

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
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Attachment 4 – American Airlines Personnel Interview Transcripts

OPERATIONAL FACTORS/HUMAN PERFORMANCE

DCA20CA043

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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AMERICAN AIRLINES TURBULENCE EVENT

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NEAR RICHMOND, VIRGINIA

*

DECEMBER 2019

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Accident No.: DCA20CA043

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Interview of: CHARLES "CHARLEY" ROBINS DAVIS, Captain

American Airlines

American Airlines
 North Simulator Building
 Room 3S-392
 Richmond, Virginia

Tuesday,
 January 28, 2020

APPEARANCES:

SHAWN ETCHER, Air Safety Investigator
National Transportation Safety Board

KATHERINE WILSON, Human Performance Investigator
National Transportation Safety Board

PATRICK LUSCH, Air Accident Investigator
Federal Aviation Administration

TIM MINER, Captain
Allied Pilots Association National Safety Committee

AL MADAR, Managing Director
American Airlines Operations Safety & Compliance
(On behalf of Mr. Davis)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Charles "Charley" Robins Davis:		
By Mr. Etcher		9
By Ms. Wilson		33
By Mr. Miner		41
By Mr. Etcher		43
By Ms. Wilson		58

I N T E R V I E W

(12:10 p.m.)

MR. ETCHER: All right. So first of all, good afternoon, Captain.

MR. DAVIS: Good afternoon.

MR. ETCHER: Doing well?

MR. DAVIS: Yes.

MR. ETCHER: All righty. As I said, Shawn Etcher, I'm the operational group factor investigator for this event, the turbulence event from December near Richmond. We're here just to learn what we can, make sure we understand the system -- everything possible, so we can help prevent this in the future.

Now, of course, you know, we don't ever assign fault or blame, or anything like that. It's not our goal. We just want to learn from it. So we're going to ask questions. Everybody on the phone, in the room will ask you as well, but we're going to go around so it's orderly and organized hopefully so it's not feeling like you're getting bombarded with questions.

MR. DAVIS: Okay.

MR. ETCHER: And the people on the phone and here as well is part of our process of parties to the investigation. So they can be here to help us -- they're subject matter experts, they're here to help us understand even better. And I guess now's a good time and we can just go around. As I said, I'm Shawn Etcher.

MS. WILSON: Katherine Wilson, I am a human performance

1 investigator with the NTSB.

2 MR. DAVIS: Okay.

3 MR. ETCHER: Patrick?

4 MR. LUSCH: Hey, good morning -- or good afternoon, Captain
5 Davis. My introduction's just a little bit longer. If you don't
6 mind, Shawn, I'll just entertain real quick. You know, I'd like
7 to thank you for speaking with us today.

8 My name is Patrick Lusch, as Shawn said. I'm an accident
9 investigator with the Office of Accident Investigation and
10 Prevention here at the FAA in Washington, D.C. And, Captain
11 Davis, I know that occasionally the FAA's presence during these
12 interviews can make some people a bit nervous, and so I give the
13 same generalized introduction to all of my interviewees. And I'd
14 like to take a moment just to explain why my role here today is
15 participating in this, and maybe ease any concerns that you may or
16 may not have.

17 In my role as an accident investigator, my concern is to look
18 at just the safety implications of the event, and to help look for
19 ways to prevent similar occurrences from happening in the future.
20 I, personally, and my unit that I work in, we do not have any
21 enforcement tools at our disposal. Nothing you share with us, or
22 me, in this interview today can be used in any type of an
23 enforcement action against you or your operator.

24 You could -- you know, I tell people jokingly, you can think
25 of me as the FAA priest. You can confess to me all you know about

1 any of the incidents, and I can't share it with anyone who can
2 impose any type of a penalty. Even if you feel that you have
3 knowledge of somebody that may have made a mistake or done
4 something contrary to a procedure, you can feel safe sharing that
5 with this group in the interest of preventing any type of a
6 recurrence.

7 So all of that said, I hope, you know, if you had any
8 concerns about the FAA's participation, that it may put you a
9 little bit more at ease, allow you to feel more comfortable
10 sharing your thoughts and your insight into this event. Because
11 certainly everybody on this call and in the room there has just
12 one goal in mind, and that's the safety of the National Airspace
13 System and of course your passengers. So thanks again for your
14 willingness and your time to speak with us today, and I'll turn it
15 back over to Shawn.

16 MR. ETCHER: Thanks, Patrick. Tim?

17 MR. MINER: Thank you very much. And, Captain, I'm Captain
18 Tim Miner. I'm a 737 captain, and for over 2 decades a member of
19 the APA National Safety Committee where I have been the weather
20 guru. I'm like, way overqualified for the weather, and was in
21 fact a professional meteorologist and senior meteorologist in the
22 United States Air Force Reserve while I was flying for American
23 Airlines. So thank you for the chance to chat with you today.

24 MR. DAVIS: Thank you for your service, Tim.

25 MR. ETCHER: Charley, that's the entire group that's on this

1 call and --

2 MR. DAVIS: Right.

3 MR. ETCHER: -- interviewing you. There's a few others, like
4 I said, that will be showing up tomorrow as well. But that's who
5 will be with you today. Now, as part of the regulations, you are
6 welcome to have one representative of your choice to attend. Do
7 you have one you wish to attend?

8 MR. DAVIS: Apparently Al Madar is going to represent me.

9 MR. ETCHER: All righty.

10 MR. DAVIS: Yep.

11 MR. ETCHER: And, Al, if you would tell us just a little bit
12 so people can recognize your voice as well?

13 MR. MADAR: Sure. This is Al Madar. I'm the managing
14 director of operations, safety, and compliance. Been at American
15 for 30-some years, flown captain for many years, check airman on a
16 number of things. So thank you for allowing me to be here.

17 MR. ETCHER: Okay. So that kind of gives you an
18 understanding of everybody now.

19 MR. DAVIS: Sure.

20 MR. ETCHER: As part of our process, you might see me over
21 here taking some notes. We do have it recorded. Those recordings
22 are going to go and be transcribed so we can make sure we capture
23 everything you say correctly. As long as you're okay with us
24 recording.

25 MR. DAVIS: I am.

1 MR. ETCHER: Okay. That transcript though, will become part
2 of our public docket or part of our factual because that's part of
3 the investigative group. And so that comes out later on the
4 docket when we start closing out this case.

5 MR. DAVIS: Sure.

6 MR. ETCHER: Do you have any questions about what to expect
7 here today so far?

8 MR. DAVIS: None.

9 MR. ETCHER: Okay. Perfect. Just a few ground rules if you
10 will. During the interview if you don't understand a question,
11 please feel free to ask for clarifications. Or if you don't know
12 an answer, I don't know works fine too. Because I promise you, if
13 you give me an answer that I don't quite understand, I'm going to
14 ask a --

15 MR. DAVIS: Okay.

16 MR. ETCHER: -- little bit more. All right? Just we want to
17 make sure we all understand what the other one was trying to say.

18 MR. DAVIS: Sure.

19 MR. ETCHER: So if you don't have any questions, that's
20 great, but if you do, don't hesitate to ask them. If you need a
21 break, just say so.

22 MR. DAVIS: Okay.

23 MR. ETCHER: We'll take a break, it's no problem. As well as
24 for you on the phone, if you guys need a break for some reason,
25 please just let us know and we'll take a break for a few minutes

1 if needed. So, I guess we will get started.

2 INTERVIEW OF CAPTAIN CHARLES DAVIS

3 BY MR. ETCHER:

4 Q. Just for the recording, if you could state your full name?

5 A. Charles Robins Davis.

6 Q. And could you spell the last?

7 A. D-a-v-i-s.

8 Q. All right, excellent. Is it okay if we call you --

9 A. Charley, yes.

10 Q. Charley?

11 A. That's what I --

12 Q. Is that what you'd rather go by? All right.

13 A. I prefer that. Thank you.

14 Q. All righty. Charley, what's your job title here, and what
15 does that mean?

16 A. I'm the technical pilot for the E190 as well as the Boeing
17 757, 767 with flight operations here at American Airlines. What
18 that means, is I -- other than special projects I may be assigned,
19 I basically work on our OM Volume 1s in -- you know, our pod
20 handbook if you will. I'm not sure the terminology, but American
21 Airlines is currently the Operating Manual Volume 1, and Volume 2,
22 which gets more into the weeds on systems. Volume 1 is how we
23 operate the airplane.

24 Participate in meetings that also give feedback to the FOM,
25 the Flight Operations Manual, which is more global for the whole

1 airline. And I represent the fleet captain when he is not
2 present. You know, I'm his designee basically when he's not
3 available. And then there's also some other jobs we've taken on.

4 I also do function check flights. I used to do them on the
5 190s when they came out of heavy maintenance. I'm not current on
6 the 190 anymore. I do them currently on 757 and the 767.

7 Q. Okay. So kind of give us a snapshot of a day in the life of
8 Charley at American Airlines. Or is there such a snapshot?

9 A. I don't -- every day is a little bit different. I try not to
10 be the fireman putting out fires. I try to be proactive and get
11 in front of things, you know, as I discover them, and try to make
12 sure I'm ready for the next revision cycle.

13 Also, I do work on a -- we call this -- we're going to
14 replace our Flight Manuals Part 1 next October with the Airplane
15 Operating Manual, the AOM across the whole airlines. So we're
16 trying to line up the manual so we have a manual that looks alike,
17 so when a pilot transitions from one airplane to another it's not
18 like he went to work for another airline. We all know systems are
19 different, but there's no reason for the manuals to be different
20 in their structure and their layout. So it makes it easier for a
21 pilot to transition.

22 Some of the small working group there, there's four of us
23 that are technical pilots, along with two check airmen that are on
24 special assignment that are kind of the focus of the group. So
25 I'm very into the manuals, and I guess that's primarily what gives

1 me the expertise here today. As well as past operating experience
2 on the E190.

3 Q. Okay. So you've had past experience operating on the E190
4 is --

5 A. I was initial Codray (ph.) check airman on it starting in
6 2006 before we actually got the first aircraft. And then we
7 trained on it, you know, part 91 training because we didn't have a
8 training program. We were still developing that as we went
9 through. And we started picking up airplane. Picked up the first
10 two in December of 2006 then went in revenue of service in
11 February of 2007.

12 So we took delivery of 25 airplanes, you know, over the next
13 couple of years. We wound up selling a few, but I was a check
14 airman on the fleet, then became a designated examiner on the
15 fleet, became a -- I don't know what they call it. It's not
16 really a test pilot, but a pilot who does function check flights
17 out of heavy maintenance. I was the senior check airman, which
18 was a USAir position not unlike the training manager basically
19 here at American Airlines. But I was just a regular line pilot
20 and -- or I mean, not a regular line pilot.

21 I was regular union-covered pilot at that time, not
22 management, and I reported to a director. That was just a
23 different structure in the organization at that time. So I kind
24 of ran training on the 190 back there, helped with some curriculum
25 development on the airplane in line with the rest of American --

1 well at the time, USAir.

2 Q. Okay.

3 A. So that's my background on the 190. When we merger -- the
4 merge occurred in 2013. In March of 2014, I came down here to be
5 the fleet captain. And then as things changed and moved around, I
6 became -- wore two hats as the fleet captain and the training
7 manager. And then just due to conflicting meetings, it was too
8 hard to cover the schedule, me being the only guy here that --
9 flying the aircraft, or having flown the aircraft. I couldn't
10 attend all of the meetings.

11 I had nobody to here to delegate the attendance. They made
12 somebody else the training manager, because you didn't have to
13 really be current on the airplane to do training. It's -- the
14 curriculum is the curriculum, and there's a lot of standards
15 across all fleets in training that occur.

16 Q. Okay. Are you current on the 190 now?

17 A. No. I haven't flown it in 2 and a half years.

18 Q. Do you fly at all now? Or are you pretty much --

19 A. I do. I fly -- I try to fly at least one trip a month. Oh,
20 and then there's popup function check flights that I do as well,
21 but I fly a regular revenue trip and stay current on the airplane
22 on the 75 and 76 fleet.

23 Q. Okay.

24 A. I was actually flying the night of the accident.

25 Q. Oh the -- December 18th?

1 A. Yeah.

2 Q. Okay.

3 A. So --

4 Q. Were you flying over in that area?

5 A. Went into JFK, so -- from Eagle, Colorado -- from Vail. So
6 it was, you know, coming in from the north basically over, I
7 guess, Cleveland. So I was, you know, a couple hundred miles
8 removed from where that occurred. We had turbulence descending,
9 but we were descending through cumulus clouds. I mean, you expect
10 the turbulence.

11 Q. Right. Okay. All righty. So I think you originally -- I
12 understood you correctly, were originally at USAir, and then in
13 the merger?

14 A. This is actually my fifth merger. I joined Piedmont Airlines
15 in 1986. And --

16 Q. Okay.

17 A. -- we merged with and bought Empire Airlines. Then we merged
18 with our USAir, and then we purchased the Trump Shuttle and merged
19 the Trump Shuttle. Then we merged with America West, and now
20 we've merged with American Airlines. So --

21 Q. Yeah. You've --

22 A. I've got less than 2 years to go, so I've been through my
23 last merger.

24 Q. Oh, never say that.

25 A. Who knows?

1 Q. It is the airline world.

2 A. It is the airline world.

3 Q. All righty. We'll kind of start digging in a little bit
4 here --

5 A. Sure.

6 Q. -- if you can, into the 190. If a pilot flying the aircraft
7 has a concern with anything, something in the manuals, something
8 they're seeing that the manuals say do one thing, but they see
9 online they should do differently, or something like that, what's
10 their process? I assume they would end up coming through you --

11 A. Sometimes they call.

12 Q. -- at some point? Okay.

13 A. You know, sometimes they email. They, a lot of times, will
14 go through the -- I'm a little bit invisible as the tech pilot,
15 you know? So sometimes they'll go to the fleet captain who will
16 defer it to me, because it's the fleet captain of the 75, 76,
17 they'd combine that role.

18 Q. Okay.

19 A. And he really just says, I'm the acting fleet captain, but my
20 job title is not that. There's no box for me to fill in the org
21 chart as a fleet captain on the airplane. And the airplane's due
22 to go away next September off the --

23 Q. The --

24 A. Off the airline.

25 Q. The 75s?

1 A. No. The --

2 Q. The 190?

3 A. -- E190.

4 Q. The 190, okay.

5 A. We're talking E190. So with that, there's no reason to stand
6 up a fleet captain, and train him on the airplane, and get him
7 consolidated. So I'm just the acting, if you will --

8 Q. Okay.

9 A. -- with my past -- based on my past experience and my
10 involvement in the manuals. The -- where was I? I was trying to
11 think of what the actual direct question was. I don't think I
12 gave a --

13 Q. It --

14 A. -- direct answer.

15 Q. No, if a pilot had a concern with something --

16 A. Okay. So, yeah. And they may email, but like I said, they
17 would -- a lot of times they reach out and call, or they call the
18 IOC Duty Pilot who in turn calls me and says, can I give them your
19 number? Sure.

20 You know, as a matter of fact, this morning there was an
21 issue with an MEL and IOC Duty Pilot emailed me because it was
22 about 5:30 this morning. And I was up eating breakfast, and I,
23 you know, picked up, and I said, call me. And it was just an MEL
24 in the airplane, and the captain's trying to decide whether to
25 accept if we'll take the MEL or not. He was being pushed to, and

1 I agree with the captain not to take the MEL. So, you know,
2 pretty straight forward actually.

3 Q. Okay.

4 A. So there are ways to reach me, and I give the card to
5 anybody. You know, I mean, so they call me 24/7, you know, and I
6 just put my phone on private if I'm actually out flying and need
7 the crew rest. Let it go to voicemail when it's, you know,
8 convenient.

9 Q. Okay. Just out of curiosity, just so I can kind of quantify
10 in my brain --

11 A. Sure.

12 Q. -- do you get a lot of calls from pilots or --

13 A. No.

14 Q. -- emails?

15 A. No. There's a few that are probably more technically --
16 maybe more in the weeds, if you will, somebody that's really --
17 wants to make things better. There's, you know there's all
18 personalities in every job, and there's some that will reach out
19 more. They know who I am and they -- they'll reach out directly
20 to me and ask me, you know, what we can do about something, or can
21 we change this or that.

22 And usually I deal with it and, you know, I try to give them
23 the reason why we can't change it. If it's part global issue on
24 the airline where we're trying to do everything the same way, or
25 whatever the reason may be, I try to answer his question. Or take

1 a note of his email and get back with him if I don't have the
2 answer.

3 Q. Okay. Since this event deals with turbulence --

4 A. Right.

5 Q. -- we're looking at, and all that comes with that, in the
6 190, how are the manuals structured to educate the crews on
7 turbulence avoidance, turbulence indications? Is there structures
8 within your manual that help?

9 A. Not so much in our Operating Manual, because this is more of
10 a global for the whole airline. So it's in the -- Flight
11 Operations Manual. And there's a -- we have a Turbulence Task
12 Force here at American Airlines that has -- well Steve Abelman's
13 actually I think on that task force.

14 Lauren may be on the fringes there, you know, up on floor in
15 flight operations, David Clark, who's a director is on the -- in
16 charge of the Flight Operations Manual. He's currently in school
17 right now, but he's on that task force. And there's also inflight
18 services from the flight attendants that are on that task force.

19 And I'm not sure who else. I've never participated in it, I
20 just get briefings from it, and it ultimately results in changes
21 to our Flight Operations Manual.

22 Q. Okay. So in your Flight Ops Manual, what kind of information
23 is given to pilots globally at American about turbulence
24 avoidance, turbulence indications, things like that? Kind of give
25 me a --

1 A. Well it --

2 Q. -- an idea.

3 A. First of all, it's the source document. There's also
4 training that's involved from a -- distance learning modules,
5 it'll train about radar if that's associated with that, the clear-
6 air turbulence, we'll talk about some meteorological conditions
7 that may contribute to turbulence jet streams and that sort of
8 thing.

9 But in -- from a Flight Operations Manual standpoint, it's
10 primarily how the crews deal with it. So a front end crew, the
11 pilots will, if they have reports of turbulence in front of them,
12 and if it's -- we'll actually use what all aviators are familiar
13 with. Light turbulence, you know, moderate turbulence, or severe
14 turbulence, and communicate it to the flight attendants, and
15 they've been trained on certain procedures they do based on what
16 that turbulence is.

17 And then we'll -- when we clear the turbulence, we'll tell
18 them to return to normal in the back. That the turbulence event's
19 over, and a lot of the times it doesn't even turn out to be as bad
20 as might be predicted. You have airlines and airplanes out in
21 front of you, similar aircraft who are reporting turbulence giving
22 PIREPs, and we also have the TAPS app when the Wi-Fi is available
23 that you can pull up and see a pictorial of what turbulence is out
24 there.

25 Q. Okay.

1 A. So that's -- I mean, basically they're just simply going to,
2 I mean, from -- we, in our OM Volume 1, we do have turbulent air
3 penetration speeds, limitations -- it's in our limitations
4 section. And, you know, turbulence will tell you to slow to that
5 speed which gives you buffet margin and overspeed protection.
6 It's 270 knots or .77 Mach.

7 And that's just simple, you know, what the pilots will do
8 there from like, an Operating Manual standpoint in the 190
9 specifically. And then everything else lives in the Flight
10 Operations Manual and the procedures to follow there to advise the
11 crew, to keep the crew safe.

12 Q. Okay. You gave me a lot of information in that.

13 A. I'm sure.

14 Q. So I appreciate that. And let me just kind of go back a
15 little bit to fine tune it so I make sure I --

16 A. And we can give you those pages out of the Flight Operations
17 Manual where you would see the procedures of the cockpit crew
18 versus the flight deck crew, versus the, you know, flight
19 attendants. It's all in probably six pages or so.

20 Q. Now is there certain terms your cockpit crew uses to the
21 flight attendants?

22 A. Yeah. That's -- those are the three terms we use. We use
23 light turbulence, moderate turbulence, and severe turbulence.

24 Q. Okay.

25 A. And we'll say light turbulence procedures in effect, or we'll

1 say moderate turbulence procedures in effect, or we'll say severe
2 turbulence procedures in effect. And when we get up in the higher
3 levels, we'll make a PA because we don't have time for them, if
4 they're out in the aisles with a cart, to come answer a telephone
5 call. So we'll make a PA to be seated, you know?

6 And then we'll talk to the number one, the lead flight
7 attendant, or, you know, the -- that's in charge of the back, the
8 purser per se, and talk to them directly on the phone once they're
9 back at their station, and give them more. How long, the
10 endurance we expect it to be, and what we get from air traffic
11 control. You know, and what -- whether we expect it to be
12 moderate, you know?

13 Light turbulence, they stay in the aisles. They just remove
14 hot beverages from the cart, you know, pick up hot beverages.
15 But -- because -- that's to prevent injury to passengers with hot
16 beverages spilling, just in case the light escalates.

17 Q. Is there an estimated time frame that the front end crew
18 should notify the cabin crew that there's turbulence coming? Like
19 do they give them 10 minute lead, 2 minute lead?

20 A. Honestly that's just one of those variables. Because we
21 don't -- I mean, our lead time may be a minute, or seconds, or
22 like we just encountered, unknown.

23 Q. Right.

24 A. You know? And we're the first ones to encounter it, so we
25 tell them what we know right then. Of course they're getting the

1 information the same time we are because they're maybe on their
2 feet in the back. And the pilot may call it light, and the flight
3 attendants in the very back of the airplane may consider it
4 moderate, you know? Because they're -- in any airplane, it's --
5 different depending on how far you are on that arm from the center of
6 gravity. You know, they're -- if you're further away, the more
7 you're going to move.

8 Q. Yep. Okay. I think you said that you were not in the direct
9 vicinity of where this event took place?

10 A. No.

11 Q. But you were dealing with turbulence that night as well.

12 A. Yeah, in I think the upper 20s descending into New York from
13 the northeast, about a 300 degree radial or so out on the
14 arrival --

15 Q. Okay.

16 A. -- roughly. So we were -- they departed New York, I believe
17 LaGuardia, but they were pretty far south and, you know, the
18 latter stages of flight before they encountered the turbulence
19 from what I read.

20 Q. Okay. And -- but you encountered turbulence as well.

21 A. Sure.

22 Q. And I know it was a 75 you were in? Is that --

23 A. Correct.

24 Q. -- what you said? Okay.

25 A. It was a 757.

1 Q. So maybe a little -- is it a little different, the 75 versus
2 the 190?

3 A. Yeah. It's a different ride, you know? Because we both
4 encountered the same conditions. I would suspect the 75 would
5 ride through it a little better just because of the weight, the
6 mass, you know? But then again, you've got more wing, so it
7 depends on what's causing the turbulence I guess.

8 Q. So walk me through that night, if you will, just briefly,
9 what you, as the captain of that flight did. Did you do anything?
10 Seating the flight attendants, prepare --

11 A. I did.

12 Q. -- for anything?

13 A. I did. I -- as I recall, it was -- I was unaware of this
14 event, but I just called back, and I actually sat the crew down
15 early. I, you know, I sat them down. I said, prepare the -- I'm
16 going to have you prepare the cabin for arrival early. And I did
17 it, and they -- probably made that announcement to them in the
18 mid-20s, like 25,000 or so, which gave them -- I said, in 5
19 minutes, we expect to be in some light, possibly moderate.

20 So I want you to have the cabin picked up and ready to go in
21 5 minutes if you can. Put everything away, stow everything. And,
22 you know, 5 minutes is not a lot of time, but there were five
23 flight attendants back there, you know? So -- and our load was
24 probably maybe 160 people or so. Not full, but, you know, a
25 significant number of things to pick up. Late in the flight, they

1 were already pretty well picking up, and they may have been
2 selling credit cards or something. I'm not sure.

3 Q. Okay.

4 A. Yeah.

5 Q. Okay.

6 A. But they said it wouldn't take them even five to be seated
7 that night.

8 Q. Okay. Did you guys -- were you guys using your radar that
9 night? Or was there anything --

10 A. We were. There was actually returns on our radar.

11 Q. Okay.

12 A. The bases in the New York area were probably -- well, we were
13 still in the clouds setting down our markers, so at 1,700 feet or
14 thereabouts, we were in the clouds. We didn't break out to --
15 until around 800 feet --

16 Q. Oh, okay.

17 A. -- going into it when -- but we were -- there was a snow
18 shower over the field at the time. So --

19 Q. Okay.

20 A. And that was -- tops were in that area -- were probably in
21 the -- it'd be a guess on my part, but remembering the ride while
22 we were being vectored, I would say tops were in the upper teens
23 maybe, 18 --

24 Q. Okay.

25 A. -- 17, 18 top.

1 Q. Okay. All right. And so let's go to the 190 again.

2 A. Okay

3 Q. The accident flight. You know, you've probably read
4 statements from the crew, you know, it was pretty much a clear
5 day. You know, they -- some bumps --

6 A. Right.

7 Q. -- they knew. Would you expect them to have their radar on
8 at that time?

9 A. No.

10 Q. Why?

11 A. There was no convective -- there was no rain or no
12 precipitation in their area. So the radar won't return any clear
13 air. From what I read, there was nothing at -- down there.

14 Q. Okay.

15 A. And from what I've seen on the thing Steve put together, some
16 things he provided to you all, and I've seen those presentations
17 of what their weather was at the time, I didn't see anything that
18 would give them radar return.

19 Q. Okay. Does the 190's radar, does it have a turbulence
20 setting? Or does it still need moisture in the air to work on
21 that?

22 A. I'll have to -- my recollection is it does have a turbulence,
23 which has like a Doppler radar, you know, so you can set -- do a
24 turbulence mode. But there has to be, once again, precip to give
25 you a return.

1 Q. Okay. All right.

2 A. I can confirm that, but it -- sometime before tomorrow, I'll
3 confirm that --

4 Q. Okay.

5 A. -- if it has a turbulence mode.

6 Q. Okay. Now, that would be helpful just to have a good
7 understanding. And I know this one, there was no convective
8 activity or anything like that that we've seen yet. But in
9 general, how is the 190's weather radar when it comes to, you
10 know, storm avoidance, storm penetration, turbulence avoidance,
11 all of that fun?

12 A. I think it's pretty good. The only thing we really don't
13 have with our radar is predictive windshear. But we -- you know,
14 we've got full -- it's a good radar. There was a different radar,
15 which was -- would've given us prediction -- predictive windshear,
16 but that -- you know, we didn't order the airplane that way, and
17 it was never retrofitted with it. But it's a good radar. It's a
18 lot better than a lot of other radars I've flown with over the
19 years. So --

20 Q. Okay. Is there a standard way of operating the radar? You
21 know, certain gain settings, certain tilt settings? Or is it just
22 kind of the user fine tunes it the way they feel works?

23 A. I'll have to confirm my -- there was a setting. And I don't
24 recall what it was specifically, but there was a setting you could
25 put it in so that once you set the radar tilt -- and I would

1 always set it so I would get some ground return out on the edge of
2 the radar so I would know if it was working for one, but also it
3 had a shower in between me and the edge, if it had a shadow behind
4 it, I knew the weather was more significant.

5 But there was a setting on it so that as you changed the
6 range of the radar, it'd change the tilt to match that so that
7 that fringe would always be out there on the edge. And you would
8 go from like a 40 mile range to an 80 mile range. That would move
9 with it. It wouldn't stay at that same tilt level, which that was
10 pretty helpful.

11 And then both the first officer and the captain could run the
12 radars independently, where you'd get -- he could have one tilt
13 setting, and you could have a different tilt setting. It just --
14 I get one sweep and the first officer would get the sweep going
15 the other direction. So it just -- you know, and it changed the
16 tilt based on what it was called for.

17 Q. So -- and I just want to make sure, the -- you as the captain
18 could have it set at tilt up one degree and --

19 A. Right.

20 Q. -- 80 miles out, and the FO could have it set at tilt zero
21 and --

22 A. Correct.

23 Q. -- 10 miles out, and it would adjust --

24 A. It would -- it -- yes it would.

25 Q. Okay. Yeah. Perfect. And I know you said it works better

1 than other radars you've flown in the past, but is it --

2 A. It's on par with what I fly today with the 75, 76.

3 Q. Okay.

4 A. It's on par with the Airbus that I've flown in the past. You
5 know, I haven't flown the 777 and 787, or the 330, but it's really
6 on par with those other radars. That's -- I don't know what the
7 80 had on it, and I flew the 80 at USAir. That radar wasn't all
8 that great, you know? But we were flying older airplanes.

9 They were actually -- I think belonged to a customer -- PSA
10 belongs to a customer from the MD-80. We had some of the earlier
11 serial numbers.

12 Q. And that's great to hear that it's on par with all of the
13 other ones, but have you ever had any crews complain about it? I
14 know sometimes pilots like to complain about some of systems if
15 it's an understanding issue, but sometimes there's legit
16 complaints. And I just --

17 A. You know, there were write-ups occasionally where something
18 was wrong with the stabilize, the, you know, stabilization on it
19 where it was -- needed to be recalibrated. And there were guys
20 that -- there was a way to recalibrate the radar yourself. But
21 if -- through -- and I saw that, but it is not information that we
22 published, and we didn't -- we chose not to publish it because
23 that could get all messed up.

24 And we don't want -- we didn't want pilots messing with it,
25 because some of that may have his desire that's different from the

1 other pilot desires, and so we just said, we'll let maintenance
2 deal with that and then set a standard.

3 Q. So was it a prohibition then for crews to --

4 A. Well they don't even know how. And it's a fairly complex
5 procedure that just -- it just looked like, you know -- it -- I
6 don't recall exactly. It's been probably 8 years since they even
7 looked at that. And it was like, this is not a path we want to go
8 down.

9 Q. Okay.

10 A. It was pretty obvious. It's too complex, and it would be
11 easy to mess it up. So we never published that information.

12 Q. Okay. I think earlier when you were talking about the
13 aircraft -- and sorry, I'm backing up here just --

14 A. That's all right.

15 Q. -- bit to that nice long thing you gave me. You gave me lots
16 of --

17 A. Yeah.

18 Q. -- little quick questions. You said that you have the, you
19 know, your iPads to be able to pull up your WSI, and --

20 A. Correct.

21 Q. -- EER reports, and -- or TAPS reports, I'm sorry. Does that
22 work -- does the Wi-Fi signal work well in this airplane? Or does
23 it have issues to get that --

24 A. Okay, so the 190 uses Gogo, which is really more of a
25 satellite network. It's not the same as the other airplanes that

1 have streaming TV and that sort of thing. It doesn't have the
2 same bandwidth. And it's -- I don't fully understand. It's --
3 but I know it's a -- I know it's not capable of even voiceover
4 internet protocol where you could actually have a phone hooked up
5 to it. We talked about that, and then said no, there's not enough
6 bandwidth for it.

7 So if there's anything at all -- if it, you know, there's no
8 priority to the flight deck, we're on a separate SSID from the
9 customers and the back. We were on AA inflight and we were on AA
10 crew, or AA flight -- I don't remember actually, because it's all
11 automatic on the iPad. It just -- you turn on the -- you turn it
12 on and it logs on itself. So we don't have a password. It's
13 embedded in the software somewhere in the iPad.

14 But it -- if a lot of customers are heavily using the data in
15 the back, then you're just one more customer. So, you know, you
16 may not get enough bandwidth to get back everything you need.
17 Like I said, the segments on the airplane are short enough,
18 there's not a lot of -- for the majority of the flights, the
19 segments are short enough that you -- pretty much with what you
20 left, it's not really going to change in route.

21 I mean, TAPS reports are in fact live, though. So if
22 something really starts to pop up, you know, that would be useful.
23 But it also wears on the battery. Unless there's reports -- like
24 I don't turn it on unless I hear reports of turbulence, and then I
25 turn it on to start seeing what's out there.

1 Q. Okay.

2 A. You know, that's not really taught, but you also know that
3 you just got this battery and you need to conserve the battery.
4 The 190 has plugs in the flight deck. It came with them, so you
5 can -- you don't really have battery issues in the 190. I don't
6 have plugs in the 75s, so I only turn it on when I know I'm going
7 to need it.

8 Q. Oh, wow.

9 A. So --

10 Q. Okay. All right. So I guess that'd be inconveniencing if
11 you ran out of battery and you really needed it.

12 A. Well we've got to carry -- the captain carries a spare
13 battery that can charge two iPads from zero to full charge.

14 Q. Oh.

15 A. We carry a battery that will -- you plug in the iPads and
16 it'll charge them.

17 Q. Oh, okay.

18 A. So proper planning can do that. It's just that, you know, on
19 a 10 hour flight, that's -- you want to be careful, you know,
20 about your battery usage. Because you can sit there all day long
21 on that and you can burn out a battery about 10 percent an hour or
22 even more so.

23 Q. Okay.

24 A. And you're going to use up 10 percent of your battery getting
25 off the gate, downloading flight plans, and WSI, and mobile CCIs,

1 or Jeppesen flight plans. We download everything before we leave.
2 That way if we lose anything in route, we -- we've still got it
3 there.

4 Q. Okay. All right. Makes sense. And you said the 190 has
5 kind of shorter segments, 200 mile segments?

6 A. Yeah.

7 Q. That's kind of what you said. So I guess you, you know, need
8 quick updates, but I guess you get a pretty good dispatch packet
9 with that as well showing you --

10 A. Correct.

11 Q. -- everything you need. Do you feel that that packet is
12 robust enough to make you have a clear picture of it? Or is it
13 just too much information that you, you know, system overload?

14 A. No. I mean, we're trained. Every 9 months, we come through,
15 you know, for recurrent training. And every once a quarter, we
16 have distance learning, which lasts, what, I don't know, 1, maybe
17 2 hours. Is that about what it's built for? Do you remember?

18 MR. MADAR: On which?

19 MR. DAVIS: On distance learning.

20 MR. MADAR: Oh yeah.

21 MR. DAVIS: So it's either quarterly --

22 MR. MADAR: Yeah.

23 MR. DAVIS: -- or -- about --

24 MR. MADAR: Right.

25 MR. DAVIS: -- 2 hours for a pilot to do. They can take

1 their time doing it at their own pace. And I think at least once
2 a year we'll have about using the radar, and then we'll also --
3 coming into the winter, we'll have, you know, about deicing and
4 icy conditions. So it's -- tried to build it on the seasons if
5 you will, and there's hot topics as well. So we'll talk about
6 turbulence and, you know, when that's a hot topic. And it gets
7 addressed once a year to remind pilots about turbulence.

8 And I'm not 100 percent sure on that, I just know that we do
9 it. And I'm one of the beta testers, so I'm always a quarter
10 ahead testing the -- reviewing the DL. So I'm -- sometimes I may
11 be -- I'm getting ready to finish my first quarter DL back in the
12 first of December so -- just to give feedback so they can correct
13 slides when they have misinformation present.

14 MR. ETCHER: Okay.

15 MR. DAVIS: So --

16 MR. ETCHER: So my last little set of questions here, and
17 then I'll pass it off to Kat, because you've got to be getting
18 tired of talking to me. You said your DLs on turbulence, and
19 weather radar, and things like that.

20 MR. DAVIS: Right.

21 MR. ETCHER: I know you're a quarter ahead, but do you
22 remember the last time you got a DL talking about turbulence and
23 weather radar?

24 MR. DAVIS: Well it's been 2 months since I did the last DL.
25 So I'm trying to remember what was in it specifically, if

1 turbulence was in there or not. The -- I know the quarter before
2 that, or the third quarter DLs would have had the winter deicing
3 stuff. I just don't recall when I did that last.

