain from answering on behalf of
16 your client or objecting to any part of the interview.

17 With that being said, if at any time you guys would like to
18 take a break, just let us know for any reason and we will go off
19 recording. And then once you're ready to resume we will go back
20 on recording. So with that counsel, if you would please for the
21 record, state your full name and spell your last?

22 MR. BRIDWELL: Sure. I'm Philip Bridwell, B-r-i-d-w-e-l-l.

23 DR. WOODS: All right, thank you for that. So with that,
24 that is how everything is going to proceed. Scott at this time,
25 do you have any questions?

1 MR. STOCKER: No, I don't.

2 DR. WOODS: Is it okay to call you Scott?

3 MR. STOCKER: Yes.

4 DR. WOODS: Okay. All right, I should have made sure
5 beforehand. Sorry about that. Thank you.

6 INTERVIEW OF SCOTT STOCKER

7 Q. All right. Then if everybody's ready, if you would please
8 for the record, state your full name and spell your last?

9 A. My name is Scott Stocker, S-t-o-c-k-e-r.

10 Q. Okay, and I recognize that you have recently changed
11 positions. So that we have a better understanding of the
12 difference between before, kind of the timeline for when the
13 accident fuselage was going through the Renton facility and what
14 you do now. First for the record, what is your current duty
15 title?

16 A. My current duty title is the vice president and general
17 manager of the 787 program and Boeing South Carolina site leader.

18 Q. And when did you take that position?

19 A. January 1st, 2024.

20 Q. Okay, so prior to that position what was your duty title?

21 A. My duty title was the manufacturing vice president for BCA,
22 Boeing Commercial Airplanes.

23 Q. And how long did you hold that position?

24 A. About two years.

25 Q. Okay, so to confirm for the record, you held that position at

1 the time that the accident fuselage was moving through the Renton
2 facility?

3 A. Yes.

4 BY DR. WOODS: Okay, so most of the questions we are going to
5 have are going to be based off that timeline. I recognize that
6 you're not in that position currently but because you were the
7 previous person that was in that position, we just want to ask a
8 couple questions for the processes that you understand that were
9 in place at that time.

10 Q. So for that previous position, what were the
11 responsibilities? What was assigned to that role? What were you
12 responsible to do?

13 A. Well, as the VP of manufacturing, I coordinated across the
14 programs and fabrication division for Boeing commercial airplanes.
15 I was responsible for maintaining policies and procedures that
16 were related to manufacturing, was involved with hiring and
17 staffing of the workforce -- the manufacturing workforce for BCA,
18 and coordinated different processes across the different factories
19 be it 737, 767, 777, 787.

20 I chaired the manufacturing skill team which is our meeting
21 and our set of meetings that coordinate talent and people moves.
22 You know, be it personnel moves for manufacturing leadership, and
23 I also was in charge of various initiatives related to
24 environmental health and safety.

25 That department reported to me in that position. So the

1 workplace safety initiatives that you may be aware of within
2 Boeing and our lean manufacturing group as well within that group.
3 As well as our training department, our foundational training
4 department. That department was part of my organization in that
5 position.

6 Q. Okay. So that was a high-level overview. What is a day in
7 the life at the tactical level? What was that like? Give us a
8 description.

9 A. Sure. The day in the life was you know, generally being
10 involved with one or more of the programs through their tier
11 meeting status which is our production startup meetings if you
12 will. Those are the meetings that you know, various issues get
13 raised throughout the day and get coordinated throughout the day
14 across the program.

15 Sometimes I would be in the 737 delivery meeting. Sometimes
16 I would be with the 787 you know, production team in the morning.
17 You know, and then I would also on a daily basis be doing either a
18 factory walk, gimble walk, to go see various parts of one of our
19 factories across BCA.

20 About one week a month I spent down here in Charleston South
21 Carolina with the 787 team. The other weeks were primarily based
22 in the Puget Sound in the Seattle area working with those
23 programs. Also spent quite a bit of time as you can imagine with
24 some of the people you know, movement and what I described as the
25 skill team.

1 Be it from our you know, hourly workforce and who was being
2 deployed on what programs, and what staffing needs they may need.
3 We got hiring and recruiting of new employees that were being
4 brought in to the company and also spent quite a lot of time with
5 our safety group looking at different safety issues that had
6 popped up in our factories and different projects related to
7 helping to mitigate any sort of workplace safety hazards that may
8 have been identified in the factories.

9 Q. You speak of the skill team to me as though they're separate
10 from maybe the typical technician that's on the floor. Is that
11 accurate?

12 A. Can you explain the question a little bit?

13 Q. What is the skill team?

14 A. The skill team is a process that we run that looks at our
15 staffing levels. Staffing of the factories including the hourly
16 workforce and the management workforce.

17 Q. So are those people responsible for developing what your
18 manpower standard will be?

19 A. No, the skill team is responsible for responding to the needs
20 of the programs such as the 737, 777, 787, to fulfill the
21 requirements of the staffing needs on those programs.

22 Q. How do they know? What informs that process?

23 A. The programs have staffing focals. Each of the programs have
24 either one or more staffing focals that provide an input to the
25 skill team. Let's say for the manufacturing technicians or the

1 mechanics, that is largely informed by our manufacturing teams on
2 those programs and our industrial engineering teams that work on
3 those programs as well.

4 Q. Can you tell us how the staffing has fluctuated over the last
5 10 years in increments of 10 years ago, five years ago, one year
6 ago?

7 A. I don't have the data for 10 years ago. We can follow up on
8 that if you'd like.

9 Q. Okay.

10 A. Going back let's say five years ago, again I don't have the
11 number off the top of my head but we were at a higher head count
12 than we were let's say three years ago. The number did drop and
13 you know, during the COVID pandemic and some of the other you
14 know, production issues that we saw over the last five years, and
15 then the numbers started to increase again a couple years ago.

16 Q. And where typically -- was the skill team responsible for
17 finding the people?

18 A. Yes.

19 Q. Where typically are the people being brought in from? How
20 has that changed over the last five years?

21 A. Again, I don't have the data to answer that question. The
22 people at least in the Puget Sound in the Seattle Region are
23 largely found locally although there's different skill types that
24 are found more let's call it across the nation.

25 You know, like our AMP mechanics that are typically staffing

1 the flight lines, those were recruited from all over the country.
2 You know, we did quite a bit of recruiting as well in the military
3 bases across the country as well. But you know, largely I would
4 say that the majority are found in the local area.

5 Q. How might the demographic have changed over the last five
6 years? And by demographic I mean prior existing skills, prior
7 experience in aerospace, longevity with the company, that sort of
8 thing.

9 A. The only one I can speak to with any probably real science is
10 longevity with the company. I don't have the data on the
11 demographic on you know, prior level of skill and it's a very big
12 number so it would be hard to speculate on that. But certainly
13 with longevity with the company, our years of service in terms of
14 time in position as a manufacturing technician or a mechanic has
15 reduced.

16 Q. Has there been to your knowledge any impact on the quality
17 control as a result of that decrease in time in service?

18 A. Not to my knowledge.

19 Q. What sort of quality based products feed back into your
20 hiring system to help inform who you should be selecting?

21 A. Can you explain products? When you say quality based
22 products, what does that mean?

23 Q. So there -- you have a QMS system here at Boeing and under
24 that QMS system, many different products are generated. They
25 could be data analytics as to non-conformances or being input

1 coming from the customer. Things of that nature. There's all
2 this information that feeds into your QMS and I'm wondering how
3 that information that feeds into how well we're producing a
4 quality product feeds back to the hiring group who's going out and
5 sourcing the people you need --

6 A. Yeah.

7 Q. -- to build these aircraft.

8 A. No, thank you. That's helpful.

9 Q. Yeah.

10 A. Yeah, we actually did have a data analytics group within the
11 manufacturing organization that supported our training and hiring
12 team. That data analytics group worked very closely with our
13 workplace coaches which are typically prior mechanics that are in
14 an oversight and coaching type of roll out in our factories.

15 And they have evaluated whether or not our new employees are
16 making more defects than our experienced employees. That data was
17 run on several different levels. It's housed in different
18 databases and Tablo sort of ports that try to drill down to the
19 individual level or understand if the new employees are creating
20 more defects than some of our seasoned employees based on job type
21 and things of that nature.

22 And that data was then fed back into the hiring group and the
23 training group to try to close the loop on what sort of quality
24 performance is being seen in the factory and ways that you know,
25 we should be handling that when it comes to you know, our

1 foundational training, curriculum development, hands-on training,
2 additional places where the workplace coaches may be able to you
3 know, get involved with one of the new employees.

4 Q. And pardon if you're repeating but were you involved with
5 training programs as well?

6 A. Yes.

7 Q. So pivoting to that just a little bit. To your knowledge,
8 have those training programs changed at all in the last five years
9 given that you're longevity with the company has changed over the
10 last five years?