4 MR. ETCHER: Okay. I promised that was my last --

5 MR. DAVIS: No, it's okay.

6 MR. ETCHER: -- little question. I'll let --

7 MR. DAVIS: No, it's -- I just don't recall.

8 MR. ETCHER: No.

9 MR. DAVIS: Sorry.

10 MR. ETCHER: And that's all right. If you knew that we were
11 going to ask you questions, you would've known how to recall,
12 right? It's okay.

13 MR. DAVIS: I could have looked it up, yeah.

14 MR. ETCHER: No worries. I'll let you -- I'll let Kat answer
15 or ask a lot of questions now.

16 MS. WILSON: I only have a handful, so you're in luck.

17 MR. DAVIS: All right.

18 BY MS. WILSON:

19 Q. Well what guidance is given to the pilots on when to turn the
20 seatbelt sign on?

21 A. It's in our turbulence -- once again, with the light
22 turbulence, moderate --

23 Q. Okay.

24 A. -- and severe. So I have light turbulence pulled up right
25 now, and for light turbulence, it says turn on seatbelt at the

1 captain's discretion. For moderate or severe, it's mandatory to
2 turn the seatbelt sign on.

3 Q. Okay. And --

4 A. So -- I -- there's also guidance to turn it on -- well the
5 airplane -- the 190 didn't operate at high altitude that much
6 because the segments are short. I mean, there's an example from
7 Boston to LaGuardia, we were operating at 16,000 feet. From --
8 going back the other direction just because of the routing, we're
9 operating at 23,000 feet. But we're not up there long. You know,
10 up there for 5 minutes then start back down.

11 So a lot of times on those short segments, the captain's
12 probably in the habit of not even turning the seatbelt sign,
13 because it's a 35 minute segment. It's not long enough to -- you
14 don't want people up. And the flight attendants are trying to
15 pass out water, or juice, or whatever they have on the short
16 segments for the shuttle flights, which we do a lot of.

17 Probably more than half of our flying is either between New
18 York and Boston or New York and Washington -- DCA.

19 Q. And the manual, does it define light, moderate, versus
20 severe?

21 A. Yes it does.

22 Q. Okay. And the same definitions are in the flight attendant
23 manuals you said?

24 A. Yes. As a matter of fact, I just finished recurrent last
25 week, and our joint training, we actually -- we were -- I think

1 were talking security for part of it, but they were talking about
2 how they've lined all of this up so it says the same thing in both
3 manuals.

4 Q. What --

5 A. Yeah.

6 Q. Tell me more about -- what is a joint training that you all
7 do?

8 A. It's part of recurrent. We go over -- and they have flight
9 attendants, and they have pilots for their recurrent and our
10 recurrent. And I'm not even sure if they're on the same cycle as
11 us with every 9 months, or if it's once a year for them. I really
12 don't know.

13 Q. Okay.

14 A. But they show up, and they're doing their recurrent which
15 includes trained on all of the doors and whatnot. So there's an
16 effort on at American Airlines to try to get the flight attendants
17 and pilots in the same room. And when we're talking about things
18 like turbulence or security, then all of the sudden, everybody
19 goes uh-huh, we actually do have the same stuff in our manuals.

20 Q. Okay.

21 A. You know? And that's helpful. And if there's something that
22 they ask, I mean, they'll occasionally ask us, you know, how
23 something works on a 190 or -- and vice versa. We'll ask them, so
24 what are your procedures for this? And, you know, it -- there's
25 communication back and forth. They're just across FAA Boulevard

1 from us, the same managers that --

2 Q. Okay.

3 A. -- you know, like we have.

4 Q. So -- I don't want to make an assumption. So you had your
5 recurrent 2 months ago, and --

6 A. No, I had it last week.

7 Q. Oh last week? And that's when the joint training was?

8 A. Yes. This part.

9 Q. The distance learning was 2 months ago? Is that what you
10 were saying? That --

11 A. The distance learning was 2 months --

12 Q. Okay.

13 A. -- ago. It happens every quarter, that one does.

14 Q. So the training that was last week, which was the joint
15 training, you said you talked about security. Did you also talk
16 about turbulence? Did that come up?

17 A. I -- it was -- this year was primarily focused on security.

18 Q. Okay. Got it.

19 A. There was turbulence, but it was in three phases. The big
20 effort or emphasis of this of this one was security.

21 Q. Okay. Does the manual also define chop versus turbulence?

22 A. Yes.

23 Q. Okay.

24 A. This is the Flight Operations Manual, not the E190.

25 Q. Yeah. Okay. Right. If you encounter turbulence, do you

1 make a PIREP to air traffic control? Do you report it to
2 dispatch? Who are you reporting that to?

3 A. We'll make a PIREP to air traffic control, but if it's
4 moderate or severe, we make a report to dispatch as well. We also
5 have position reporting or where we'll -- when our position
6 report, we'll put a T and a 01 or a 02, and we've got a table that
7 tells what each one of those is. So 01 is like light chop.

8 Q. Okay.

9 A. You know, and if it's absent, it's just smooth air.

10 Q. Okay.

11 A. You know?

12 Q. And how is that report made to dispatch?

13 A. It's -- the position report is just for the ACARS.

14 Q. Okay. They --

15 A. So it's that ACARS based position report, and it's mostly
16 populated from the airplane including the wind's direction,
17 velocity, and temperature, OAT on the airplane, and then we have
18 to enter the turbulence ourselves.

19 Q. Okay. So then when you're in flight, assuming another pilot
20 flying in the area has made a report to dispatch, are you getting
21 those?

22 A. Not for the lights, no.

23 Q. No.

24 A. We -- that would be, I mean, 3,000-some flights going on a
25 day.

1 Q. Right.

2 A. Yeah.

3 Q. Moderate to severe do you --

4 A. Moderate to severe --

5 Q. -- get something?

6 A. -- we're going to hear something.

7 Q. Okay.

8 A. Yeah. I've seen an ACARS message that would say, you know,
9 moderate were -- flight ahead of you at your altitude, you know,
10 50 miles ahead or 100 miles ahead has reported moderate
11 turbulence. I'll get those, or the air -- the SIGMETs will also
12 -- they'll send them to us if we're in route.

13 Q. Okay.

14 A. Dispatch primarily. The iPad itself for the weather, the
15 IBSI (ph.) is really to support dispatch. I mean dispatch is
16 really -- they've got good tools, you know, in dispatch, and they
17 can see all of these things, and they're watching numerous flights
18 at one time, but you know, they get the big picture whereas we're
19 just like, right here looking down where our flight is.

20 And on the WSI app, we also download our flight plan. And as
21 long as we're on that flight plan and aren't deviating somewhere,
22 you know, we've got the little line there about our flight path,
23 and it shows you where you are on that line as well. If you've
24 got a good satellite signal, it'll -- GPS in the iPad will put a
25 dot on the map.

1 Q. Okay.

2 A. Yeah.

3 Q. Is there anything that either the 190 has access to that
4 other fleets don't or vice versa when it comes to turbulence info?
5 Or everybody --

6 A. No.

7 Q. -- gets the same information?

8 A. Everybody gets the same info.

9 Q. Okay. So you've encountered severe turbulence let's just
10 say. What as a pilot do you have to do to make your dispatch
11 report? What about when you get back on the ground? Is there
12 paperwork to file?

13 A. Oh, there is. Then you have to make a logbook entry, and --

14 Q. Okay.

15 A. -- then there's going to be an inspection of the aircraft by
16 maintenance. And, you know, you're also going to check with the
17 flight attendants when the event's over, as soon as you can, about
18 injuries in the back. Because you may end up with a diversion if
19 somebody's, you know, injured -- a severe injury, you know, and
20 bleeding or whatever, you may end up with a diversion.

21 Q. Right.

22 A. Or we also have tools where we can talk to a physician on
23 call.

24 Q. Okay.

25 A. The 190 is via ARINC, you know, through San Francisco and New

1 York radio. And it's a relay to the dispatcher who then turns
2 around and talks to a physician on call, which helps make
3 decisions for an injury. I don't know if they did that that night
4 or not.

5 Q. Okay. Do you think pilots are hesitant to report severe
6 turbulence because of the paperwork that needs to be filled out?

7 A. No.

8 Q. No? Any idea of how many severe turbulence reports there
9 are, maybe in a quarter or a year?

10 A. Al may know in his position, but I don't know.

11 Q. Okay.

12 MR. DAVIS: Sorry, Al.

13 MR. MADAR: It's okay.

14 MS. WILSON: Okay. That's all I have for now. Thanks.

15 MR. DAVIS: Okay.

16 MS. WILSON: You're on.

17 MR. ETCHER: All right, thanks. You doing okay? You need a
18 break?

19 MR. DAVIS: I'm doing fine.

20 MR. ETCHER: All right. Patrick, do you have any questions,
21 sir?

22 MR. LUSCH: Hey, Shawn, Captain Davis. I'm actually amazed,
23 but all of my questions have been asked already and I have nothing
24 further for you right now.

25 MR. ETCHER: All right.

1 MR. DAVIS: Awesome.

2 MR. ETCHER: Thanks, Patrick. Tim, how about you?

3 MR. MINER: Yes, thank you. And truth and disclosure here.
4 I'm one of those really heavy hitters on the American Airlines
5 Turbulence Task Force as well. So a lot of the manuals and a lot
6 of material, I collaborate on very specifically. And this is in
7 my almost 30 years with American, this is my fourth iteration of a
8 turbulence task force with this company. So many of the things
9 that he cited, I've been part of the development process for
10 including the manuals and the materials for it.

11 BY MR. MINER:

12 Q. But, specific questions, sir, about the 190 since I don't any
13 experience on it. One of the things -- and we all love our iPads,
14 but every airplane reacts to the satellite capability a little bit
15 different. Does the E190 have good own-ship presentations?
16 Unlike some of our other fleets which are struggling to get
17 satellite linkages and use the GPS own-ship?

18 A. I would say it's got fairly good own-ship position. I think
19 sometimes if you're traveling, you know, directly east west, maybe
20 in the north window, if your iPad's in the north window where
21 you're -- the satellites are more down toward the equator, you may
22 not have enough, you know, satellites. But it normally doesn't
23 last very long and it comes back. It's better than the 75, and
24 the 75's pretty good. It's there most of the time.

25 Q. Great. Thank you. And that's really good. There's some of

1 our airplanes that are out there -- some of our fleets are really
2 struggling with trying to get that GPS signal out of the cockpit
3 through the windows.

4 A. Right.

5 Q. But another fleet difference is, being the Boeing guy that I
6 am, I'm very used to and love my flexwing in the Boeing. Since
7 you fly both Boeing products and the E190, how would you compare
8 the wing? Is it a stiff wing or is it a flexwing? Does it bounce
9 and flex, or does it --

10 A. It doesn't flex as much as like the 76, or the 72, or the 80.
11 I haven't flown a 73, Tim, in a long time. I was a check airman
12 on that back in '99 and 2000 timeframe. It's probably a -- and I
13 had -- definitely haven't flown a 73 like American flies. I flew
14 the 737-200s and 300s, and I would relate it to being about the
15 same ride as a 737 300 or 400s that we flew in handling
16 turbulence. But I would say the 75 handles it a little bit
17 better, and like I said, I -- other than riding in the back of a
18 73 to deadhead someplace, I really can't tell you how it flies,
19 you know, how it feels.

20 MR. MINER: All right. Great. Thank you. And then one
21 last -- I guess it's more of a comment, and it has to do with the
22 last question, and that deals with the word chop. Just for
23 everybody's information, the word chop is not very prevalent in
24 our manuals. In fact, it is extremely rare. Our iPad systems do
25 not differentiate between chop and turbulence anymore. And the

1 industry is not going -- is trying to avoid the use of the word
2 chop.

3 That's still out there in our radio communications on ATC,
4 and it's still a very common thing. It's still in the AIM, the
5 Airman's Information Manual, but in terms of our high tech systems
6 and in terms of self-sensing turbulence, you know, the airplanes
7 are now sensing.

8 The E190 is not a self-sensor like some of the other fleets,
9 and chop is just not a term that's going to go forward in terms of
10 the industry in the future, at least professionally in the
11 turbulence world. That's all I have, sir. Thank you very much.

12 MR. ETCHER: Thanks, Tim. If you're good, we can go around
13 for round two --

14 MR. DAVIS: Two?

15 MR. ETCHER: -- if you're up to it.

16 MR. DAVIS: Yeah, let's do it.

17 MR. ETCHER: Or if you need a break --

18 MR. DAVIS: No, I'm good.

19 MR. ETCHER: All righty. You really have answered a lot of
20 questions we have, so that's helpful for me. I can only speak for
21 myself, but I -- just a few follow-on questions here that --
22 hopefully to just clarify a little bit.

23 BY MR. ETCHER:

24 Q. I know you said earlier that -- I think maybe Kat asked the
25 question about is there any hesitation write up when you hit

1 severe turbulence.

2 A. I don't think so.

3 Q. Okay. Not trying to get you to self-criminate or anything,
4 because I know I've done it flying. I would say it was moderate
5 plus, heavy moderate, almost borderline severe. Do you hear your
6 crews -- have you ever heard crews saying that instead of saying
7 the magic severe term to ATC?

8 A. You know, I mean, I've used the light to moderate turbulence
9 before where it's, you know, kind of intermittent. It's light for
10 a while then it's back to moderate. But I'm not hesitant. I
11 don't know -- I'm not aware of anybody that would be.

12 Q. Okay.

13 A. I mean, because that -- I think that everybody has the same
14 goal to give accurate reports to help, you know, other crews. And
15 I think when you're up there flying, it doesn't matter what
16 carrier, you know, you're trying to help out. I think it's all
17 just about a bunch of pilots up there trying to help everybody
18 else out.

19 Q. Okay. Now you said you can send an ACARS message to your
20 dispatch --

21 A. Correct.

22 Q. -- with the position report, saying it's T1 or T2, or
23 whatever --

24 A. Right.

25 Q. -- the number was.

1 A. It's -- goes 1 through 7 --

2 Q. Okay.

3 A. -- and some.

4 Q. When that goes to dispatch, do you know, do they shoot that
5 out to everybody? And, you know --

6 A. I honestly don't know what they do with that, what --

7 Q. Okay.

8 A. -- their procedures are for that.

9 Q. Do you ever see any company PIREPs show up on a dispatch
10 release that shows, you know, airplanes or any of that?

11 A. Well, our dispatch release will show 3 or higher, moderate
12 turbulence or higher, you know, for each waypoint on our route of
13 flight.

14 Q. Okay.

15 A. How they achieve that information, I really don't know
16 whether they're getting it off a, you know, the -- from the
17 weather company, or a combination of PIREPs and TAPS. I don't
18 know how they get that information, but it will appear on our
19 flight plan if it's moderate or higher.

20 Q. In your opinion as a captain, does that help you, or is it
21 just more info that you've got to digest through? I know you're
22 trained on it.

23 A. I use it all the time in my briefs. You know, it -- we used
24 to actually show even 1s and 2s, you know? We don't anymore, it's
25 just 3s. But I use in my briefing the number one flight

1 attendant, I'll brief, you know, hey, you know, we're good for the
2 first hour, but then we expect some, you know, some moderate
3 turbulence. And I'll give you a call when we approach that area
4 and let you know, and give you time to prepare the cabin for
5 moderate turbulence.

6 Or I'll also get at that time, as we get closer, and that's
7 maybe an hour from now or 2 hours from now, you know, things may
8 change. So I will keep them advised. You know, and I also make
9 sure when I brief them that they know what -- because some of this
10 is fairly recent, and I don't think they go through recurrent as
11 often as we do. So I'll make sure they know what those procedures
12 are.

13 I'll ask the question, do you know -- have you heard light
14 turbulence procedures, have you heard moderate turbulent
15 procedures? And occasionally I would get a no, but not very often
16 anymore. But a year ago there were some no's out there. No, what
17 are you talking about? You know? Because they -- I think
18 initially, it went out by bulletin with flight attendants,
19 because, you know, they may have just finished recurrent when we
20 put out the procedure.

21 Q. Okay.

22 A. And a year is kind of -- as I get closer to retirement, the
23 years go by faster. So maybe you'll (indiscernible) in a year. I
24 don't know.

25 Q. All right. I understand. I know you said that you brief the

1 flight attendant, you know, maybe in an hour we're going to hit
2 some rougher air, I'll let you know. Is that a Captain Charley
3 thing? Or is --

4 A. That's a Captain Charley technique. I -- you know, but we
5 are supposed to brief in our flight attendant briefing, you know,
6 expectations, differences, you know, if there's turbulence, and if
7 we need them to remain seating. Any kind of special we need to do
8 outside the norm, we are supposed to brief them on. So, you know,
9 and namely on the back of the aircraft, but for turbulence, I
10 think that's pretty common that everybody's going to brief
11 turbulence to the flight attendants on the things that they need
12 to brief.

13 Q. Okay. Now I know any -- you've notified the flight
14 attendants that turbulence is coming, you've told him to take
15 their seat. Did you still get them every now and then pop it up
16 because, oh, it doesn't feel too bad -- do you -- can you hear
17 them if they get up and move around?

18 A. Yeah. If they get up and move around, especially on the 190,
19 you'll hear the jump seat as it snaps, because it's not that far
20 away. There's a lav between you and it, but you still hear the
21 jump seat, you know, pop up to its retracted position. So you
22 know if they're moving up, or you hear them, you know, as they get
23 in the galley.

24 And, you know, for Charley, that means I probably forgot to
25 call and tell them that it -- yeah it's smooth, because now it's

1 been smooth for 20 minutes. But if I hear something pop up and I
2 know that we just have a brief reprieve, that there's more chop or
3 turbulence up ahead, I'll call them and tell them, hey, really
4 it's coming again. It just -- we just got lucky right now, but
5 it's coming back and there's no, you know, way to avoid it.

6 If I've changed altitudes, you know, I'll -- when I get to
7 the new altitude, I'll, you know, confirm once again, and if it's
8 smooth when I get there, as air traffic control reported, then
9 I'll call them back and tell them to resume normal procedures in
10 the back.

11 Q. Okay. I think earlier -- I don't know if it was one of my
12 questions or somebody else's question, but anyway, this question
13 came into my head later. You had mentioned that you will make a
14 PA if you're hitting moderate to some of the flight attendants
15 because they're probably up moving around, especially if it's one
16 that comes fairly quickly, to have them take a seat. Do you, or
17 has American looked at making PAs, does that give the flight
18 attendants more authority to feel comfortable to take their seat?

19 A. Well --

20 Q. Because the passengers hear, oh, the pilot told me to sit.

21 A. And I know, and the -- when I was a brand new hire at
22 Piedmont Airlines 33 years ago, 34 years ago, it was don't say
23 turbulence on the PA. Don't say thunderstorms, or don't say fog.
24 It scares everybody, you know? But that's changed somewhat.
25 Our -- I'm just looking at it right now.

1 So for moderate or more, we make a PA instructing flight
2 attendants and -- passengers and flight attendants to be seated.
3 And that's just right where they are, you know, when it's
4 unexpected. When it's planned, we have time, and we say, hey,
5 moderate turbulence procedures. Oh, we expect to hit it in about
6 10 minutes, or 5 minutes, or 15, or whatever is. Beyond 15 you're
7 not really sure, because that's, you know, at 7, 8 miles a minute,
8 that's a ways off, you know? And it could change by the time you
9 get there.

10 But that being the case, as you get closer, you start hearing
11 the PIREPs. You know, if there is really something going on, you
12 hear them. You know, the airspace is busy enough for the most
13 part, especially where this airplane operates in the northeast you
14 hear them, you know?

15 Q. Okay.

16 A. So you know, and, you know, if they didn't say where they
17 were, you ask where -- asking hey, where was that guy? You know?
18 And it was reported by a, you know, Boeing 747 at 35,000 feet, and
19 I'm going at 23,000, it really is not applicable to me. You know,
20 but I'll ask if there's any ride reports at 230, you know, at that
21 case.

22 Q. Okay.

23 A. You know?

24 Q. And it's kind of funny you bring up the 74. Is the 74 --

25 A. It's just such an extreme difference. That's --

1 Q. Right.

2 A. -- in size and maybe where they're operating, you know?

3 Q. So you take into consideration if -- the aircraft that's
4 making that report as well when you assess their --

5 A. Well, they're a different altitude. Yeah, no. Not so much.
6 If they're at the same altitude as me, and they got, you know,
7 moderate turbulence, I'm going to consider mine's going to be
8 moderate as well.

9 Q. Okay.

10 A. You know, their wing is different like Captain Miner brought
11 up. Their wing is different, and maybe it -- it's more flexible,
12 and so the turbulence encounter is going to be a little bit
13 different from them. And my wing's a little stiffer, so it may be
14 a little rougher for me. And once again, the flexible ring (sic),
15 wing sometimes exaggerates it as well. Because you get that
16 residual, you know, afterwards whereas the 190 can just be a shock
17 and it's over with because it's a little stiffer.

18 Q. Okay. All right. You had mentioned something on the WSI app
19 that if you're on your route of flight, you downloaded it, and
20 you're on that route of flight at that line, as long as you don't
21 deviate too far off of it, or -- and I don't mean to put words in
22 your mouth, I'm just -- that's how my brain heard it.

23 A. Right.

24 Q. What if you deviate off that path?

25 A. Well the dot will show you where you are.

1 Q. Oh, okay.

2 A. And you know where you're going. And if you're going to one
3 of your fixes that's on your flight plan -- and you can also put
4 in a new route, you know, if you're able to pick up and get
5 updated maps, you know? If not, it'll still show you where you
6 are on the map, because that's not part of the Wi-Fi, that's just
7 part of the own-ship position that's, as Captain Minor mentioned,
8 is just part of the iPad knowing where it's at. Even when you're
9 in airplane mode, the GPS is functioning all the time. It's a
10 leak through that never goes away.

11 Q. Okay. So it doesn't cause any problems if you get off your
12 route? It --

13 A. No. It'll, you know, it'll tell where you are. It -- to
14 Captain Miner's point earlier when he asked me about the -- how
15 the own-ship works through the windows. It works fairly good
16 through windows. But if you take that iPad out of the window and
17 you bring it to the center of the flight deck to share with your
18 partner over here, it may lose its position, you know?

19 But you know where it's at because you centered the map up on
20 it already, you know? And you can zoom in and zoom out, you know?
21 And it's not a navigation tool.

22 Q. Right.

23 A. You know where you are basically on your map display on the,
24 you know, airplane's NavData display.

25 Q. I'm glad you mentioned that it's not a navigation tool. How

1 do you look at the weather depiction that's produced on it? Do
2 you use that as tactical or do you use it just more for long term
3 range planning?

4 A. Well, I'll give you an example. So flying the -- well last
5 summer, flying the 75 from Anchorage to Dallas on a redeye flight
6 during the middle of the night. And I've done that numerous
7 times, but as you come back down, you know, the weather when you
8 left Anchorage is, you know, 6 hours en-route coming down here.
9 The first 3 you're in Canada before you ever cross the border.

10 And now you started seeing thunderstorms along the either the
11 front range of the Rockies, or down in Oklahoma, or in Texas. And
12 so you're looking at your flight plan route, and you're seeing
13 direction of movement on them, because it's got the arrow and
14 which ways the cells are moving. It'll show you tops, you know,
15 so you know kind of what to expect.

16 And you can see if it's off to the left and it's moving east,
17 where they typically are in northeast, then you'll -- it's hard to
18 say, but you're going to need to keep an eye on this, because in
19 an hour and a half when we get down into this area, we might need
20 to deviate a little bit. Or it might be better to be on the
21 backside, you know, maybe we'll actually ask for some different
22 routing. Then we'll ask air traffic control what they're
23 reporting.

24 At 3:00 in the morning, there's not a lot of traffic out
25 there though, so it's probably a more -- that tool is handier

1 probably at that time of night than it is during the day when
2 there's more flights airborne that can give you PIREPs. I mean,
3 the PIREPs are, you know, the -- and dispatch information is more
4 important than the app, but the app is -- gives you a picture.
5 And as they say, a picture's worth 1,000 words. Dispatch is going
6 to send you a message, and it's text.

7 Q. Right.

8 A. You know? I mean, so --

9 Q. Right. Okay.

10 A. Did that kind of answer the question about how to use it?

11 Q. It did.

12 A. And it's on the longer flights. So that's why I -- it's not
13 as -- you know, having that connectivity on the 190 is not useful
14 except for the TAPS reports themselves.

15 Q. Okay. Let me just make sure I understand it clearly. You
16 use it more as a planning tool, you don't use it to try and
17 navigate through --

18 A. Not -- no.

19 Q. You -- what do you use for that? Let's just get that on the
20 record. If you're approaching cells, are you going to
21 use --

22 A. Well if they're cells, you're using a radar.

23 Q. Okay.

24 A. You know, an onboard system radar.

25 Q. Okay.

1 A. Once again though, I've seen where the radar is only pinging
2 out, you know, this far, 150, 160 miles, and beyond that you're
3 not sure what's there. And yet, if you can get the ground base
4 radar, you'll -- oh, that's a box canyon. I don't to go through
5 those.

6 Q. Okay.

7 A. Because there's something further down that I can't see yet.
8 You know, where as if I go around this way -- so you -- that's --
9 it's a planning tool, but it's -- it can also be a tool to use
10 where you can get that bigger picture. Because the ground-based
11 radar is going to show you more than what you can see in yours.
12 Not close to the airplane, but beyond what you can see over the
13 horizon.

14 Q. Okay. You said dispatch will send you ACARS and text, you
15 know, because --

16 A. Yeah.

17 Q. -- they don't send you pictures. How often do -- does
18 dispatch send you information, like hey, there's a PIREP ahead of
19 you, or, hey, here's this new center of weather advisory that just
20 came out?

21 A. I -- you know, I don't -- I'm -- I don't know the dispatch's
22 rules for sending information. I'm sure if it was severe or
23 moderate, or, you know, moderate to severe turbulence that I'm
24 going to get that message. What I usually get from dispatch would
25 be a new SIGMET, you know, which where areas of moderate and

1 severe turbulence are, and it'll give a -- you know, from 50 north
2 of cowboy to 80 miles south of Shreveport to -- and it'll draw a
3 line for you that -- and I've seen guys use Route 2 (ph.).

4 We don't have that on the 190, but I've seen guys start to
5 modify the flight plan without executing it so they can draw that
6 line with the waypoints on their Nav display, and go, yeah, we're
7 going to go through that. Fleets that have a secondary flight
8 plane or route 2, they'll put it in route 2 to draw the picture.
9 You see yourself crossing that route 2 line, and you go like,
10 yeah, we're going through that. You know, we need to -- something
11 else.

12 But then the iPad, now that we have that information, you
13 know, the SIGMETs would come up on there, and you can put them --
14 and they're going to be color coded, green, you know, or amber.

15 Q. Okay.

16 A. You know, you could even set altitudes on there at what areas
17 where the -- that's it at -- that you're cruising at.

18 Q. Okay. Let me just re-ask that question a little different
19 maybe. How often have you received -- you personally in flight,
20 received messages from dispatch about turbulence, PIREPs, new
21 SIGMETs --

22 A. I can't think -- I think before we turned on the phone, I
23 told you all I only get out about once a month to fly, so not
24 often.

25 Q. Okay.

1 A. For me personally. Back when I was flying regularly, yeah,
2 probably, you know, if there's a lot of weather going on, yeah,
3 you'll see it on several legs. You know, and it's like -- it may
4 be the same one you got on a previous leg, but it's still there,
5 or it's now moved to the east, or northeast, you know?

6 But I can't -- I don't know how many times I've received
7 something like that. I don't receive it often now just because I
8 don't get out there and I'm not exposed to it very much now.

9 Q. Right. The night of the -- of this event, you were flying in
10 to JFK. Did they reach out to you?

11 A. Yeah. I received a message that night.

12 Q. Okay.

13 A. The areas in western PA, and I believe -- and probably from
14 Chicago down through Cleveland. I don't know, we crossed
15 around -- I think we crossed from Lake Michigan around Milwaukee,
16 and then down towards South Bend and Cleveland. And I'm just
17 trying to recall that route of flight that night. I know we kept
18 getting direct, and we'd have to relook at, you know, where we
19 were going. But we actually experienced a pretty smooth flight
20 all the way. We were probably at 39,000. We were above most
21 everything that was out there until -- but you eventually have to
22 come down.

23 Q. Exactly.

24 A. But we were on -- we were beyond the area of moderate
25 turbulence when we began our descent.

1 Q. Do you feel their little messages to you, and I don't -- I
2 don't mean little as small, I mean they're messages to you. Do
3 you feel that they give you an adequate picture, of they're
4 adequate -- they're helpful? Or is it just --

5 A. They're helpful.

6 Q. Okay.

7 A. Yeah. They are helpful.

8 Q. Okay. All right. That's good. Last question I have, and
9 then we'll let everybody else have their second round. Earlier
10 you were talking about you guys do, like this year in training
11 with the flight attendants you did security. Have you ever done
12 combined training event on turbulence with like --

13 A. The combined training is -- we didn't do it the last time I
14 went through, so this is new.

15 Q. Okay.

16 A. And for -- I say for the joint training, there was somebody
17 representing the flight attendants there, but that day there were
18 no flight attendants in the school house. So they gave the whole
19 scenario -- that, what the flight attendants had, and the same
20 briefing, and what the flight attendants showed us, their Flight
21 Attendant Manual, and all of that. I'm sorry, it was misleading,
22 but this -- they're planned to be joint. But I'm sure flight
23 attendants -- some days there's no pilots here either. Well I
24 doubt that. There's some pilots here all the time.

25 Q. Yeah.

1 A. But the flight attendants come in bigger groups, so they're
2 not here daily like the pilots are.

3 Q. And you probably didn't misrepresent it. It's how my brain
4 jumbled it, so --

5 A. No, I -- you know, it's called joint training, and they're
6 supposed to be there, but there just were none available.

7 Q. Okay.

8 A. So we were given the same instruction as if they were there.
9 And there was somebody that read from the scripts that they would
10 be trained on as well to compare manuals, which is an important
11 part of that.

12 MR. ETCHER: Okay. As I promised, that was my last question.

13 MR. DAVIS: Okay.

14 MR. ETCHER: So, Kat, do you have any?

15 BY MS. WILSON:

16 Q. I wanted to go back to the severe turbulence reports.

17 A. Yes.

18 Q. So you've landed now, and you -- you're filling out the
19 paperwork you need to fill out, the logbook, is there any -- do
20 you every get any follow up calls from dispatch or anything to get
21 some clarification on whether it was really severe turbulence? Or
22 is there ever any arm twisting to --

23 A. I've never been through severe turbulence.

24 Q. Okay.

25 A. So I can't answer that question from personal experience.

1 And I -- it'd just be -- I don't think there's any pressure to do
2 that. I mean, they might question you, or they might question how
3 long. I mean, I know there's certain things that need to be done.
4 They need to know how long the -- you know, what was the endurance
5 of it, how long did it last, you know, what kind of -- I don't
6 know, how much did the airplane weigh at the time?

7 That's probably not something the pilot's really looking up
8 at that time unless he's looking at a -- if he's up high at the
9 time and needs to look at how much he weighs, and what his buffet
10 margin is. Other than that, he's probably not completely aware of
11 his actual weight at the time of the event. But, you know, he
12 needs to get that information, as much as he can recall.

13 And they can estimate it based on when it was and how far in
14 the flight you were, based on fuel burn. I mean, you know, they
15 know what the fuel burn's going to be. We get a -- 4 minutes
16 after takeoff, we get a fuel log or, you know, a flight plan
17 review that comes up, and it shows us fuel over each waypoint that
18 we keep track of as we go. So if you know it occurred around XYZ,
19 then you look at XYZ and go, well we burned 5,000 pounds at that
20 point, so this is how much we weighed. You know, it's basic math
21 at that point. So --

22 Q. Okay. So you don't -- you said you've never reported severe
23 turbulence.

24 A. I've never encountered severe turbulence.

25 Q. But you haven't heard or encountered --

1 A. Yeah.

2 Q. -- it, sorry. But you're not aware of other pilots talking
3 about feeling like they've reported severe turbulence and maybe
4 somebody from the company calls them, so that, you know, an
5 airplane basically doesn't need to be taken out of service and go
6 through all the testing --

7 A. No, I don't know.

8 Q. -- that needs to be done.

9 A. I mean, I actually was flying in the -- coming out of Nassau
10 one day, or out of -- maybe somewhere down the -- in the
11 Caribbean. And I heard a corporate jet report extreme turbulence.
12 And I'm like, wow, they still talking about it? I mean, and
13 you're going to a destination and you're not diverting? Because
14 I'm thinking if extreme, and I'm going to divert. I'll probably
15 damage my airplane, you know? But I -- I've never encountered any
16 of that myself. So --

17 MS. WILSON: All right. Thanks, Charley.

18 MR. DAVIS: Sure.

19 MS. WILSON: That's it.

20 MR. ETCHER: You good? Patrick, did you come up with any
21 questions?

22 MR. LUSCH: I don't have any further questions, but if I
23 could just ask, it's getting a little bit difficult to hear you
24 guys. I don't know if either the phone got moved a little bit
25 further away or if you guys are getting a little quieter on me,

1 but it's getting a little soft.

2 MR. ETCHER: Okay. We'll yell louder, how's that?

3 MR. LUSCH: Perfect.

4 MR. ETCHER: Excellent.

5 MR. DAVIS: I got too relaxed and scooted my chair back.

6 That's probably the cause right there.

7 MR. LUSCH: Yeah, there we go. That's much better. Thanks,
8 Captain.

9 MR. ETCHER: Tim, do you have anything?

10 MR. MINER: Yes please. Thank you. And it is your scooting
11 the chair back that did make it hard. Our two NTSB reps, they're
12 coming in loud and clear, but your -- you were a little choppy.
13 But coming closer makes it all fine. Thank you.

14 MR. MINER: Has -- it -- I'm really excited to get to ask you
15 this question, because you are dual qualified. One of the very
16 few pilots who are actually dual qualified on --

17 MR. DAVIS: No. I'm not --

18 MR. MINER: -- big airplanes and little --

19 MR. DAVIS: Just to clarify, I'm not dual qualified. I'm not
20 current on the 190, and it's been -- my last R9 (ph.) was in May
21 or June of 2017 on the 190.

22 MR. MINER: Oh, I see. Okay.

23 MR. DAVIS: And I transitioned to the 75 in August of '17.
24 So haven't flown it since.

25 MR. MINER: Okay. I was interested into how often flight

1 attendants may call you up from the back asking you to put on the
2 seatbelt sign on the 757 compared to the E190. This will tell me
3 about the momentum and the arm back there, and how long it is
4 compared to the cockpits of both aircraft. Do you have any
5 recollection of -- have you ever seen that done in the E190 where
6 the flight attendants were feeling things in the back that you
7 didn't sense up in the cockpit?

8 MR. DAVIS: I think one time I had an encounter with -- a
9 very brief encounter, like maybe 2 second encounter with a
10 moderate turbulence as we through -- flew through a cloud on
11 descent into Philly, and a flight attendant called up and said it
12 was severe, and the cart fell over, and of the cans were loose in
13 the back. And he was pretty upset.

14 But it really wasn't that bad. It's just that the 190's got
15 these half carts that are -- basically the footprint on the bottom
16 is, I don't know, 15 by 15. It's not a long cart, and it's a
17 small cart. It's kind of -- it's not very stable. And in the
18 open galley floor back there, as they were stowing everything in
19 our decent, and we -- it was just a surprise event.

20 The seatbelt sign was on because of the popcorn type clouds
21 around. But it was totally unexpected what we encountered that
22 day or that night. It was nighttime, and I didn't see it until it
23 showed up in the landing lights half a second before I went
24 through it. But no, that was the only time they've called up and
25 complained that I recall.

1 The 80, they used to call all the time, but that's because
2 they didn't want people going to the lav with the flight attendant
3 sitting on the aft jump seat hitting their knees on the door when
4 the lavatory door opened on the flight attendant. But that was
5 the only time -- that was the ones that we got all the time that
6 were unnecessary. The 190, 75, 76, maybe once a year or so I'll
7 get that call, hey, it feels like -- would you turn the seatbelt
8 sign on, it's feeling a little rough back here. You know?

9 MR. MINER: Yeah.

10 MR. DAVIS: But I don't recall that on the 190, and I flew it
11 pretty regularly for 2007 through 2017, for 10 years. So -- well
12 although the last couple of years, I was more a management type
13 position, so I didn't fly but maybe once a month there -- then as
14 well. But yeah, over the first 8 years or so, it didn't happen
15 that often.

16 MR. MINER: Okay. No, that's great to know that the flight
17 attendants did in fact call you up and ask you to turn on the
18 seatbelt sign, that they have that clarity to do that, and that's
19 certainly a suggestion in our manuals. But I was just anxious to
20 see how, you know, we can sense 40 -- the turbulence in the back
21 can be 40 percent greater than the -- in these automatic sensing
22 systems, but the stuff in the back is -- can be 40 percent greater
23 or come a whole lot sooner. And it's already --

24 MR. DAVIS: Yeah. The 737-200, it was kind of common,
25 because the back end of that airplane, I don't know if it was a

1 yaw damper issue or what, but they tended to go left and right a
2 lot more. There was a lot more yaw in the back of that airplane,
3 so they would call up. And it wasn't really that bad a ride in
4 front, we were kind of surprised occasionally -- taken by surprise
5 on that. But nothing like that in anything I've flown in the
6 last, I don't know, 15, 20 years.

7 MR. MINER: All right. Very good. Thank you, and again, the
8 comment for the entire team, that every severe turbulence report
9 is actually processed through the Turbulence Task Force. And as
10 the union representative, if there's any questions, I call in a
11 non-threatening -- I'm the one responsible for calling up any
12 pilot who anybody just wants to know any more information. And
13 it's done through the union in a non-threatening way.

14 So there's never ever, ever any sense of intimidation or
15 anything like that. It's all for information gathering is how we
16 do it in the -- at American through the Turbulence Task Force.
17 That's all I have. Thank you.

18 MR. ETCHER: Okay. Thanks, Tim. Well, Captain, we've been
19 bombarding you with questions, and you've been educating us. Is
20 there anything you can think of that either we didn't ask, that
21 you think, man this would really help them, or you have questions
22 about?

23 MR. DAVIS: I can't think of anything right now. I'm going
24 to try to get back to you after I confirm the 190's turbulence
25 code on the radar. I'll confirm that and get back to you tomorrow

1 on that. But there's nothing I can think of. I read all of the
2 crews' statements over the weekend, and I -- you know, there's
3 nothing that really stood out in my mind to make this event unique
4 other than a broken foot. You know?

5 MR. ETCHER: Okay. I know you've been -- you have vast
6 experience. You have vast experience. You've been in the
7 aviation world for more than a year or 2, how's that?

8 MR. DAVIS: What do you mean?

9 MR. ETCHER: Is there anything you can see though, in your
10 mind, that would help with making some kind of a change that would
11 be convenient for pilots to use, everybody to understand to help
12 detect and avoid turbulence in all your years? Just --

13 MR. DAVIS: No. I -- it's so much improved over what it used
14 to be. I mean, the fact that airplanes are reporting that, you
15 know -- thank God 100 percent of our 73 reports now, and some of
16 the other Boeings, and some of the Airbuses are reporting, that
17 they're getting the TAPS installed, and the software to get an --
18 a purely objective, you know, data back as opposed to subjective
19 where one pilot's -- feels, you know, something. I feel we've had
20 great strides there.

21 You know, the iPad itself is a good tool, but it's just
22 simply -- like we've talked about, not all airplanes have it. I
23 don't think the 787 can receive a signal at all right now in the
24 flight deck. We were working on something there so that they
25 could, but it was on the same server, or wireless access point as

1 the passengers had. And I think the FAA, from a security
2 standpoint, did not want that to happen, so we've been stopped
3 there, and I think they're pursuing other avenues now. But the
4 more data we can get, probably the better.

5 You know, Captain Miner, I mean I've worked with him in the
6 past, and he knows a lot more than I do about weather, but
7 there's -- and has a better understanding of it than I do. But,
8 you know, the things that we can do to make a simple picture for
9 pilots, where we can cover all pilots from the new hire -- and
10 they seem to be getting younger days. Or maybe my perspective's
11 changing. But, you know, as much attrition as we have at American
12 Airlines right now, we have a big turnover and a lot of experience
13 leaving, and a lot of less-experienced pilots coming in. So
14 the -- I think the simpler we can keep the picture, the better.

15 And then there's nothing to substitute for the experience of
16 the guy that looks out there and sees those, you know, rolling
17 clouds, that goes, you know, it's going to get -- or sees the
18 virga up ahead and goes, yeah, hey, it's going to be a -- get some
19 request PIREPs, and if they don't have anything, go ahead and
20 institute at least light turbulence procedures to get some
21 things -- be proactive a little bit.

22 But that's just years of experience there, that, you know,
23 we're going to -- the average is going to -- probably going to
24 come down at the airline over the years, and I think it's an
25 industry at least in the U.S., the aviation industry is going to

1 remain that way for a while, just as the -- we go through this
2 cycle from the -- all of the people that got hired, and then
3 nobody was doing anything for a while, and then a whole big group
4 of people got hired again. And they call came and go out the door
5 at the same time with mandatory retirement ages, so, you know --

6 MR. ETCHER: All right. In all that --

7 MR. DAVIS: Yeah. Other than that, I've got no questions.
8 They're just -- you know, that's my -- you know, what can we do to
9 improve it? I think it's getting better every day, but if we can
10 get it on an airplane, you know, with a direct data link as
11 opposed to what we can get on the iPad, may be even better, you
12 know?

13 MR. ETCHER: Yeah.

14 MR. DAVIS: If we can project that right up there on our air
15 Nav display would be even better. But once again, there's that
16 question about, do we navigate around it that way or not? You
17 know, what's that answer? It's hard to come by. We can't all fit
18 through the same hole in the weather.

19 MR. ETCHER: We wish.

20 MR. DAVIS: Too many airplanes out there.

21 MR. ETCHER: All right. Well, I guess that'll conclude this
22 interview. I appreciate your time. Thank you for --

23 MR. DAVIS: Absolutely.

24 MR. ETCHER: -- the -- all of the information you've given
25 us. It's been a lot. Hopefully I can retain some. Thankfully

1 it's recorded, and that will help me retain it.

2 MR. DAVIS: Okay.

3 MR. ETCHER: But I appreciate it, and if there's any other
4 questions on the phone --

5 (Whereupon the interview was concluded.)
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CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: AMERICAN AIRLINES TURBULENCE EVENT
NEAR RICHMOND, VIRGINIA
DECEMBER 2019
Interview of Charley Davis

ACCIDENT NO.: DCA20CA043

PLACE: Richmond, Virginia

DATE: January 28, 2020

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.



Christy Wilson
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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AMERICAN AIRLINES TURBULENCE EVENT

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NEAR RICHMOND, VIRGINIA

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Accident No.: DCA20CA043

DECEMBER 2019

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Interview of: MATTHEW BAIER, Dispatcher

American Airlines

American Airlines
North Simulator Building
Room 3S-392
Richmond, Virginia

Wednesday,
January 29, 2020

APPEARANCES:

SHAWN ETCHER, Air Safety Investigator
National Transportation Safety Board

KATHERINE WILSON, Human Performance Investigator
National Transportation Safety Board

STEVE ABELMAN, Manager
American Airlines

TIM MINER, Captain
Allied Pilots Association National Safety Committee

CHARLEY DAVIS, Technical Pilot
American Airlines

DAMON WOOD, President
Professional Airline Flight Control Association

ALEX HART, Representative
Professional Airline Flight Control Association
(On behalf of Mr. Baier)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Matthew Baier:		
By Mr. Etcher		7
By Ms. Wilson		25
By Mr. Miner		29
By Mr. Etcher		34
By Ms. Wilson		38
By Mr. Wood		42

I N T E R V I E W

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2
3 MR. ETCHER: All right. And again, good morning. I'm Shawn
4 Etcher with the NTSB. I'm the Operational Factors group chairman
5 for this event in which we're looking at that American event that
6 encountered some turbulence right ahead of Christmas near
7 Richmond, Virginia, in which a flight attendant sustained an
8 injury.

9 We're here to hopefully gain as much information as we can,
10 what you can remember, and of your process, and you decide -- do
11 every day dispatching. Help us understand what you do. Because
12 we just truly want to increase the safety of all flights. As part
13 of our process, we invite parties to participate, because they're
14 the subject matter experts.

15 We have people on this group from the FAA who can't be on the
16 call today, from American Airlines, the pilot's union, Allied
17 Pilots Associations, from the dispatch union as well, and from
18 meteorology. There are a whole bunch of people here with lots of
19 great information, and they help us put it all together to have a
20 good understanding of it.

21 And we're going to go around the room here and introduce
22 everybody to you so you can kind of understand who all of the
23 players are, and you then you have a name and a face so you kind
24 of understand it. All right, we'll start with Kat.

25 MS. WILSON: Katherine Wilson. I'm a human performance

1 investigator with the NTSB.

2 MR. ABELMAN: I'm Steve Abelman, manager of weather and
3 technology for American, and lead American's Turbulence Task Force

4 MR. MINER: Tim Miner, Allied Pilots Association and on the
5 Turbulence Task Force as well.

6 MR. ETCHER: And Charley?

7 MR. DAVIS: Charley Davis, technical pilot on the E190 and
8 the 75 and 76.

9 MR. ETCHER: Damon?

10 MR. WOOD: Damon Wood, president, PAFCA-AAL. I represent the
11 flight dispatchers at American Airlines.

12 MR. ETCHER: Okay. That's the entire group for the ops --
13 Operational Factors group. That's everybody that will be involved
14 with this interview and with this investigation on an ops side.
15 Now, as part of our regulations, you're welcome to have one
16 representative of your choosing if you wish, in here with you. Do
17 you have a representative you'd like to be here?

18 MR. BAIER: Yeah. Alex Hart.

19 MR. ETCHER: Alex, would you tell us a little bit about you
20 as well?

21 MR. HART: Alex Hart. I'm on PAFCA's board, Member-at-Large,
22 I'm on the Turbulence Task Force, part of the LOSA program, and
23 that's it.

24 MR. ETCHER: Excellent. Thank you. Now, do you prefer to go
25 by Matthew, Matt?

1 MR. BAIER: Matt.

2 MR. ETCHER: Matt? Okay. I always like to ask because
3 sometimes people are like, no, I like Mister, and that's fine too.
4 We just want to make you comfortable.

5 So you'll see us over here taking notes, things like that.
6 It's just in case the recordings fail or something like that, we'd
7 at least have some notes, we have captured what you've said, we
8 don't have to re-interview you. So don't let that disrupt you or
9 distract you at all. But if it does, just say so. It's okay.
10 But like I said, we're going to have it recorded, and have that
11 recording transcribed that's acceptable to you.

12 MR. BAIER: Yes.

13 MR. ETCHER: All right. Great. A few rules I always like to
14 say, they kind of go without saying, but I always like to make
15 sure you understand that during this interview, if we ask a
16 question that you don't really understand what we're asking, it's
17 okay. Just ask. You know, we're -- I may think I'm asking it
18 clearly, and you're sitting there going, I have no idea what he
19 wants. It's okay. You can just ask, we'll clarify it. Because
20 if you give me an answer that I don't quite comprehend or
21 understand, I'm going to ask you to help me understand it, all
22 right?

23 If you need a break, just say so. We -- we'll take breaks as
24 you need. It's perfectly fine. No problems with that. And also,
25 the main thing is, if you just don't know an answer, I don't know

1 works just fine. You know, we prefer facts, as much as you can
2 give us. Sometimes you want to include an opinion, that's fine.
3 Just help us make sure we differentiate between what is a fact and
4 what is opinion from you, all right? All righty.

5 INTERVIEW OF MATTHEW BAIER

6 BY MR. ETCHER:

7 Q. We'll start really easy, and then -- well, actually these are
8 probably the toughest questions to start with, but could you give
9 us your full legal name?

10 A. Matthew Thomas Baier.

11 Q. Could you spell your last for us?

12 A. B-a-i-e-r.

13 Q. Okay. And what is your job title?

14 A. I am an American Airlines dispatcher.

15 Q. All right. And what does it -- an American Airlines
16 dispatcher role entail?

17 A. Kind of work along with the pilot, help ensure safety of the
18 flight, make sure it -- everything works as it's supposed to from
19 push off the gate to landing at the destination, and getting to
20 the gate.

21 Q. Okay. Sounds like a big role.

22 A. Yes.

23 Q. All righty. How long have you been here at American doing
24 that?

25 A. As a dispatcher, going on 3 years.

1 Q. Is that all you've ever done here at American?

2 A. I used to be an aircraft router 6 years beforehand.

3 Q. And what is an aircraft router?

4 A. We work with the ops coordinators. If a tail needs to be put
5 on a different trip, we'll make the swap, work with maintenance,
6 help get maintenance routed to where it needs to be to get fixed.

7 Q. Okay. Perfect. Do you have any FAA certificates?

8 A. Yes.

9 Q. And what are those?

10 A. My dispatch license.

11 Q. All righty. And do you have any flight time? Pilot at all?
12 Anything --

13 A. No.

14 Q. -- like -- just a dispatch license? All right. Perfect.
15 Kind of think back to your most recent training event. Do you
16 recall when that occurred? Just ballpark even.

17 A. Training as far as on the desk or in the classroom?

18 Q. Like a recurrent training, or --

19 A. Yeah. We've had a recurrent training a few months ago.

20 Q. Okay. All right, perfect. Could you kind of give us -- I
21 know you told us you were an aircraft router, and a dispatcher,
22 and all that. Can you kind of give us a CliffsNotes version of
23 how you got to where you are today?

24 A. I got out of a graduate college up in Oklahoma State
25 University. I have a -- my father actually works in the MEL

1 Department. He's been there, worked for TWA, so kind of in the
2 family a little bit. And so I decided I'd try. So I started up
3 in Oklahoma as an aircraft router, and then when we merged, they
4 transferred us down here. And the rest is history. And got my
5 license a few years after that, and got a job as dispatcher.

6 Q. And where did you get your license? Did you go to like, a
7 school? Did you --

8 A. Yes. I can't think of the name. It's right off of
9 Industrial here in -- ATP here in Euless.

10 Q. Okay. All right. And how would you classify that training
11 that ATP gave you? Did it make you feel like you were ready to
12 sit behind a desk here and dispatch commercial flights? Or --

13 A. No. They kind of give you -- they don't specify on what each
14 airline does. Gives you a broad view. When you get hired in as a
15 dispatcher here, they give you their own specified training on
16 what you're supposed to do and how things work.

17 Q. Okay. And when you came here, did you feel like you were
18 ready, from that training at ATP, to at least transition to make
19 the American learning easier? With -- did it help with that?

20 A. Yeah. It definitely helped. Now granting that -- not the
21 aircraft types, but yeah, it helped the transition.

22 Q. Okay. All righty. Excellent. Let's kind of step down just
23 a little bit if we could, and kind of help us understand
24 dispatching here at American. It -- in your opinion, how is
25 staffing as a dispatcher? Do you guys adequately staff? Are you

1 working a lot of flights? More flights today than you were a year
2 ago? Kind of help us understand that.

3 A. It does depend on the desks. Some desks have more flights
4 than others, so there have been complaints about staffing.

5 Q. Okay. Do you know why some desks get more flights?

6 A. From what we've heard, depending on the distance, how long
7 they're in the air, flight time, how many flights are in air at
8 the same time, that they try to kind of coordinate with that.
9 They don't want to have -- one person to have 20 flights in the
10 air versus another desk that have like eight, ten. It just
11 doesn't line up very well.

12 Q. Okay. Typically on an average shift -- and how long are your
13 shifts? Are they 8 hours? Ten hours?

14 A. Nine hours.

15 Q. Nine hours? Okay. Typically on your 9-hour shift, how many
16 flights will you work? I know every day's different I assume, but
17 just kind of a range.

18 A. On my specific desk, roughly 40 releases.

19 Q. Per 9-hour shift?

20 A. Yes.

21 Q. Okay.

22 A. For the morning shift. It -- less for afternoon shifts. And
23 they've gotten more help on the midnight shift.

24 Q. Okay. Do you always work the morning shift then, I guess?

25 A. Yeah.

1 Q. Okay. Now you keep saying on your desk. Do you have a
2 specific desk that works a specific area? Or --

3 A. Generally. And weekends -- sorry, weekends kind of get
4 changed up a little bit, but my desk 41 is normally northeast
5 flights or eastern flights with the occasional JFK to Phoenix.

6 Q. Okay. Now I know, you know, that you said there's been a few
7 complaints about staffing. Do you ever have to work overtime
8 here?

9 A. Not unless I want to.

10 Q. Okay. Were you working overtime on the day of the event?

11 A. No.

12 Q. Okay. I know you said you work some weekends. I assume
13 you're on a -- is it a rotating schedule?

14 A. Yes.

15 Q. All righty. As a dispatcher, if you had a concern about
16 something, what would you do? You know, if it was a concern about
17 dispatching a flight to a destination, or of an MEL or something
18 like that, is there a protocol for you as a dispatcher to
19 alleviate your concern?

20 A. Yeah. Normally you can go ask for -- depending on the
21 specific circumstance, you can go up to a sector manager. If, for
22 example, you feel you have too many flights, and you have bad
23 weather en-route or at the destination or departure station, you
24 can go send a help message. And they'll get right back to you as
25 soon as they can, usually 5 to 10 minutes.

1 Q. Okay. Have you ever had to do that?

2 A. No.

3 Q. Okay. If you ever had to cancel a flight for weather or
4 anything like that, do you have that ability?

5 A. Yeah.

6 Q. Do you ever get resistance to cancel a flight when you do
7 that?

8 A. Generally no.

9 Q. Okay. Can you give me an estimate in the last, I guess 3
10 years as a dispatcher how many times have you cancelled flights?
11 How about --

12 A. Due --

13 Q. -- that you've made that decision?

14 A. Due to weather?

15 Q. Yeah. Or is there other reasons you'd cancel?

16 A. Maintenance.

17 Q. Okay.

18 A. And I only had one time where I've cancelled. There was
19 weather, but the weather radar was out. So conferring with the
20 pilot, they wouldn't take it, I accepted his reason why obviously,
21 and so we cancelled. So, but that was a maintenance issue.

22 Q. Okay. But you never get any concerns from above coming down
23 on you because you cancelled it explaining, well why did you
24 cancel that?

25 A. No.

1 Q. Okay. All righty. When a flight gets airborne, do you as a
2 dispatcher have to keep track of them? Or is that given to
3 somebody else to do?

4 A. No, we flight follow.

5 Q. You flight follow? So kind of walk me through a day in the
6 life of a -- of you as a dispatcher. You've got your flight
7 assignments, I don't know many flight assignments you get at a
8 time or if you just get so many per the shift. I'm not sure how
9 that all works. So kind of walk me through that, and then how you
10 manage all of that, getting your flight planning done, flight
11 following aircraft, kind of help me understand that.

12 A. Try to make this as condensed as possible for you.

13 Q. Oh, you can take as long as you want. It's all right.

14 A. I guess I'll start with whenever I get to work, just set up
15 the desk, check the local weather, what's going on. Whenever I
16 plan a flight, I always check the departure station, the
17 destination weather, the runways open, the NOTAMs. I also, once
18 that's done, will choose a route. And if there's any en-route
19 weather, I'll base that off of that.

20 Any altitudes I need to be above or lower due to turbulence
21 or anything like that, I will route around that, or go above or
22 below turbulence for example, and when the flight plan calculates,
23 review that, make sure everything was how I was -- planned it.
24 And normally there's about a 5-minute window after it calculates,
25 if you need to make any adjustments, you can make them before

1 they're sent to ATC, and go from there.

2 Q. Okay. So let's talk about that just a little bit. You go
3 look at the weather, look at the local weather and all of that,
4 where do you get your weather information?

5 A. We have WSI Fusion, Optima that we can pick from. There's
6 different other sources that are available. Right off the top of
7 my head, I can't remember them without actually looking at it.

8 Q. Okay. That's all right. Now I know, you said WSI Fusion,
9 Optima. Those are the approved American Airlines. And I know we
10 all do it, we have our own favorites we like to use. Do you have
11 a favorite one you use? Whether it's those two or another site
12 that you can --

13 A. Normally just Fusion, and depending, like I said, if there's
14 any kind of weather, I'll pull up Optima just kind of as a
15 background. And then CoSPA is another one that we can bring up
16 and look at the radar, and see if there's anything else kind of
17 going on as far as thunderstorms and stuff like that.

18 Q. Okay. Do -- in your opinion, do they -- do you feel like
19 those give you the necessary information you need? Are they user
20 friendly?

21 A. Yeah. I believe so.

22 Q. Okay. You don't have any concerns with any of those three
23 that you listed anyway?

24 A. No.

25 Q. Okay. All right. Now I know you said you look at

1 thunderstorms and things like that when you plan a flight. Do you
2 always use like a canned flight plan? Or do you have tolerance to
3 use any kind of routine you want?

4 A. What do you mean by canned flight plan?

5 Q. That's a good question. Thank you for asking. A canned
6 flight is one that the company's usually in line with FAA, have
7 said, okay, for routes between these two cities, here's four
8 canned routes that you can file quickly and easily. Or -- you
9 know, in some airlines, that's all they use. In other airlines,
10 they use those, and they may give other options as well.

11 A. Okay. That is available, but we don't have to use them. We
12 can change them as far as to avoid weather and stuff like that.
13 So yeah, it -- it's available, but you don't have to use it.

14 Q. Do you use it at all?

15 A. If it's -- the weather's great, yeah --

16 Q. Okay.

17 A. -- I will. I'll use it. But I always double check it before
18 I -- I don't just throw it on there. I make sure that the route
19 is acceptable for the weather that's going on. If it's sky clear
20 and no weather in sight.

21 Q. Okay. Perfect. All righty. So you've got the flight plan
22 all generated, and had -- that 5-minute window is gone, and it's
23 went to ATC. How do you know when the -- do you know when the
24 crew gets their flight plan in their hand at all?

25 A. Yeah.

1 Q. How do you know that?

2 A. They normally will be able to sign in. There's also an entry
3 to check if they have signed in, and double-check that. And if
4 there's any issues, they'll call. If they can't sign in or stuff
5 like that. But --

6 Q. Okay. Do crews ever call you discussing weather or --

7 A. Yes.

8 Q. -- routing? How often would you say that happens on a shift,
9 or maybe in a week?

10 A. Really not often. If you planned them right, then normally
11 they won't call.

12 Q. Okay.

13 A. If they might have questions on how the weather's
14 progressing, and that will be the case that they'll call in.

15 Q. Okay. Do they usually call you on the phone, or they call
16 you, you know, send you a message via ACARS?

17 A. No, they'll call on the phone.

18 Q. Okay.

19 A. Because ACARS takes too long to type for them, and so it's
20 easier to talk.

21 Q. Okay. I can feel their pain. All right. The crews got
22 their dispatch release, the flight's boarded, and it's pushed
23 back. How do you know that it's pushed back and that you've got
24 to kind of keep that over here on the side of your mind of flight
25 following?

1 A. Sometimes there's a message that will pop up, but we also
2 have another system that -- actually two systems, LOFDS, and
3 Dispatch Auto, which will both relay when the -- if the plane's
4 pushed off the gate, and if it's still on the ground or in the
5 air.

6 Q. Okay. So it sends you a message that the airplane's now in
7 the air. What does that require you to do as a dispatcher?

8 A. Flight follow as far as if there's any weather SIGMETs that
9 pop up, you want to make them aware of it. If it wasn't on there
10 before, any thunderstorms that pop up. Try -- give them advice on
11 whether to go around it, and just kind of give them the heads up,
12 let them know that you're there watching them, which we're
13 supposed to, and we are, and we don't want to them to encounter
14 anything unexpected basically.

15 Q. Once a flight's airborne, do you usually call them on the
16 radio, through a patch, do you send them a message?

17 A. Well, we send messages.

18 Q. Okay.

19 A. And we can have them acknowledge it just to let us know that
20 they received it, and -- which is a good tool to be able to do,
21 and make sure we're all on the same page.

22 Q. Okay. You said if a new convective SIGMET comes out or
23 something, you'll make them aware of it, especially if it wasn't
24 on their original paperwork.

25 A. Yeah.

1 Q. Help me understand, because sometimes those convective
2 SIGMETs are a bit lengthy. Do you send that whole message to
3 them? Do you paraphrase it kind of?

4 A. It depends. I will -- if they're going to be flying into it,
5 I typically will send it to them and have them acknowledge it, and
6 let them know kind of where it's at. If they're 5,000, 6,000 feet
7 below it, and it's -- I'll still send it to them. I won't have
8 them acknowledge it, but just kind of let them know, hey, this is
9 here.

10 Q. Okay. Now from a layman's perspective, it seems like as a
11 dispatcher, it's not too bad if you're only working one flight.
12 You flight plan it, you dispatch them, you flight follow them, and
13 they land. But you're working more than one flight. How do you
14 manage all of that? And I'm sure they're not all in the air at
15 once, and they're not all on the ground at once. They're -- you
16 probably get a mix would be my guess through the day. How do you
17 manage all of that? It seems like a lot management abilities.

18 A. Yeah. It takes practice. That's what the training's there
19 for, just a lot of multitasking, but obviously you can't keep your
20 eye on the flight the entire time. So you're scanning -- you're
21 always scanning. So -- and plus SIGMETs aren't going to
22 automatically pop up every 5 minutes or 5 seconds here and there.
23 So there -- there's some time to be able to notify each flight if
24 something does pop up.

25 Q. Okay. Now you've mentioned SIGMETs, and you've mentioned

1 convective SIGMETs, and all of that, do you ever look for PIREPs?

2 A. Yes.

3 Q. How do you get access to PIREPs?

4 A. They post up on Fusion.

5 Q. Okay. Do you ever reach out to your crews? I think you work
6 the morning shift mostly, and typically morning shifts, there may
7 not be a lot of flights ahead of them.

8 A. Right.

9 Q. Do you reach out and talk to those crews via ACARS or
10 whatever to get a ride report or --

11 A. Yes.

12 Q. -- anything? What are you looking for when you reach out to
13 them?

14 A. Depending on what altitude I have them at, let me know how
15 are the rides, if they're rough, if ATC recommends any different
16 altitude because sometimes they have reports from other airlines
17 that we don't have access to, and kind of put all that information
18 together for my later flights.

19 Q. Okay. Do you get PIREPs from crews without soliciting? Or
20 do you usually only get it when you request?

21 A. No. They'll send, and we have a TAPS program that will also
22 point kind of how the rides are, what kind of turbulence they've
23 encountered, and stuff like that.

24 Q. Okay. So how -- you bring up TAPS, how does -- from a
25 dispatcher's viewpoint, does that help you? Does it -- is it one

1 more thing you have to look at? Does it give you anything? Help
2 me understand it, if it's a benefit to you.

3 A. I believe so.

4 Q. How so?

5 A. That whenever the TAPS events pop up and populate, you kind
6 of know what to expect for your flight because if a -- for
7 example, a 737 had a -- had hit moderate at 30,000 feet, you don't
8 want to be sending your flight at 30,000. You want to either --
9 you can, like I said earlier, you can route around if you need to,
10 and you can route above or below.

11 Q. Okay. Let's kind of sneak down. I know it's been awhile
12 since the day of the event. I don't know what you can recall when
13 this -- on this accident flight when they hit some turbulence. So
14 I just kind of -- if you can recall anything to help us, that
15 would be most appreciated.

16 I kind of want to walk through. I looked at your flight
17 plan, you had them filed at a low altitude. Kind of help me
18 understand the decision making you made to choose that altitude.

19 A. There was that SIGMET from 19 to 25. I didn't want to put
20 him through that, so I profiled him lower. I added fuel in case
21 he needed to deviate up or down, and that's what I looked at. And
22 there was a -- gosh I can't think now. What's the word? Someone
23 reported moderate turbulence at 22,000, so I didn't want to keep
24 him around that. So that's also why I kept him down. Wanted to
25 get -- keep him underneath everything, and hopefully he would have

1 a smooth ride.

2 Q. Okay. Makes sense. All right. Do you recall your workload
3 that day?

4 A. No I don't.

5 Q. Okay. No problem. I mean, I know you've described to us
6 what a typical day is for you. And is that what you would call a
7 normal work-loading day? Or is that -- you know, I mean, I know
8 when you get bad weather, it's, I guess -- I don't mean to put
9 words in your mouth, but when you have bad weather, does the
10 workload increase? Or --

11 A. We'll normally bring people in on overtime, fill extra desks,
12 and kind of offset people that are going to have the brunt of the
13 weather. And so they'll distribute the flights in so they can
14 help focus on their workload better.

15 Q. Okay. That's got to be a relief to a certain extent for a
16 dispatcher?

17 A. Yes.

18 Q. Okay. All righty. So the accident flight, they got their
19 paperwork, they're airborne, you kept them low, you followed them
20 low, and then I think on the release, you even said something
21 about additional fuel for turbulence. Is that -- do you normally
22 note when you add additional fuel for a reason?

23 A. Yes.

24 Q. Okay. Have you ever gotten feedback from the crews if they
25 appreciate that? Or --

1 A. Not -- no. Not -- a few.

2 Q. Okay.

3 A. But that's about it.

4 Q. Okay. All righty. So you had planned their flight, and you
5 saw that there was a PIREP at 22,000 for moderate turbulence. How
6 far do you -- and maybe it's a policy, or maybe it's your personal
7 preference, how far do you try and keep airplanes away from known
8 turbulence, known weather? Is there -- you know, how do you
9 determine a good way to do it?

10 A. I generally -- for me, I like to have about a 2,000 feet
11 separation.

12 Q. Okay.

13 A. That way, if they need to drop a little bit lower, they can.
14 I don't want to overdo it, but I do want to give them the option,
15 and that's why I throw the extra fuel on. If they do drop lower,
16 they're going to burn more gas.

17 Q. Okay. Have you ever done an en-route observation with crews?
18 Just kind of curious.

19 A. What do you mean by --

20 Q. Like getting on the jump seat and doing so many hours a year?

21 A. Oh yes. We do it yearly.

22 Q. Okay.

23 A. About 5 hours.

24 Q. Okay. Do you always have a specific aircraft you work on as
25 a dispatcher in -- or do you have all range of --

1 A. All of them.

2 Q. Okay. So you can jump seat on anything and get a good
3 opinion of what's going on?

4 A. Yeah.

5 Q. Does that help you when it comes to making your decisions as
6 a dispatcher?

7 A. Yes. If the opinion on the flight itself, with the flight
8 crew, some are talkative, others aren't, they just kind of want to
9 get through their day. But we do have a Q&A session with them and
10 ask, hey, is there reasons why you like to do this versus doing
11 that? And each pilot's different, so you always get different
12 answers. So you just kind of have to use everything you've
13 gotten, all of your feedback, and try to narrow it down, and go
14 from there.

15 Q. Okay. All right. Excellent. Have you ever jump seated when
16 there's been weather?

17 A. One time. And we -- it was going to -- I believe it was
18 going to Charlotte or Atlanta. The weather was kind of to the
19 north of us, but the flight was filed around it, so didn't really
20 encounter anything, just a little bit of rain here and there. But
21 we didn't have to deviate or anything like that.

22 Q. Okay. All righty. Now if we could step back to the accident
23 flight day if you will, when did you find out that they had
24 encountered some turbulence?

25 A. I had received an ACARS message. Captain was below 10,000

1 feet, and so I think when I looked at my Fusion, and after I
2 looked at the message, and I saw he was at -- around 7,000, 8,000
3 feet. So I just let him know -- or I sent a copy just to let him
4 know I was aware of the situation, and started making the
5 additional phone calls to the sector managers, let them know
6 what's going on, the crew scheduler for a possible relief flight
7 attendant for the next flight out, and just went through that
8 process.

9 Q. Okay. All right. Was it a surprise to you that they
10 encountered turbulence at the altitude they did?

11 A. A little bit, yes.

12 Q. Okay. Did you expect them to encounter any turbulence? Or
13 none?

14 A. Maybe possible light.

15 Q. Oh, okay.

16 A. Since they were close to 19,000. That's where that SIGMET
17 was listed to be at the bottom of. But besides that, no. It --
18 I've had -- I had a few flights that were -- would leave from the
19 northeast and would go over to DFW or not, I kept them low too.
20 So it was a little bit of a surprise that no one else had an issue
21 with encountering anything. But --

22 Q. Okay. When you found out that they had encountered some
23 pretty rough air, did you file a PIREP at all? Or did you -- I
24 mean, I know you set the chain in motion to get help for -- from
25 scheduling, and all of that. But did you -- did anybody put a

1 PIREP in saying they hit turbulence?

2 A. I don't believe so.

3 Q. Okay. All right. If a pilot reports they hit turbulence,
4 you know, everything was fine, but, you know, they send you a
5 message that they hit turbulence, do you ever file PIREPs for
6 them?

7 A. If -- occasionally. Normally with my flight plans, they
8 don't really encounter moderate turbulence or above, but --

9 Q. Okay. What process do you go through to file a PIREP for
10 turbulence?

11 A. There is normally a -- you could -- I think we can let the
12 Fusion team know. I'm not 100 percent sure on that part. But
13 there's an entry we could put in on -- in DEX. I think that can
14 upload it. Not -- I'm not sure.

15 MR. ETCHER: Okay. All right. I think that I -- I'll
16 probably will have some more questions after a bit, but I'm sure
17 you're tired of talking with me. And I know everybody else here
18 has questions too. So -- and you've given me a lot of information
19 realizing how busy you guys are as dispatch. So I appreciate
20 that. It's kind of cleared up some gray areas in my mind. So
21 thanks. And I'll let -- Kat, do you have any questions?

22 MS. WILSON: Thanks. I just have a couple.

23 BY MS. WILSON:

24 Q. I just wanted to be clear on -- in my head. You were
25 mentioning -- let me just ask the question and start over. Sorry.

1 So if a pilot reports that he encountered -- he or she encountered
2 turbulence, what do you do with that information?

3 A. Normally you can send a mass message to all of the other
4 dispatchers to notify them on what happened, turbulence in this
5 vicinity at this flight level, and kind of spread the word to
6 everybody.

7 Q. Okay. And then if it's along the route where you've got
8 other flights?

9 A. You can relay that message up to the flight crews?

10 Q. You would do via ACARS?

11 A. Um-hmm.

12 Q. Do you do anything differently if you were to get a report of
13 severe turbulence?

14 A. Yeah. You're -- there's a -- I -- I'm not -- I'd have to
15 look it up, but I don't have the information on top of my head,
16 but yes, you would want to get that reported for sure. And like I
17 said, I'm not 100 percent sure without being able to look at the
18 step-by-step process.

19 Q. Okay. So there's a checklist or something that you would go
20 to?

21 A. Yeah.

22 Q. And where is that?

23 A. Normally in the FOM, Flight Ops Manual. And you can -- I
24 believe it's also in the Dispatch Procedures manual.

25 Q. Okay. Do you recall with this crew, did you have any

1 discussion with them about turbulence prior to the flight?

2 A. No.

3 Q. No? Okay. And what is your typical workload like? How many
4 flights are you working?

5 A. Like I said, depending on the desk, it ranges. So I --
6 without being specific, mine normally ranges from 35 to 42 on any
7 given day.