11 A. Yes, they have. You know, the training programs have changed
12 sort of throughout the years. Different curriculum has been
13 developed, deployed. You know, we've recently just added a number
14 of courses and a number of hours as part of the comprehensive
15 safety and quality plan that we're working with the FAA.

16 You know, some of those courses included additional time and
17 curriculum around how to use and access our systems and how to
18 access our drawings and different hands-on types of techniques in
19 training as well.

20 Q. Who determines what goes into that training and what's
21 needed?

22 A. It's a combination of you know, our training department with
23 feedback from the manufacturing leaders, the quality leaders, and
24 our HR team as well. We have a learning and development
25 organization within HR that is involved in curriculum development

1 and standards for foundational training.

2 Q. Does that -- does any of the training programs, do they ever
3 go through an audit system?

4 A. Not that I'm aware of.

5 Q. What about feedback?

6 A. Can you explain more about what type of feedback?

7 Q. How is it that you know that the training program is
8 producing the desired results?

9 A. We get a lot of feedback you know, through the training
10 organization into the training organization from the manufacturing
11 and quality folks that are in the programs and out in the
12 factories. That's one mechanism.

13 You know, we do look at the quality data as you mentioned in
14 the analytics. That's another mechanism and then we've got a
15 whole you know, sort of system for quality level reviews that is
16 part of our QMS that look at our compliance, our certifications,
17 and you know, the maintenance of those certifications for each of
18 our mechanics and inspectors and the quality performance in the
19 factories.

20 Q. What about feedback from the technicians themselves?

21 A. We do get feedback from the technicians themselves.

22 Q. What form does that come in?

23 A. Surveys. There's surveys that are administered to the
24 employees that go through training and various meetings with those
25 employees from our training leaders where our training leaders

1 will go seek out employees that have gone through training and get
2 their feedback.

3 Q. What is your typical response -- returned response rate for
4 those surveys?

5 A. I don't know.

6 Q. Going back to again previous roles interfaced with the QMS,
7 what are some of the products out of the quality control system
8 that your team would look at on a routine basis?

9 A. By products you mean reports and data again?

10 Q. Yes.

11 A. Yeah, there's several sort of tiers of quality data starting
12 at the tier one level I'll call it which are the factory stand-up
13 meetings where the first line manager will review the quality data
14 with his or her team. Typically on a daily or weekly basis
15 depending on the different area of the factory.

16 There's a regime around compliance as well where let's call
17 it our checks for some of our processes that we follow in the
18 factory which is tool control, FOD control, segregated materials
19 and things, hazardous materials that have to live within a certain
20 time-based shelf life are checked. That is reviewed daily at the
21 tier meetings as well.

22 The tier meetings follow the hierarchy of a tier one which is
23 typically a manager with his or her direct team. Then that
24 manager will go to a tier two meeting. That is you know, the
25 first line manager with maybe a senior manager and the surrounding

1 support group for that area. Those data are also reviewed there.

2 Then we have a QLR which is a quality leadership review.

3 That is typically run on a program either once a month at the
4 program level and in many cases weekly at the senior management
5 and management level. There's also what we call PCABs which are
6 production and corrective action boards that are run in the
7 different areas across the factory. Those look at specific defect
8 types that are created in a certain position or area of the
9 factory.

10 So there's a whole host of different you know, quality
11 products as you called them that are reviewed by many different
12 folks within the organization and manufacturing quality
13 engineering et cetera to try to work and put corrective action in
14 place where we do find defects or escapes in our factory.

15 Q. What confidence did you have that the information that you
16 were receiving was the information that you needed to receive?

17 A. I feel fairly confident that that was the information that
18 was needed to be received. You know, as I described there's a
19 whole regime around compliance and you know what you may have
20 heard called the QMR, quality management review, and the QLR, the
21 quality leadership review, which is more defect database.

22 Q. To revise the question, what level of confidence did you have
23 that the information isn't being filtered?

24 A. I have pretty good confidence. A lot of these reports are
25 live reports that can be drilled down upon. You know, as you can

1 imagine with any data there is you know, a nuance that is involved
2 and understanding that is involved but you know, with those
3 reports I also get raw data in the form of emails and direct
4 reports which show the exact type of defects and they show you
5 know, specific defects in areas.

6 And through that and the tier meeting structure which is
7 again, largely what's called a bottom's up approach where the
8 teams are able to talk about the issues in their areas, I have
9 good confidence that a lot of those issues are being raised and
10 being worked when we know about them.

11 Q. You mentioned escapes previously, how does Boeing describe
12 what an escape is?

13 A. I would call it a defect that has left our quality management
14 system or production system such as a defect that is found by one
15 of our customers on an aircraft in a fleet or at the time of
16 ticketing. As you probably know, the FAA retains the ticketing
17 delegation on the 737 and the 787 program.

18 So when an air worthy and safety walk happens for ticketing
19 the aircraft, if something is found we refer to that as an escape.
20 If a customer files an in-service investigation to tell us about
21 something that has been found in the fleet that could have been
22 caused by a manufacturing process in one of our factories, we
23 would also refer to that as an escape.

24 Q. In your prior position were non-conformances or defects that
25 were found from the supplier, from Spirit Aerosystems for

1 instance, are those categorized under the same title as an escape
2 or are they something different that you look at?

3 A. Well I categorize it in two different ways. There's a notice
4 of escape which is a Boeing term -- a common Boeing term. NOE is
5 the acronym where a supplier will notify us that they have been
6 building something incorrectly or they have an issue that they've
7 uncovered in one of their processes in let's say their
8 manufacturing of a certain component.

9 That will get issued to Boeing and go through a technical
10 review process. That's a notice of escape. There's also defects
11 that we find that may have been caused by a supplier based on one
12 of their manufacturing processes in their factories on a part or
13 component.

14 That's not necessarily called an escape as often because of
15 the nomenclature that's already built around the notice of escape
16 but it is a defect that's found and it's treated like an escape
17 from a supplier if that makes sense.

18 Q. Does Boeing track that differently? Are those different
19 reports or are they combined with what is produced in any one of
20 the direct Boeing asset facilities for the quality control reports
21 that come out?

22 A. They type of defect you mean? Whether it's a supplier defect
23 or a --

24 Q. Correct, yes.

25 A. -- an internal defect?

1 Q. Yeah.

2 A. It is separated out in our systems. We have the ability to
3 separate out the type of defect based on the way that we would
4 like to look at the data.

5 Q. Are different people looking at those things, or is the same
6 people looking at both products, or any combination thereof?

7 A. There's a combination. Yeah, that's what I'm trying to --
8 I'm trying to think about how to answer that question. It's a
9 combination. In some forums it's the same people that are looking
10 at the internally caused defects and the supplier generated
11 defects.

12 And then we have a supply chain quality organization,
13 supplier quality, and a supply chain organization that will focus
14 more on the supplier generated defects than the Boeing
15 manufacturing defects. However, the -- in many cases, there's the
16 same team looking at internally caused defects and supplier caused
17 defects.

18 Q. We established that your former group was responsible overall
19 for the training for let's say Boeing technicians at the Boeing
20 facilities, but who's responsible for the training of supplier
21 technicians who are working on Boeing products?

22 A. I don't know. I'd have to follow up on that.

23 Q. Okay.

24 A. It's not the Boeing foundational training group.

25 Q. It is not?

1 A. No.

2 Q. Okay. There are some -- obviously FAA ASI has come in and
3 they'll do their routine inspections. They have also done some
4 extra audits of different systems. We have an aggregate of what
5 they have found but it seems like there has been a long standing
6 findings of things like FOD in the workplace, tool control, and an
7 issue with removals. At what level would your team get involved
8 with those findings and the mitigations that come after the fact?

9 A. My team is the manufacturing group so maybe just to describe
10 as the centralized group, we had a small group that was focused on
11 FOD and tool control within that organization. Each of the
12 programs had their own compliance groups reporting either into
13 manufacturing or quality on the programs. Our team would support
14 and help with standards development for those compliance groups
15 that were working on the programs.

16 Q. So then again, going back to that question. There has been
17 it seems a long-standing recurrence of findings for especially
18 those three different departments. FOD, tool control, and the
19 removal process. What was being done to fix the issue for all
20 intents and purposes?

21 A. Yeah, there's been a lot of work done on FOD and tool control
22 over the years, and then the removal process as well. I can talk
23 a little bit about you know, SRM that was run on the BPI, BPI-1581
24 which is our removal process and there was a number of actions
25 that came out of that working session on things that we would like

1 to go fix within that process.

2 Many of those are now underway within our 90-day plan to
3 safety -- you know, comprehensive safety and quality plan that
4 we've presented to the FAA. Around FOD there's been you know, a
5 lot of activity on defining FOD areas, FOD critical areas, FOD
6 awareness areas so that we can you know, have the different levels
7 of controls in those areas and have those standardized. That's
8 been worked on for several years now to really try to get more
9 structure around our FOD program and our tool control processes as
10 well.

11 We've deployed different things like kitting in our factories
12 where we maintain an inventory sheet for each of the tool kits and
13 have those checked multiple times a day by our manufacturing
14 technicians and our fulfillment groups to maintain tool control.
15 A lot of those standards and processes in those areas that I just
16 described are maintained and developed and coordinated through my
17 old manufacturing organization.

18 Q. Is assurance tracking also through your old organization? In
19 other words, how do you know those things that you've put in place
20 are working?

21 A. There are audits that are done out of that organization that
22 look at the different processes that I just described and you
23 know, we also have our compliance teams that we have on every
24 program. So that data is rolled up through our QMR that I
25 described before to look at the different performance and tracking

1 of those processes.

2 Q. Do BPIs, moving to those in general, do they go through any
3 sort of review process to ensure comprehension and clarity?

4 A. They do, yes.

5 Q. What does that look like? I guess on what increments does
6 that happen? Intervals, not increments, sorry.

7 A. I'm not sure the exact increment.

8 Q. Okay.

9 A. I know when there's a change there are reviews that are done
10 on those processes to validate and approve those reviews.

11 Q. Who's doing the validating and approving?

12 A. There's a name generally on every BPI or a set of names for
13 the people that are the signees. The approvers of that BPI and
14 they're usually leaders or subject matter experts in those areas.

15 Q. Okay. I'm going to table the rest of my questions for that
16 because I know that my colleagues have more questions in that
17 department. I'm going to shift a little bit to what level did you
18 and your team -- were you directly involved with your voluntary
19 SMS?

20 A. We supported the implementation of the SMS but we were not a
21 part of the design of the SMS or volunteering the SMS. But our
22 team was involved in the implementation of the SMS.

23 Q. Did you -- have you yourself or anyone one of your direct
24 lines been involved in a safety risk assessment or safety risk
25 management panel?

1 A. Yes.

2 Q. Was that something that was expected of your position or was
3 it just one off that had occurred and you were involved?

4 A. The expectation of my position was to chair -- cochair the
5 billboard that we have within our SMS construct and there was
6 various members of my team that were involved in those safety risk
7 management workshops and assessments as you just noted.

8 Q. Were you ever a part of the rate-readiness reviews?

9 A. Yes.

10 Q. Can you tell us a little bit about that process and what it
11 looks like?

12 A. Yes, there's a pretty comprehensive set of things that are
13 looked at within rate-readiness and it's processes that have been
14 developed over many years of Boeing and look at various elements
15 of what the factory and program is doing in terms of preparedness
16 and the criteria that we have established for increase in rate.

17 Q. What are some of the factors that you consider that are
18 directly under your team's purview that roll into that
19 consideration for increasing or decreasing the rate?

20 A. Staffing was generally the one that is -- was within my
21 teams' purview and job exposure which is a measure of how many
22 times our mechanics have done the set of jobs that they will be
23 expected to do once the rate transitions from a lower rate to a
24 higher rate or a higher rate to a lower rate depending on the
25 transition that's being made.

1 Q. In your time in that position, did you ever see a declination
2 of a rate increase?

3 A. I would not call it a declination but we ceased to produce
4 the 747 during my time in position. We stopped producing that in
5 early 2023.

6 Q. So you've never seen it where there was a review to increase
7 the rate but it was decided that that was not --

8 A. I'm sorry, let me -- I thought your question was were we at a
9 higher rate and we made a decision to go to a lower rate.

10 Q. No, were you looking --

11 A. We declined --

12 Q. -- at going --

13 A. Yes.

14 Q. -- to a higher rate and declined to do so?

15 A. Yes.

16 Q. Okay.

17 A. Several. At least -- yes, I did see us decline to go up in
18 rate when I was in my position as the VP of manufacturing.

19 Q. Do you remember what factored into that decision?

20 A. Supply chain health and staffing. Not having the requisite
21 staffing to go up in rate.

22 Q. Did it ever come back to you to be -- under the guise of
23 pressure to get the staffing up because the company would like to
24 move to that higher rate?

25 A. Not in the guise of pressure but that was the expectation of

1 my position.

2 Q. Was to get the staffing up?

3 A. To meet the staffing numbers that were required by the
4 programs, yes.

5 Q. I recognize that the requirement for the comprehensive safety
6 and quality plan that was produced in conjunction with the FAA
7 came after you left, correct?

8 A. Yes.

9 Q. So were you a part of that process at all?

10 A. I was part of several discussions about the key performance
11 indicators and the stability thresholds that we determined.

12 Q. There were six KPIs that were produced kind of within that
13 plan. Six things that Boeing in conjunction with the FAA had
14 identified that these are the things that we have determined we
15 need to look at, focus on, build healthy plans around in order to
16 go forward. And my question is why these six things? What made
17 you target the KPIs that you did over all the other data that's
18 out there to choose from?

19 A. I think a lot of our experience would show that those are the
20 things that you need to have good stable production and stable
21 production with you know, a healthy quality management system as
22 well. And so some of it is based on our experience, some of it is
23 based on the feedback that we've gotten through multiple audits
24 and from our you know, FAA counterparts that have been doing
25 audits and observations of our production processes.

1 And much of it is from our employees as well. You know, as
2 you probably are aware we've held multiple quality stand-downs
3 across every single one of our factories. We've had over 70,000
4 people participate in those. We've had quite a bit of input
5 through that and other mechanisms with our teams and have heard
6 loud and clear that those things need to be addressed and that's
7 our focus going forward with the comprehensive safety and quality
8 plan.

9 Q. So my question there is what is -- these things were in
10 existence prior to the accident occurring. What prevented those
11 target areas from being identified beforehand?

12 A. Many of them have been looked at and analyzed for many years
13 in our production processes. So I don't know how to answer what
14 prevented us from doing it. We were looking at many of these.

15 This has put a framework in place with a set of you know,
16 stability measures and a controlled parameter around each of those
17 for us to have a bit more structure around each of those KPIs with
18 accountability to the FAA to take a look at those on a regular
19 basis.

20 And if corrective action is needed because one of the
21 indicators is -- has gone out of control, then we have a framework
22 now to document that corrective action and share it with the FAA
23 as our regulator.

24 Q. And just for the record because I feel like it's warranted at
25 this point, the KPIs are employee proficiency, notice of escape,

1 rework hours, supplier shortages, rework hours for airplane
2 travelers at factory rollout, and ticketing performance?

3 A. Yes.

4 Q. Okay. The last question that I have for this round -- well I
5 guess subject I should say for this round is the -- and I know
6 again that you have moved to another position. I respect that so
7 if you don't know please just tell me. The accident happened.
8 The FAA essentially afforded you 90 days. Like come up with this
9 plan and then this plan was produced.

10 I did ask a little bit about hey, these things were around
11 before the plan, why now? But do you feel that "90 days" -- is
12 that enough time? Were you afforded enough time to develop a
13 comprehensive plan and truly identify the things that it is you
14 should be targeting and then develop mitigations for?

15 A. Yeah, I think so. And look, it's not -- it's been said by
16 the FAA and by us you know, the Boeing team, this is not the end
17 of the plan this is the start, you know? These are the things
18 that we're going to focus on.

19 If we learn new things and we see other vulnerabilities in
20 our quality management system or our safety management system, or
21 our production system, we'll address those. We'll put corrective
22 actions in place and I'm sure the FAA will afford us the freedom
23 to address those issues if they come up. And so yes, I think it
24 was plenty of time.

25 Q. Okay. Just because I didn't, I should have done this before.

1 For the record, who is currently in your old position?

2 A. Kim Pastega.

3 DR. WOODS: Thank you. I'm going to go to my right, Pocholo?

4 MR. CRUZ: Yeah. Scott, thanks for talking to us today.

5 MR. STOCKER: Yeah, you bet.

6 BY MR. CRUZ:

7 Q. I realize that your position at the time was basically the
8 overall view of the manufacturing for all the different models,
9 right? What were the main issues that you saw on the 737 line?

10 A. Supplier performance. Probably the number one issue at that
11 time. As you noted and it's been noted in other areas, defects
12 from suppliers that were coming in and part shortages.

13 Q. And with those issues that you've learned with regards to
14 your supplier, is it specific to Spirit? Is it specific to a
15 certain other component? Or can you maybe give us an idea of
16 where the issues were from a supplier standpoint?

17 A. From a quality perspective or from a shortage perspective?

18 Q. Quality.

19 A. Quality, Spirit was the number one driver in terms of number
20 one defects and in that production system.

21 Q. Okay and since you've learned that they've had issues, what
22 did you do as the vice president to mainly curtail those quality
23 issues?

24 A. I had moved a number of our folks through our AOG and SST
25 which is our strategic support team.

1 Q. Okay.

2 A. It's a group of mechanics that perform rework on our aircraft
3 either -- the SST is primarily within our production system and
4 the AOG team is -- you know, they support our customers in the
5 fleet as well.