8 Q. For an entire shift?

9 A. Yes.

10 Q. Okay. And --

11 A. And that's just flight releases.

12 Q. Okay. So about how many might you be working at a time? Do
13 you know?

14 A. Are you talking in the air or --

15 Q. Actually, both. So yeah, what is your --

16 A. I think --

17 Q. What is the distribution like?

18 A. Normally in the air, you might have around ten or 12. And
19 then your releases, you're just kind of keeping ahead. So
20 generally, as long as you're around 2 hours ahead, you can focus
21 more on what's in the air, and you don't have to be rushing to get
22 releases out. And you can kind of stay on top of that and just
23 use your time wisely.

24 Q. What if you felt like you were -- weren't able to manage all
25 of the flights that had been assigned to you? What do you do?

1 A. You can send a help message up to the sectors, or you can ask
2 if one of your nearby colleagues is -- got some downtime so to
3 speak, or they're caught up. They might be able to take a couple
4 of flights off your desk and alleviate some of the stress.

5 Q. Would they take the flights for the entire duration? Or
6 would they -- might, maybe just help with the initial?

7 A. They might help with the initial releases. And then you can
8 obviously check it over, get your name on it, and go from there,
9 make sure it's up to par with what you'd want to plan it.

10 Q. You mentioned that if you saw some severe weather pop up, you
11 said you might send advice on whether to go around it, and I was
12 curious what you meant by that.

13 A. Well, you can deviate around -- get kind of a reroute, but if
14 the flight hasn't taken off, you want to make sure you confer with
15 the captain. For example, if the flight hasn't calculated out,
16 lock out the flight plan, and -- because you want to talk to him
17 and let him know what has been forecasted, what's -- someone's
18 already encountered, and let them know to not go in that area.

19 MS. WILSON: Okay. That's all I have. Thanks, Matt.

20 MR. ETCHER: Thanks. Steve?

21 MR. ABELMAN: Actually, just one that I can think of right
22 now. So knowing that it's not a requirement at all to use the RPM
23 turbulence layer that's on WSI Fusion, I was going to ask you if
24 you ever use it and find it valuable.

25 MR. BAIER: I've used it occasionally. And it does supply

1 good information, but not on an everyday basis.

2 MR. ABELMAN: Okay. I think that's all I have actually.

3 MR. ETCHER: Okay. Tim?

4 MR. MINER: Thanks.

5 BY MR. MINER:

6 Q. Fatigue is always an important concept to us pilots, and, you
7 know, I -- now that I actually get to ask a dispatcher a question
8 how does -- I mean, with all that, I can't imagine your attention
9 being divided over eight or nine things happening all at once. Is
10 fatigue an issue for dispatchers?

11 A. It can be. It depends on family life, sleep the night
12 before. But yeah, it -- sometimes it can be.

13 Q. Okay. You're normally on 8 -- what, 8 hour shifts or
14 something?

15 A. Nine hour.

16 Q. Nine hour shift? When this happened, when in your shift did
17 it take place may I ask?

18 A. I believe it was the middle of my shift. Middle to -- I
19 think it was middle to the end of my shift --

20 Q. Okay.

21 A. -- when that took place.

22 Q. Yeah. As I said, that's -- it's a -- fatigue's a real big
23 concept for us in the pilot world, so I'm just kind of taking my
24 pilot-ness over into that. The other thing is, long ago, I wrote
25 a book about what pilots do and don't know about meteorology. So

1 I'm curious about what training a dispatcher gets of meteorology
2 just in order to be qualified to be a dispatcher. I'm just
3 curious what --

4 A. Well there's -- that's one of the things they review when you
5 get your dispatch license. So you get meteorology training there
6 with -- it's not by a meteorologist himself, but kind of a base
7 knowledge when you get hired in at the carrier. They'll go over
8 meteorology as well, kind of give you a more in-depth look at what
9 to expect, and what stuff what is, and they'll give you kind of
10 refresher courses as well.

11 Q. So do you get refresher as part of your --

12 A. Yeah. That's --

13 Q. -- periodic training? Do you get --

14 A. Yeah. We --

15 Q. -- updates on --

16 A. Yes.

17 Q. -- the latest --

18 A. We do recurrent trainings. We've got three a year, and
19 they'll add some of that stuff in there, and kind of go over, and
20 give everyone a heads up, like hey, whether it's winter weather,
21 summer weather, look out for thunderstorms, or ice and freezing
22 and stuff like that. So they definitely bring that up.

23 Q. Okay. How long have you been with American?

24 A. I believe just going on 9 years.

25 Q. Were you here when we had our own weather people before --

1 or, I'm trying to remember when we -- when did we break off WSI
2 and -- so you've -- you have never had indigenous weather versus
3 having a weather EWINS contractor?

4 A. Right. Yeah.

5 Q. No --

6 A. I don't believe so. Not as a -- I don't believe so as a
7 dispatcher.

8 Q. Okay. So what other -- what weather resources are available
9 to you up there in that great big football field?

10 A. Besides Fusion and CoSPA?

11 Q. Yes.

12 A. We have Optima. Those are three major ones I can think of
13 off the top of my head.

14 Q. Okay. Do you ever interact with any of the meteorologists
15 directly or anything like that?

16 A. Yeah. If I have a question, if an instrument is out like the
17 no-icer for example, I'll go over and confer with them, is this
18 acceptable? I'll give them time it's -- the flight's supposed to
19 depart, land, what altitude would be best to stay out of icing, if
20 the captain were to accept it. So I kind of get a head start
21 briefing with the weather team before I even bring it up to the
22 pilot.

23 Q. Okay.

24 A. Just so I can give him all the information. I don't have to
25 go back and forth.

1 MR. MINER: Cool. Thanks.

2 MR. ETCHER: All right. Thanks. Charley?

3 MR. DAVIS: I don't have much either. I think everything's
4 pretty well covered, but I -- just out of curiosity, first, is
5 your father Mike Baier?

6 MR. BAIER: Yes.

7 MR. DAVIS: I've worked with him before. He's a great guy.
8 If -- I've called the desk before, you know, whoever's working
9 with me, and somebody else answers the phone, and it wasn't my
10 dispatcher. Another dispatcher was -- some relief, sometimes it's
11 due to a shift change. But other times, they just say, well he's
12 busy or on another phone. So how is the desk covered?

13 On a 9 hour shift, you're going to have to take some breaks,
14 physiological breaks. So how is the desk covered during that 5 or
15 10 minutes you've got to walk away?

16 MR. BAIER: You have a -- normally you're in a quad with two
17 other people, so if you have to use the bathroom, I tend to look
18 around, see if they're both on phone calls. I'll wait, because I
19 want to make sure that they're not doing something. And if
20 they're not on their phones, I'll ask, hey, is it okay if I step
21 away to go get food, use the restroom --

22 MR. DAVIS: Yeah.

23 MR. BAIER: -- whatnot, stand up to stretch my legs. But if
24 they say yeah, it's cool, then I'll proceed.

25 MR. DAVIS: Thank you. Not having worked in your world, I

1 just don't know how that's taken care of, so I was curious on my
2 part. Thanks. That's all I have.

3 MR. ETCHER: All right. Damon?

4 MR. WOOD: I don't have any questions. I think I'll
5 summarize, wait for the group after.

6 MR. ETCHER: Okay. All right. Well you made it through
7 halfway. So are you doing all right? The last half is always the
8 easiest half.

9 MR. BAIER: Yeah.

10 MR. ETCHER: Do you need a break?

11 MR. BAIER: I'm good.

12 MR. ABELMAN: Could I take a break?

13 MR. ETCHER: Absolutely.

14 (Simultaneous speaking.)

15 MR. ABELMAN: Awesome.

16 MR. ETCHER: Let me hit pause, and --

17 (Off the record.)

18 (On the record.)

19 MR. ETCHER: Good?

20 MS. WILSON: Yep.

21 MR. ETCHER: All right. I only have a very few follow-ups.
22 You've -- like I said, you've really helped me understand a day in
23 the life of what a dispatcher goes through here, and that helps.

24 I'm afraid I only touched the iceberg, because there's always
25 more. You know, when you see somebody working and you actually

1 work, it becomes second nature for you. But you've really helped
2 me understand it, and I just had a few little follow-up questions
3 hopefully.

4 BY MR. ETCHER:

5 Q. I don't remember who asked it, but you said something about
6 as long as you get your release in 2 hours prior?

7 A. Well, you can kind of plan, usually I like to kind of get a
8 set plan on what I'm going to do. I don't sign it until about 15
9 minutes before it's supposed to calculate. I'll review it, make
10 sure nothing's changed weather-wise, or any FPGs or SIGNETs have
11 popped up in the route that I kind of profiled on, or any weather
12 changes throughout that also. But I like to double-check my work
13 before it's finalized.

14 Q. Is there a requirement to get a release in by a certain point
15 before the flight's scheduled pushback or modified pushback time?

16 A. Typically it's about the -- it calculates about 75 minutes
17 before the flight takes off for the domestic. And sometimes it
18 can be late if you have a maintenance issue, or if you do get
19 behind, you want to focus on what's in the air and flying versus
20 those can kind of wait so to speak.

21 Q. What happens if that 75 minutes has expired and there's
22 nothing in the system?

23 A. You can just bring up your flight plan and force it through.
24 You can also -- sometimes the pilots will call and say, we don't
25 have anything in the system. Tell them kind of, hey, I've got

1 this issue going on. I'll get to it as soon as I get this
2 resolved. And that's also where you can send a help message and
3 one of your coworkers next to you, like I said earlier, if they're
4 caught up and everything's going fine on their desk, they can step
5 in and help as well.

6 Q. Okay. Excellent. I think Steve might have asked you about
7 RPM on Fusion. Did I get it right, Fusion?

8 MR. ABELMAN: Um-hmm.

9 MR. ETCHER: Okay.

10 MR. ABELMAN: And Optima.

11 BY MR. ETCHER:

12 Q. And you said you don't -- you look at it -- I don't remember
13 exactly what you said, but you look at it once in a while --
14 not --

15 A. Depending on some of the weather patterns, I'll bring it up,
16 but normally on Optima. But my main screen is Fusion that I like
17 to -- I don't have it set up on Fusion.

18 Q. When you look at RPM, and I know it -- sometimes you bring it
19 up you said, so obviously something's made you think, let me go
20 look at it. Is it easy? Is it user friendly I guess maybe is a
21 good word to use? Or is it one of those things that's like, oh,
22 I've got to go here again?

23 A. Starting out, obviously you're learning the system, so
24 nothing's user friendly. But over time once you get antiquated
25 [sic] with it, yeah.

1 Q. Okay. All right. And somebody had asked you a question
2 about training. And you said something about you have three
3 recurrents a year. Or it -- do you have three recurrents? Or
4 they have three recurrent schedules available a year?

5 A. Well they have classes each -- sometimes -- I can't remember
6 if it's like a month or a month and a half long, but it's
7 available for everyone. Every dispatcher must attend --

8 Q. Okay.

9 A. -- and partake in it, and that's usually flowed into the
10 scheduled.

11 Q. Okay. So, just so I understand, like I think pilot things,
12 sorry, so I'm going to bring it down to my level if you will.
13 Like a pilot has recurrent training they do every year where they
14 come in, they sit in a ground school, they get a couple days
15 course to refresh their brains, and do some sim work, things like
16 that.

17 And then throughout the year, they have -- every quarter they
18 have some distance learning or quarterly learning. Everybody
19 calls them something different. Does dispatch have something like
20 that where you get refreshers brought to you every quarter, like,
21 oh, winter months are coming up, let's start talking about --

22 A. Yeah. That's what they do in recurrent training.

23 Q. So that's --

24 A. And they'll do -- give you quizzes, make sure you're
25 understanding it still, and --

1 Q. Okay.

2 A. -- go from there.

3 Q. Okay. Do you -- I'll be honest, when I had to go through
4 recurrent training, I didn't always feel like it was the best use
5 of my time, but that just might have been me at a younger year.
6 But how do you feel like your recurrent training is? Is it -- do
7 they bring up new information every year for you?

8 A. Yes. New and refresher --

9 Q. Okay.

10 A. -- information, which is helpful.

11 Q. Okay. Do you ever do any recurrent training with pilots?

12 A. I don't believe there's any pilots in there, no.

13 Q. Have you ever done training with pilots?

14 A. For a recurrent class?

15 Q. Recurrent or when you first got on here as a dispatcher?

16 A. I don't believe so.

17 Q. Okay. Would that help you at all do your job better, to
18 interact with the people that you're half responsible for the
19 flight with?

20 A. I -- it gives another side or another look. And you also get
21 that when we do our yearly comp check, our jump seat. And you --
22 like I said, you can Q&A with the pilot in there and ask questions
23 that you might not have gotten to ask. So that provides another
24 opportunity.

25 Q. Okay. Do pilots -- when you're sitting on the jump seat on

1 that -- was it 5 hours every year, every 2 years you have to jump
2 seat?

3 A. Yeah. It's roughly domestic 5 year --

4 Q. Okay.

5 A. -- or 5 hours a year.

6 Q. So when you're doing that, do pilots love the Q&A? Do they
7 like --

8 A. Yeah. Because they have their questions as well. So yeah,
9 it's a good back and forth.

10 MR. ETCHER: Okay. Excellent. All right. I think you've
11 answered all of my questions. So I don't want to disrupt, you
12 know, keep you any longer. But I want to go around and give
13 everybody else a chance.

14 BY MS. WILSON:

15 Q. My apologies if you already were asked this and you answered,
16 but are you assigned to a particular section of the country or are
17 your flights all across the U.S.? How does it determine what
18 flights you're working?

19 A. Basically when bid the schedule for the year, you kind of
20 know what's where. So you can bid your desk, and you know kind of
21 what flights are going to be there. But yeah, generally flights
22 are sectioned off a little bit where you'll have east coast on one
23 section, and then west coast, and then some of the trans-cons.
24 But yeah, it's generally divided up --

25 Q. Okay.

1 A. -- evenly throughout the U.S.

2 Q. What do you like to work?

3 A. Well I work the east coast. But with weather sometimes, you
4 don't like to work it. But --

5 Q. And you said you work a 9-hour day. What are your hours?

6 A. It shifts this year, but I have a trade partner. It's 4:00s
7 and 5:00s in the morning.

8 Q. Okay. What is typically the time of the first flight?

9 A. When I get there and I take over for the midnight shift,
10 there's usually a couple of flights in the air. So kind of want
11 to know what's in the air, where it's going, if they're going to
12 be coming up on anything. So you finish the flight following from
13 the midnight shift, and then they'll write your releases up
14 about -- depending on the dispatcher. It's hard to say -- give an
15 example. But you can be anywhere from 30 minutes to about 45
16 minutes.

17 So it's your job to kind of review it and make sure
18 everything's still good and how you want it. And you can take
19 their name off, and do it your way, and put your name on there.

20 Q. Okay. And how many dispatchers are typically working during
21 a shift? Do you know?

22 A. I don't know off the top of my head.

23 MS. WILSON: Okay. That's all I had. Thank you.

24 MR. ETCHER: Thanks.

25 MR. ABELMAN: Just one follow-up for me. Your recurrent

1 training, are you aware of -- well, let me ask you it differently.
2 In your recurrent training, have -- say over the last year, have
3 there been updates from the Turbulence Task Force or about
4 turbulence in your recurrent training?

5 MR. BAIER: Yes.

6 MR. ABELMAN: Okay. That's it for me.

7 MR. MINER: One of the articles I wrote for the Turbulence
8 Task Force was actually going into ATC and seeing how ATC handles
9 turbulence information. And it was a real eye opener for me about
10 how these people sitting in little cubicles and then radars next
11 to each other never talk to each other. And it -- drawing on
12 grease pencil, there is a place where you all need to interview by
13 the way, because they're part of this team as well.

14 But when you come in at 4:00 or 5:00 in the morning, do you
15 all talk to each other? Do you have a pregame huddle, or sit
16 around and hug each other, or do something that -- where you get a
17 weather briefing and you get the big picture, and you talk about
18 flow control and who's going to do what and where?

19 MR. BAIER: Yeah. Typically whenever we come in and take
20 over the desk from the midnight shift or what -- whatever shift
21 you're following or coming in after. You get a briefing from
22 them. They kind of tell you weather to look out for, any
23 maintenance issues, and yeah. They give you -- each person that's
24 ending the shift will give you a briefing on what they've dealt
25 with the entire shift for your desk.

1 MR. MINER: Okay. So if you have a turbulence incident, or
2 you know of turbulence taking place in some part of the country,
3 we know that -- at least I'm up there flying, looking at my iPad,
4 and I know that PIREPs may pop up. Sometimes they don't. I'm
5 listening to things that I'm hearing, and I'm not seeing any icons
6 popping up on my WSI, the iPad system.

7 How do you -- do you ever communicate it to the guy -- to the
8 desk next to you, or the desk over there or something that hey,
9 something else is going on out here that we're not -- how do you
10 let other people know what's --

11 MR. BAIER: You mean the fellow dispatchers? Or the
12 flight --

13 MR. MINER: Yes. Fellow dispatchers.

14 MR. BAIER: There's a screen printer that we can send out
15 that each dispatch desk has. We get it on our DEX screen and --
16 our Sabre screen, and send the message out to everybody, let them
17 know, hey, this flight's encountered this at such flight level,
18 and you give -- kind of give them a heads up to look out for it so
19 they can dodge it pretty much.

20 MR. MINER: That's cool. That's much better than what's
21 going on out there in the ATC world. They -- as I said, they
22 don't talk to -- they have to throw paper at each other in certain
23 places. Great. Thanks.

24 MR. ETCHER: Is that it?

25 MR. MINER: That's all I have, sir.

1 MR. ETCHER: All right.

2 MR. MINER: Thank you.

3 MR. ETCHER: Thanks. Charley?

4 MR. DAVIS: I don't have anything else.

5 MR. ETCHER: Got nothing, huh?

6 MR. DAVIS: Got nothing.

7 MR. ETCHER: All right. Damon?

8 MR. DAVIS: You should have known that yesterday.

9 MR. WOOD: I just did have a question.

10 BY MR. WOOD:

11 Q. So, Matt, when you come in, and you said you start 4:00 and

12 5:00 a.m. of this year. Is the dispatcher that you're relieving

13 that's working the midnight shift, they're there for a little bit

14 of time, is that not true?

15 A. Correct.

16 Q. Okay. So if you had -- if there are any questions that you

17 would need to ask of anything that they're there to say, hey, I

18 didn't quite get this, is this what's going on? Is that correct?

19 A. Yes. They're there.

20 Q. Okay. And that's normally for a period of how long?

21 A. They can be there two -- I think for a 4:00, they're there

22 until 6:30 in the morning.

23 MR. WOOD: Okay. Thank you.

24 MR. ETCHER: Is that all you got?

25 MR. WOOD: Yes.

1 MR. ETCHER: Okay. Perfect. Well, like I said, you've
2 answered a ton of questions and you've given us a lot of
3 information. My head feels like it's swelling, so thank you for
4 letting us record. That will help me refresh my brain for the
5 stuff I've missed.

6 But before we end, I always want to give you the opportunity,
7 because we've asked you questions, but sometimes we've missed the
8 right question, and you're like, oh, if they just ask this it
9 might help them a lot. Is there something that you think we
10 should have asked that, you know, I didn't?

11 MR. BAIER: Not really. Not off the top of my head. This
12 has been a new experience, so it's -- I'm just kind of taking it
13 all in at this moment. So I --

14 MR. ETCHER: Well hopefully it's not a bad experience.

15 MR. BAIER: Oh no.

16 MR. ETCHER: Okay.

17 MR. BAIER: Yeah, I don't have any questions --

18 MR. ETCHER: Okay.

19 MR. BAIER: -- or any feedback right now.

20 MR. ETCHER: And the last question I have is one I always try
21 to ask because, you know, if you were king for a day, they came in
22 and said, Matt, what changes do you want to see made to make your
23 job easier? Or is there such a change? Is your job perfect? If
24 you were king for the day and you could say, this is what I want,
25 and they said, yea verily, there it is, what would that be?

1 MR. BAIER: Well obviously for me personally, more desk.
2 We -- we've hired lots of dispatchers. It just -- more desk would
3 be nice to help kind of distribute so you're not doing more than
4 40 releases a day or a shift, and kind of help cut back on that.
5 That's generally about it. Everything else is pretty good that --
6 from my standpoint being kind of newer. I've still got a lot to
7 learn, a lot to go on my career. So --

8 MR. ETCHER: Okay. Well again, thank you so much for the
9 time. Sorry it's -- we've taken as much of it as we have.
10 Hopefully it didn't feel like it was an all-day event for you, but
11 again, you've really helped me understand what you do, and how
12 this all -- what all you look at. I didn't really appreciate it
13 when (indiscernible), so I want to say thanks for giving us that
14 information. And if nobody else has anything, I guess we're done,
15 and you can go about your day, and hopefully it's more easy now.

16 MR. BAIER: Yeah.

17 (Whereupon, the interview was concluded.)
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CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

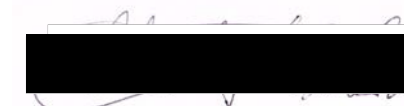
IN THE MATTER OF: AMERICAN AIRLINES TURBULENCE EVENT
NEAR RICHMOND, VIRGINIA
DECEMBER 2019
Interview of Matthew Baier

ACCIDENT NO.: DCA20CA043

PLACE: Richmond, Virginia

DATE: January 29, 2020

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.



Christy Wilson
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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AMERICAN AIRLINES TURBULENCE EVENT

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NEAR RICHMOND, VIRGINIA

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Accident No.: DCA20CA043

DECEMBER 2019

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Interview of: STEVE ABELMAN, Weather Technology Manager
American Airlines

American Airlines
North Simulator Building
Room 3S-392
Richmond, Virginia

Wednesday,
January 29, 2020

APPEARANCES:

SHAWN ETCHER, Air Safety Investigator
National Transportation Safety Board

KATHERINE WILSON, Human Performance Investigator
National Transportation Safety Board

CHARLEY DAVIS, Technical Pilot
American Airlines

TIM MINER, Captain
Allied Pilots Association National Safety Committee

DAMON WOOD, President
Professional Airline Flight Control Association

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Steve Abelman:		
By Mr. Etcher		5
By Ms. Wilson		22
By Mr. Miner		27
By Mr. Davis		29
By Mr. Wood		33
By Mr. Etcher		41
By Mr. Miner		48
By Mr. Davis		50

I N T E R V I E W

(12:33 p.m. EST)

MR. ETCHER: All right, well, Steve, good afternoon.
Actually it's good morning. It's only 11:35.

MR. ABELMAN: Right.

MR. ETCHER: As I've introduced myself to you already, I'm Shawn Etcher with the NTSB operational factors group. We're just here to learn what we can of the knowledge you have when it comes to weather. So help us understand. I know you probably didn't have anything to -- were even associated with this event at all, but we want to get the knowledge you have about weather and help us understand it better.

MR. ABELMAN: Got it.

MR. ETCHER: I know you've met the group here, but we're going to go around just for the recording, have them introduce themselves as well, just so we have that on the recording. And we'll start with Katherine.

MS. WILSON: Katherine Wilson, human performance with the NTSB.

MR. MINER: Tim Miner, APA, National Safety.

MR. DAVIS: Go ahead.

MR. WOOD: Damon Wood, president, PAFCA-AAL.

MR. DAVIS: And Charley Davis, technical pilot, E190.

MR. ETCHER: So that's the whole group you get to work with during this investigation anyway, but it's more importantly that,

1 you know, you understand who we all are.

2 As you know, as part of the regulations, you're entitled to
3 one representative, but I understand you don't need to have one
4 here with you or wish to have one; is that correct?

5 MR. ABELMAN: That's correct.

6 MR. ETCHER: All righty. And just so you're aware, we are
7 recording this. We're going to have it transcribed, just so we
8 capture your information correct and factually, and not a summary,
9 which can be subject to interpretation. Are you okay with us --

10 MR. ABELMAN: I'm fine with recording.

11 MR. ETCHER: All right, excellent. During this discussion,
12 if you don't understand a question, please ask to clarify it,
13 because I'm going to ask lots of questions of you when I don't
14 understand something. And if you need a break, just say so. It's
15 perfectly acceptable to do that. "I don't know" is a great answer
16 as well if you don't know an answer.

17 MR. ABELMAN: Okay.

18 INTERVIEW OF STEVE ABELMAN

19 BY MR. ETCHER:

20 Q. So we'll start off with the really tough questions. Can we
21 get your full legal name?

22 A. It's Steve Abelman.

23 Q. And can you spell the last?

24 A. A-b-e-l-m-a-n.

25 Q. All righty. And what is your job title?

1 A. My title is the manager of weather technology for American
2 Airlines. It has several parts to it. I oversee the -- our EWINS
3 contract with The Weather Company who is our weather provider,
4 also known as WSI but now The Weather Company/IBM, actually. I
5 oversee the EWINS. The EWINS is our certification to allow
6 American Airlines to use The Weather Company as our source, our
7 sole -- our primary source of weather information.

8 I also -- probably more relevant for this group, I lead our
9 turbulence task force, which is a group that is, you know -- we
10 have folks from almost every line you can imagine as part of the
11 task force at American Airlines with the goal of trying to reduce
12 turbulence-related injuries as our top priority, especially to
13 flight attendants right now. So we're spending a lot of time and
14 effort on that, and there's a lot of folks engaged in that. And I
15 suspect we'll get there in further questions down the road.

16 I also -- from a background perspective, and I guess that
17 question is coming next, I was a meteorologist on shift when
18 American Airlines had their own meteorologist back in the -- for
19 about 15 years back in the '90s and early 2000s. And that
20 included, you know, forecasting turbulence, writing TAFs. So I
21 have a lot of experience there. I went to a company called
22 Weather News, where we briefly had the American Airlines contract
23 outsourced. That didn't work out. Then American went to The
24 Weather -- well, which was WSI at that time. Then I went over to
25 the Weather Service for a few years. I went to the FAA and

1 managed their aviation weather research program, which included
2 basically the primary source of funding for all the turbulence
3 research that you saw at NCAR on the GTG and the products that you
4 saw there. So yeah, so I've been doing this for quite some time,
5 so --

6 Q. A year or two, huh?

7 A. A couple years, yeah.

8 Q. All right. You said you're on the turbulence task force here
9 at American. When did that start?

10 A. Oh, man, I may have to give an I don't know. A couple
11 years -- I believe -- so I've been on the turbulence task force
12 for about 3 years, 2½ years since I've been here. I think it
13 started maybe 2 years before that? I'm looking at Tim --

14 MR. MINER: That's correct.

15 MR. ABELMAN: Okay. 5 years. So about 5 years.

16 BY MR. ETCHER:

17 Q. Then you didn't have to give me an I don't know.

18 A. I didn't because I looked at Tim.

19 Q. All right. During that 5 years, what changes have -- or at
20 least the time you've been on there. Let me start with that.

21 What changes have you seen come out of the turbulence task force
22 to help, or is it still in the gathering data --

23 A. Well we're always data gathering, but I think there's been
24 some really significant, important changes that have come out that
25 the team has put together. I think first and foremost is we're

1 analyzing data better than we ever have. We have a set of
2 automated TAPS data, which allows us to do deep dives into these
3 events like we've never been able to do before. In other words,
4 so many of these turbulence events occur without really good
5 information, because you know, without a good pilot report,
6 without a good report from the flight attendant, without a good
7 injury report, this TAPS information has allowed us to develop a
8 process by which we review events and start to -- we've started to
9 come up with statistics that are -- we're spreading across the
10 company now. And I can give you some key examples of those
11 statistics maybe in a bit, or we could do that now.

12 I also think we've really emphasized the fact that one of the
13 things we see over and over again is that three-legged stool of
14 communication. And it's actually a fourth leg if you -- you know,
15 between meteorology, dispatch, the pilot and the flight
16 attendants. We need to, we need to make that stool as efficient
17 as we can to avoid -- and turbulence information. And we're
18 putting out a lot of information in that respect to try to make
19 that better.

20 It's such broad groups. There's such huge numbers of pilots
21 and flight attendants. You know, dispatch are a little more --
22 you know, we can, we can get a little bit more handle on the
23 dispatch, because at least they're local. But it's just, it's a
24 hard, it's a hard project. And so I think we've done that. You
25 know, we want to improve and try to -- just in general, our

1 reporting procedures. I think we've made some strides in --
2 especially on the pilot side. When there is an event, there's a
3 much more structured format now that the pilots are following to
4 report their injuries.

5 We have really important union representation and very --
6 what I think is a very, very cordial and very respectful and
7 very -- you know, union representation. With Tim being on the,
8 Tim being on the team, if we want to go talk to a crewmember
9 during an event, Tim reaches up and gives the crewmember a call,
10 and there's nothing accusatory. We have dispatch. Steve Smith
11 and Alex are on the team. If we want to go back and look at an
12 event, we can go talk to them. And there's never an accusatory
13 tone to any of this. It's really fact-finding. It's really
14 trying to get information.

15 We're increasing our TAPS aircraft now. We are in the --
16 we've had 700 -- we've had about 350 to 400 737s, 757s and 767s
17 equipped with TAPS, which I'm going to -- I am not going EDR or
18 anything there. I'm going to say, which is just a way to --
19 objective turbulence reporting. And so we have that now. When it
20 hits a certain level, it reports. Our 777 fleet is now fully
21 equipped, which adds another 75-ish aircraft. 77? I'm trying to
22 remember the number. 77. And the A320 family is about 20 percent
23 equipped, which will add another close to 300 to 400 aircraft. So
24 we're going to lead the industry with over 800 automated,
25 objective turbulence reporting aircraft here probably by March,

1 which is about a year later than we were -- we had hoped. So all
2 that data flows into Fusion. All that data flows into Optimum.
3 So you know, from a situational awareness perspective, it's going
4 to be very important to do that, so --

5 That's probably the main thing, is the turbulence task force,
6 as I'm sure Tim is going to add some when it comes to his turn to
7 talk. But those are probably the main, the main factors that
8 we've been working on. Anyway.

9 Q. Okay. All right. No, that's good. Thanks. We'll go back a
10 little bit, because you talked about statistics and what you guys
11 are seeing and how you're applying them and all that. Kind of,
12 enlighten me on that, would you?

13 A. So probably the three or four most significant statistics we
14 have is we look at the higher end of these turbulence reports
15 from, sort of, that midlevel, moderate range through the severe
16 range. And it's been consistent now for the 2 or 3 years we've
17 been doing this data that about 70 percent of those reports are
18 occurring in ascent and descent below 20,000 feet. So we've
19 really focused on saying, look, you know, those ranges in the
20 low -- in the teens when we're coming in and, you know, there's a
21 lot of weather around, we're opening the eyes to the people around
22 us about that one.

23 I think we're saying at least 50 to 60 percent are associated
24 with convective weather, and another 30 percent of those are
25 associated with clouds one way or another. We're only seeing

1 about 20 percent of the reports, or maybe even less than that,
2 that are similar to this accident, that are capped. Similar to
3 this particular event, which was fully clear air. There is
4 almost -- like I said, it's about 80 percent of the time that
5 we're seeing events that are associated with convection or clouds.

6 And probably the last one, which is also relevant to this
7 situation, is we were -- initially thought, I think, most flight
8 attendant injuries were occurring in severe turbulence. And we
9 found out that most flight attendant injuries are actually
10 occurring in light or light to moderate turbulence, to about a 50
11 percent of the range. And we -- again, to reiterate how we do
12 this, we're using our TAPS dataset and estimating it fleet-wide.
13 In other words, we're saying it's a fair subset. Statistically,
14 there's probably some differentiation, but that's probably the
15 most significant impact. And I think the reason is -- you know,
16 the reason we're seeing that is I think there's between dispatch
17 doing a better job, pilots doing a better job, meteorologists
18 doing a better job of avoiding severe turbulence areas, or we have
19 that information at our disposal. I think we're doing a better
20 job avoiding these severe outbreaks. But the light and moderate
21 ones, you know, we're not necessarily supposed to avoid, and
22 that's where we're trying to work on communication.

23 So I'll throw in one statistical anomaly that's going to
24 start happening here soon, and it's with the 777 fleet coming
25 online. It's going to mess with our statistics a little bit

1 because, with the 73, I don't know, what does it average? Maybe
2 five or six departure and arrivals a day, maybe even more than
3 that?

4 MR. MINER: Each aircraft --

5 MR. ABELMAN: Each aircraft.

6 MR. MINER: -- you probably get, you probably get six
7 (indiscernible) aircraft a day, so --

8 MR. ABELMAN: So that means six times during a day and
9 percentage and mileage and all that. You're going through those
10 where the 70 percent is, right? You know, the 777s are going to
11 change that, because they're doing two a day.

12 MR. MINER: Two a day.

13 MR. ABELMAN: Yeah, so that's going to change that. So we're
14 going to have, I think, we're going to have to separate those
15 statistics when we start incorporating those in. So yeah, that's
16 the main -- there's other things I think we can infer, but those
17 are where we're trying to really focus on those statistics.
18 Because what we want to do with those statistics is go after the
19 lowest hanging fruit. If we see that most of our flight attendant
20 injuries are occurring, you know, between 15,000 and 25,000 feet,
21 then that's the message we're starting to spread. And it's not
22 going to cover all the events, unfortunately. But we can go after
23 the most -- the lowest hanging fruit and try to get there.

24 BY MR. ETCHER:

25 Q. Do you see, in your turbulence task force, do you see -- I

1 know you see a particular altitude where most of them occurred.

2 Do you see a particular fleet type, or any correlation of --

3 A. We haven't done that analysis yet. I don't think -- I

4 can't -- no, I have not yet. I think that's an, that's an area we

5 want analyzed a little bit -- I will say that there is a -- what I

6 believe is a bit of a disproportionate amount of turbulence events

7 that occur in aircraft that do short hauls, because there's not a

8 whole lot of time for the flight attendants to do their service,

9 and I think sometimes we're trying to push to do that service.

10 And so I think there's a -- but statistically, I have to prove

11 that. But there are -- we have studied events where you kind of,

12 you kind of wonder, you know, why we tried to serve in that

13 particular situation. You know, again, this incident was not one

14 of those, where it was much more, whoa. But there are -- so I

15 think those short hauls are maybe a little bit more

16 disproportionate, but I don't think that's necessarily a fleet

17 type. Yeah.

18 Q. What do you call -- what do you classify as a short haul?

19 A. An hour. An hour, hour and a half or less.

20 MR. MINER: 190.

21 MR. ABELMAN: Yeah, a 190. Yeah. You know. Those may have

22 a little more -- and they're also flying at lower altitudes, which

23 again, points to another challenge, right? We're not getting over

24 the clouds necessarily, right?

25 MR. ETCHER: Right. Okay.

1 BY MR. ETCHER:

2 Q. Now I know you guys are getting all this great data in. You
3 know, the TAPS is giving you enormous amounts of data, and you'll
4 probably get more the more planes that come online. And I know
5 you guys look at that, but do you share that data with anybody, or
6 is it held all here in-house?

7 A. So we have a proprietary issue with -- I won't say "issue."
8 We have a proprietary agreement with The Weather Company, because
9 The Weather Company is adding value and making that data relevant
10 to each of our fleet size. So we are open to doing more sharing.
11 I've been working with this IATA group that's doing data sharing.
12 We are, we are actively pursuing ways to share and exchange data.
13 So I would say the American Airlines policy is we have no problem
14 exchanging and sharing that data.