6 Q. Sure.

7 A. As you may know. We targeted them down due to Renton to make
8 sure they were available to help with any rework that was
9 discovered and I encouraged the team on the 737 to set up a daily
10 working meeting with the Spirit team in Wichita to review each of
11 the defects that they were finding on the incoming inspections on
12 the 737 fuselages.

13 Q. Okay. So did you send any people to Spirit, or were they
14 already there, or how did that work? As far as --

15 A. I did deploy some of our SST and AOG mechanics to Spirit to
16 help them with some of their production activity --

17 Q. Okay.

18 A. -- on the manufacturing side.

19 Q. And how would you characterize the traveled work from the
20 fuselages coming from Spirit into Renton at the time?

21 A. There wasn't much traveled work.

22 Q. Okay.

23 A. It was mostly supplier defects that were found on our
24 inspections that came in. But the jobs were done on the fuselage.

25 Q. Okay.

1 A. They were complete. It was just defects that were found
2 usually in the inspection process in Renton.

3 Q. Okay. And I guess when defects do show up in Renton, are you
4 familiar with the supplier assist process at Boeing?

5 A. Yeah.

6 Q. if so, can you please explain what it is and what do you know
7 about it?

8 A. Yeah, so the fuselage let's say would show up in float A1 or
9 you know, there has been at times a float A0.

10 Q. Sure.

11 A. Which is an extra inspection --

12 Q. Yeah.

13 A. -- position before the aircraft starts the manufacturing
14 process and float A1 you know, Boeing instructors would perform an
15 incoming inspection of the fuselage. In some cases supplier
16 inspectors or Spirit inspectors would be a part of that as well.

17 And you know, for some of our suppliers like Spirit, there
18 would be a group of mechanics that once the defects were
19 documented in our quality management system, would perform the
20 rework on any of the defects that were found in our quality
21 management system in Renton.

22 Q. Okay. I just want to make sure I heard you correctly
23 previously when Sabrina asked are you familiar with how the Spirit
24 mechanics are trained into the Boeing system. I mean are they
25 trained in the Boeing system or how does that work?

1 A. They are required to get access into our systems and hold
2 certifications for the rework that are being done you know, in our
3 production facilities, yes.

4 Q. Okay. Did they get Boeing foundational training? Do you
5 know?

6 A. I don't know. If they do it's not the full scale that a new
7 Boeing employee would get but we can follow up on --

8 Q. Okay.

9 A. -- whether or not they do any -- go through any Boeing
10 foundational training.

11 Q. Okay. Obviously you know why we're here investigating this
12 particular accident. What do you know about this particular
13 fuselage? I know there's a lot of fuselages that come through not
14 just the 37 line but the other lines as well.

15 A. Yeah.

16 Q. What do you know specifically about this particular fuselage
17 during your time in Renton?

18 A. I don't know anything about this fuselage during that time.

19 Q. Okay. Do you have any communication with the FAA or how do
20 you tag up with the FAA in your position while you were at Renton?

21 A. My previous position?

22 Q. Yes.

23 A. Yeah, we used to have you know, either an every week or every
24 other week meeting on Fridays with the FAA senior ASIs. It was
25 Jim Phoenix (ph.) at the time and now it's Brian Kilgroe (ph.).

1 We'd cover a number of topics of each of the programs. Generally,
2 I would share that meeting with Carol Murray who is the vice
3 president of quality at the time and every week we would have a
4 rotating set of topics to talk about with the FAA.

5 Typically, one of the program manufacturing leaders would
6 come in on that session and talk about the status of the factory,
7 the number of jobs behind schedule, the number of travelers that
8 we have in that factory, highlight maybe some quality projects
9 that were in work and or you know, things that were going on to
10 give the FAA situational awareness about you know, what was going
11 on in the factory.

12 We also talked about ticketing performance as well across all
13 the programs and what was being found at the time of the ticket
14 walk. So yeah, that was like I said, every week or other week.

15 Q. If you recall, what are the issues specific to the 737 line
16 that you guys were discussing?

17 A. I don't recall.

18 Q. Okay.

19 A. I know we talked about our ticketing performance with the 737
20 field and delivery center. That was a standing topic. You know,
21 like I mentioned it was mostly situational awareness on different
22 things going on in the factory. Whether it be the rates that we
23 were at or you know, different issues that we were encountering
24 and how we were mitigating those issues or putting things in place
25 in terms of corrective action.

1 Q. Okay. I know you said you don't know too much about this
2 particular plug door but have you even -- was there any mention of
3 that at the time that you had that position with regards to door -
4 - the plug door itself?

5 A. No.

6 Q. No?

7 A. No.

8 Q. Do you know -- I need to ask the question. Do you know who
9 typically would work on a plug door at the Boeing manufacturing
10 facility in Renton?

11 A. Do you mean the group or the individual?

12 Q. The group.

13 A. Yes. Typically our door team would do the work on the plug
14 door.

15 Q. Okay. Based off of that, do you know whether the 737 door
16 team has a formal training with regards to how the doors are
17 supposed to be handled?

18 A. No. I'm not aware of their formal training. I know that
19 they've got you know, our -- each of our packages hold
20 certifications that are specific to the jobs and the engineering
21 specifications and requirements that are required on those jobs
22 and those mechanics are required to be certified to perform the
23 work that they perform on the airplanes.

24 Q. Okay. Do you know if other door teams on other production
25 lines have formal training for those particular doors?

1 A. I know we have on the job training on the 787 program.

2 Q. Okay.

3 A. I know that --

4 Q. Sure.

5 A. -- based on my current role.

6 Q. Sure.

7 A. So yes.

8 Q. Okay. In your previous role how would you characterize the
9 safety culture in the Renton facility?

10 A. Are you asking about aviation safety or workplace safety?

11 Q. Workplace safety.

12 A. Yeah, we've had the go for zero program you've heard about
13 I'm sure --

14 Q. Yeah.

15 A. -- in place for over ten years now. I think we started that
16 in 2013. There's been a lot of advancements made in workplace
17 safety quite frankly in the last 11 years. There's still a lot of
18 hazards and things that need to be addressed that come up every
19 day that we work.

20 We have you know, a sizeable environmental health and safety
21 team that help our employees with those. I would say it's neither
22 -- was neither good nor bad. We have many employees that raise
23 their hands every day and highlight different issues that need to
24 be worked and if somebody is injured on the job, there's a whole
25 team that can go help those employees.

1 We have industrial athlete which is a preventative sort of
2 athletic training type of a organization that we offer to our
3 employees that can use that service to prevent injuries from
4 happening in the first place.

5 Q. Okay.

6 A. So I say there's a strong emphasis on safety in all of our
7 factories.

8 Q. Okay.

9 A. It can always be improved but there's a strong emphasis.

10 Q. Okay. So what about -- you said the aviation side. What
11 about the aviation side? How do you consider safety culture on
12 that side?

13 A. I think we're on a journey on that. You know, we have been
14 involved with SMS for many years and I think we're starting to
15 understand more how that integrates with the QMS and that's one of
16 our you know, strategic priorities in the safety and quality plan
17 -- the comprehensive safety and quality plan is to integrate those
18 two things.

19 You know, in a lot of ways we have talked about the quality
20 management system as you know, the thing that ensures safety of
21 our aircraft. So I mean I think there's a strong safety culture
22 as well around aviation safety. People want to do the right thing
23 on these airplanes and build them the right way.

24 There's opportunities you know, as we talked about in the
25 previous line of questioning around defects that are created and

1 things that are identified in the production process that need
2 corrective action and you know, when we see those vulnerabilities,
3 we work to put those corrective actions and work cause -- go to
4 the root cause and there's always something to go work on in that
5 space, so.

6 Q. Okay. So you brought up the removals. What do you know
7 about that particular BPI. You said you guys did a lot of work
8 where you've been told and you probably know based off of your
9 team saying this BPI needs some work. So what do you know about
10 that particular BPI?

11 A. There was a speak-up I believe on that BPI specifically and
12 we got a lot of feedback from folks on -- you know, the
13 manufacturing folks on the floor and inspectors that were working
14 in the factories and on the flightlines that the BPI was
15 complicated, it's complex. I think it's a rather lengthy BPI if I
16 remember correctly. We identified it as one of our items in our
17 safety risk management assessment tool or risk register.

18 We chaired a team to go run an SRM on it. They had a list of
19 actions and things that they wanted to prioritize to go work on
20 that. Many of those things have subsequently been acted on you
21 know, especially in the last five or six months and those are --
22 you know, again when it comes to complicated processes and
23 procedures, that was one of the items that has been identified by
24 the FAA and by our employees and by ourselves that we need to
25 simplify.

1 Many of these processes and procedures have been around for a
2 long time. They've had different layers of activity built into
3 them as you know, production systems and quality systems have
4 changed, and it's one of the things that we're committed to again
5 with the 90-day plan and working to simply for our employees.

6 Q. So when a BPI changes, how does that filter down to the
7 employees themselves? Especially if the BPI -- let's say most of
8 the BPI, are they typically owned by a team in Seattle or do some
9 people own it here in Charleston?

10 A. It depends on the BPI.

11 Q. Okay.

12 A. Most of them I think are owned in Seattle.

13 Q. Okay. If Seattle makes any changes to the BPI how does that
14 get filtered down to the employee in Renton and then how does it
15 get filtered down here in Charleston?

16 A. I'd have to take an action. You know, I know one of the ways
17 that it happens is through alerts -- quality alerts that are sent
18 out to the employees and or could be information that's shared at
19 one of the tier meetings by one of the managers that talks about
20 one of the BPIs being changed. But I'm not aware of what the
21 actual formal mechanism is but those are the you know, traditional
22 ways that those would get out to the employees.

23 Q. So there isn't typically -- I guess since you don't know, do
24 you know whether there's a typical class that says hey this BPI is
25 changing, we're going to put aside a day just to look over this

1 BPI, the changes in the BPI, and you guys basically have a formal
2 classroom with regards to that specific BPI? Is that -- do you
3 know whether that happens?

4 A. For all the mechanics --

5 Q. Yeah.

6 A. -- and inspectors?

7 Q. Yeah.

8 A. That generally doesn't happen, no. Not for an entire day.

9 MR. CRUZ: Okay. Okay, I think that's it for me, thank you.

10 MR. STOCKER: Okay, thank you.

11 DR. WOODS: Nils?

12 MR. JOHNSON: Take a sip.

13 MR. STOCKER: Thank you, Nils.

14 BY MR. JOHNSON: All right, good morning.

15 Q. We've learned through previous interviews that many
16 experienced mechanics have left and I think you've made reference
17 to that, the Boeing organization over the last five years. Given
18 that most of the training is done through the on-the-job training
19 model, most of the job specific training I should say not the
20 general --

21 A. Yeah.

22 Q. -- is done through the on the job training model, how is
23 Boeing commercial aircraft changing it's training practices to
24 offset the less experienced labor force? And if you don't have
25 the expertise, how are you transferring that knowledge? If you're

1 losing some of your most skilled labor through attrition --

2 A. Yeah.

3 Q. -- retirement --

4 A. Yeah.

5 Q. -- how are you transferring that knowledge to the new people
6 coming in the door?

7 A. Yeah. Well I'll give you maybe a multi-part answer here if
8 that's okay. I talked a little bit about the curriculum and the
9 extension of some of the training flows and the addition of
10 additional hours for our foundational which is the general
11 training that you mentioned.

12 We've put some structure and more rigorous framework around
13 on the job training as well to ensure that we've got that
14 knowledge transfer and technical technique transfer that you
15 mentioned happening on the job specific training.

16 We continue to have our workplace coaches that are employed
17 in the different areas of the factory. As I mentioned, those are
18 more senior folks that have typically come from a manufacturing
19 and or inspection background that are available to our mechanics
20 to help them, help teach them different parts of the job, help
21 them understand different parts of the engineering and or
22 processes that are required.

23 And you know, we're continuing to try to get more real-life
24 examples of what training will look like up in our foundational
25 training areas. You may be aware, we purchased an old 737-NG

1 airframe last year that was retired and had that sectioned off and
2 cut up into different you know, areas of the fuselage that we have
3 now you know, turned into training aids.

4 And we've deployed some of that same type of curriculum up in
5 our Everett foundational training facilities as well so that
6 employees can get a real feel for what it's like to be in the
7 forward electronics bay doing wiring as opposed to practicing on
8 you know, a bench or an area that's maybe not as representative as
9 what doing wiring and or work on a fuselage inside the fuselage
10 may be like on their day-to-day basis.

11 Q. You spoke of hiring touch labor personnel and I know the
12 skills change are different for each job. Are there required
13 skills, experience levels, or qualifications defined for each
14 position and have these requirements been lowered over the last
15 several years to meet the market, I guess?

16 A. There are defined skills and we have a documented HR practice
17 around you know, those skills and what they are for each of our
18 different positions. As you mentioned, we have a number of job
19 codes, labor grades, job types, et cetera. I'm not aware of those
20 being altered in the last several years but our HR department,
21 they are the ones that prescribe those specific skills and
22 criteria for our employees.

23 Q. Okay. You talked about the SMS program and being involved.
24 Has the SMS program identified any risks of lost experience touch
25 labor at Boeing and how is this risk being mitigated?

1 A. Yeah, that was one of our risks that was raised in I think
2 2022. It's called manufacturing staff onboarding in our risk
3 register. I was the accountable owner for that. Again, we ran a
4 safety risk management workshop and assessment, bowtie analysis,
5 that you may be familiar with, and documented a number of
6 different areas where we wanted to deploy different things into
7 our training and into our factories to try to help with that
8 onboarding.

9 And some of the things that I've talked about like the
10 curriculum and you know, getting more representative articles for
11 people to practice on were part of the outcome of some of the
12 suggestions of that safety risk assessment.

13 Q. In your mind, is that working?

14 A. You know, I don't know. It's hard to tell. You know, we --
15 it's hard to tell. We get feedback that we need to continue
16 improving our training and I fundamentally agree with that. As
17 you noted a lot of the training gets done on the job. It's job
18 specific so I think again, as part of our safety and quality plan,
19 it's one of our key focus areas.

20 How do we continue to improve the training, simplify our
21 processes so it's easy for people to understand what they need to
22 do, have access to people and teams like the workplace coaches
23 that have a bit more experience and knowledge that could help new
24 employees and you know, continue with the structure of the on-the-
25 job training.

1 Q. Okay. We've been told that some BPIs differ by location.
2 Why is there a difference based on geographic location? That
3 doesn't make sense to me. So why would something be different?

4 A. I don't know that it depends on the geography but in some
5 cases, we have different business systems on our programs. The
6 787 is a good example of that. You know, on the 737s, 767 and 777
7 we use a manufacturing execution system called CMES. On the 787
8 because it was a program that was introduced later after CMES had
9 been implemented, we use a system called Velocity. It's a
10 different manufacturing execution system.

11 Fundamentally it's a record keeping system and it's the way
12 that we deliver our work instructions to our mechanics and
13 inspectors. But it's a different system so some of those nuances
14 drive a bit different approach with the BPIs.

15 Q. Okay. What level of leadership is briefed on safety findings
16 and on what frequency?

17 A. Can you talk about what type of safety findings? Aviation
18 safety or workplace safety?

19 Q. Well, let's start with workplace.

20 A. Workplace safety, every day multiple times a day. In our
21 tier meetings, it's brought up. Tier one, two, three, four. I'm
22 briefed as the program leader every single day on our safety
23 issues and once a week we have a comprehensive safety review that
24 covers workplace safety and our SMS system for the program.

25 On the aviation safety again, it's every day in some form or

1 fashion typically in the form of either in service investigations
2 that are coming in from our customer support fleet teams, our
3 quality teams. And you know, we get the -- at least in my
4 previous role, I would get the daily report on the ticket walk
5 findings from the 737 with pictures of each of the defects.

6 Q. How nicely written was that?

7 A. Very nice, yes.

8 Q. What level of leadership is briefed on the FAA audit
9 findings?

10 A. The program leaders. I'm certainly briefed. I was briefed
11 in my previous position as well. Elizabeth Lund's (ph.) position,
12 the senior vice president of quality. She sees every single one
13 of those. My boss now, Mike Flemming who is the head of airplane
14 programs, was briefed on FAA audit findings. Elizabeth was
15 previously in that job and she was briefed in those positions.
16 Carol Murray in her previous job as the vice president of quality
17 was briefed on those extensively.

18 Q. Okay.

19 A. And you know, in my previous job, Stan Deal who was the CEO
20 would be briefed on those regularly as well in his leadership team
21 reviews.

22 Q. So it filters all the way pretty high in the organization?

23 A. Yes and -- yeah, we'll just leave it at that. Yeah.

24 Q. Okay. How is participation in Boeing's speak-up program --
25 we'll refer back to 2023 when you were in Seattle. How was the

1 participation in Boeing's speak-up program? Is that participation
2 rate tracked and is it reported up to leadership?

3 A. Yeah, it's tracked and reported out to leadership. We have a
4 weekly safety meeting that Stan Deal, the previous CEO chair, on
5 the number of incoming speak up items that were raised, that was
6 reported every week or every other week in that forum.

7 Q. Is leadership is receptive to those feedback suggestions?

8 A. Yes.

9 Q. Are they implemented?

10 A. Many of them are, yeah.

11 Q. Okay. Based on merit I assume?

12 A. Yes. Yeah, I mean they're all investigated. Every single
13 one of those is assigned and looked at and based on merit, it
14 either will get implemented or not.