15 The process by which that's in place is not fully -- I think
16 you'll see that all across the agency right now. There's also the
17 challenge of understanding objective data. We use TAPS, which is
18 a little different than this EDR thing that's standardized across
19 the country. So I think that's a very important direction that
20 all airlines need to go with exchanging this data. We need to get
21 it to ATC. We need to -- you know, so there's -- the tough answer
22 to that question is no. I mean, but it needs to happen. It's not
23 because of a lack of -- it's not because we're trying to make it
24 better -- that we're better than anybody else. It's just
25 difficult, it's difficult data to exchange, figure out how to

1 exchange it.

2 Q. Right. Okay. And that explains a lot there, just --

3 A. Yes.

4 Q. -- getting that data going. All right. Now you guys are
5 equipping your airplanes with TAPS and all that. Is there any
6 other programs you guys use to analyze turbulence?

7 A. Yeah, yeah. So we -- in a, in a test mode -- and actually,
8 Tim can tell you more about this than me. There's an iPad
9 program. Why did I --

10 MR. MINER: SkyPath?

11 MR. ABELMAN: SkyPath. Yesterday I couldn't come up with the
12 name either. And I was sitting talking to somebody about it. But
13 anyway, there's an iPad program called SkyPath which we've tested,
14 which we're -- which Tim's group and some check airmen are
15 testing. And it's going to spread a little bit, which is just
16 using the accelerometer on the iPad to report what actually
17 reported from the aircraft. And then they kind of data -- they
18 kind of bring the data together at the SkyPath level and, you
19 know, then distribute it out. It's still a test mode. There's
20 challenges. We haven't figured out how to get dispatch that data.
21 We'd have to figure out how to get our weather provider access to
22 that data. So there are still challenges that have to -- that are
23 going on, but that's being tested.

24 Obviously standard -- you know, I know that -- you know, I
25 also do get to sit in the cockpit on occasion, which is, which is

1 nice. I just started about a year ago. And I've done some
2 sitting up there in cockpit, and I know how important the chatroom
3 is. I know how important information exchange -- and I know when
4 you go from one sector to the next, that you ask about ride
5 reports. And so I think, you know, we're always encouraging
6 standard PIREPs as well. I mean, I think you can't get away from
7 that.

8 We've played around a little bit with what Iota's doing with
9 their global data sharing turbulence aware program. We've played
10 around with it. We have not tested that in real time yet. We
11 have some access to that in the turbulence task force. So I think
12 that's it.

13 MR. ETCHER: Okay. All right.

14 BY MR. ETCHER:

15 Q. Kind of step back just a little bit to statistics. I'm sure
16 in the turbulence task force you guys are looking at flight
17 attendant injuries, passenger injuries, crew -- you know, all the
18 injuries. Would you say the injuries are predominantly flight
19 attendants, a mixture between flight attendants and passengers?

20 A. Way predominantly flight attendants. I think passenger -- I
21 think. Again, this is an I think, not -- an I think, not an I
22 have stats. Yeah. This is an I think. I'm fairly certain that
23 passenger injuries have really been declining on a regular basis
24 because of just some things that the turbulence task force --
25 before I even started, with the urging of passengers to keep their

1 seatbelts on while they're seated at all times. I think those
2 kinds of things have really made a difference, and passenger
3 injuries are less.

4 We study very -- we study a couple passenger injury events a
5 year. That doesn't mean we're getting all the information on some
6 minor injuries, but the significant number of passenger injury
7 events, I think, are substantially down. Knock on, you know,
8 knock on wood. But flight attendant injuries are what we're
9 seeing, continue to see on a regular basis.

10 Q. And I know you don't have the numbers in front of you, but
11 you know, we don't do a lot of accident turbulence events with
12 American. So they don't meet the accident criteria, but they
13 don't stand up a task force just for a few accident criteria
14 turbulence events. So obviously, there's other turbulence events
15 that don't meet that criteria. On average, do you have an idea of
16 how many events you guys have seen occurring either, you know,
17 percentage over flight hours, or so many a week or a day?

18 A. You know, I don't know. I mean, I -- we study those events
19 and we see those numbers on occasions. And you know, there are
20 some numbers of kind of compiling everything. And I, and I could
21 probably say that number. I'm just not sure I'm comfortable
22 saying it because of the reason that it's -- everything from a
23 burnt coffee spill on the pinky to, you know, a more, a more
24 serious thing that doesn't quite meet the accident level.

25 So I mean, I'll say this. I think that the injury numbers

1 we've studied the last couple years are pretty steady state. We
2 don't see, we don't see the decline in the, in the injuries that
3 we had hoped yet in flight attendant injuries. Being said, you
4 know, we still don't have a completely statistical enough dataset
5 to do that. And I'll, and I'll get into that also. And I think
6 one of the reasons is because that the reporting is still a work
7 in progress. Getting reports is still a major work in progress,
8 especially on the flight attendant side. And we have started --
9 myself and a gentleman from United named Nathan Polderman (ph.)
10 which you might have met. He sort of has my position at United.
11 And then one of the guys from Delta. His name is Christian Velya
12 (ph.). We started about a few months ago this group called ITSAT,
13 which is Industry Turbulence Safety Action Team. We're going to
14 be part of Infoshare starting in April.

15 And what -- we came up with three priorities. And one of
16 those three priorities was to sort of standardize our reporting,
17 to come up with an industry standard for reporting, because right
18 now it's very, it's very difficult. You know, we get information
19 from workman's comp. We get information from our SIRs reporting.
20 We get information from something that the dispatcher and pilot
21 will put together; that's a SIRs event, you know. But it's
22 difficult. So that's another priority of the turbulence task
23 force that I missed, maybe, when we were talking about it. It's
24 to try to standardize and get our information reporting as good as
25 it can get, because that is tricky. It is tricky now. Sometimes

1 you don't hear about a flight attendant injury until 3 days after
2 it happened; other times you get all the information right away,
3 so --

4 Q. Okay. You said it's hard to get that information from flight
5 attendants. What's the logjam or the challenge of it?

6 A. I think it's the, I think it's the reporting systems that are
7 in place. I think there's, you know, the types of reporting
8 that -- and maybe it's -- maybe I misstated that a little bit. I
9 don't know if it's as, like, hard to get the information. It's
10 hard to get good information. Because when a flight attendant is
11 injured, she's not telling you what time it was or where it was or
12 where it happened, and then she's got to, a few days later, kind
13 of go back and get that information. There's no objectivity to
14 that. It's a lot of subjectivity to where in the flight that --
15 you know, we've studied aircraft events where we've seen the TAPS
16 reports have been, it's been bumpy for about an hour. And then
17 later, we find out that the flight attendant was injured. I have
18 no idea where in that hour, what actual area that flight
19 attendant -- and an hour in a flight can be, what, how many miles?
20 500 miles? So that -- you know, trying to get more subjective --
21 objective data from the flight attendant side is really our
22 challenge right now.

23 Q. Now do you guys only just go after getting information from
24 the injured flight attendant, or do you guys reach out to her
25 associated crew and ask if they recall anything?

1 A. That's an I don't -- I'm not totally sure.

2 Q. Okay. No worries.

3 A. Yeah, not totally sure.

4 Q. Now I know you've got this turbulence task force, and it's
5 working -- how often do you guys meet?

6 A. Twice a month.

7 Q. Twice a month. And is that like a half-hour meeting, or is
8 it like a --

9 A. It's an hour and a half. It's an hour and a half twice a
10 month. It's attended by -- here we go: dispatch, flight service,
11 flight safety, APA, PAFCA, flight attendant union --

12 MR. MINER: APFA.

13 MR. ABELMAN: APFA. Thank you. The Weather Company, our
14 meteorology group. We're starting to engage the regionals a
15 little bit more. Envoy is attending on a regular basis. We want
16 more information from them. Envoy Flight Service has just started
17 attending. I'm sure I'm missing folks off the top of my head.

18 MR. MINER: Workman's comp.

19 MR. ABELMAN: Workman's compensation, which is doing a lot of
20 the injury data analysis for us, which is (indiscernible). Yeah.
21 So we have a large group. It's fairly well-attended, and it's
22 grown. You know, and so we're trying to come up with metrics to
23 figure out, you know, are we doing what we're supposed to, what we
24 want to be doing. And I think, I think subjectively, we think so.
25 Objectively, it's still challenging. Yeah.

1 MR. ETCHER: Okay.

2 MR. MINER: As well as the briefers that go after CoSPA and
3 all our senior management.

4 MR. ABELMAN: That's true.

5 MR. MINER: So we have, we -- it actually has the
6 communications people that will take it up to the vice president
7 and president level on a regular basis.

8 MR. ETCHER: Sure. So during your meetings, you know, if you
9 guys see a change that needs to be made, like maybe we need to
10 classify that when we say it's moderate turbulence, when a crew
11 tells the flight attendants it's moderate turbulence, you know, we
12 need to standardize that across the board; it's different in all
13 the fleets. Or flight attendants hear one thing and -- do you
14 guys have that authority to make that change and then disseminate
15 it out, or do you make suggestions and --

16 MR. ABELMAN: Suggestions. Absolutely no authority to make
17 those changes. But I think our, I think -- you know, a lot of the
18 things that are being done from a procedural, you know, from a
19 procedural standpoint are -- start at the turbulence task force.
20 I think this recent -- you know, probably one of the more
21 important things we've done recently is just more objective
22 information exchange between the pilots and the flight attendants.
23 It's been, it's been mandated.

24 And Tim was, you know, involved in getting out the
25 information just to -- you know, we constantly saw times where we

1 scratched our heads that flight attendants weren't seated. Not
2 constantly. We occasionally saw times where we scratched our
3 heads when flight attendants weren't seated and thought that there
4 should have been more communication between the pilot and the
5 flight attendant during this event. And so we just, we were able
6 to take that, put some things together, and then the flight
7 department went out with the mandate, went out with the whatever
8 it's called. What's the --

9 MR. MINER: Where we change the flight ops manual.

10 MR. ABELMAN: Yeah.

11 MR. MINER: When I get to my question, I'll ask the question.
12 Then we'll draw it out.

13 MR. DAVIS: Where the line -- yeah, (indiscernible) the
14 flight attendants for standard phraseology was the main thing. I
15 mean, standard terminology. Yeah.

16 MR. ETCHER: Okay.

17 MR. DAVIS: That came from your group.

18 MR. ETCHER: All right. I think I'll pass it along, let
19 other people ask you questions, because you've got to be getting
20 tired of listening to me and talking with me. So I'll let you --

21 MR. ABELMAN: I could talk about turbulence all day.

22 MR. ETCHER: Well we got lots of recording time, so we're
23 good. Kat?

24 MS. WILSON: I just have a couple of questions.

25 BY MS. WILSON:

1 Q. The flight attendant injuries that you were mentioning, are
2 you able to get a sense of where they're happening? Are they in
3 the galley? Are they in the aisle?

4 A. We have some of that information recorded. We haven't
5 analyzed it yet. Yeah.

6 Q. Have you all -- has American done anything that you're aware
7 of, like installing handles in the galley area or any kind of,
8 like, bumper protection for injuries that might be occurring in
9 galley areas?

10 A. I am not aware. Good question.

11 Q. Are you -- have you been able to look at, from the data,
12 anything of the turbulence events happening -- so this is sort of
13 three different things, but particular time of year, particular
14 time of day, particular part of the country?

15 A. Yeah, so we have that metric that we're studying right now.
16 The data's still young, but I can definitely give you my sense of
17 that. Again, any time -- we certainly have seen, for example, the
18 highest number of events are occurring in April, May and June.
19 That's right during convective season, convective weather season.
20 We certainly see a spike in the turbulence during the afternoon
21 and evening hours when there's more convection going on across the
22 country. There's a little bit of a spike in the early morning
23 hours when there's no trailblazers out there telling us what the
24 ride reports are. So that's a, that's a smaller spike than the
25 convective weather spike. So yeah, we have the opportunity to do

1 that.

2 We're seeing, you know, there's probably a little higher
3 number -- you know, and this is little, subtle, but I think higher
4 number of events, like, where ATC doesn't have as much recording
5 going on, and the international pilots probably jump all over
6 that. Like in South America, there seems to be a little bit more.
7 Now there's a lot more convection in certain areas that they're
8 flying. So you know, that's statistically not proven, but kind of
9 what I, what I think we're seeing, you know, in general, is that
10 areas that are outside of ATC and outside of widespread PIREPs.
11 You know, dispatch isn't able to communicate much to the flights
12 out there if there's no pilot reports and there's -- they have
13 more tools at their disposal than ever, but they still don't have
14 as much as I think you would like to see.

15 Q. You mentioned that you hadn't seen the reduction in injuries
16 like you were hoping for yet. So you feel more subjectively that
17 the program's a success, or the task force. So help me
18 understand, what is the -- what are the successes that you see of
19 the task force right now?

20 A. Well you know, one thing that I can see -- and you know, we
21 just had an event in January that made me, you know, really -- so
22 we had four, I think it was four turbulence events in about a 2-
23 hour period over the same area in Texas, and they were all severe
24 turbulence events. And we then got the recap of all these events,
25 and they were all -- so when a severe event is tagged, you get the

1 write-up and, you know, you get a history. And all four of those
2 severe events, we saw that the pilot had communicated with the
3 flight attendant, and the flight attendants were seated before the
4 event and there were no injuries.

5 And those are the kinds of things that anecdotally -- the
6 problem with the statistics is you -- when something -- when
7 dispatch does a phenomenal job of routing somebody around
8 turbulence, that's just dispatch doing its job. You don't, you
9 don't see that. You don't prove that. We can't, we can't add
10 that to our statistics. We can only add to when we get, when we
11 get somebody who doesn't -- who has made the mistake, right? So
12 that's the problem we have with the statistics.

13 But again, using objective data where you do actually have,
14 you know, objective turbulence reporting and you see that there
15 was an injury and it happened when it was on light turbulence, you
16 can actually do some inference now and make that statistically
17 relevant, so --

18 Q. Okay. The industry turbulence team that you were talking
19 about with Delta and United, is there also going to be, like, a
20 sharing of data between the groups?

21 A. Well a visional -- in a vision perspective, yes. We've met
22 once. We had a nice day-and-a-half session here at DFW to kick it
23 off. American hosted it. We're going to meet again. We're going
24 to have a call in the next -- NTSB was invited, definitely. Late
25 to the game, unintentionally. But it's not going -- it's going to

1 be, anybody who can go to Infoshare is welcome to go to this, you
2 know, to this Industry Turbulence Safety Action Team.

3 And there are three priorities that came out of that. One
4 was data standardization. There's a big concern. And I don't
5 want to go here because I don't think it's that relevant yet. In
6 my opinion, is not standard across the industry, and that is, you
7 know, there's -- do we use EDR? Do we use RMSG (ph.)? Do we use
8 TAPS? Do we use -- and it's my opinion, I don't care as long as I
9 have objective data to see where it's rough, and we can get that
10 data to air traffic control, to dispatch and everybody else.
11 That's my opinion. But there's other people who have very
12 vehement opinions that they want to know exactly where the EDR is.
13 And so that team is one.

14 Data sharing team was number two, to try to figure out
15 ways -- and team number -- sub-team number three was
16 communications, which was very, you know, significant. They're
17 very similar to what our TTF, you know, is concerned about. And
18 that is the team that's going to improve that communication
19 between the meteorologists, dispatch, flight, flight attendant
20 group.

21 So we had about 40 -- we had about 50 people want to come.
22 About only 30 showed up. I think at Infoshare, that number is
23 going to go up because there's a lot of people already there. So
24 that last day at Infoshare is when our next meeting is.

25 MS. WILSON: Thanks. That's all I had.

1 MR. ABELMAN: Okay. Uh-oh. What did I forget, Tim?

2 MR. MINER: Well not a thing. You know, one of the, one of
3 the missteps here, I think, is you as the meteorologist are being
4 quizzed on the TTF. They don't -- they're not asking any pilot
5 from the TTF any questions. So in order for me to add
6 information, this is like Jeopardy!. I ask you the questions.

7 MR. ABELMAN: Okay. All right.

8 BY MR. MINER:

9 Q. Do you know how many different flight manual changes have
10 occurred directly as a result of the TTF?

11 A. I do not know that answer.

12 Q. The answer is four.

13 A. Four.

14 Q. Over 5 years, four changes, direct changes, have been made to
15 the flight ops manuals and procedures. Everything from
16 standardizing the light/moderate/severe procedures to the
17 communications to -- with the flight attendants in the back,
18 changing the time of when pilots call for, prepare for landing.
19 All of this has taken place.

20 Do you know how many videos, direct training videos, have
21 been done by flight as a direct operator?

22 A. I believe three.

23 Q. That is correct. There's three videos have been done as a
24 result of that. How about how often is turbulence now being
25 brought up in our human factors training to pilots and stuff like

1 that? And the answer is almost once a year.

2 Q. Yeah.

3 A. Or 18 months.

4 Q. And I'll add to say that's why I brought that up and asked
5 the question earlier, because I know the TTF has added training,
6 recurrent training information to every dispatch class that I can
7 recall in the last at least year or year and a half. So that's
8 good.

9 MR. MINER: That's all. Those questions were just the very
10 direct things that I think I had to ask about. That's all I had.
11 Thank you.

12 MR. ETCHER: Okay, thanks. Damon, go ahead.

13 MR. WOOD: I just had really, kind of, one question. The
14 other two may be not relevant, but the other two -- ONO (ph.),
15 PSA, Piedmont -- have they been invited to the task force as well
16 or --

17 MR. ABELMAN: I believe yes, they have. They're a little
18 more -- their weather, their weather -- the way they do weather is
19 a little less similar to the way Envoy and American do it, because
20 it kind of was -- Envoy was mostly Simmons and -- you know, they
21 were more used to the weather that they were getting from The
22 Weather Company. They have different EWINS manuals. All three
23 regional airlines have different EWINS manuals, so it makes it a
24 little different on how they get their support. But that's a good
25 question, and probably something we should pursue a little harder.

1 MR. ETCHER: Anything else?

2 MR. WOOD: No.

3 MR. ETCHER: All right. Charley?

4 MR. DAVIS: I don't really have anything. I just want to
5 thank you for the improvements been made to our manuals, because
6 I've flown with many captains and way back as a first officer.
7 Just call up, said, hey, it's about to get a little bumpy; I want
8 you all to sit down. And that was so subjective, and you didn't
9 really know what he really intended or how long. And there was
10 just a lot that was not communicated in the past. So the
11 standardization has, I think, helped tremendously. And just over
12 the last year, it's been big improvements as well.

13 MR. ABELMAN: Good.

14 MR. DAVIS: Well one thing.

15 BY MR. DAVIS:

16 Q. Do you see more injuries in the descent phase?

17 A. Yeah.

18 Q. Have you identified that?

19 A. Yeah, definitely.

20 Q. Because they're up trying to clean up and pick up --

21 A. Definitely.

22 Q. -- at the last minute?

23 A. Definitely. Well and also the ascent/descent rates are --
24 you know, we're descending at a much slower -- you know, when you
25 go through a turbulent layer, when you're ascending, it's --

1 you're so much quicker through the turbulent layer, I think, than
2 you are when you're descending. Yeah. Kind of looking at you
3 guys. Yeah, that's -- yeah, you know, you're sometimes, and
4 you're sometimes stuck at 12,000 feet for a little bit longer or
5 something like that, so you're --

6 Q. True.

7 A. You're often -- you know, I see a lot of -- another thing I
8 really see is -- and this is probably something I should have said
9 earlier. In congested airspace, when there's weather and there's
10 a lot less room to manipulate the airplanes that are coming in,
11 we've seen aircraft on several occasions go on a path into
12 Chicago, for example, through cells that just make you scratch
13 your head and go, what are we doing going through that? And
14 that's really ATC-driven, I think, and airspace-driven, right?
15 It's not -- you know, the pilot's doing everything he can, you
16 know, and I'm sure -- you know, but we see a lot of that, a lot
17 more of that than I think I'm occasionally comfortable with
18 seeing. But it's a crowded airspace, especially in New York and
19 Chicago and here and --

20 Q. I noticed when we -- like, for, you know, 75 is pretty
21 limited flying out of here. But flying to -- this time of year,
22 we go to Eagle-Vail, Colorado. And we have special procedures
23 sitting in there where we actually sit the flight attendants down,
24 like, at 25,000 because we start getting to enter the front range
25 of the Rockies. We know there's going to be enough -- experience

1 a lot of smooth air going in there on nice days. But a little bit
2 of a windy day and you get those, you know, rolling off the
3 mountains, a little bit of a mountain wave and just some
4 turbulence. But at least there, we -- there's a standard in part
5 of the briefing pages. We sit them down earlier. Is that
6 something that TTF is considering --

7 A. Well we've talked a lot about that. We've talked a lot about
8 that, but I think we've sort of settled on our approach being that
9 it's really the responsibility of the pilot. Well the
10 responsibility starts with meteorology and dispatch to get the
11 information from a flight planning/flight following perspective.
12 But it's the responsibility of the pilot -- and I think Tim does a
13 better job of talking about this than I do -- of saying the right
14 things to the passengers and to the crewmembers to get them to
15 take the situation seriously.

16 You know, in other words, we believe in the TTF, and we've
17 long said this, that if a pilot is going to make an announcement
18 at 30,000 feet that says, we're going to have our flight
19 attendants sit down early and prepare the cockpit for landing
20 earlier than normal because we're concerned about turbulence and
21 we're concerned about the safety of our flight attendants, and
22 that means you're going to have to turn off your laptops; we're
23 really sorry about that. If we think -- if we say that in the
24 right way and the right manner, I have never once heard passengers
25 groan about that. You know, I've never once heard passengers say,

1 that's bull; I paid for my internet service, you can't make -- you
2 know, I haven't heard that.

3 So I mean, sure, there's a few situations that -- and I
4 think, you know, doing that -- you know, the whole Virginia Woolf
5 thing, right? I mean, you don't want to overdo it, but you got to
6 understand that, during certain events where turbulence is a
7 very -- I'm going to, I'm going to get into my closing statements
8 in a second. But turbulence are very dynamic in nature. And so
9 not every time it's forecast is it going to occur, and not every
10 time you have PIREPs that said the last four guys flying in -- it
11 could be downstream by now, right? So I think we have to balance
12 that somehow. We have to balance that in the right way.

13 And that's really tough. That's really tough for -- but you
14 know, like I said, Tim's way of communicating -- and I've heard
15 it. I'll tell you, I've been on a lot of American flights lately,
16 and I've heard much better communication coming out of the pilots
17 than I have in a long time. Is it just -- maybe I'm listening
18 closer, maybe. I don't know. But several occasions where we've
19 been -- where everybody's been prepared and sat down early. I
20 came into DWF during weather. 25,000 feet, everybody was sat
21 down. This was just a couple weeks ago. Everybody was long sat
22 down. Wasn't that bumpy coming in, but nobody complained. Yeah.
23 Q. Yeah, there's weather at ATL too. It's like the seatbelt
24 sign, the guy leaves it on all the time, and so they just don't
25 pay any attention to it. So if you sit them down early every

1 time, they're going to go, like, you know, this isn't -- it's
2 crying wolf, you know?

3 A. Yeah. It is.

4 Q. Finding that balance.

5 A. It's hard.

6 MR. DAVIS: But yeah, thanks. That's -- I don't have
7 anything.

8 MR. WOOD: I just -- I have one question.

9 BY MR. WOOD:

10 Q. Do you see from statistical data, like, any difference
11 between turbulence here at, you know, Forth Worth center, or of
12 course there's Atlanta center, or -- you know, you said in
13 descent. I mean, are there any, you know, centers that may -- you
14 know, like Chicago center may use -- they use -- you said, hey, we
15 may see flights going through things, you know, that are -- what
16 in the world are we doing? You know, is that, like, less here
17 with Fort Worth center and more so at Atlanta or Chicago or
18 Denver --

19 A. Yeah.

20 Q. -- center, you know, where they have, you know, mountain
21 turbulence?

22 A. Well I think in Denver center they probably are much more
23 vocal about it and understand it better. But I definitely believe
24 that I see more in New York, Atlanta and Chicago centers than I do
25 here, because we're not as crowded here. I mean, we're plenty

1 crowded, but we're not as crowded as those centers are. And New
2 York is the worst.

3 Q. Yeah. Newark, JFK, LaGuardia.

4 A. Philly. Yeah.

5 Q. Everything just right there.

6 A. Yeah, yeah. That's the worst. You know, but again, it's
7 funny how that really -- you know, if there's weather, it's that
8 much worse, you know. The other areas, if you get these sheer
9 events like you do, you know, the event -- this event in question,
10 if you move that, you slide that further north into New York
11 center -- and that happens occasionally where you have an area
12 of -- a segmented area of moderate or even moderate to severe
13 turbulence at 16,000 to 23,000. That drives the poor dispatchers
14 crazy, because there's nothing they can do to avoid it but there's
15 nothing they can do to -- you know, you got -- you know, but
16 there's nothing the meteorologists can do to say, well, sorry,
17 it's not there.

18 So you know, Alex and I were having that conversation.
19 Because you know, it's tough -- there's a tough -- you know, for
20 The Weather Company to put these SIGMETs out, you know, they
21 understand what the impact it is to the aircraft. You know, and
22 so -- or to the airline and to the dispatchers, and to, you know,
23 rapidly changing altitudes when I just flight planned everything
24 through this altitude and now I've got to change it. And that
25 adds to the workload. But it's -- the science is only as good as

1 the science is. It's getting better, but it's only as good as the

2 MR. DAVIS: I was going to say, I've had pretty good
3 experience coming in DFW when there is an area like that, say from
4 18 to, like, 12,000 feet. And they'll say, we're going to hold
5 you here so you can descend straight through nonstop, and then
6 you're not parking yourself --

7 MR. ABELMAN: And that's --

8 MR. DAVIS: -- 14 or 16 --

9 MR. ABELMAN: -- that's good.

10 MR. DAVIS: They give you a rapid descent, you know, which
11 helps a lot. It shrinks the window a lot. But they've got the
12 room here. They can do that. I mean, they just route traffic a
13 little bit differently. Yesterday afternoon, we got it done.
14 There was a big line of weather that moved through here, and I
15 went back to my office and I looked, and I looked up on
16 FlightAware or one of those, you know, with the EDSB out. And you
17 can have the weather right there. And I saw the line coming up
18 right along I-35, and all the airplanes were going, you know,
19 around it. And there was just nothing going on with it. They
20 routed it around. They just closed that one corner. And probably
21 had some delays, but they were doing a good job. You could see it
22 was --

23 MR. ABELMAN: Yeah, it was moving. It's nice when things are
24 moving at -- you know, that line was moving about 50 miles an
25 hour, so that helped.

1 MR. DAVIS: Yeah, it went pretty fast. Yeah.

2 MR. ABELMAN: That helped, you know, it's like, all right.
3 Yeah, so right.

4 MR. ETCHER: Just want to go around one more time just in
5 case there's follow-up. Do you need a break? Anybody need a
6 break?

7 MR. ABELMAN: I'm good. I think I'm good.

8 MR. ETCHER: Everybody's good? It'll only take another 3 or
9 4 hours.

10 MR. ABELMAN: That's fine.

11 MR. ETCHER: Your ITSAT team. I know you have all these
12 meetings with, you know, United, Delta, you guys and Convoy,
13 maybe? Or anybody that goes to Infoshare. Let me phrase that --

14 MR. ABELMAN: Yeah.

15 MR. ETCHER: Okay. Have you guys ever reached out to ATC and
16 invited them?

17 MR. ABELMAN: Yeah, so ATC. Eric Avala (ph.), who is the ATC
18 weather guy, he was at our first meeting, our first ITSAT team
19 meeting. You know, that's a big gap. You know, that is a huge --
20 and Eric is well aware. I believe that's a really important gap
21 in all this automated and objective turbulence data, because ATC
22 is not set up to get that right now. And I don't think we
23 should -- it's a tough -- it's very difficult, because to me, I'm
24 in the party that the standard PIREP needs to eventually go away.
25 I know that's controversial, but that -- but ATC's not ready for

1 anything but the standard PIREP.

2 So how do we make -- so we have to figure out a way, if we're
3 going to bring all this data and exchange it, if I'm going to give
4 ATC a TAPS report of .27, you know, what are they going to do with
5 it? Or an EDR value of .2 or -- so there's a lot of work. A high
6 recommendation from me in this whole thing is we've got to get ATC
7 integrated into this. We've got to get ATC systems integrated
8 into accepting automated pilot reports and understanding what
9 they're getting from automated pilot reports. Because we don't
10 share our automated PIREP reports with ATC unless the pilot or the
11 dispatcher takes the time to actually go and fill in the form. So
12 a lot of times, that's when the severe events happen and we do
13 that, or a moderate event happens and we do that. But a lot of
14 other times, you know, there's a light TAPS report unless they're
15 chatting about it, which a lot of times they are. There's not --
16 that information is not getting exchanged to ATC, and ATC doesn't
17 have systems to look at this. I think it's a big part of the
18 problem here, quite frankly. Is that the first time I preached?
19 That was preachy, wasn't it?

20 MR. ETCHER: No, not bad. You need to work on that.

21 MR. DAVIS: You didn't ask for an amen. I mean --

22 MR. ABELMAN: That's right. That's right.

23 MR. MINER: That was a (indiscernible).

24 MR. ETCHER: You had mentioned that airspace -- you know, the
25 New York, the Chicagos, the Atlantas, their airspace is tight and

1 packed, and it's hard to get maneuverability for your airplanes
2 and everything. In the grand scheme of things, there's only a
3 finite amount of airspace, I realize. But is there anything you
4 guys are seeing that see this kind of stuff happening on a regular
5 basis that would help alleviate the events occurring in those
6 congested spaces?

7 MR. ABELMAN: No, I don't think so. I think we're just
8 doing -- I think we're doing a better -- we're trying to do the
9 best we can to get that communication piece going on that's like,
10 when there is weather in New York and it looks like your path is
11 clear but you don't know which way you're going to get vectored,
12 seat your flight attendants earlier. You know, I think that's
13 the, you know, main thing we're learning. You know, I -- you
14 know, the science -- I mean, I'm sort of saving my state of the
15 science thing till somebody asks it, but you know, that -- it's
16 tough. There's just a lot of aircraft in a small area, and you
17 know, there's -- when there is weather and it's over an important,
18 you know, arrival fix, you know, it's -- if you can't go around
19 those fixes, it's just, you know, your safe space is just that
20 much, that much, you know, decreased, so --

21 MR. ETCHER: I'll take the bait. State of science. You said
22 you'll save that till someone --

23 MR. ABELMAN: Well no. I think, I think the state, you know,
24 the state of the science piece here is that I think there's -- the
25 fix here is not a simple fix. In other words, we've seen

1 improvements in forecasting. We're seeing improvements in
2 objective data. We're seeing improvements in communication.
3 We're seeing improvements in all these areas. The state of the
4 science needs to bring all that together. We need to bring
5 together -- what needs to happen is we need to stop focusing all
6 solely on a pilot report en route. We need to start being able to
7 relay to dispatch with much more confidence that, based on these
8 area of PIREPs, this turbulence SIGMET has been forecast. And
9 even though there's one light area an hour ago in that SIGMET,
10 that doesn't mean that the area isn't there. Or if now we're
11 getting two or three or four lights on the northern end of that
12 SIGMET, we need to shrink it quickly. We need to make it -- we
13 need to be much more proactive. We need to use, we need to use,
14 for example, sources like the RPM turbulence model versus the --
15 and I'm not saying that from a requirements perspective. I need
16 from a -- right now, the flight planning guidance and the SIGMETs
17 are what American Airlines uses. I think a couple years from now,
18 we may change that to going to a more dynamic, more, you know,
19 higher resolution forecast than we can produce in our flight
20 planning systems today.

21 So that's where we need to go. You know, again, I think
22 there's a lot of people that are focused on one solution. I think
23 there has to be a meeting of all these things together to make
24 this all happen, and it has to be maybe somebody does it in NCAR.
25 Maybe somebody does it at The Weather Company, or maybe somebody

1 does it in the Weather Service. Whatever these new -- you know,
2 the idea of the GTG Nowcast, which is, you know, kind of a
3 synthesis of that, that's where we need to go. But that's not
4 simple. It's not simple from the human factors perspective that
5 it's going to present. You know, if I give a dispatcher a
6 forecast that changes every 5 minutes, that's going to drive the
7 dispatcher crazy. Even if I give that to the pilot, that's going
8 to be hard for the pilot to process.

9 And then there's this idea of convectively induced turbulence
10 and forecasting convectively induced turbulence. You know, our
11 models, we're better forecasting -- we have better thunderstorm
12 forecasts than we've ever had from our models. But I still am not
13 good enough to tell you whether the thunderstorm forecasts are
14 going to develop in the north end of DWF or the south end of DWF.
15 And did you notice that the south end of the airport got nothing
16 yesterday?

17 MR. MINER: No. Nothing hit here, yeah.

18 MR. ABELMAN: And the north end got some small hail and mixed
19 in. So that's -- you know, how am I going to have a turbulence
20 forecast that's going to be good enough if I can't even -- now
21 convective turbulence forecast -- if I can't even tell you exactly
22 where the thunderstorms are going to be? So these are all the
23 science challenges of the future. And it shouldn't sound
24 negative. It should just sound realistic, you know, and that's
25 what the turbulence task force is really trying to focus on.

1 MR. ETCHER: Okay.

2 MR. ABELMAN: Did you look at the -- it's not my turn to ask
3 questions.

4 MR. ETCHER: No, feel free. Ask --

5 MR. ABELMAN: I'll ask -- did you look at the GTG forecast
6 for this particular event?

7 MR. ETCHER: Our weather guy has. He's dug into that.

8 MR. ABELMAN: Interesting to look at it. It's interesting to
9 look at it. We looked at it. I have some connections out there
10 and took a look at it just a couple of -- I don't know, a week or
11 so ago. It was interesting. Interesting, so --

12 MR. ETCHER: Well I mean --

13 MR. ABELMAN: No, just because they had a pretty good handle
14 on the area at the altitudes. They did. But as it got closer to
15 the time of the event, the updated Nowcast version incorporated a
16 pilot report that was fairly smooth going through the area, and so
17 then it backed off and it actually showed sort of a hole where the
18 actual event was, which just is part of the challenge of this
19 Nowcast, right? That's the challenge of -- if you put too much
20 emphasis on a pilot report and not enough emphasis on a forecast,
21 do you dumb down the forecast to where it doesn't exist anymore?
22 Or vice versa. That's very -- a very tough challenge of that
23 Nowcast product.

24 BY MR. ETCHER:

25 Q. Well if they wouldn't have taken that pilot report of smooth

1 air into consideration, would it have --

2 A. It would have nailed the area, but Nowcast products aren't
3 going out right now. The Weather Service, the Weather Service and
4 the FAA haven't figured out a way to make that product live and
5 operational yet. So I mean, there's a way you can get to it by
6 requesting the data from NCAR and integrating it yourself. But
7 for example, it's not on the same server that shoots out the GTG
8 data. The GTG Nowcast data isn't part of that yet and there's no
9 imminent plan to make that happen. A concern of us. Concern of
10 everybody at that ITSAT team. Wants access to that real-time data
11 in 5 or 15 minute periods, and right now the Weather Service
12 doesn't have a plan to make that live and operational yet, so --

13 Q. Yeah, okay. Talking about this event flight, you know, and
14 the GTG now that you saw it and everything, without that into
15 consideration, I'm sure you've looked at the weather, you've
16 looked at it, and it's a clear turbulence event, for lack of a
17 better phrase. What kind of challenges do those exist? I mean,
18 we know they're out there. But what kind of challenges does that
19 give you guys in trying to forecast that? I mean, do you see any
20 statistics showing that there's a way to maybe not exactly narrow
21 it down to where it's going to be, but --

22 A. Well I think the integration of the automated forecasts are
23 helping the meteorologists put out better flight planning guidance
24 charts. You know, one of the more common questions I get from
25 dispatchers, and it's a really good question, is you know, there's

1 an FPG area here, and the RPM shows the turbulence here and here
2 at a higher altitude. And how do I manage that? You know, and
3 the answer is, you know, it's as good as the science is right now.
4 I mean, there's -- if we put out FPG areas everywhere that the
5 automated forecast told us that there was the potential for
6 moderate, there would be FPG areas covering the whole map. And so
7 I think the forecasters have the challenge of trying to use their
8 experience, use the satellite imagery, use the convective
9 situation on top of the automated turbulence data, which is
10 getting better, and try to hone in on where those areas are.