15 Q. All right. Have you ever seen a MED door plug open on a 37?

16 A. Not on a Max-9. I have on an 8200 but that's a different
17 assembly.

18 Q. Okay.

19 A. It's not a plug on the 8200, it's an actual exit door.

20 Q. Actual door?

21 A. Yeah.

22 Q. Kind of a high-level question but what is Boeing doing to
23 ensure that removals are written to the highest standard? And I
24 guess this really is post-accident but I think it probably applied
25 to even while you were in Renton. I can tell you personally I've

1 reviewed a ton of removals and I saw a lot of inconsistencies
2 pretty clearly.

3 A. Yeah.

4 Q. So I'm just curious what the -- how Boeing is focusing on
5 getting those removals written to the highest standard to help
6 protect from the things that happened.

7 A. Yeah, there's three things I'm aware of. One, we've
8 retrained everybody in the BPI-1581 removal process. We are let's
9 say limiting the population of who can write removals. It's been
10 limited to team leads at this point. We've reimplemented an okay
11 to remove step but a quality inspection is performed before the
12 part is removed from the aircraft so we can ensure that we've got
13 the right documentation.

14 And I know we are investigating and working on improvements
15 to our MES systems whether that be CMES or Velocity to help
16 control what information is put in what fields to make that more
17 clear.

18 Q. Okay. You talked about tier meeting systems or tier
19 meetings. We saw through the SAT that there was a tier change.
20 I'm trying to figure out if that was the same tier meeting you
21 were talking about. So if something had changed from a tier two
22 to a tier three, is that the same tier meeting you were referring
23 to or is --

24 A. Yeah.

25 Q. There seemed to be a lot of confusion about whether or not a

1 removal needed to be written according to the SAT based on whether
2 it was a door or a plug or a plug door or you know, active
3 inactive kind of situation. And I'm curious, why did that meeting
4 not produce the desired result? It's a hard question but it's
5 kind of the foundation for what I'm trying to understand.

6 A. Yeah, I don't know. I'm not able to talk about that specific
7 tier meeting or that specific SAT or you know, what conversations
8 were had about why there was confusion or who was involved. I've
9 just not been involved in any of that you know, detail.

10 Q. Okay. Last one for me for this round. You mentioned you
11 know, systemic issues. FOD, tool control removals, and I guess
12 the fourth one shared by FAA was undocumented work. These seem to
13 be long-term systemic issues.

14 What's preventing Boeing from kind of fixing them once and
15 for all? They seem to kind of just churn I guess is what I would
16 observe from the outside. Can you speak to that? What's not
17 allowing it to not get corrected?

18 A. I can't speak to that. I can just tell you it's part of our
19 focus here with the comprehensive safety and quality plan is to
20 get these things fixed. I mentioned we have complicated
21 processes. We have many different procedure specifications.
22 That's again, another focus area for us to help simplify. I think
23 that will be a big enabler to help us you know, with the root
24 cause corrective action and fixing those systemic issues.

25 MR. JOHNSON: Thank you.

1 MR. STOCKER: Thank you.

2 MR. JOHNSON: John?

3 BY MR. PETRUZZELLI:

4 Q. Let's start with inspections over the course of five, six,
5 seven, eight years.

6 A. Yeah.

7 Q. Verification optimization from your knot hole in the 737
8 program prior, what did that mean you wouldn't look like?

9 A. I don't know, John. I wasn't there when that reduction
10 happened. That was before I was on the 737 program.

11 Q. So Boeing (indiscernible) on the 737?

12 A. Came over to help in 2019 after the second Max accident.
13 Probably June of 2019.

14 Q. Okay. So yeah, all those decisions on that had been made
15 prior to that going as far back as 2016. Where I'm going with
16 this is verification optimization was ongoing and it was rejected
17 multiple times by the FAA and yet, we still seem to be going down
18 that road of eliminating inspections and consequently ignoring
19 headcount of inspectors. Can you speak to that?

20 A. No, I can't John. That was before I was involved in the 737
21 program.

22 Q. So between say 2019 and into 2023, what did Boeing headcount
23 look like and specifically as it relates to quality inspectors?

24 A. For the inspectors?

25 Q. Yeah.

1 A. I don't know off the top of my head. I know we added you
2 know, quite a number of inspectors during that time but I don't
3 know the exact numbers, John.

4 Q. Okay. So I'm going to give you an example and I'm going to
5 use the Seattle Delivery Center because it's what I have the best
6 lenses on.

7 A. Sure.

8 Q. This came up in one of our team meetings we hold every couple
9 of weeks. Five years ago, we used to have to consume 112 to 115
10 pieces of paper per aircraft.

11 A. Yeah.

12 Q. We had inspector, quality inspector, per stall. Avionics
13 inspector, a couple of them and then two, three inspectors. We
14 had on first shift three first line quality managers, one second
15 level, third level. Second shift had the same amount. Three
16 first line managers, two second, and then there was a second
17 shift, second level.

18 Fast forward to today we now have to consume 560 pieces of
19 paper on workload on the field for example for our plane. That's
20 quadruple. We still have one inspector per stall. For our first
21 shift, we have nine first level quality managers, three second
22 levels on the first shift. Second shift there is two. One on
23 third and one third level. I'm not saying we're re-adding
24 inspectors at the Deliver Center is what I'm poking at, but?

25 A. Well John, I was in charge of the manufacturing headcount not

1 the quality staffing or ratios or -- you know, I don't have much
2 information on those ratios in the past or even in those times in
3 terms of how that all worked out.

4 Q. Hey, you know I'm still -- based on the fact that we're
5 consuming four times the amount of paper work, comment on what I
6 just said from the operations standpoint.

7 A. In what --

8 Q. We've added like -- we haven't changed the number of quality
9 inspectors. There's three operations persons per stall. We've
10 had that same exponential growth in first line managers. I'm not
11 seeing boots on the ground for operations.

12 A. Again, I couldn't go back to before you know, 2022 even when
13 I was in the manufacturing and safety job to comment on that. I
14 wasn't a part of the Seattle Delivery Center. I don't know the
15 ratios and I do that we added a number of folks both at Renton
16 Preflight and at the Seattle Delivery Center over the last several
17 years.

18 Q. Roughly how many did you add over at the Renton Preflight?

19 A. We have to -- I'd have to go follow up and get the actual
20 data for you.

21 Q. All right. One of the questions was asked about lowering
22 requirements. Are you -- we've seen this happen a couple of times
23 in the last six years but as of early in July -- this may or may
24 not -- you may or may not have heard this.

25 They basically opened up to all internal candidates the

1 hiring process for 97109s and C2709s which are AMTs and AMTIs
2 field and flight tests. I recall it happening like five, six
3 years ago. Where there again it kind of contradicts you having
4 lowered requirements or am I misreading that?

5 A. Can you just comment on what's being opened up for the --

6 Q. The AMT and AMTI --

7 A. Yeah.

8 Q. -- field and flight test job. The 97109s, C2709s.

9 A. Yeah.

10 Q. You can greenlight it through -- into that through the ERT
11 process.

12 A. Right.

13 Q. Now you don't have to greenlight through the process. You
14 can get in that first period of time. Somewhat of a lowering of
15 the requirements?

16 A. I'm not familiar with that John. My understanding is that
17 you still had to greenlight in. If you are an internal candidate
18 you would have to go through the greenlight process. If you were
19 in a different labor grade to get into a 97109 or a C2709.

20 Q. Yeah, again -- so they're both in the subsection
21 (indiscernible) end of the year.

22 A. As in three weeks ago?

23 Q. Yes.

24 A. Oh, I'm sorry. Yeah, I'm sorry John. I haven't --

25 Q. They did it about five or six years ago.

1 A. Okay. Yeah, I'm not aware of that. That would have predated
2 my time in that position and then postdated. I haven't looked at
3 that skills management piece since I got into this job.

4 Q. Regarding foundational training, you commented and a couple
5 of witnesses have also commented about the additional foundational
6 training. Can you describe what that looks like? How long?

7 A. It's different you know, depending on the skill type. You
8 know, we've added some curriculum around -- I think I mentioned
9 earlier, around how to access and use systems. We've enhanced you
10 know, some of the hands on training as well to you know, give our
11 employees more chances to practice I'll say in a training
12 environment.

13 We've also started doing, what you may have heard, called
14 shop days. If you have or haven't heard of that it's where you
15 know, maybe a couple of weeks into an employee's foundational
16 training we'll allow them a day to go down and meet their new team
17 and spend some time in the shop that they will be reporting to
18 once they complete their foundational training curriculum.

19 Just to help with maybe you know, their familiarization and
20 getting to know their team, and understanding you know, what kind
21 of questions to ask and things like that when they get into the
22 foundational training.

23 Q. That specifically, we did that quite awhile ago. It kind of
24 dropped off and I'm hearing it is coming back but three or four
25 weeks in --

1 A. Yeah.

2 Q. -- and then they're doing it again.

3 A. Yeah.

4 Q. And like I said earlier, I said a period of time I'd say
5 about '13 through '22 or '23 that it was not happening.

6 A. Yeah.

7 Q. It's good to hear that.

8 A. Yeah, we got some feedback you know, from our new teammates
9 that they would like that opportunity so it's one of the things
10 that's been started.

11 Q. All right. So with that in my own work life -- not the work
12 life system, but in my own work life we're seeing grade four grade
13 five mechanics that are still in foundational training that have
14 been lent to both Renton Preflight and Seattle Delivery Center and
15 have not completed that foundational training.

16 From a relations standpoint they're getting upgraded to the
17 grade nine but it kind of undermines that. And again, I don't
18 expect you to know this. It was late breaking information to us.
19 I heard about it last Friday when we were (indiscernible). So
20 that's something that's out there and I hope it's something you
21 take a look at.

22 A. Yeah, I can certainly take a look at it John and give that
23 feedback to the team. I know we have actually held people in
24 training this year for far longer than we had previously. So I'll
25 take a note of it and ask them to look at that.

1 Q. Yeah, and I have heard specifically exactly what you're
2 saying. That's pretty common refrain --

3 A. Yeah.

4 Q. -- and literally I was in John Holden's office Thursday and
5 Friday, and I was told. I was actually looking Renton's IDs and
6 names of different people that were doing this. I'm sure there's
7 stuff they can help with but do they really need to be in that
8 environment that soon?

9 A. Sure. Well yeah, if you have the information, I'm happy to
10 get it back to the team to go take a look at it.

11 Q. So going back to inspections being removed, there's a lot of
12 data I've got here about that and it's been ongoing since like I
13 said about 2012. Various interviews have come back and said yeah,
14 we've put all the inspections back and have -- was that happening
15 still when you were on 37? Were you guys doing that here?

16 A. You mean removing the inspections?

17 Q. Yes.

18 A. No, it wasn't happening. That was before I got to 737.

19 Q. Did you notice while you were with 37 inspections being
20 reinstated?

21 A. Yes.

22 Q. And I assume you've heard of the verification optimization
23 groups?

24 A. Is that the --

25 Q. The (indiscernible).

1 A. I've heard of it but again, that largely happened before I
2 was in Renton and so I'm not super familiar with that.

3 Q. At each of the locations have a PCAB team that was comprised
4 of a couple hourly, a couple managers.

5 A. Yeah.

6 Q. And they got together and they said -- and they tied it all
7 together. But realistically what I'm looking for is when are you
8 going to start complying with all the federal regulations say
9 manufacturing does this, quality does this? That's all that I'm
10 looking for.

11 A. I don't have an answer for you, John. You know, I haven't
12 seen the gap to each of the FARS that you're mentioning that would
13 produce that plan, that gap analysis.

14 MR. PETRUZZELLI: I'm good for this round.

15 MR. STOCKER: Thank you.

16 MR. EAST: Okay.

17 DR. WOODS: When you're ready Eric.

18 MR. EAST: Yeah, I think a lot of the areas that I would
19 cover are already covered but I have a couple of questions
20 regarding FOD control and the six KPIs. Some of which existed
21 prior to now.

22 BY MR. EAST:

23 Q. How, from someone in your position, is the most effective way
24 to communicate those to the floor that you've seen you know, maybe
25 in 2023 and what's changed now?

1 A. For FOD control you mean?

2 Q. Well FOD control and just in general the safety and quality
3 plan?

4 A. Yeah. You know, I think there's a lot of different ways to
5 communicate with our employees. We try to use them all. As many
6 as we can. Different people consume information in different
7 ways. That's why we try to use you know, emails, electronic news
8 articles within our Boeing system, the tier meetings, the stand-up
9 meetings, the large all-team meetings, the video recordings, the
10 you know, various different types of communications.

11 We used to call it seven times seven ways. You have to
12 communicate it seven times to somebody in seven different ways
13 before it really sinks in and you know, with a large workforce and
14 the scale that we're dealing with, that's a very complicated task.

15 So I think it's got to take all different forms depending on
16 you know, what you're trying to communicate and how you're trying
17 to communicate that. I don't think there's any one silver bullet
18 in that respect that will work. It's got to be a combination of
19 all those things.

20 Q. Okay, and the quality standdowns that are taking place,
21 that's not just at 737, that's happened here at Charleston?

22 A. Yes.

23 Q. And other programs as well?

24 A. All BCA programs and the fabrication division. All sites
25 have gone through the safety standdowns.

1 MR. EAST: Okay. All right, I think that's it for me.

2 DR. WOODS: Okay. Well with that, we've been going right at
3 an hour and 25-ish minutes or so. How are you feeling? Do we
4 need to take a break?

5 MR. CRUZ: I'll take a break.

6 MR. STOCKER: Yes. You guys want a -- okay.

7 DR. WOODS: I'm seeing various nods, so --

8 MR. STOCKER: Yeah.

9 DR. WOODS: -- we're going to go off the record at 8:50
10 Eastern time.

11 MR. STOCKER: Okay.

12 DR. WOODS: We are back on the record at 9:00 a.m. Eastern.
13 Going back to the comprehensive plan that was developed, I just
14 have a couple more questions about that and then some concluding
15 questions after everybody has gone.

16 BY DR. WOODS:

17 Q. How confident are you right now as it stands, and I know that
18 you've moved positions so, from what you experienced in your
19 previous role and then what you understand now, how confident are
20 you that this plan is it? That this is going to get you on the
21 path that you want to be on for maturing the quality and safety of
22 the Boeing product?

23 A. I'm confident. I'm encouraged by the plan and confident and
24 I think as I mentioned before, there's surely going to be new
25 things that we find that we want to go work and we want to add to

1 the plan and so I think we'll be able to do that under the context
2 and the construct of the plan. But yeah, I'm confident in the
3 plan.

4 Q. What part of the plan do you believe given your experience
5 will yield results the fastest? What do you expect to see change
6 the soonest?

7 A. I think the -- where I'm already starting to see change and
8 what I think will be the fastest are some of the process changes.
9 You know, we talked about the changes to the removal process.
10 Things are already happening there.

11 We've already implemented several you know, actions that have
12 come out the different various forums and observations. So I
13 think some of those process changes will happen quickly and I
14 would expect that to be taking place you know, week to week month
15 to month here as we go forward.

16 Q. Do you believe these changes are going to be sustainable?

17 A. Yes.

18 Q. What assurances can you give from your position that we won't
19 be here again discussing the same similar issues five years from
20 now?

21 A. I can only assure you that we're going to implement the
22 safety and quality plan as outlined and let those actions take
23 hold and continue to work on the different improvements that we
24 need to make in the safety and quality system.

25 Q. Okay and what change -- and I am kind of focusing on those

1 six KPIs because that is what you guys have identified as these
2 are our target areas that we want to focus on. What change is
3 probably going to take the longest or is going to need the most
4 nurturing to come to fruition?

5 A. For the six KPIs or the comprehensive safety and quality
6 plan?

7 Q. The KPIs under the comprehensive plan, yeah.

8 A. The KPIs under the plan?

9 Q. Yeah.

10 A. It's hard to say. I think each of the elements have their
11 own activities that are associated that will help and they have
12 their own challenges. If you think about supplier shortages for
13 example there are a lot of different factors for why suppliers
14 have shortages into our factories.

15 So I think they all have their own challenges and they all
16 have their own things that will be you know, intensely focused on.
17 I really couldn't give you one over the other on what is going to
18 take the longest. I think they are each important in their own
19 right and they are each challenging in their own right.

20 DR. WOODS: Okay. I just have the concluding question. So
21 that's it for me for this. Pocholo?

22 MR. CRUZ: Yeah, just a couple of follow ups.

23 Q. So you mentioned that Renton uses CMES and you guys use
24 Velocity here so what else in the production line is different
25 between those two -- besides those two systems? Is there any?

- 1 A. I'm just trying to take a little inventory here.
- 2 Q. Yeah.
- 3 A. There's some minor differences I'm sure, but structural
4 differences, they're fundamentally very common. They're very
5 common production systems and quality systems. Some of the BPIs
6 as we mentioned are specific --
- 7 Q. Yeah.
- 8 A. -- to 787 largely because of those systems.
- 9 Q. Yeah.
- 10 A. And you know, other things related to the supply chain
11 architecture and things of that nature but for the most part, the
12 quality management system, the production system, and the safety
13 management system are the same.
- 14 Q. Do you guys use the SAT here?
- 15 A. Yes.
- 16 Q. Okay, so it is -- it's not a separate system that you guys --
- 17 A. SAT is common across both.
- 18 Q. Okay, and is there -- is the training department in Renton
19 and then you have one here too, or?
- 20 A. We do.
- 21 Q. So it's --
- 22 A. Yeah.
- 23 Q. So it's cross utilized or whatever made changes there --
- 24 A. Yes.
- 25 Q. -- the changes are made here?