11 But I know, I know especially Alex, who was here earlier --
12 because we've been talking back and forth. There are days when,
13 you know, we feel that The Weather Company is over-forecasting.
14 There are other days we feel, you know, that it's just -- you
15 know, I feel their pain, though, because you're trying to find
16 something that just doesn't block every single altitude
17 (indiscernible). Some days, it's just that bad. And you know,
18 even on those days when it's that bad, though, you get flights
19 that roll through there that say, it's actually not that bad;
20 light chop. You know, and then the guy behind him will say it was
21 moderate to, moderate to severe. So it's -- you know, turbulence
22 is unbelievably dynamic.

23 And so you know, on this particular case, we had the area
24 down to -- they had the area down to 19,000. I mean, the
25 dispatcher went at 18. Obviously you can't go at 15, I don't

1 think, or 16. I probably can, but I don't know. But I mean, you
2 know, do I think that was a bad forecast? I would have liked it a
3 little better. Do I think it's realistic to think that that
4 forecast can be better? No. All the time? No. It's the state
5 of the science. It's the state of the science.

6 Better than it was when I was a forecaster on duty, I can
7 tell you that. I mean, you know -- yeah. Maybe not as user
8 friendly, with the meteorologist not being onsite. But I think
9 the initial projections now are better than the ones I used to put
10 together back even as a 10- or 15-year forecaster, because the
11 model guidance is better. We made progress.

12 Q. Well that's good.

13 A. It is. It is.

14 Q. I know you said here at American you guys are using TAPS a
15 lot and not EDR or anything like that. And you said you didn't
16 really care. Some people are more, they want to know the EDR
17 versus the TAPS. Help me understand -- remember, use small words
18 for me -- why some feel the way they do. Or what is there -- is
19 there a big enough difference that would be more specific?

20 A. Boy, this is going down. So 8 years ago or 10 years ago when
21 we went with this TAPS program, there really wasn't an EDR
22 program. And so when we went with Panasonic at the time and The
23 Weather Company at the time and we got this together, we said, you
24 know, American is going to be one of the first to have objective
25 turbulence reporting in their aircraft using -- it comes from the

1 avionics.

2 And what the, what the beauty of TAPS is, though it's far
3 from perfect -- and I look at Tim and I say that because we're --
4 the calibration of the TAPS to what the pilot feels is something
5 that we're always trying to do better, right? But what is
6 interesting is that, when we've gone past the -- we looked at
7 trying to figure out ways to get the TAPS reports sized by
8 aircraft. In other words, TAPS reports have been -- you know,
9 a .2 is moderate to every single aircraft that it flies. In other
10 words, EDR is different because EDR is just in theory, like, a
11 wave state. That's the only EDR thing I'm going to say. So EDR
12 is basically like the wave height. The wave height is -- the EDR
13 is .2; that means it's a 2-foot wave. That means an Airbus going
14 through it is going to feel something totally different than a
15 Cessna. So we believe that the TAPS has the advantage of doing
16 that calculation up front.

17 But what's happened since then, you know, now is EDR has
18 become much easier to equip. Our 787s delivery starting in March
19 are going to be EDR-equipped. We are no longer going to be --
20 we're not TAPS-equipping those aircraft. They're going to be EDR-
21 equipped. Now we've got some challenges, and it's probably going
22 to take a year or so to integrate that data in and get it over the
23 wire and get it to The Weather Company so they can put it out.
24 And there's going to be a training piece, and there's going to be,
25 you know, a current and all that kind of stuff. But we are now

1 looking at EDR data because it was an option that was so cheap.
2 You just take it. I mean, you know, TAPS is not an easy option to
3 do. EDR has -- and it's the ICAO standard, and it's making that
4 information. We can actually -- The Weather Company can actually
5 derive an EDR value from the TAPS-equipped aircraft. It's a
6 little different, you know, a little different. There's little
7 differences in the data to be subtle, but that's what we would
8 like to share with the global community, would be that EDR value
9 derived from TAPS. So I think I answered your question.

10 Q. Yeah.

11 A. I think, I think I did.

12 Q. That helps me understand the little differences that can make
13 a difference, so -- okay. Last question for me, and then you'll
14 be done with me, anyway. We'll go around. You said you now get
15 to fly in the cockpit every now and then, or jump seat in the
16 cockpit. Do you pick days with weather to go out there, or do you
17 just pick a day and say, I'm going to go and whatever it is, it
18 is?

19 A. (Indiscernible) answer this truthfully now. Said I'm under
20 oath. I got to answer this -- no. A lot of times I go in the
21 cockpit, it's because I can't get on the flight any other way.

22 Q. Makes sense.

23 A. That's how that's happened. So there's been weather some of
24 those days. There's been weather. I've done, I've done a couple
25 of trips to make sure I got on a 73 who was a TAPS-equipped

1 aircraft to make sure that I was able to talk to the pilot about
2 his application, and especially TAPS. I've done that on purpose a
3 couple of times where I was going to see family in Chicago, and I
4 said, I'm going to take the 73 because I want to -- and I'm going
5 to sit up in the cockpit. But I've actually probably in the -- in
6 1 year now or year and a half, I've been up in the cockpit
7 probably six or seven times now because it's the only way I've
8 been able to get from point A to point B. And I, you know, was
9 traveling by myself, so that's -- so I don't do it on purpose. I
10 don't do it on purpose.

11 And I think, just to echo what Matt said earlier, some pilots
12 are unbelievably engaging and want to talk about their app the
13 whole time. Other pilots had a much different -- yeah, yeah, we
14 use it; we look at it before we leave. And then they don't look
15 at it at all during the rest of the flight. That's human nature,
16 I guess. I mean, I was -- I've seen both extremes. I've seen
17 both. In six or seven cockpit flights, I have seen absolutely
18 both extremes now. One pilot who did not want to stop talking the
19 entire time, and it wasn't Tim. It wasn't -- about the app. And
20 then another pilot who was basically, yeah, we -- yeah, I think
21 so. How do you use this again? You know, I'm like -- so
22 that's -- yeah.

23 Q. I was just curious. It was, it was kind of a curiosity for
24 me, so --

25 A. Good question. Good question. Yeah.

1 Q. Appreciate it.

2 MR. ETCHER: Kat? You got nothing?

3 MS. WILSON: I don't have anything.

4 MR. ETCHER: Tim?

5 BY MR. MINER:

6 Q. Sir, can you -- what was the highest level of this company
7 that you've briefed TTF things to?

8 A. David Seymour and -- so one below the CEO. Up to, up to
9 the -- so Seymour and Isom were in a meeting and we did TTF stuff
10 to --

11 Q. Do you feel that you have -- that the TTF has the ear of
12 senior management at American Airlines?

13 A. I do. I don't feel the TTF has the ear of everybody it needs
14 to have the ear of, though, yet. I feel like -- well let me say
15 that. Not necessarily TTF. That the turbulence -- I feel that
16 there's, there are folks in the turbulence world that are -- or in
17 the -- that don't take turbulence seriously enough, and we're
18 trying to do more outreach to make that happen. But I think
19 that's all about -- as much about selling our story and showing
20 data as it is that they don't want to hear about it, so -- would
21 you agree?

22 Q. I would agree.

23 A. Yeah.

24 Q. Yeah. And how often does the TTF reach out to -- into our
25 company? How often do we do it?

1 A. Well we have, we have -- something that I didn't bring up was
2 we have this distribution called Frontline (ph.), which is -- Tim
3 has written several articles. I have written several articles.
4 We've had dispatch write an article or two where we go out there
5 and distribute that to the stakeholders of the TTF, you know,
6 which will vary from topics about weather to ATC to -- we had one
7 that was written for flight service about the new communication
8 policy, you know, from flight service. Weather Company has
9 written one about the state of the science and updated, you know,
10 where they're going for their turbulence. So we try to, we try to
11 distribute that. That doesn't necessarily get out to the senior
12 exec folks. I know we're working on putting together a 2019 year
13 in review with statistics and recommendations and what we did and
14 accomplishments. That I expect will be briefed at CoSPA, which is
15 the operations safety board. That is, that is attended at the
16 Isom and David Seymour level, so --

17 MR. MINER: Thank you, sir. That's all I have.

18 MR. ETCHER: That's it? All right. Damon?

19 MR. WOOD: Do you think that American and the dispatchers at
20 American have enough access to meteorologists on staff, you know,
21 to ask questions if they need to, or you know, enough -- a good
22 enough flow or anything that could be improved there?

23 MR. ABELMAN: So to clarify why I think you're asking this
24 question -- it's an important clarification. So the en route
25 weather forecasts that are done for American Airlines are done out

1 of the office in Andover, Massachusetts. They're done there. All
2 the en route weather is done there. The meteorologists that sit
3 onsite do all the surface forecast weather. They do all the
4 weather of the hubs and the TAF. They communicate with the ATC
5 positions, the ops coordinators, the -- about a DWF event,
6 about -- there's not a lot of communication about a significant
7 turbulence event that comes from those two guys who are sitting
8 there.

9 So short answer to your question is probably not, no. I
10 think that could be better. But it is sort of the world that we
11 live in now. I don't think that the -- I think the communication
12 methodology could be better. I don't necessarily think that
13 physically collocating those people would improve the forecast,
14 but it would improve the communication.

15 MR. WOOD: Thanks, Steve.

16 MR. ETCHER: Charley?

17 BY MR. DAVIS:

18 Q. Steve, when you brought (indiscernible), do you have a
19 company iPad where you can pull up the VSI and look at the TAPS
20 and --

21 A. Yeah. I do. I do.

22 Q. Just curious there.

23 A. Though interestingly enough, I don't have the access to the
24 internet to do that. So I have to, I have to -- if I'm in flight,
25 I don't have the pilot internet access.

1 Q. So the -- okay, the --

2 A. I could get that Brian Parson.

3 Q. You say company iPad -- and I don't know, I thought they were
4 all the same -- that gave you the --

5 A. The company did --

6 Q. -- AA flight deck?

7 A. Brian gave me an iPad early on to do a lot of testing and
8 collaborating with the SkyPath stuff and other stuff. And so I'll
9 take it with me. The one thing I haven't done yet was ask Brian
10 to get me the pass to use it while I'm in flight. You know, and
11 usually when I've used it, we've kind of looked at it together
12 before, kind of during initial part of the flight. And then in
13 air, you know, the pilot just brings his iPad over and just kind
14 of shows me what's going on. But honestly, I am not, I am not an
15 expert, nor do I necessarily feel it's -- the pilots are better at
16 using Optimum than I am, and they should be because that's who
17 uses it, right? And the dispatchers are way better at using
18 Fusion than I do. I'm awful when it comes to Fusion sometimes
19 and -- but they use it every day, every single day. You know, I
20 use it when I go back and dig through events, and I use it when,
21 you know, I'm not in interviews with the NTSB and, you know, those
22 kind of things, right? So you know, that's the, that's the
23 challenge there.

24 Q. And then one other thing. You mentioned earlier that a lot
25 of, well, a lot of injuries or maybe a majority of injuries, even,

1 for flight attendants occur actually in light turbulence, I think
2 you said. I think you said light to moderate. So is that just
3 because of their procedures, we don't see them during --

4 A. Well it's because it's -- well that's part of it. It's
5 because it's not, it's not as well forecast. It's because, you
6 know, a lot of times, you know, it's when they're out doing
7 their -- you know, in moderate or severe turbulence, they're not
8 out -- you're rarely out -- or you're not -- you're less
9 frequently out doing your service. In light turbulence where
10 you're bouncing around a little bit -- you know, there's been
11 times I felt like reaching over and grabbing a pilot and a flight
12 attendant and saying, please sit down. You know, seriously. Not
13 knowing anything about the situation where, please sit down,
14 please sit down.

15 You know, we've gone back and forth in the TTF on a similar
16 example where we're trying to think of ways to kind of improve,
17 like -- you know, the flight attendant procedure manual says, when
18 you're in turbulence that's so significant, sit on the floor. Sit
19 on the flight. There's been times where you want to look to a
20 passenger who's walking back from the bathroom and, you know, the
21 light's been on, they've been warned and everything else. You
22 know, but yet they still go up and go -- where if it got so rough,
23 you'd almost want to say, if you're -- sit on the floor right
24 where you are. Sit down on the floor and wait till this, wait
25 till this stops just to -- you know, those kinds of things are --

1 but those are the more extreme events. The light, the light to
2 moderate events are just tougher to forecast, and they're tougher
3 to follow in that there's not as much chatter on the ATC about
4 them. And you know -- yeah.

5 Q. Okay. The other thing is how much of the forecasting relies
6 on data reported by PIREPs or by the automation with TAPS versus
7 forecasting from, I don't know, all the tools you have with water
8 vapor and, you know, jet stream and that kind of thing?

9 A. So I would say, as you go out in time, the dependency on data
10 has lessened significantly. I would -- in my personal opinion, if
11 you're flight planning or looking at something beyond 4 hours,
12 that you shouldn't even look at PIREPS on the screen. You
13 shouldn't even pay attention to that because --

14 Q. Because you're not going to be there for a while.

15 A. -- it's so dynamic. Now that's hard for a dispatcher to do
16 who's gotten beat up all day going from Chicago to New York. And
17 you know, it's -- I get it. And the pilot who just flew there and
18 now is flying back who just says, I just got my butt -- you know,
19 your example. I just got my butt kicked. But if the jet stream
20 is 200 knots -- and the models are getting better and better at
21 moving things along. But in the short term, it's critical to get
22 that data in. You know, in the 1- to 2-hour timeframe, it's
23 critical to get that objective data into the model that can now
24 say, okay, this is where my -- because a classic example is this
25 event, right? We knew it was going to be turbulent. We just

1 didn't hone in on the right altitude. You know, the model gave us
2 the higher-up altitude. That RPM had a much higher signature up
3 at 24,000 than it did at 18,000.

4 Q. Well I ask that because I think as a pilot, you know, flying
5 along, you're trying to avoid that. So you hear the reports and
6 you say, so how's 360 look? 36 is smooth. You know, 35 and below
7 is moderate to light reported by other aircraft the last -- you
8 know, for 100 miles for the last 2 hours, and it just continues
9 through there. Well then there's nobody flying through that if
10 they have altitudes available above and below. And so now you're
11 getting no data back except for smooth up here and down here, and
12 it's like, so now the data, you know, is kind of limited because
13 we all try to avoid that.

14 A. Can I answer this question for you? Because I think, I think
15 what you -- here's what Tim would say to this. Tell me if I'm
16 wrong. Tim would say, now that I have a, I have a tool in three
17 dimensions now that has the pilot reports on it, but it also has
18 the automated model forecast that tells me if I should go up to 36
19 where there's red or if I should go down to 22 where there's no
20 automated turbulence forecast. And the dispatcher's just got that
21 3D tool now too, just yesterday, I believe, right?

22 MR. MINER: I wouldn't swear to it.

23 MR. ABELMAN: Yeah, I think it was -- I just heard -- I
24 thought it was yesterday. So now, if you take that combination of
25 where the pilot reports are, the pilot will use his app and say,

1 the model is telling me that there's going to be more turbulence
2 higher than there is lower. Then maybe I don't want to go up to
3 36. Maybe I want to go down below it, you know. But again, if
4 the reports are bad down below it and there's nothing above it, I
5 think the average pilot is still going to look for where he's
6 heard that there's nothing imminent.

7 MR. DAVIS: Sure. But I don't know if you're talking a
8 little bit about the FMS Plus. Is that part of the turbulence
9 part of that, or is that just --

10 MR. ABELMAN: No, I'm talking about Optimum, the --

11 MR. MINER: The three-dimensional --

12 MR. ABELMAN: The three-dimensional --

13 MR. MINER: That's one of their, actually, things that came
14 from the turbulence task force, is us creating a three-dimensional
15 view of the atmosphere.

16 BY MR. DAVIS:

17 Q. Well is the FMS Plus a part of that where along your flight
18 plan, it'll -- you can forecast whether to go up or down and it's
19 all -- are you familiar with that? It's --

20 A. I am, yeah. So Weather Company information is starting to
21 get integrated into that. The problem with that information is
22 it's not updated in a timely enough fashion, you know, to make --
23 again, the forecasts for that are updated -- these FPG areas
24 update every 3 to 6 hours. That FMS Plus is, you know, trying to
25 find maximum altitudes or --

1 Q. Well it's fuel savings, for one.

2 A. Based on winds.

3 Q. But it's also winds. And I thought turbulence was into that.

4 A. It has turbulence in it. It needs a level, it needs a level
5 of turbulence that doesn't come in a forecast that we have today.
6 It needs this now -- it needs this 15 minute update of forecast
7 turbulence for it to be, I think, most effective. I wouldn't say
8 not effective, but most effective. That's what Mark Galion's
9 (ph.) working and a couple of his -- yeah, yeah.

10 Q. Yeah, they had a lot of work going on. I just, I've heard --
11 it's on the fringe. I hear it around the office, and I'm like,
12 yeah, I don't know what it is.

13 A. It's really much more important for wind and for fuel than
14 it --

15 Q. For long flights. Long-haul flights, I think, we're going to
16 test them and triple --

17 A. Right.

18 MR. ETCHER: Anything else?

19 MR. DAVIS: No.

20 MR. ETCHER: Okay. Well you're done with us, except --

21 MR. ABELMAN: Oh my god.

22 MR. ETCHER: -- the final two questions that you have to
23 answer. Is there anything you can think of that we should have
24 asked, we didn't? I mean, you've given us -- my brain hurts,
25 you've given us so much information, but --

1 MR. ABELMAN: No, because I think I've already asked them. I
2 think I probably already managed to get it in there. Yeah, so no,
3 I don't think so at this point.

4 MR. ETCHER: Okay. And I always ask the king-for-the-day
5 question. And I know you've kind of intertwined it throughout,
6 but you know, now that you've gone through the whole thing, is
7 there anything else you can think of that would be a huge benefit
8 for everybody?

9 MR. ABELMAN: You know, the problems of, the problems of the
10 GA -- this is more my FAA hat, right? The problems that exist in
11 the GA turbulence world and the GA accident, weather accident,
12 world are very different than what exists in the 121 world. And
13 I've seen a lot of information come out of the NTSB and other
14 groups, AOPA, which is the --

15 MR. MINER: AOPA.

16 MR. ABELMAN: AOPA. Those folks are constantly focused on,
17 we need more pilot reporting. We need more live PIREPs. We need
18 that. I'm not sure that's going to be the benefit in the 121
19 world. In the 121 world, we need to take objective data and get
20 much more rapidly updating Nowcast technology available for pilots
21 and dispatchers to do their work. I think -- I don't think just
22 simply saying glut me with a million PIREPs is going to solve the
23 problem. When we -- when Nathan Polderman and I at -- from United
24 and I spoke at Infoshare, we presented a couple of interesting
25 graphics about what the world would look like if you tried to give

1 a dispatcher or a pilot a thousand PIREPs on a screen in the last
2 5 minutes and what you're going to -- your mind will explode.

3 So we have to figure out how to get PIREPs into a hazard, you
4 know, mentality that can be relevant information. And it's a
5 cultural change, right? It's not just a -- you can't say ignore
6 the PIREPs, but there's going to come a point when objective
7 PIREPS plus manual PIREPS plus the iPad PIREPs, they're going to
8 overwhelm you. They're going to be overwhelming, and they're not
9 going to be of value. And I think integrating that into some sort
10 of short-term Nowcast is what I -- if I was king for a day, is
11 what I would be really trying to focus on. Because I think the
12 technology is there; we just got to get there.

13 MR. MINER: EDSB is going to revolutionize the AOPA world. I
14 think the EDSB automated PIREP capability might --

15 MR. ABELMAN: We didn't even talk about that one. Yeah.

16 MR. DAVIS: I was going to say, I got a (indiscernible) with
17 a doctor. He's a doctor and has a Bonanza like they all do,
18 right? So his iPad, you know, (indiscernible). He had something
19 like SkyPath. He got an EDSB and an -- and they've got more
20 information than we have on our most advanced aircraft. It's
21 amazing what he has.

22 MR. ABELMAN: I know.

23 MR. DAVIS: But it's all incorporated with his iPad into the
24 Garmin, you know, system that's onboard as well. And it's just
25 like, if they could just put that out. Because it could be

1 calibrated for that. Like SkyPath, something reporting or --
2 obviously if you have the -- well the Garmins that are on there,
3 they probably have pretty good accelerometers, and you know, they
4 could probably provide good data. But just getting that --

5 MR. MINER: Integration.

6 MR. DAVIS: -- extra data point to go out, you know. And
7 then -- and where do you deliver it to, you know? What server?
8 You know, who's going to be in charge of that? Who's going to put
9 it all together for us?

10 MR. ETCHER: All right. Any other questions from anybody?

11 MR. DAVIS: No.

12 MR. ETCHER: All right, then I guess you're done with us for
13 now.

14 MR. ABELMAN: Oh my goodness.

15 MR. ETCHER: Unless you want to go longer.

16 MR. ABELMAN: I don't.

17 MR. ETCHER: Okay.

18 MR. ABELMAN: I don't.

19 (Whereupon, at 1:49 p.m. EST, the interview was concluded.)
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25

CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: AMERICAN AIRLINES TURBULENCE EVENT
NEAR RICHMOND, VIRGINIA
DECEMBER 2019
Interview of Steve Abelman

ACCIDENT NO.: DCA20CA043

PLACE: Richmond, Virginia

DATE: January 29, 2020

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.


Eileen Gonzalez
Transcriber


Autumn Weslow
Corrections made 4/24/2020

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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AMERICAN AIRLINES TURBULENCE EVENT

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NEAR RICHMOND, VIRGINIA

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DECEMBER 2019

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Accident No.: DCA20CA043

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Interview of: FRANK COPPOLA, Director

Integrated Operations Center

American Airlines
 North Simulator Building
 Room 3S-392
 Richmond, Virginia

Thursday,
 January 30, 2020

APPEARANCES:

SHAWN ETCHER, Air Safety Investigator
National Transportation Safety Board

KATHERINE WILSON, Human Performance Investigator
National Transportation Safety Board

CHARLEY DAVIS, Technical Pilot
American Airlines

STEVE ABELMAN, Manager
American Airlines

TIM MINER, Captain
Allied Pilots Association National Safety Committee

DAMON WOOD, President
Professional Airline Flight Control Association

ALEX HART, Representative
Professional Airline Flight Control Association
(On behalf of Mr. Coppola)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Frank Coppola:		
By Ms. Wilson		4
By Mr. Etcher		20
By Mr. Davis		32
By Mr. Abelman		34
By Mr. Wood		36
By Mr. Miner		39
By Mr. Etcher		42
By Mr. Davis		44
By Mr. Wood		45

I N T E R V I E W

(10:59 a.m. EST)

MS. WILSON: I'm Katherine Wilson, and I'm a human performance investigator with the NTSB.

MR. ETCHER: I'm Shawn Etcher. I'm an operational factors investigator with the NTSB.

MR. DAVIS: I'm Charley Davis. I'm an American Airlines technical pilot on E190 and (indiscernible).

MR. COPPOLA: I'm Frank Coppola, IOC director.

MR. HART: Alex Hart, PAFCA board member, member at large.

MR. ABELMAN: Steve Abelman, manager of weather technology, head of American's turbulence task force.

MR. WOOD: Damon Wood, president, PAFCA-AAL.

MR. MINER: Tim Miner, captain on 737 and the Airline Pilots Association National Safety Committee's weather guru.

MS. WILSON: So, Frank, as a part of this process, you are allowed to have one representative with you during the interview. Is there someone that you would like to have here?

MR. COPPOLA: Alex.

MS. WILSON: Okay, great. And for the recording, it is okay that we are recording this interview?

MR. COPPOLA: Yes.

MS. WILSON: Great.

INTERVIEW OF FRANK COPPOLA

BY MS. WILSON:

1 Q. If you could start by stating your full name?

2 A. Frank Salvatore (ph.) Coppola.

3 Q. And could you spell your last name, please?

4 A. C-o-p-p-o-l-a.

5 Q. Great. And if you could repeat your job title, please?

6 A. IOC director.

7 Q. And as the IOC director, what are your duties and
8 responsibilities?

9 A. Run a safe, reliable airline.

10 Q. How long have you been at American?

11 A. Almost 5 years.

12 Q. And what's your background leading you up to being the IOC
13 director at American?

14 A. Background as far as education and so forth?

15 Q. Yeah. CliffsNotes version.

16 A. Sure, no problem. I went to Florida Institute of Technology,
17 received my Bachelor's from there. Went on to Embry-Riddle. Have
18 a Master's in aviation management. I spent several years at
19 smaller carriers. I then went to Continental, spent 27 years
20 there as an assistant dispatcher, dispatcher, operations manager,
21 director and then managing director. Went to Silver Airways, was
22 a VP of their IOC, and then came to American.

23 Q. And were you hired into American as the IOC director?

24 A. No, I was hired in as a sector manager.

25 Q. Okay. And how long have you been the IOC director?

1 A. We're coming up on 3 years now.

2 Q. And have you held any other positions?

3 A. No.

4 Q. So as the IOC director, tell me what a day in the life is
5 like for you.

6 A. So we're looking -- we're the high-level look at the airline
7 and see what's going on. I'll take you from the beginning of the
8 day when I wake up. So when I wake up, first thing I do is I
9 check my email just to see what's happening with the airline. So
10 I'll see, you know, are there any diversions going on. Is there
11 going to be any adverse weather that's happening? What's the,
12 what's the climate for any kind of civil unrest? That kind of a
13 thing. And that's when I first wake up.

14 When I pull into the parking lot, I just check my email one
15 more time. Let's just see what's happening, all the diversions,
16 you know, and the weather. When I come in, I get a briefing, and
17 we work for everything from what's the weather going to be, ATC
18 delays expected, what's our manpower on the floor as far as
19 dispatch is concerned, as far as the crews are concerned. Where
20 is the weather going to be? Do we have enough manpower? And then
21 we'll go through a little checklist of the operational day. What
22 are the diversions on the domestic side? What are we looking at
23 as far as out-of-service aircraft count? What's happening on the
24 international side? Again, what's the out-of-service for the
25 international side?

1 Once we go through all of that and, of course, a weather
2 briefing, we've kind of started my day right around, you know, on
3 the hour. Shortly after that, we have an ATC conference call.
4 After the ATC conference call, everybody gathers up at the podium
5 at the bridge. And I have the weather folks up there, I have ATC,
6 I have our crew folks up there. We have a chief dispatcher that's
7 up there. We have the sector managers that are up there. The ROC
8 is up there.

9 And we talk about what the day is going to look like based on
10 the information that we have right now. So are we going to need
11 extra manpower later on? Are we going to be looking at any
12 cancellations, delays? What's the ATC environment? What are they
13 going to do to us? How are we going to get around whatever
14 obstacle that's going to be -- as far as delays go, 1 hour, 2
15 hours, 3 hours? Where's the weather moving? What can we expect
16 for the day? And let's start a plan and just get ready for it.
17 And then we'll talk about what's already happening and how we're
18 going to go ahead and run the operation. You know, planes that
19 are out of service, how many. You know, just get a good feel for
20 moving forward.

21 Q. Backing up, when you said -- you said when you first arrived,
22 you get a briefing?

23 A. Yes.

24 Q. Who gives you that briefing?

25 A. The director that was on duty.

1 Q. Okay. How many directors are there?

2 A. There's five of us. Five fulltime.

3 Q. And which shift do you work?

4 A. It varies. 24/7. So it's either 6:00 to 2:00, 2:00 to
5 10:00, 10:00 to 6:00.

6 Q. Okay, and you all rotate between those?

7 A. We all rotate. Yeah.

8 Q. Okay. How far in advance do you know what your schedule is
9 going to be?

10 A. We bid the year out, and then we just make adjustments for
11 somebody who has some special assignment they have to do, or they
12 need off for a wedding or whatever. So we adjust the schedules
13 that way. We all work among ourselves.

14 Q. Okay. Is there a schedule that you prefer to work?

15 A. Yeah, AMs.

16 Q. Do you have any direct reports to you?

17 A. Yes.

18 Q. Who?

19 A. Two. Two sector managers.

20 Q. Okay. Do each of the five directors have two --

21 A. Two to three to four. It varies in there. Things are
22 constantly moving and shifting. At one time, I had four. Now I
23 have two. And if things shift again, I'll probably get another
24 one.

25 Q. Okay. Do you ever do dispatch duties or --

1 A. No.

2 Q. No. Do you attend recurrent training to stay current as a
3 dispatcher?

4 A. No.

5 Q. No. Should have asked you this before: do you have a
6 dispatcher's certificate?

7 A. Yes.

8 Q. Okay. Any other certificates or ratings, pilot ratings?

9 A. Private pilot.

10 Q. Okay. Do you still fly?

11 A. No.

12 Q. So as the IOC director, it's not required that you have a
13 current dispatcher's license?

14 A. You know, we don't have anybody in there that -- I'm not 100
15 percent sure. I know most of us have it up there except one
16 person, and they're supposed to be getting it. So there's --
17 Damon, correct me if I'm wrong. We should be -- I think all of us
18 have dispatch licenses that they have to take a test -- yeah,
19 let's put it yes. If you don't have it when you come in, they do
20 give you time as the sector managers.

21 Q. What type of training did you have to receive to be the IOC
22 director?

23 A. We go through several kinds of recurrent classes. We work
24 with ATC classes. I'm trying to think here. Well look, I mean,
25 we're constantly attending classes for updates and --

1 Q. Any classes that you wish that you had that you're not
2 getting?

3 A. No.

4 Q. Okay, so you've gotten all your briefings in the morning.
5 Now what?

6 A. Now we sit down and watch the airline unfold. So we get --
7 the sector managers are involved with the ops coordinators as far
8 as they do all the aircraft swapping. They make sure the airline
9 is running on time with the out-of-service, with the delays that
10 we're incurring. And the crew people -- see, the way it's set up
11 is there's a pod of folks on the floor. That includes an ops
12 coordinator, a customer service person, a crew person and an
13 aircraft router. And they are looking at the operation, and they
14 are trying to make everything sync. The podium has a similar
15 setup with the same people and management style, and we're just
16 kind of helping, watching what's going on, on the floor. And we
17 add our input as we see needed. So we're the second set of eyes,
18 really, for what's happening on the floor.

19 Q. And who do you report to?

20 A. Managing director. Scott Ramsay.

21 Q. Were you working the day of the event?

22 A. Yes.

23 Q. Do you recall any -- walk me through that day. Anything
24 unusual that you recall about it, or when you heard about it?

25 A. No, the only thing that -- I did look into the SIRs. And so

1 when the dispatch reports moderate turbulence, a specialist gets
2 the information, and they put out a SIRS message. And on that
3 day, I don't remember anything about it, but -- and I can tell you
4 why. When they put the message out, it was that they had some
5 moderate turbulence, and the flight attendant was able to continue
6 to perform her duties. So pretty much at that, there's no further
7 action that I'm going to take as a director for moderate
8 turbulence that nobody was injured, and we continue on. We get
9 moderate turbulence. You know, it comes. So if there was a
10 different event on that, then we would have taken -- or I would
11 have taken different actions.

12 Q. What actions would you have taken if it had been different?

13 A. Well if it was for a flight attendant, the people department
14 would be the first folks that we make sure is contacted. So the
15 specialist sends a message out to the daily ops folks. Daily ops
16 folks take that message and goes ahead and sends it out to the
17 appropriate folks. And I think NTSB is also on that list. And
18 then you're notified. If it's, you know, an injury where she
19 cannot perform her duties, that kind of sends off the red light.
20 He or she. And if it's customers, then it goes to the EPR group.
21 We put a level out. Even if it's a flight, we put a level out to
22 see what the extent of the injury was. We have everybody meet at
23 the gate. We get a conference bridge going, and we have a
24 discussion on what's going on, what are the injuries, seatbelt
25 sign on. And we're trying to grab all that information on a

1 conference call where we have representation from around the
2 company, from the pilot group, from the flight attendant, from,
3 you know, EP&R. So we're all engaged in what's happening. The
4 station.

5 Q. Is there any documentation that's locked down or pulled,
6 whether the dispatch release? Are those type of things pulled
7 together?

8 A. Yes, every -- yeah, everything is -- yes. Everything is put
9 on a lockdown.

10 Q. Okay. Who does that?

11 A. The sector would do that.

12 Q. Okay. The two sector managers that report to you, are they,
13 are they the same sector? Are they different sectors? How does
14 that work? How do you -- how is it determined what sector
15 managers get assigned to you?

16 A. I don't make any determination. They just get assigned.

17 Q. Okay. So if there is turbulence reported by a dispatcher,
18 what is the expectation that the dispatcher would do with that
19 information? Let's just say it was moderate turbulence.

20 A. We want to make sure that everybody knows about it, so of
21 course we coordinate with the weather folks and make sure they
22 have that on there. In those instances, I also talk to the chief
23 dispatcher and have him send a note out. Let him know, hey, this
24 wasn't even in the, in the forecast; it's here. Just make sure
25 all the dispatchers are aware of it. And they send out a message

1 for us.

2 Q. The weather folks send out the message?

3 A. No, the -- well I would have the chief go ahead and make sure
4 that the dispatcher that's on the floor working right now knows
5 that this just popped up and it wasn't in there. And then
6 coordinate with the weather, see what happened. Is it on there,
7 not on there?

8 Q. Does the dispatcher have to -- is there anything that the
9 dispatcher does to make sure that that information gets into the
10 NAS? Does it -- is there any input into WSi or anything where
11 they can make sure that other non-American folks know about this
12 report?

13 A. I know they're required to go ahead and make -- I don't know
14 the logistics, exactly how they do it. But they are required to
15 go ahead and make sure that that's out there, and then get in the
16 PIREPs and all. Yeah.

17 Q. Okay. So when a dispatcher comes in for their shift, how are
18 they assigned flights? Who does that?

19 A. That's a pre-assigned duty. So when they come in, the desk
20 are already built for them. Occasionally we build extra desks for
21 adverse weather. But pretty much they're assigned a desk, and
22 those flights are there when they walk in. Nothing changes unless
23 there's weather issues that they're -- the workload gets too high
24 where we bring extra people in.

25 Q. Okay. And how are they pre-assigned? Don't really know?

1 A. I don't have -- I don't do the pre-assignment. That's done
2 downstairs. I'm not 100 percent sure exactly how they get
3 assigned, what they, what they get assigned. I know they work by
4 equipment and --

5 Q. Okay. And so then when you say you bring other people in,
6 bring in dispatchers that are currently off duty, you bring them
7 in to assist with the work. Sorry. Let you answer before I
8 continue.

9 A. So how is that done?

10 Q. I'm asking, is that what happens? You've got dispatchers who
11 aren't currently on duty who are brought in for overtime?

12 A. Right. So if there's weather situations where the workload
13 is going to be such that we're going to have an issue with the
14 dispatchers keeping up -- too many flights near, too many
15 releases -- we want -- because of the weather, because of delays,
16 we want to go ahead and take some of that workload off. We call
17 in extra help.