1 A. Yeah.

2 Q. Okay. Then you talked about safety standdowns. Did that
3 happen here as well in Charleston?

4 A. Yeah, we held our quality standdown on February 29th.

5 Q. Okay, and when Mr. Calhoun (ph.) gave his speech to everybody
6 was that streamed here too?

7 A. Yes.

8 Q. Okay. Let's talk about FAA audits. I know that the
9 principle inspector is here in Charleston. What type of
10 communication do you have with him since he's here in Charleston
11 as far as the production of obviously the 787 line here?

12 A. Yeah. You mean Brian Kilgroe?

13 Q. Yeah.

14 A. Yeah, so we have very frequent communication with Brian. My
15 quality director meets with him several times a week. You know, I
16 in many cases will just walk right over to his office and talk to
17 him about different things going on whether it be you know, an
18 issue that has just -- you know, an emergent sort of thing that's
19 popped up that I want him to be aware of.

20 We have very transparent open dialogue. I've known Brian
21 probably for 10 or 11 years. I encourage my team to be as
22 transparent and open with the FAA as possible. We invite their
23 ASIs that work for Brian to our factory.

24 They're in our factories every week doing the audits that you
25 mentioned earlier. Special audits and the normal product audits.

1 So yeah, I've got a -- we've got a very open sort of set of
2 communication forums and we meet with them quite a bit.

3 Q. Did you have any discussion with Mr. Hagar (ph.) as well, or
4 no?

5 A. I haven't in my current role. I did in my previous role when
6 I was the VP of manufacturing. Mike was always a part of the
7 Friday calls that we had.

8 Q. Okay.

9 A. And I you know, participated in several factory demo walks
10 with Mike in the Everett factory as well with our team to go look
11 at different areas and sort of a go see go to the area.

12 Q. Sure.

13 A. Go take a look at the product being built and meet with some
14 of the teams of the factories.

15 Q. Based off your relationship with Mr. Kilgroe, what types of
16 issues has he actually talked to you about with regards to the 787
17 factory?

18 A. We've talked a lot about the compliance. You know, the
19 compliance regime that I talked about.

20 Q. Yeah.

21 A. We talked about supply chain. We've talked about rates.
22 I've let him know where we are on rates and rate decisions. We
23 also made a decision to move to decline going up in rate earlier
24 this year.

25 I went over and talked to Brian about that specifically

1 before we made the decision to make sure that he was aware of the
2 things that we had taken into account there and so we've talked
3 about all of those topics. We've talked about training, staffing,
4 many of the things that are in the comprehensive safety and
5 quality plan.

6 Q. I was going to follow up. What about any quality issues?

7 A. Yeah. Yeah, we talked to Brian about issues that have popped
8 up in our production system, quality issues that we've discovered,
9 and what we're doing about those.

10 Q. Okay. So this is pretty all-encompassing what I'm going to
11 ask you. What kept you up at night in your previous position? In
12 your previous position when you were in Renton, what kept you up
13 at night?

14 A. There was never one thing that kept me up at night. It's
15 very dynamic as you know.

16 Q. Sure.

17 A. These factories, these production systems, this industry is
18 very dynamic. It's constantly changing so it's a combination of
19 many things. Safety, workplace safety quite frankly. Somebody
20 getting seriously injured to the point where they could be killed
21 in one of our factories. That absolutely is a constant worry of
22 mine. I think about it every day. I worry about it every day.

23 An accident on an airplane, I worry about that every day.
24 Those are the things that I think about and that keep me up at
25 night. Those are the two things that you know, in this industry

1 you never want to see somebody get injured, somebody get killed
2 you know, in one of our factories doing the work that we're
3 responsible for and as an OEM to build an aircraft that is part of
4 an accident is you know, devastating.

5 And so those are the two things that if I had to just say you
6 know, narrow it down to a couple of things that are really
7 important that I think about and that I worry about, it's those
8 two things.

9 Q. Okay.

10 A. You know, quality issues, supply chain issues, those come and
11 go and they get handled and they get worked but that's it.

12 Q. Fair. Do you think -- since you're leaving this team in
13 Charleston, do you think your workforce understands the importance
14 of their job and what they do day in and day out?

15 A. I think so but I think it's back to the earlier comment about
16 communication --

17 Q. Sure.

18 A. -- and teaching and making sure people are aware of the
19 bigger picture is a constant. We have to be vigilant about it.
20 We have to talk about it. You know, I've encouraged my team here
21 to let us know when they have an issue speak up as much as they
22 can. We continue to encourage that.

23 We're continuing to try and teach and train and let people
24 know why it's important to do the job and do it right. You know,
25 do the job following our processes, following our procedures

1 because those were created over decades of you know, us working on
2 and improving the safety of this product, you know?

3 Air travel is a very safe way to travel now and that's built
4 on the legacy of taking what we learn from these types of
5 incidents and accidents and enhancing our processes and getting
6 better and always improving.

7 So trying to teach people what that means from what a -- how
8 a federal aviation regulation gets you know, created and the
9 different building blocks that we have in our quality and safety
10 systems that ensure that we're compliant with those regs and that
11 we've got a safe product.

12 MR. CRUZ: Thank you.

13 MR. JOHNSON: All right.

14 BY MR. JOHNSON:

15 Q. You mentioned greenlighted. Can you describe that? I don't
16 know what that is.

17 A. Yeah, sorry. Greenlight is a term used within Boeing when an
18 employee moves from one labor grade to another labor grade and the
19 green lights indicate essentially the set of requirements that
20 that employee has to fulfil to move to a different labor grade.

21 So if you're a general mechanic and you're going to a
22 functional test mechanic, there's a set of criteria that you have
23 to fulfil to be considered for that position if there's an
24 opening.

25 Q. Okay, thank you. Through previous interviews we were told

1 that OJT was not really structured at Renton. Is Boeing
2 structuring and documenting OJT future forward?

3 A. Yes. Yes, that's part of the safety and quality plan.

4 MR. JOHNSON: That's all I have. Thank you.

5 MR. STOCKER: Thank you.

6 DR. WOODS: John?

7 BY MR. PETRUZZELLI:

8 Q. Are you -- this is what I'll to ask you. There's a check
9 sheet that came out in 2017 about shims on the 87 basically
10 everything over 5000 wasn't inspected. Is that inspection being
11 done again?

12 A. Yes.

13 Q. Are you sure?

14 A. Yes.

15 Q. On the 787?

16 A. Yes.

17 MR. PETRUZZELLI: I'm told it's not. Okay, what else did I
18 want to cover? I'm good.

19 DR. WOODS: Eric?

20 MR. EAST: I have no more questions.

21 DR. WOODS: No questions, okay. All right, well that went
22 very quickly any alibis? Do you want to ask?

23 MR. EAST: No.

24 DR. WOODS: Okay. I have one question that I like to

25 conclude and that is first of all we thank you for carving time

1 out of your schedule. We know you guys are busy and we don't you
2 know, take these actions lightly but again, everything that you
3 can give us helps us form the bigger picture of what's going on
4 here so that we can understand it.

5 You've had a little bit of time I guess to know that we
6 wanted to talk to you. So given that, I kind of want to turn the
7 floor back over to you. Knowing that we were coming, knowing what
8 we're here for in the wake of an accident, what is your like 60
9 second elevator pitch? What is the prime takeaway that you would
10 like this working group to know and understand you know, as we go
11 forward and continue to work this case?

12 MR. STOCKER: Sure. Well thank you again for coming down
13 here and meeting with me. I know this is maybe a little bit out
14 of the way, but --

15 MR. CRUZ: No, it's close to us.

16 MR. STOCKER: It's close to you guys.

17 DR. WOODS: It's closer than Seattle.

18 MR. STOCKER: Anyway, I do appreciate that. The only thing
19 I'd have to add is that you know, certainly we've looked at a lot
20 here with the safety and quality plan and comprehensive safety and
21 quality plan and we think we have the elements identified that are
22 going to make a big difference and we're committed to that.

23 We're committed to implementing those steps and committed to
24 continuing down that path and improving our vision and our focus
25 on safety and quality, and our quality management system, and in

1 our production system, and how our aircraft are operated. So
2 that's what we're committed to and again, I appreciate you all
3 coming down here.

4 DR. WOODS: Okay. All right with that then, thank you again
5 very much. We are going to go off record at 9:17 Eastern Time.

6 (Whereupon, at 9:17 a.m., the interview was concluded.)
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ALASKA AIRLINES BOEING 737-9 MAX
 IN-FLIGHT STRUCTURE FAILURE
 NEAR PORTLAND, OREGON
 ON JANUARY 5, 2024
 Interview of Scott Stocker

ACCIDENT NO.: DCA24MA063

PLACE: Charleston, South Carolina

DATE: July 16, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.

Keeley Rupert
Transcriber