18 And we determine that by talking with the chief dispatcher.
19 Let's see where these dispatchers have -- supposing it's in the
20 northeast and most of their flying is in the northeast, let's go
21 ahead and pull some of that traffic off them. Let's give some of
22 that to the new folks coming in and just bring down the workload
23 for them.

24 In the same, in the same breath, we also have the
25 availability for the dispatchers to go ahead and send messages if

1 they feel like they are being -- there's too much of a workload.
2 They send a message to the floor. The sectors get it. And then
3 we discuss it with the chief dispatcher. We discuss it with the
4 person working the floor. How much do you need? What kind of
5 help do you need? What timeframe? And then we make adjustments
6 that way also.

7 Q. When a dispatcher needs to take a break from their desk, who
8 covers for them?

9 A. Normally the person next to them would cover. But you know,
10 we do have -- there hasn't been any issues with that. I haven't
11 had a dispatcher say, I need to get off the desk. If they're
12 sick, we go ahead and reassign them shortly, try to bring some
13 extra help. We do have also the ability -- we have a chief
14 dispatcher that's working the floor. And sometimes we'll have a
15 chief dispatcher go down to the desk, take the briefing and work,
16 and work it for the rest of the day or for an hour or two. So
17 we've done that in the past as well.

18 Q. Okay. Do you know how many dispatchers are on duty at a
19 given time?

20 A. It's somewhere in the vicinity of 40-something.

21 Q. Okay. And that's for domestic and international both?

22 A. Well actually, it's probably more than that. There's
23 probably 50-plus of them, yeah. Domestic and international.
24 Yeah.

25 Q. Okay. Do you have any idea of about how many flights a

1 dispatcher handles during a given shift?

2 A. Yeah. On the domestic side, they're probably handling
3 somewhere in the vicinity of the mid-40s.

4 Q. Is that a manageable amount of flights?

5 A. Yeah, it's manageable, depending on the weather. We're
6 not -- you know, it's not set up for VFR and it's not set up for a
7 high-stress IFR day. It's somewhere in between.

8 Q. What are the approved weather programs that American uses?

9 A. We use the -- I just, I can't remember. I'm at a loss for
10 the weather, the weather team that we have onboard. I forgot.
11 Just, I'm nervous.

12 Q. So that's okay. So when you check the weather, then, in the
13 morning, what are you looking at?

14 A. I'm looking at Fusion, and I'm watching what Fusion is doing.
15 Oh, it's called The Weather Company. And when the weather folks
16 come up, they talk about the weather. And I have Fusion up, and
17 I'm looking at that. I'm also looking at the HRRR, which kind of
18 looks at the future. We look at that as well, and they look at
19 that as well. So we're looking at what's happening currently,
20 what we're looking at in the future and move on from there.

21 Q. And are you looking at those things on your phone, on an
22 iPad, desktop?

23 A. No, we have a whole separate screen for just weather.

24 Q. Okay. I mean, but when you're at home, you're just --

25 A. Yeah. At home, I just pull it. It's one, two, three.

1 Q. I know you said that you're going to various training
2 throughout the year. But is there a specific recurrent training
3 that you take that's labeled recurrent training?

4 A. You know, we get assigned throughout the year different
5 kinds. As far as what we have to do every single year, I don't
6 recall something that has to be done every year. But we do have
7 programs that come up. We just had an operational 2-day course
8 that we did and talked about how to run the operation, what we're
9 looking for, things like that. So that does come up. And then we
10 have the option of going ahead and going to any of the dispatch
11 recurrent training as well. I've been to the international one,
12 for example. And you know, we just, on our time off, we just go
13 ahead and do it. We're assigned days where we can use them for
14 other things rather than coming to work.

15 Q. Have you ever done that? Gone to the --

16 A. Yeah.

17 Q. Yeah? When's the last time you did that?

18 A. It was about a year ago, maybe a little less. Did the
19 operational excellence about 2 or 3 weeks ago.

20 Q. In your position, are you required to do any ride-alongs in
21 the cockpit?

22 A. Required, no.

23 Q. No. Can you?

24 A. Yes.

25 Q. Do you ever do that?

1 A. Yes.

2 Q. How often do you do that?

3 A. A couple times a year, I sit in the cockpit and introduce
4 myself.

5 Q. Yeah. When's the last time you did that?

6 A. I probably sat in the cockpit last -- was almost a year ago
7 as well.

8 Q. Okay. Do you find it beneficial?

9 A. Yeah. Yeah. Yeah.

10 Q. Do you -- does the company allow you to do it on work time,
11 or are you doing it on your personal time?

12 A. I did it on my personal time. They don't, they don't give
13 you days, but again, there's SA (ph.) days that, if you want to
14 go, you can go.

15 Q. Okay. What do you think is the most beneficial part of doing
16 that?

17 A. You get to, you get to see all the coordination that happens.
18 You get to see what the pilots are actually dealing with when
19 they're up there. You get to see how busy they are. You get
20 to -- you get a good feel for, when you're on the ground trying to
21 talk to them, why they may not be answering you right away, or
22 what information they may need based on what I'm seeing now.
23 Like, you know, if there's weather moving in there and they're
24 painting it on their radar and there's something else other than
25 that, or -- it's just, it's just a good overall view of what else

1 is happening up there. You're on the ground safe and sound. What
2 are they dealing with?

3 Q. Right. Are you aware, do dispatchers and pilots ever do any
4 joint training?

5 A. Yes.

6 Q. Yeah? What type of training do they do?

7 A. So they ride cockpit as well. And they're, and they're
8 required to sit cockpit. I believe it's 5 hours and a couple
9 takeoffs and landings.

10 Q. Okay. We talked about what a dispatcher would do if he or
11 she received a moderate turbulence report. What about a severe
12 turbulence report? Is anything done differently?

13 A. Moderate and moderate/severe -- I'm going to look in the
14 manual. It's the, it's the same kind of thing, but a severe takes
15 on a whole different face. In a severe situation, we want to make
16 sure that everybody knows what's going on. I'm sure the
17 dispatchers are looking at what flights are going through that
18 area accordingly with weather, and the dispatchers, I'm sure, are
19 getting the PIREPs. We're all kind of getting gauged on, you
20 know, where this weather was happening, what altitude, what fixes
21 were they at kind of a thing to make sure that any other traffic
22 going through there is avoided. And again, The Weather Company is
23 also brought into the, into the loop, make sure that we have that
24 painted as well. Avoid those areas. Don't go through them. And
25 of course, we send a note to the floor.

1 Q. Okay. Going back to the day of the event, you said the
2 report that you recalled was that the flight attendant was able to
3 continue her duties.

4 A. Correct.

5 Q. Did you ever hear something differently after that?

6 A. No.

7 Q. Okay.

8 MS. WILSON: All right, Frank, that's all the questions I
9 have for now. Thanks. I'm going to turn it over to Shawn.

10 MR. ETCHER: Thanks. Doing okay? Need a break? You all
11 right?

12 MR. COPPOLA: Just for a minute.

13 MR. ETCHER: Okay, sure.

14 (Off the record.)

15 (On the record.)

16 BY MR. ETCHER:

17 Q. All right. Well thank you for all the info. I didn't -- I
18 never understood what all the roles were in dispatch when I worked
19 at the airline, so it's kind of been eye-opening hearing you guys
20 talk about all that goes on at dispatch and what you do. It's
21 kind of like, how many hours a day do you work?

22 A. Eight.

23 Q. That's it? It seems like you should be doing more than that
24 with all the responsibilities. So it kind of -- it's amazing how
25 you guys can do all you do. I was hoping we could go back just a

1 little bit with what you were talking to Kat about. When you go
2 in for your briefing in the morning up at the podium, you
3 mentioned a whole lot of people up there, and I know I missed a
4 bunch. But there's a few you talked about. I know you said there
5 was, like, ATC up there and -- so the ROC?

6 A. Okay, yeah, that's the regional ops --

7 Q. Help me understand what those are.

8 A. So on the podium itself -- now this is what I was talking
9 about before, was when I bring everybody up to the podium for the
10 briefing. But on the podium itself, there's a specialist who's
11 taking the messages for the SIRs, for example, and she sends out
12 the SIRs. There are sector managers on duty. There's a customer
13 service person on duty. There's a chief dispatcher on duty.
14 There are crew coordinators or crew managers on duty. And across
15 the podium is a lot of maintenance folks. So we have
16 representatives from aircraft routing, from the different types of
17 equipment types. And there's also a single head manager on duty
18 for maintenance that, kind of, oversees everything as I oversee
19 everything on that side.

20 When we have the briefing, the way I -- what I do is I bring
21 everybody up from the floor too, which includes the regional ops
22 coordinator that handles all the regional stuff. The ATC person
23 is up there. And the weather person is giving us the weather
24 briefing. And then the folks I just mentioned minus maintenance
25 are all actually in a circle around, talking about the day's

1 events. So after the weather briefing comes in, at that point we
2 figure out what the plan is going to be for the weather, because
3 that's what I use there. And that's when we bring the ATC person
4 in to say, okay, here's the weather. Based on the weather, what's
5 ATC saying? Or are they saying anything yet? And then we kind of
6 take a high-level look at what we're going to do when they do
7 finally say something. And then we go into what the
8 out-of-service is, (indiscernible) you know, try to run a safe,
9 reliable operation. And we move on.

10 Q. Okay. Sounds like a lot of people around that podium.

11 A. Well you have to be, because there's so many moving parts
12 that are going on there that if you don't have all the players
13 there -- for example, let's just say the ROC was too busy to come
14 up. Well they're important, because they're handling that
15 regional side, and 50 percent of our flying is done regional side.
16 So if there's going to be implications where we're going to have a
17 GDP, for example, and a lot of times the regionals, because of
18 their pilot availability, they can't handle these delays in 2 and
19 3 hours. They need to be up there listening to what's happening.

20 So we need to make sure that all the pieces, all the players
21 are there so we know what steps to take when it comes time, when
22 it comes time to take it. And they also go out and tell their
23 counterparts, their regional, their regional flying partners what
24 we can expect, what we're looking at for the day. Heads up: we
25 may (indiscernible) cancellations between 21 and 23Z based on the

1 weather we're seeing. We'll let you know. We'll see what ATC
2 does. We'll see if this weather plays out. That's just an
3 example.

4 Q. Okay. Okay. Sounds like you got a lot of players there. Is
5 flight ops involved with any of that podium talk, just to get
6 their perspective on potential problems?

7 A. We communicate. We do have somebody from flight ops there on
8 the floor. And that person occasionally comes to our morning
9 meetings. So let me back it up a little bit. We also have a
10 morning meeting that's done at 7:45 in the morning. And our
11 representative from flight ops sometimes comes. Sometimes they're
12 too busy to come; they got other things happening. So they're
13 there. But there's quite a bit of communication between them
14 because, the way they're centered and seated, they're right next
15 to one of the desks that would take out a lot of the flying for
16 cancellations and so forth. They're right across the way from the
17 crew side. And as soon as they walk off the podium, they're
18 there. So we do a lot of communication. I have a cell phone. I
19 have a direct number to them. You know, they're there. They're
20 engaged. Plus, messages are sent out, and they get the messages.
21 For example, if we're going to have a level 2 alert for weather, I
22 mean, they get all the alerts and everything else, so they know
23 what's going on. They have the option of coming. We don't
24 require them to come, but they do have the option.

25 Q. I apologize for sounding not so smart here, but what's a

1 level 2 weather alert?

2 A. So a level 2 is just an alert that there could be some
3 adverse weather coming your way to a specific hub. We do it by
4 hubs. For example, if it's something coming into LaGuardia, we
5 put a level 2 out. We've got adverse weather coming between this
6 time and this time. So what we do is we make sure that everybody
7 is vamped up. The station, make sure that they're -- if they need
8 to bring overtime, they bring overtime. If they need to start
9 chocking things based on the weather, they go ahead and make sure
10 things are tied down. Also it gives the opportunity for the folks
11 on the res (ph.) side to possibly vamp up what they need. And
12 then of course, the surrounding cities from where we are, for our
13 diversion cities, they know that they can't leave until this level
14 2 is finished, because if we have any diversions, we want to make
15 sure that the people are there to work the diversion flights to
16 get them back in the air or do whatever we need to do. So it just
17 gives everybody an alert of this could be happening.

18 Q. How many levels are there on that scale?

19 A. So there's a level 2, then there's a level 1. A level 1
20 normally happens now when we start having diversions. Like, now
21 they are happening. So we put a higher level out to tighten
22 everything down that you put out there. Now it's, now it's
23 diversion time. We already have one diversion, two diversions,
24 and things are happening. So make sure you are manned and ready
25 to roll.

1 Q. Okay. Okay. You also said in the morning you get up and you
2 check to see the status of everything, everything's looking good.
3 And then you check again in the parking lot to make sure
4 everything's still looking good. And I think you even said at
5 some point during that time you look at the weather. What are you
6 looking at on the weather? Are you just looking for thunderstorms
7 and blizzards? Are you -- kind of, help me understand what a guy
8 with your experience is looking at.

9 A. I'm looking more on the, on the higher level side where it's
10 going to be a major impact to the operation. Is it going to be a
11 snow event coming up in Chicago? Are we going to have high winds,
12 low-level wind sheer and that kind of thing over at JFK? What's
13 the -- what is going to stop us from running the operation? What
14 obstacles am I going to be looking at? I'm looking at the foul
15 line of where that's going to be coming across the East where I
16 can't get flights from east side to west side because of that line
17 of weather. What operational restrictions are we looking at? So
18 at least I have a flavor before I sit down. Before I get a
19 briefing, I kind of know what to expect. It's just, I find for me
20 it's just better to be somewhat prepared mentally before I get it,
21 because there could be several things going on throughout the day,
22 and weather is one of them.

23 Q. Okay. During your briefing with everybody -- and I know you
24 look at thunderstorms and weather, but do you look at turbulence,
25 for instance, to see where it's potentially bad or is bad?

1 A. Yeah. And it's right there on Fusion as well. And when we
2 get a briefing from the weather folks, they talk about turbulence
3 as well. So we do know that it's -- where it is, when it's
4 coming, if it's there.

5 Q. Is that product fairly accurate from what you guys have seen?
6 Is it just kind of, like, it covers a big area?

7 A. So we have -- we've seen it where the area that was covered
8 most recently was a little bit broad, so we tried to go ahead and
9 narrow it down. And I was hands off. I just went to The Weather
10 Company and I asked them, okay, this area that we have right now,
11 this is quite a, quite a bit; are we sure that that's exactly
12 what's happening? And if it is, it is. If it's not, then let's
13 just kind of pinpoint more so than what you got. And like I said,
14 if it is, it is, and we move on. But the area that, in this
15 particular case, was quite broad.

16 Q. Are The Weather Company folks, are they right there with you,
17 or do you got to pick up a phone and call them?

18 A. No, they're right -- I just walk right down. They're
19 right -- they're strategically located right next to the ATC
20 folks. So these guys are constantly talking between weather and
21 ATC and what's going on, and they're in earshot of all the weather
22 briefing, all the briefings that go on with the SPOS (ph.), the
23 special -- the ATC conferences that go on. About four of them a
24 day or so. And so they're listening to what's going on as well.
25 And they're -- and they have their input. You know, looking at

1 programs. And the ATC folks will be basing it on weather that
2 they perceive is going to be happening, and we may have another
3 perspective. And then we just talk about it to see what
4 (indiscernible), what are we going to have in between there to
5 talk about what kind of delays to expect.

6 Q. Okay. If there's an area of lots of turbulence, moderate,
7 severe, maybe even forecast to be potentially severe, whose
8 decision is it to say, we're not going there? Is that yours?

9 A. No.

10 Q. Does it fall down to somebody else?

11 A. It's the dispatcher's decision.

12 Q. And what if -- help me understand just -- I haven't sat
13 behind a desk. So if a dispatcher says no, I don't feel good
14 going here, does he have to explain that to his management, or is
15 it just, okay, that's your decision, that's good, we'll work with
16 that? Help me understand.

17 A. No, see, they have control. If dispatcher says I'm not
18 going, then they don't go. Now we would want an explanation,
19 because if you don't feel good about going, what about, what about
20 the rest? Let's get, let's get our arms wrapped around that. So
21 we'll have that conversation. We have the chief dispatcher that's
22 up there also. Sometimes the dispatcher just may not personally
23 feel comfortable doing it and another dispatcher maybe would. I
24 can't, I can't say who would and who wouldn't. But there's
25 different levels of feel-good, right? But if it's -- if there is

1 turbulence in the area, of course the dispatcher would say no. We
2 would not challenge it. We're not there to do that.

3 Q. Okay. So it's not -- if they -- forgive me. I don't want to
4 put words in your mouth. But if a dispatcher say no, I'm not
5 comfortable going and having that flight go in that area, there's
6 not a punitive feeling to them if -- they don't feel pressure, do
7 they, is kind of what I'm asking.

8 A. Not from me.

9 Q. Okay. That's -- okay. We keep always talking about adverse
10 weather. And you know, if there's adverse weather, you guys, you
11 look at different things. Just so I'm understanding what you're
12 talking about, what do you call adverse weather?

13 A. Anything that is going to be potential flying hazard, for
14 one. Or if it's going to impose delays. Snow events are a big
15 one. Thunderstorms are a big one. We want to make sure that, if
16 we're going -- if we're trying to fly from A to B, that we're
17 going to get there safely. So we -- you know, is it going to
18 delay a flight to the point where folks have to really drill down
19 on making a decision whether to go or not go? Or is it a line of
20 weather that's so severe that, in order for us to get around it,
21 we're going to have to make a fuel stop en route just to, just to
22 get to the other side of the weather? Those kind of things,
23 besides being safety issue, they're also going to pose delays to
24 the airline, and they're also going to cause downline effect with
25 delays and cancellations and crew problems and customer problems.

1 Q. Okay. That helps. Now I kind of understand what -- when you
2 say "adverse." Because everybody has a different viewpoint of
3 that. When you're doing your briefings on the podium and you guys
4 are seeing all the things that's potentially coming up and
5 whatever, how is that information given out to the dispatchers who
6 are the -- I don't want to say "the end user," but they're the
7 ones working with it. Do you guys brief all the dispatchers? Is
8 it a message? Help me understand how dispatchers understand what
9 decisions or what you guys were looking at on the podium.

10 A. So are you talking about decisions for cancellations, for --

11 Q. How do you guys communicate that to a dispatcher? Or do you
12 communicate that to your dispatchers?

13 A. If it's going to be a weather issue, I get on the PA and I'll
14 make an announcement, and I'll go ahead and explain what's
15 happening and what we're going to be doing to mitigate it. The
16 ATC folks that work with them, sometimes they'll get on the PA and
17 they'll say, hey, we just had an aircraft roll off the taxiway,
18 you know, over in DC; expect this. And then they'll make a PA
19 also. And that's pretty quick. And the chief dispatcher also
20 sends a message -- messages to the floor. The sector manager can
21 also send messages to the floor. It's a, it's a pretty -- you can
22 understand that it's a pretty vast amount of people to get
23 information to quickly. So the PA is one. If they didn't hear,
24 if they were on the phone, they got messages to come across too.
25 So they're getting it. And they're also communicating with ATC on

1 routes and route structures and so forth. So there's that
2 communication piece as well.

3 Q. Okay. Now I know you had said also when Kat and you were
4 talking that sometimes you guys will make that decision to bring
5 in additional dispatch if weather is as it is, or if you feel like
6 a group is -- a dispatcher might get overloaded or overwhelmed, or
7 workload-excessive, or whatever. Is there, like, a criteria you
8 look at to make that decision, or is it just kind of like, man,
9 with our experience, it just seems like today's going to be a day
10 we need to do this?

11 A. That's a really good question. And to make a decision we're
12 going to bring a dispatcher in, first off, one of the best ways
13 I've found to do that is let's get the chief dispatcher involved
14 and let's get the sector manager involved, and let's see what is
15 currently out there on the floor right now. And let's see where
16 is this weather going to be affecting those dispatchers. And we
17 can pull up all their, all their flight releases, where they're
18 going to. Based on what we know as far as weather goes, do we
19 feel like we need to bring -- regardless if they send messages
20 that I need help or not, do we feel like we're going to need it
21 for this shift? And what about the next shift? So it's a joint
22 decision. It's not solely -- although the director may have the
23 final say in it, it's a collaborative decision on, you know, other
24 entities as well. And we tweak it. I mean, if we didn't bring in
25 enough, then we bring in some more. And at no time was I ever

1 told, you're bringing in too much help. We have carte blanche to
2 do what we need to do. If that answers the question.

3 Q. It does. It helps a lot, because I have to just, kind of,
4 make sure I understand how you guys come to that decision. How
5 often do you have a dispatcher raise the white flag? I'm
6 overloaded; help me here, I'm swamped. Does that happen often
7 that you're aware of? I know maybe that's a few levels below you
8 and you don't always see it all. I'm just --

9 A. No, I get when -- I get the message as well when a dispatcher
10 needs help, and so do the sectors. And we talk about it. And so
11 does the chief dispatcher. How often? I could say not very often
12 unless there's weather moving in. And I could also say that much
13 of the time that we get those messages, we're already engaged in
14 bringing extra people on as it is.

15 Q. Okay. Do you have, do you have any issues or challenges in
16 getting people in here on overtime?

17 A. Normally, no.

18 Q. Okay. All right. See, you've answered a lot of my
19 questions. I'm trying to scratch them all off. You're way ahead
20 of the game here. Probably my last question for you: when you do
21 those ride-alongs in the, in the cockpit and you see what the
22 crews are faced with -- and I assume you've probably flown in
23 weather as well, or maybe you were lucky and flew in perfect clear
24 days, and lucky you. Let me know when that is so I can fly along
25 with you.

1 A. I've been -- smoke in the cabin, engine loss and -- yeah.

2 Q. So when you see what a crew has going on, what they deal with
3 as well, when you come back, do you explain to dispatch what the
4 crews are doing? Because I can only imagine dispatchers might
5 think, well, gee, the crew's just sitting up there doing very
6 little. You know, do you kind of help them understand, and has
7 that changed any ways you guys have done things or --

8 A. There isn't a formal conversation that goes on. But we do
9 walk the floor, and it has come up on occasion. But there's no,
10 there's no direct contact or set time that we talk about that. If
11 you're up on the podium and there's sectors around you and chief
12 dispatchers, you might talk about experiences if I heard that
13 going around, kind of thing.

14 Q. Okay. When a dispatcher does it, does somebody at least
15 reach out to them and say, hey, what'd you learn? Any changes
16 or -- if a, if -- when a dispatcher comes back from doing --

17 A. I don't, I don't know that answer.

18 Q. Okay. That's all right.

19 MR. ETCHER: I think that's all I have for this moment,
20 anyway. I'll let others ask questions. Thanks, Kat.

21 MS. WILSON: Charley?

22 BY MR. DAVIS:

23 Q. In the event that we were to have severe turbulence -- and I
24 know it happens. It's all unexpected because we don't go into
25 severe turbulence intentionally. But if you do have severe

1 turbulence and we have no injuries, which, since you're trying to
2 avoid it and we don't go into it intentionally, we probably didn't
3 have a, you know, sit-down and get everybody (indiscernible). But
4 if there are no injuries, do you -- is there consideration to
5 divert the airplane due to possible damage, structural damage to
6 the aircraft?

7 A. Maintenance has a read on the severe turbulence. And if
8 there, if there is an issue -- and we coordinate with the crew.
9 Hey, how is everything going up there? Absolutely we would
10 divert. No question about it.

11 Q. Okay. I mean, obviously if there's medical -- somebody's
12 injured, that's a whole other thing, and we're going to get them
13 medical attention. If you're in an IROP or accident -- and you
14 sort of touched on this earlier, but do you have additional
15 directors called in? I know you're calling in other resources,
16 like maybe more dispatchers and, you know, maybe an extra zone
17 manager because you can have somebody focused on the event. Is
18 there -- does another Frank walk in and you guys --

19 A. No. Unless it's something on more of a catastrophic level,
20 we have to activate the emergency response.

21 Q. Yeah. Like Chicago and the 76 that we lost up there a few
22 years ago. I mean, pretty catastrophic.

23 A. Yeah, if it gets to that level. Otherwise we handle the
24 levels on the floor with the director on duty, and we get the
25 conference call, a bridge line, going with all the NVs (ph.), and

1 you guys are included as well. And then we talk about what's
2 going on.

3 Q. Yeah. Okay. And just for clarification, I've been over
4 there now, Steve, a number of times, usually visiting with him
5 mostly on something or an issue. But the podium that you're
6 talking about, is that that raised area in the floor in the center
7 of the --

8 A. Correct.

9 Q. Just curious. I know the MODs up there because I talk to
10 them doing FCFs and stuff.

11 A. Yeah, that's exactly --

12 Q. Right.

13 MR. DAVIS: That's all I have for now.

14 MS. WILSON: Steve?

15 BY MR. ABELMAN:

16 Q. So my questions are a little -- so I was asked a lot of
17 questions about state of the science, right? You have a state of
18 the science, state of turbulence forecasting, state of the
19 turbulence task force and all that kind of -- so I'm really not
20 going to ask any questions about this event, you know. Just a
21 couple -- I just want some of your thoughts on the state of the
22 science and how often turbulence is sort of a -- gets to your
23 level.

24 So I know how busy you guys are with weather. There's always
25 weather, seems like, somewhere every day where you're having to

1 huddle together and talk about it. What percentage of that time
2 does outbreaks of turbulence actually make it up to your -- to the
3 podium to be discussed?

4 A. Unless we're having reroutes or injuries or reports -- you
5 know, I don't really have a fixed number in my head. It doesn't
6 happen frequently.

7 Q. Okay. No, that -- and I think --

8 A. That's the best I can do.

9 Q. Well that -- no, and that's sort of where I was trying to
10 lead you. So from the perspective of the state of the science, I
11 think our relationship with The Weather Company and the way we do
12 our work with The Weather Company is, you know -- I'm not going to
13 ask you to grade The Weather Company. But if The Weather Company
14 were to come up to you and say there's a thunderstorm outbreak
15 expected here, or there's a snow outbreak expected here, or
16 there's a turbulence outbreak expected here, which of those
17 forecasts would you have the least confidence in? Remember, I'm
18 asking questions about state of the science, and I'm trying to,
19 trying to lead you to an answer indirectly, right?

20 A. So I mean, much of the time, the -- what was forecasted
21 pretty much comes true. Sometimes the timing is a little off.
22 But the weather is going to hit. And you know, I -- the way I
23 operate, I don't only look at what you guys are saying, right?

24 Q. Sure.

25 A. So I'll go to National Weather Service. You know, I'll look

1 at their weather graphs and I'll, and I'll weigh it. But I
2 haven't had a problem in recent history with the way The Weather
3 Service is portraying what's going to be laid out now and what's
4 going to be coming up in the future.

5 Q. Okay, I probably asked that wrong a little bit. What -- go
6 ahead.

7 MR. HART: Do you mind, do you mind if I jump in?

8 MS. WILSON: You can't answer for him. We can talk about it
9 after if there's something to add.

10 MR. HART: Okay. Sounds good. I'll make a note.

11 MR. ABELMAN: Let me, let me ask the question a little
12 differently. Do you have as much confidence in the turbulence
13 forecast as you do in the other forecasts that come out of The
14 Weather Company?

15 MR. COPPOLA: Yes.

16 MR. ABELMAN: Okay. Okay. Thank you. That's it. That's
17 all I have. Thanks.

18 MS. WILSON: Damon?

19 BY MR. WOOD:

20 Q. Okay, I had a couple of questions, Frank. So when we were
21 talking about canceling the flight and, you know, a dispatcher
22 would say they're going to cancel a flight, you know, have you
23 ever had instance to say, well -- you know, we were discussing
24 there may be differences of opinions and all. If you won't
25 release the flight, we'll assign the flight to somebody else to

1 release? Has that ever happened?

2 A. No. But I could -- I'm going to stick my neck out there. If
3 a, if a dispatcher is not comfortable releasing a flight for
4 whatever reason, there's no problem with that dispatcher talking
5 it over with the chief, just so that we're understanding.
6 Sometimes the area could be a gray area, and a second set of eyes
7 and thought is good. But I have no problem -- if they say no,
8 it's no.

9 Q. Okay. And then we were talking about -- so the sector
10 managers, you know, to go back to them, the sector managers and
11 everybody is supposed to have a dispatcher's certificate. You
12 know, the directors, the sector managers. And is it your
13 understanding that the sector managers are going to recurrent
14 training as well as the dispatchers?

15 A. Yes, they're required to.

16 Q. Okay. So they're attending the same trainings, you know, on
17 a yearly basis that the dispatchers go to.

18 A. Correct.

19 Q. Okay. And the last question I had for you is, you know, we
20 had talked about, you know, calling people in. And are there
21 instances when we can't cover shifts? And could you talk a little
22 bit about that?

23 A. Sure.

24 Q. You know, what is the process, you know, with -- if we
25 have -- you know, I could make up a number, but you know, I think

1 we had 20 sick calls, and what -- and you don't have 20 people to
2 come in.

3 A. Right. So we need to look at what the, what the day is
4 looking like. For example, is the chief dispatcher going to be a
5 good resource to possibly fill in for a dispatcher that they can't
6 cover? We'll even go down to the ATC desk and, since they're
7 broken up into sectors, what might be a light area that we can
8 afford to move somebody from the ATC desk over there? We'll go to
9 the regional ops coordinator. Is there a way that we can move
10 one? If there's two of them on, is there -- can we move one of
11 the regional ops coordinators off that desk? And so we kind of
12 massage it to see where we can afford to move somebody. And I've
13 been out to the floor myself, and if none of that is good, I make
14 sure the dispatchers know, do not feel pressure; take the delay.
15 It is what it is. Get your releases out when you can.

16 Q. All right, so I did have -- you know, to expand upon that, is
17 there ever an instance where desks, dispatch desks, are closed,
18 and workload is combined amongst several desks?

19 A. I do recall that happening, yeah, where we had to close a
20 desk. Let me, let me back up, Damon. My recollection is that
21 was -- we have closed ops coordinator desks before to cover
22 dispatchers. But I don't recall closing desks to cover for a
23 dispatch, or at least not in recent history. But the same
24 criteria would come to mind that, if we, if we did do it -- and it
25 may have happened -- that the same kind of overall, do what you

1 can do, don't feel pressure, it is what it is. Take the delay.
2 End of story.

3 MR. WOOD: Thank you.

4 MS. WILSON: Tim?

5 MR. MINER: Thanks. First, a quick comment. Please don't
6 feel bad about slipping up on The Weather Company. You know,
7 they've changed their name --

8 MR. COPPOLA: I know.

9 MR. MINER: -- around four times. And even all of our flight
10 manuals in the flight department all reflect the wrong name, so --

11 MR. COPPOLA: I got it afterwards, though.

12 MR. MINER: Yeah, you did. And you know, we're trying to
13 debate in the flight department whether to put -- "The Weather
14 Company, an IBM Business" is the official name in our manuals.
15 We're just tearing our hair out about that. That's our thing with
16 that.

17 BY MR. MINER:

18 Q. It's great to meet somebody with the big picture. In the
19 weather world, in the aviation weather world, there's this evil
20 thing which is probably one of Dante's levels of hell called flow
21 control out there. And I guess, how does flow control -- does
22 flow control have anything to do -- ever communicate anything in
23 terms of turbulence or coordinate, or do we, do we as an industry
24 work on big picture turbulence issues out there? Or is that
25 turbulence an airline kind of issue?

1 A. No. There would -- if there is, if there is turbulence out
2 there, they're going to route these aircraft around, because
3 they're not going to accept the routes that they're on because of
4 the turbulence. So there could be some bottlenecks going on,
5 which may require a lower arrival rate, for example, you know, at
6 an airport. So that is discussed. Sure.

7 Q. Is that something that you get directly involved with, or do
8 one of the people you work with do that negotiating, or how --

9 A. That's worked through the ATC desk. They go ahead and
10 communicate with the FAA on what they can expect based on where
11 this turbulence is setting up or has set up.

12 Q. Okay. Is there a specific -- I know there's one for
13 thunderstorms, and thunderstorms tends to be the thing that
14 generates the industry discussions. Is there anything that ever
15 happens in the non-thunderstorm season or for turbulence? Do we
16 do something for -- a collaborative national effort for turbulence
17 out there, where different airlines talk to each other and we
18 negotiate, that sort of thing? And I only say this as flying the
19 DC to Chicago routes all the time where I'm constantly fighting
20 for altitudes, and it's a, it's a -- I feel like -- wonder if we
21 shouldn't do better as a, as a national aviation system working in
22 the turbulence world, but I didn't know if that happens. That's
23 really where I'm curious.

24 A. Probably the reroute structure would probably change going
25 from point A to point B, not sending you through that. That's how

1 it would affect, you know, flow control, because now you're taken
2 out of your initial arrival rate. Your initial arrival time is no
3 longer going to be there; you're going to be rerouted. So that's
4 going to affect flow control, you know, as the bottleneck you
5 talked about earlier. So there is discussion going on about that,
6 just as it would be if it was thunderstorms, because you can't
7 penetrate the area.

8 Q. My last question to you is, have you perceived -- you know,
9 we as an airline are evolving pilot reports. You know, we're
10 going from the manual PIREP, which you probably were familiar with
11 and worked as a dispatcher, where the pilot called it in and
12 directly reported to our new TAPS systems out there that are part
13 of Fusion. But not all of our airline has the TAPS system yet.
14 Are you seeing an increase in turbulence awareness on the, on the
15 floor out there because of these automated reports or --

16 A. Yes. Yeah.

17 Q. And is it making a -- getting more notice out there on the
18 floor?

19 A. Awareness. Yes, it's heightened the awareness. It
20 absolutely has.

21 Q. And we've reacted more often, I think?

22 A. I can't tell you what the dispatcher has done per se on each
23 event. But the information is out there.

24 Q. Okay. Great.

25 MR. MINER: My last comment. Don't tell Kevin Johnson I

1 called flow control one of the seven levels. Thank you very much.
2 That's all.

3 MS. WILSON: How are you doing, Frank?

4 MR. COPPOLA: All right.

5 MS. WILSON: Okay. Do you need to take a break? We're going
6 to go around the room and just see if anybody has any --

7 MR. COPPOLA: No, I'm good.

8 MS. WILSON: -- follow-ups. Okay. Shawn, follow-ups?

9 MR. ETCHER: Only just a few.

10 BY MR. ETCHER:

11 Q. I think Charley had asked that, you know, when there's a
12 turbulence event and all that, and you said something.

13 Maintenance gets a read on the aircraft of the turbulence. And it
14 was talking about diverting or not diverting and all that. What
15 do you mean by maintenance has a read on that?

16 A. As I recall, they can tell what kind of -- and I don't know
17 the specific gauges that they use, but they can tell how bad the
18 turbulence was.

19 Q. Okay. They do that while the plane's still in flight, then?

20 A. As I recall, yes.

21 Q. Okay. No, I just -- the way you said it kind of took me off
22 guard. So I just wanted to make sure I understood what you were
23 talking about. All right. I know with technology changes, you
24 know, sometimes that's good. Sometimes it's not so good, because
25 sometimes advancements help and sometimes they take things away

1 that dispatchers were so used to using all the time that were a
2 huge help for detecting weather turbulence or whatever. Have you
3 had anything that's been taken away from a dispatcher's toolbox to
4 help them safely plan the flight with the advancement of
5 technology that you can recall?

6 A. Not that I'm aware of.

7 Q. Okay. I think Tim was bringing up PIREPs. Do you ever look
8 at those when you're looking at the status for the day? Do you
9 ever look at pilot reports to see, oh, that's what's really going
10 on out there, or anything like that?

11 A. I'm fed the information. I don't, I don't search for it.
12 I'm pretty much fed the information of what's going on. Okay? We
13 do get messages come across, and I read those messages. But
14 that's the extent of it.

15 Q. Okay. Do they help in making that decision, or is it just
16 kind of one of those extra little things that's over here that
17 it's not as important to you as the weather charts and --

18 A. What decision are you talking about?

19 Q. Like, if a PIREP comes in talking about something, does that
20 help you make any of your weather outlook for the day decisions,
21 what the state of the atmosphere is for your airplanes?

22 A. It'll be one of the considerations.

23 Q. Okay. Okay.

24 MR. ETCHER: That's all I have, thanks.

25 MS. WILSON: Charley?

1 MR. DAVIS: Just a couple of follow-up questions.

2 BY MR. DAVIS:

3 Q. So a number of people have talked about cancelled flights and
4 decisions by the dispatchers and whatnot. Do we cancel flights
5 for turbulence, or is this something that we can pretty much route
6 aircraft around?

7 A. Unless it's, unless it's overhead of the station --

8 Q. Right over the --

9 A. -- we can route around it.

10 Q. Okay. And then Damon brought up the -- whether people
11 were -- you know, when you have sick calls and that sort of thing,
12 where you could -- and you talked about you could close it up, but
13 you couldn't remember -- somebody else, maybe a sector manager,
14 covered it or something. But it triggered me. So as a pilot, you
15 know, we've got FARs that limit our duty day. We've got
16 contractual, you know, things as well that have a separate limit.
17 But is a dispatcher -- and you previously have worked as a
18 dispatcher. Are there rules in place that limit a duty day by a
19 dispatcher or when they have those -- and this is where it came
20 from. The sick events. Can somebody stay and get overtime, like,
21 do a double shift or something?

22 A. No. No, they're limited. They can't do that. We won't even
23 ask.

24 Q. I just wondered about fatigue and that kind of -- all right,
25 thanks.

1 MR. DAVIS: That's all I had.

2 MS. WILSON: Steve?

3 MR. ABELMAN: Nothing more for me.

4 MS. WILSON: Damon?

5 BY MR. WOOD:

6 Q. So back to Charley's question, you know, so dispatchers at
7 American, we're working how long? Do you know the shifts that the
8 dispatchers work? Are they normally --

9 A. They're about 9 hours.

10 Q. 9 hours. And then the dispatcher's, I think, by FAR. Do you
11 recall what that limit, FAR-wise, is?

12 A. 10 hours.

13 Q. 10 hours. Okay. All right. And then I did have -- getting
14 back to cancellations for turbulence, you know, so turbulence is
15 something that's kind of moving along. It's not stationary. So
16 would we normally cancel for turbulence, or might a dispatcher
17 delay a flight to a period that turbulence would no longer be a
18 factor? Is that considerations that are --

19 A. Absolutely. If it's going to a station where turbulence is
20 forecasted, delays are common to wait till the area moves out.

21 MR. WOOD: Thank you.

22 MS. WILSON: Tim?

23 MR. MINER: I have no further. Thank you.

24 MS. WILSON: Okay. So if you had the key to the kingdom,
25 what would make your job better, whether it could be

1 information-wise, technology, staffing? What would you want to
2 improve the work that you do?

3 MR. COPPOLA: An operating system that would have the
4 wherewithal to move customers, crews and planes around at the
5 touch of a button. You asked.

6 UNIDENTIFIED SPEAKER: Pretty good.

7 UNIDENTIFIED SPEAKER: I believe they call that a
8 transporter, and they're --

9 MR. MINER: Beam me up, Scotty.

10 MS. WILSON: Okay. Anything else?

11 MR. COPPOLA: No.

12 MS. WILSON: Okay. So we've asked you a lot of questions.
13 Is there anything that we didn't ask you that you think we should
14 have asked you, or some bit of information that you think would be
15 important for us to know?

16 MR. COPPOLA: No, you've covered quite a bit. I wasn't
17 expecting quite so much.

18 MS. WILSON: Okay. Do you have any questions for us before
19 we finish?

20 MR. COPPOLA: No.

21 MS. WILSON: All right. Last chance. Anyone else?

22 MR. ETCHER: No.

23 MS. WILSON: All right. Well thank you, Frank. We
24 appreciate you taking the time to talk to us.

25 (Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: AMERICAN AIRLINES TURBULENCE EVENT
NEAR RICHMOND, VIRGINIA
DECEMBER 2019
Interview of Frank Coppola

ACCIDENT NO.: DCA20CA043

PLACE: Richmond, Virginia

DATE: January 30, 2020

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.


Eileen Gonzalez
Transcriber

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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AMERICAN AIRLINES TURBULENCE EVENT

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NEAR RICHMOND, VIRGINIA

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Accident No.: DCA20CA043

DECEMBER 2019

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Interview of: JIM COLLINS, Lead Line Check Airman

American Airlines

American Airlines
North Simulator Building
Room 3S-392
Richmond, Virginia

Thursday,
January 30, 2020

APPEARANCES:

SHAWN ETCHER, Air Safety Investigator
National Transportation Safety Board

KATHERINE WILSON, Human Performance Investigator
National Transportation Safety Board

CHARLEY DAVIS, Technical Pilot
American Airlines

STEVE ABELMAN, Manager
American Airlines

TIM MINER, Captain
Allied Pilots Association National Safety Committee

DAMON WOOD, President
Professional Airline Flight Control Association

NEIL RAAZ, Flight Safety Director
American Airlines
(On behalf of Mr. Collins)

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Jim Collins:		
By Ms. Wilson		5
By Mr. Etcher		21
By Mr. Davis		34
By Mr. Abelman		37
By Mr. Wood		40
By Ms. Wilson		43
By Mr. Etcher		44

I N T E R V I E W

(12:38 p.m. EST)

MS. WILSON: I'm Katherine Wilson. I'm a human performance investigator with the NTSB.

MR. ETCHER: I'm Shawn Etcher. I'm an operational factors investigator with the NTSB.

MR. DAVIS: Charley Davis, American Airlines, E190 technical pilot.

MR. RAAZ: Neil Raaz, representative for Jim.

MR. COLLINS: Jim Collins, check airman for American Airlines.

MR. ABELMAN: Steve Abelman, manager, weather technology. I lead our turbulence task force.

MR. WOOD: Damon Wood, president, PAFCA-AAL. Flight dispatchers for American.

MR. MINER: This is Tim Miner, captain, 737, and the APA safety weather wizard (indiscernible).

MR. COLLINS: WW.

MS. WILSON: So with the NTSB investigation, we're here strictly from the safety side. We're not -- we don't attribute blame. We don't have any enforcement authority. We're just strictly here to understand what happened in the event, how we can prevent this from happening again. And as a part of that, we'll often talk to experts like yourself who can help us understand the E190 operations and how you do things at American.

1 You are entitled to have one representative with you. Is
2 there somebody that you would like to have with you?

3 MR. COLLINS: Neil Raaz is here. He's my rep.

4 MS. WILSON: Great. And we'd also like to record this
5 interview so that we can have a transcription made of our
6 discussion today. Is that okay with you?

7 MR. COLLINS: That's fine.

8 MS. WILSON: Great. So we'll each take a turn asking
9 questions. If you don't understand a question, please ask us to
10 clarify. If you don't know the answer, saying I don't know is
11 perfectly fine as well. We'll each take turns. We'll do one
12 round. We may have a second round of questions, follow-ups that
13 people have based on some of the answers that you've given. If
14 you need to take a break at any time, just let us know that as
15 well.

16 Before we get started, do you have any questions for us?

17 MR. COLLINS: No questions.

18 MS. WILSON: Great.

19 INTERVIEW OF JIM COLLINS

20 BY MS. WILSON:

21 Q. For the record, if you could state your full name, please?

22 A. James Francis (ph.) Collins.

23 Q. And spell your last name.

24 A. C-o-l-l-i-n-s.

25 Q. And you're an E190 check airman.

1 A. Correct.

2 Q. Great. And how long have you been doing that?

3 A. Since 2006, 2007.

4 Q. Great. And when were you hired by American?

5 A. A merger by Piedmont, which became USAir. But 1996.

6 Q. Okay. And what positions have you held?

7 A. First officer, a captain, check airman, maintenance check
8 airman and now lead check airman.

9 Q. Okay. And the lead check airman, that's been since 2006, or
10 you've been a check airman since --

11 A. Check airman since 2006. Right.

12 Q. Okay. When did you become the lead check airman?

13 A. Just, like, 6 months ago.

14 Q. Okay. And as the lead check airman, what are your duties and
15 responsibilities?

16 A. Mostly to manage the corps of check airmen and CMPs (ph.)
17 that we have teaching in the simulator, and then work with our
18 FCTIs who do the ground school.

19 Q. Okay. And how many direct reports do you have to you?

20 A. They're not really direct reports per se. I'm not sure, but
21 maybe 16?

22 Q. Okay. And as a check airman, what are those duties and
23 responsibilities?

24 A. Check airman. Teaching our students any place in the
25 simulator period. So they'll go through, usually, 2 weeks of

1 ground school and then they'll come to us for their initials,
2 which take about 2 to 3 weeks, depending on spacing. And we
3 usually do the second week. We'll do any one of that the first or
4 second week, but we specifically are aiming more at the second
5 week. And then when they come back in for their CQT (ph.) every 9
6 months, they come back, come back in for 2 days of training. Well
7 actually 4 days now, but 1 day of ground school, 2 days of
8 simulator. And we usually teach the second day of simulator if
9 not the first.

10 Q. And are you still flying the line as well?

11 A. Yes, but not very often.

12 Q. Okay. How often are you flying?

13 A. Probably every other month. A 3-day trip, maybe, every other
14 month.

15 Q. All right. As the lead check airman, are you still doing
16 checks, or are you just strictly from the management side as a
17 lead check airman?

18 A. I still do a lot of checks in the simulator, and every once
19 in a while I'll do something on the line. But usually it's in the
20 simulator.

21 Q. Okay. About how many checks do you do a month, or a given
22 timeframe?

23 A. Well see, it depends. We have the recurrent checks, which
24 I'll do maybe two or three a month. Then I'll have an initial
25 check to put people that are getting initially qualified in the

1 aircraft maybe once a month or twice a month.

2 Q. Did you know the crew that was involved in this event?

3 A. Actually I haven't heard the names.

4 Q. Okay. So as -- in the checks that are done in the simulator,
5 what is trained in terms of weather, and turbulence specifically?

6 A. Right. In our sims, we -- on T-4 (ph.), we work with the
7 radar, and they learn how to use the radar and how to adjust the
8 height on the ground. This is part of their wind sheer training.
9 And then when they -- and in the second week, we do 2 or 3 line-
10 oriented days where they do legs from one place to the other. And
11 depending on the -- which flights it is, they may have them turn
12 it on and check the weather. And then on our LOE, we don't have
13 weather, but we have a turbulence where they climb up to 260 and
14 it's turbulent, and they're expected to ask, you know, if it's
15 smoother below or above. And then they usually -- our script is
16 to drive them towards going up to 300 where it's smoother. And so
17 that's part right now of our whole -- they have to communicate
18 with the cabin, and to maybe hopefully reduce their speed in the,
19 in the climb to get out of the turbulence and to reduce, maybe, a
20 little bit of the turbulence.

21 Q. Okay. And the turbulence that's being encountered, what
22 severity is that?

23 A. Well the check airman has control over how -- because
24 usually, we don't want to just make it go from zero to moderate or
25 whatever, so I usually make it light so they can feel it -- just

1 make it more realistic. And like, I'll usually go to what feels
2 like moderate. And if they don't ask for higher, I'll just leave
3 it there, you know, because that's part of the learning
4 (indiscernible). They ask for higher right away and they figure
5 out, hey, this is -- you know, if they ask ATC, then I'll probably
6 leave it at light at that point.

7 Q. And what is the expectation of the communications with the
8 cabin?

9 A. They should call back and say we have light turbulence or --
10 especially if they're checking in the moderate. Unfortunately,
11 this isn't one where we tell them it's coming, and so it's not
12 a -- you know, it's not where somebody has already given them a
13 PIREP that there's moderate turbulence. And our paperwork doesn't
14 have anything about it, obviously. So it's kind of an unexpected
15 one for them.

16 Q. Okay. So the expectation when they're calling back to the
17 cabin is just that there's going to be turbulence. Nothing where
18 they're --

19 A. No, they --

20 Q. -- telling them to take their seats or --

21 A. Right. They don't know that it's coming. And then depending
22 on how bad it gets -- if it's, if it's light, we don't necessarily
23 expect them, because they're asking for higher and it should
24 smooth out in a minute. But if they think it -- if they, if they
25 stay at the altitude and it is moderate, then we expect them to

1 say, yeah, tell them to take their seats immediately or institute
2 moderate turbulence procedures.

3 Q. Okay. And you mentioned that there's some scenarios where
4 they're adjusting the tilt and things like that as a part of that.
5 Where would the pilots initially get their training on that? In
6 ground school? Understanding that? Okay.

7 A. Right. Right. So the way we have it, they go through the
8 systems. It'll tell them all about what each knob does and what,
9 and then they'll go through the IPTs (ph.) where they really don't
10 have the radar. And then they'll actually get in the simulator.
11 And really, most of the hands-on is in the actual aircraft on OE,
12 and that -- you know, depending on what the weather is, they'll
13 either get to see really, or they'll just be able to see the radar
14 return from aiming it at the ground and seeing the different modes
15 for what kind of, you know, kind of return they want.

16 Q. And are you expecting them to use it a certain way, or just
17 that they're using it? I mean, because I imagine there's a lot of
18 subjectivity of what -- how I would prefer to have the radar
19 versus how you --

20 A. Exactly. And we have several choices in our radar that are
21 different. Like, you know, one will set the azimuth
22 automatically. But obviously, most people wouldn't want -- you
23 know, if you're approaching a line of storms, you don't want to
24 just leave it in that automatic mode. You'd want to, you know,
25 adjust it to different altitudes and see if you can see if

1 there's -- if it's worse below you or whatever. But obviously,
2 teach them to stay away from all those things they talk about, you
3 know, that are heavy severe returns. And if ATC mentions that
4 they have an issue, to check for that.

5 And we also teach them as part of that is the whole WSi
6 application, which has been fabulous for us, just to get an idea
7 of what it's going to be along the whole route. We used to have,
8 just in our flight plans would just say what the turbulence would
9 be at each point. But it was very inaccurate because, when you're
10 in the climb or you're in the descent, and plus it's 4 hours old
11 possibly by the time you see it. So WSi, they can get actually --
12 and if they think there's weather en route, most people -- I think
13 every single crew will look at that for, you know, convective
14 weather. And then they'll -- then maybe update it. Hopefully
15 update it in flight if that's a fact. Otherwise they may not.

16 Q. And they're getting WSi on an iPad?

17 A. Right.

18 Q. Okay. And is the iPad assigned to the aircraft, or is the
19 crew bringing on --

20 A. Assigned to the, assigned to the pilot. So we each get our
21 own. In fact, we're all getting a new iPad here in the next month
22 or so. But it's worked pretty good. Then we just -- and we've
23 continued to upgrade this app over the last 2 years where, you
24 know, giving us different layers. At first it was just a radar
25 return, which is just ground-based radar. It's not truly air --

1 what we'll necessarily see. But they've been improving where you
2 can actually put yourself at different altitudes and see what
3 you're going to maybe experience. That's a, that's a big maybe,
4 but --

5 Q. Okay. So getting WSi in the aircraft, how is the
6 connectivity? Usually good?

7 A. Mediocre, depending. If for some reason -- usually only one
8 of us will be able to get it. And they actually only want one of
9 us to be on WSi at any time anyway. The other person should be
10 monitoring the flight. You know, so we don't want to both be
11 heads down. Plus it uses a lot of bandwidth.

12 Q. Okay. Is battery ever an issue?

13 A. No, we have outlets in the, in the flight deck, so --

14 Q. Okay. So when you say that only one of you can typically get
15 access, does it, you know, does it appear that, you know, the
16 right seat gets better connectivity or the left? Or it's just --

17 A. Doesn't seem to be. I know another aircraft, they almost had
18 to put their iPads up near the door, I think, something. But ours
19 just -- and it's not like one or the other. It just seems to be
20 that way, but I'm not sure why or -- but I don't fly a whole lot
21 anymore, so --

22 Q. Right.

23 A. -- maybe it's improved. And on the ground, we have full --
24 without the Wi-Fi, because we all have a cell data plan on ours.
25 Part of the reason why we got the cell data plan, help to tabulate

1 our flight plans, but also to be able to look at things like that,
2 beside being (indiscernible).

3 Q. And how important are PIREPs when --

4 A. They're very big to me, because that's hopefully as accurate
5 and as timely as they can be. We get those in our WSi, but those
6 may be 30 minutes old when we see them on there. But for me, I'm
7 always asking -- you know, most crews are asking as they climb out
8 what it's going to be, partially to decide whether to turn off the
9 seatbelt sign, partially to know if there's issues they're going
10 to have to worry about with their flight attendants or passengers.

11 Q. And so what guidance, if any, does American give to pilots
12 about making PIREPs? Is there anything?

13 A. Yeah. If you have moderate. It doesn't say you should
14 make -- have to do for light, and really, most people probably
15 don't. But it does say that you have to do it for moderate.

16 Q. And the PIREP is being made to ATC versus -- and then what
17 about sending an ACARS message back to dispatch?

18 A. Right. If you have turbulence, unexpected turbulence, then
19 that would usually be moderate or higher. You're supposed to send
20 a message to your dispatcher as well.

21 Q. Okay. All right. Is there any expectation of what the
22 dispatcher will do with that information, from the pilot side?

23 A. Well one thing, they were usually pretty good about sending
24 up a thank you, because they all want that information. And then
25 I expect them to pass it on. And I'll usually, I'll usually --

1 I'll do the opposite also. If they're saying it's going to be a
2 rough ride and I can see it's going to be a rough ride and they
3 give us extra fuel because of a rough ride, and then it's smooth,
4 I'll try and pass that to them also so they can tell the -- and
5 most crews, I think, do, so they can tell the next planes behind
6 them. The American planes. We don't care about Southwest, or
7 tell United. The American planes.

8 Q. Right, okay. In the training that you are doing where you
9 encounter weather, is there, is there an expectation that they
10 will make a PIREP to ATC, or is that not really a part of the
11 scenario?

12 A. It's not. And I mean, we expect them to, but we don't -- a
13 lot of guys will forget, or won't notice so they don't do it.
14 Because it's not really real. I mean, you know, and we understand
15 that. But they're also supposed to do a report RVSM check when
16 they get to 300, and they'll forget about that a lot of times.
17 There's lots of little things that they'll forget, and that's one
18 of them that I probably haven't heard a lot, actually. Partially
19 because ATC is the one who -- ATC tells them. Because they say,
20 how's the ride ahead? And they say it's, you know, light or
21 smooth above 300, 300 and above, as part of our thing. So
22 actually, that's why they -- I was trying to figure out why they
23 wouldn't. Because usually, they'll forget what --

24 Q. Is there ever any joint training between dispatchers and
25 pilots?

1 A. Not a whole lot. When they go through their captain
2 leadership course, I think they go over to the dispatch, the IOC,
3 you know, for a dog and pony show, you know, to get an idea of
4 what everybody does, which is -- I think that's a fabulous thing
5 that we do.

6 Q. What about with -- between the cockpit and cabin crews?

7 A. Oh, and I'm sorry. And the new hires also get a tour and see
8 what goes on over there as well. With the cabin crews? You mean,
9 like --

10 Q. Yeah. I don't know. Anything -- any discussions or
11 scenarios that they play out, maybe, for a turbulence event or
12 something where they're having to communicate?

13 A. Oh, in terms of our training? Just that one. Yeah. Can't
14 think of any other situations. So we don't do a whole -- we only
15 do, like, five legs of scenario-based flight.

16 Q. Yeah. I guess I didn't mean necessarily in the simulator,
17 but there's, you know, any sort of classroom training where
18 they're together and they're doing some kind of role-playing?

19 A. They do a little bit of that here in Dallas. Unfortunately,
20 in Charlotte, we don't have any flight attendants based there. So
21 we spend a lot of time discussing it. We'll talk about the
22 turbulence and what flight attendants expect in general. But we
23 don't have any flight attendants at base there, so we don't do it
24 as part of our recurrent.

25 Q. Got it. Okay. And the expectation or, you know, what flight

1 attendants would expect, is that based on something that's in the
2 manual? Or where are those expectations coming from?

3 A. Well, and also we brief them before we push back and usually,
4 you know, open those communication lines and, you know, tell them
5 we have, like, ten things, including turbulence, of what we expect
6 on a flight. And usually we'll say, hey, and also call us. And I
7 personally say, and if it gets bumpy and I haven't said anything,
8 it's because it was a surprise to me. You know, my disclaimer, I
9 guess. And then, and then it's just -- you know, crews obviously
10 deal with flight attendants every day. Floor plan is just two
11 pilots, two flight attendants.

12 So usually -- though we may have different flight attendants
13 during the day, but they usually talk to each other and get an
14 appreciation for what each other feels. We'll sometimes get a
15 call from the back saying, hey, this is bumpy; can you turn the
16 seatbelt sign on? Or a lot of times they'll say, hey, is this
17 going to last much longer? You know, that kind of question. And
18 a lot of our captains will tell them, hey, I think it's going to
19 be bumpy on departure; please stay seated until I, you know, tell
20 you to get up, which they'll listen to maybe half the time. And
21 partially because our own fault, because a lot of times,
22 captains -- I remember as a first officer, a guy would say that
23 and then he wouldn't -- he'd forget entirely about it, and then
24 you're climbing out of, you know, 300 30 minutes later and maybe
25 I -- by the way, did we ever light them? Oh, no. You know, of

1 course they -- not by that time probably, because they can feel
2 the turbulence as much as we can.

3 And same thing for arrivals. So now we changed our
4 procedures. We used to at 10,000, flights attendants be, you
5 know, prepared for landing. We've actually moved that earlier
6 with the idea being, if you see convective activity around the
7 airport, you have some reason why you might want to do it, you
8 might have them do that same thing, but maybe at 18,000 feet. It
9 should be done by -- before 10 now.

10 Q. Right. Okay. When you've been in recurrent training, in CRM
11 training, is there a discussion about cockpit/cabin
12 communications? Is that covered at all?

13 A. Not usually. This last time and the one before were talked
14 about because of turbulence. It was kind of specific to that.
15 And I can't remember anything else. It's been 9 months for me,
16 but can't remember anything other than that.

17 Q. So in terms of communicating moderate versus severe
18 turbulence, as a pilot, like, what would you do differently if you
19 encounter moderate versus severe?

20 A. They kind of say it's a take your seats immediately type
21 thing. Because they're supposed to take any open seat near them
22 until it's over, and then hopefully the pilots would say that it's
23 over, because otherwise they don't know that you're about to go
24 into another cloud, you know, another problem area. That's kind
25 of it, really. You know, and then -- because otherwise, you're

1 supposed to actually, you know, ding them, have them get on the
2 phone, and then just tell them if it's moderate turbulence. For
3 me, I'll a lot of times do it if I, if I feel that and I think
4 it's just going to be for a minute, I'll actually -- even
5 moderate. Maybe say, you know, flight attendants, this should
6 just last -- you know. Or to the passengers so that -- because
7 that'll tell the flight attendants also. It should just last, you
8 know, 30 seconds; sorry for the ride.

9 Q. So is there any guidance from American, or is it a style that
10 captains use to make the announcements over the PA versus calling
11 the flight attendants to --

12 A. Yeah, so it's supposed to be light -- for light, it should be
13 over the PA, you know, because you're saying institute light
14 turbulence procedures. It's not really a PA type of thing. Or
15 over the -- I'm sorry. Over the intercom.

16 Q. Right. I guess I'm thinking from the standpoint of, you
17 know, more authority coming from the cockpit by, you know,
18 reminding the passengers to stay seated --

19 A. Right. Actually mean --

20 Q. -- versus a flight attendant.

21 A. Right. And then not too much. Sometimes they will, but more
22 likely it's the fact of, ladies and gentlemen, I'm sorry, we won't
23 be serving on this leg because we expect, you know, turbulence on
24 the departure. But other than that, it's usually not something we
25 need to -- we don't usually share. Or the company doesn't say to

1 share it with the passengers, other than just sorry about the, you
2 know, ride type PAs.

3 Q. But there's no guidance that there should be an announcement
4 from the captain about remaining in your seats or anything like
5 that to, you know, have more weight than maybe what the flight
6 attendant might have.

7 A. No.

8 Q. No?

9 A. No, I mean, I think, I think most guys probably do that, and
10 gals. But I don't know that it's pushed that way or not. It just
11 kind of depends on the situation, so --

12 Q. Sure. Going back to the dispatchers, they're required to
13 ride jump seat 5 hours a year. Did you ever have a dispatcher
14 ride in a jump seat with you?

15 A. Um-hmm.

16 Q. Did you find that beneficial?

17 A. Oh, yeah. Both ways.

18 Q. Yeah. What was -- what do you think was the most beneficial
19 part of that?

20 A. Just a general discussion over what we have to deal with.
21 Same thing with air traffic controllers. Get to see the other
22 side of the job that -- they have joint responsibility for our
23 flight, so it's a really good idea that we are all kind of on the
24 same page and they know, they know what we're going through. The
25 same with vice versa.

1 Q. Have you ever experienced severe turbulence?

2 A. Once.

3 Q. Yeah? And what did you do in that situation?

4 A. It was over the Sierra Mountains here, Nevada Mountains in
5 California. And it was probably a mountain wave. And it was over
6 in, like, 3 seconds. We had a crewman in the back who was hurt.
7 It was in the Navy, before I was airline, and it was so fast. And
8 he was -- had a broken leg, or enough to have to bring him to the
9 clinic or the hospital by ambulance. Maybe 500 times the
10 moderate, though. I mean, that's so much more common.

11 Q. Do you ever feel that there -- do you feel that there's any
12 pressure, either from the company or the dispatcher, where pilots
13 might be hesitant to report severe turbulence?

14 A. I wouldn't think so, no.

15 Q. Yeah. And there's a lot of -- there's paperwork that's
16 involved, right, if it's severe?

17 A. Not too much, though. I mean, it's pretty simple, the system
18 we have now, for our SIRs supports. I think they may forget to
19 report it, I think, but most people in-flight would say it.
20 Although you know, that's -- it's so hard to gauge, you know, seat
21 of the pants what severe really is. Some of our planes will
22 actually give, I think, a readout on what their Gs were at certain
23 times of the flight. And that may or may not correspond to what
24 we felt on the flight deck, especially. And that's the other
25 thing, is we don't really know. Could be, depending on the

1 aircraft, much worse in the very back.

2 Q. The Gs that some aircraft are reporting, do you know, is that
3 happening -- is that real time in-flight happening and being sent
4 to the ground or --

5 A. I'm not sure. I'm not sure. I've just read the notices, but
6 I think it's after they land. And it's the kind of thing, like,
7 they may want to write it up. But like I said, I'm not an expert
8 on that.

9 Q. Have you heard any pilots ever say, like, moderate plus?

10 A. No.

11 Q. No?

12 A. It's funny, because you hear light chop, intermittent light
13 chop, and you know. But never heard plus.

14 Q. Yeah. We're not going to say it's severe because we don't
15 want to do the paperwork, but --

16 A. Really?

17 Q. Okay.

18 MS. WILSON: I know that I've got more questions, but I'm
19 going to look through my list. So I'm going to turn it over to
20 Shawn for a minute.

21 MR. COLLINS: All right. Thanks.

22 MS. WILSON: Are you doing okay? Do you need a break or
23 anything?

24 MR. COLLINS: No, no, I'm good. Thanks.

25 BY MR. ETCHER:

1 Q. So I'm hoping you'll educate me. I've not flown the 190, so
2 I'm kind of hoping you'll be my check airman, if you will. Help
3 me understand the system, especially the radar and all that it's
4 capable of. But the first thing I was wondering, go back up to
5 when you were talking about in the sim. You guys would -- you
6 give light. The instructor could move the turbulence up to
7 moderate. Has anybody ever moved the sim turbulence to severe?

8 A. No.

9 Q. Okay. Is there a reason?

10 A. I don't know that it -- I'm not sure how accurate it would
11 be, and I'm not sure what it would do to the simulator. We've
12 had -- you know, because even moderate can be pretty -- it can
13 be -- you can bounce around a lot. I don't know. But it could,
14 it could shut down the simulator, I would think, if -- because
15 if -- because we're only halfway down the gauge, you know. I'm
16 not sure.

17 Q. Okay. That's a --

18 A. Good question.

19 Q. -- that's a good understanding of why you wouldn't. Is the
20 190, is it a more junior crew at American?

21 A. Yeah.

22 Q. So help me understand that junior -- new hire FOs?

23 A. Most of the time.

24 Q. Most of the time? And is this -- do captains -- typically
25 their first upgrade?

1 A. Yes, depending. We do have a few at the top because they
2 really like the seniority. So we may have a few that have 20 and
3 30 years, but I'd say 80 percent are probably less than 8 years.

4 Q. Okay. So teaching the 190 to new hires, especially weather
5 radar. That's kind of really what I'm interested in mostly here.
6 Do you see new hires grasping it pretty easy? Is it -- you know,
7 I know in the sims or, you know, in your -- in the ground schools,
8 you can pretend, if you will. I know technology is getting better
9 than when I went through it a long time ago. But there's always
10 something about learning on line. But do you see FOs grabbing it
11 and understanding how to use it effectively before they get out to
12 OE?

13 A. No.

14 Q. No?

15 A. Probably not. You know, so yeah, we just teach them how to
16 use the switches and buttons themselves. Or yes, they get good at
17 that. But then, because we're really -- we don't have that many
18 legs like that. Talking about this, it might be not a bad place
19 to put is some cloud, some convective activity along our route on
20 one of our en route portions, which I do sometimes just to make
21 the turbulence feel more realistic. But it's not part of our
22 script, though.

23 So no, it's mostly on OE. Not most of them, obviously,
24 are -- all except for the military. Everybody else is coming from
25 121 carriers where they had a radar. A different radar, but a

1 radar where they were. And our captains who are coming back from
2 the Airbus or the 73 or the MD80, obviously they all had radars
3 also. And the differences are not that noticeable. I mean, you
4 know, like I said, the buttonology (verbatim) of knowing which
5 ones they pick, and these different modes that we have that they
6 don't have on other aircraft.

7 Q. Like what kind of modes?

8 A. So we have just a couple. You know, we have some that --
9 like I said, the automatic azimuth, which I've never seen -- I
10 don't remember having it on planes I've flown otherwise, but it'll
11 set the azimuth. So like, they tell you to, kind of, is to have
12 it where it hits the ground at some point out in the, in the
13 distance. So at night, even though you can't see clouds,
14 hopefully you'd pick that up.

15 And then there's a couple that will -- you know, sectors will
16 give it a much faster scan rate if you're trying to go through a
17 range. You can reduce the gain or increase the gain, depending on
18 if you're trying to see past things or see really light things
19 that don't show up otherwise. And they have, you know, some
20 things that will show up as a turbulence mode, which is not very
21 effective. It doesn't seem to help much. Because for turbulence,
22 you still need precipitation. It's a Doppler-based radar.

23 So those are the main things. And then usually, like I said,
24 on OEs when you really would use it more, and that's when more
25 teaching goes on. Even without convective activity, at least you

1 can see things and work with it in a more realistic mode.

2 Q. Okay. And is the radar in the sim -- you know, if you put
3 weather in there, is it pretty accurate and --

4 A. Well it's pretty accurate that it shows you the storm. And
5 you can -- we have choice of, like, 10 or 12 different choices for
6 storms, what they look like. And then you can place them wherever
7 you need to have them in the distance. Usually, like I said,
8 that's used especially on our takeoff and on our landings with
9 wind sheer, and then we'll have them set it up and see where it is
10 and decide that they're going to continue to land because it still
11 looks like it's pretty far away.

12 Q. Okay. Okay. Is there a distance that you expect your crews
13 to fly from a cell, away from it?

14 A. Right. We're pretty prescriptive, though it depends on, you
15 know, the altitude, whether they're above the freezing level,
16 downwind side or upwind side. And those are, you know -- we
17 obviously stay out of cells entirely, and five at the minimum even
18 if it was down low. And then there's, you know, up to 20 and 40
19 miles, depending on the winds also, and whether you're downwind or
20 upwind, which can be hard to do, as you know. You know, you go
21 through a whole line of storms and they're all 40 miles apart, and
22 that's always a hard choice for crews.

23 Q. Right. Okay. You mentioned it has a turbulence button on
24 the radar. And judging by what you said, you're probably not the
25 biggest fan of it?

1 A. Right. I'll show it to the new hires because I'm hoping in
2 the future it'll be more effective. But yeah, you can only be --
3 have to be less than 50 miles. Otherwise it just blanks out. And
4 you know, I've turned it on several times. Just, it's never told
5 me anything that I couldn't see. If I could see it, then -- yeah.

6 Q. Okay. How would it depict turbulence on the radar?

7 A. I think it's white.

8 Q. White. Okay. All righty. I know you said you had some of
9 your new hires come out of the military, some come from other 121
10 carriers. Have you seen any issues with either of those groups
11 transitioning to this radar, some picking up -- I mean, I know
12 pilots. Some will pick up quicker, some won't. But is there a --

13 A. Right. I usually end up spending more time with the military
14 guys, because they haven't used that kind of a -- you know, they
15 have radars for different kinds of things. You know, more
16 tactical reasons. And so yes, I will talk more at length about
17 what you're looking for and things that we've all learned through
18 years of distance learning or experience.

19 Q. How about captain upgrades coming out of an Airbus or out of
20 a Boeing or something? Have you seen them --

21 A. They usually pick it up pretty quickly, and that's just a
22 matter of those several tools we have that they didn't have on
23 their previous radars. And talking about the issues with the
24 aircraft itself that we have.

25 Q. I know we didn't really get into your flight history, but it

1 sounds like you've flown several aircraft in the past. How does
2 this radar compare to ones that you've flown in other aircraft?

3 A. See, it's been 15 years, so now I'm starting to forget. But
4 I think it's pretty comparable.

5 Q. Okay. Okay. And that's okay. I just kind of -- I always
6 appreciate people with a lot of experience because then I can kind
7 of get a gauge of --

8 A. I know. Find someone who's just been here for 4 years or a
9 year, maybe.

10 Q. Right. All right. I'm going to be nosy. Kind of a curious
11 question. I know you said you had severe turbulence in the
12 military. Did you report it? Do you remember?

13 A. I don't remember.

14 Q. Okay.

15 A. Probably so, because it was a surprise to us, and obviously
16 we don't want anybody else going through that area after us.

17 Q. Okay. All right. Have you -- do you do line checks in
18 flight --

19 A. Um-hmm.

20 Q. -- or do you just do them in the sim? Okay. Have you
21 experienced turbulence doing a line check in flight?

22 A. Light.

23 Q. Just light.

24 A. Probably get light on every single flight we go on, I'm sure.
25 And I don't remember anything out of the ordinary, though, no.

1 Q. How'd your crew handle that?

2 A. The light? They didn't turn off the seatbelt sign. They
3 didn't say anything to the crew, but -- and we talked about that
4 afterwards, but not in a punitive way, because it was just light.
5 It was just discussion.

6 Q. Should they have? I mean, I just want to make sure I
7 understand what your guys' protocol is.

8 A. Right. So our protocol is to turn it on for light
9 turbulence, but then every, you know -- the differences between
10 light chop and light turbulence and how long it's going to last.
11 And the problem, like we were saying, is usually they will be done
12 over the intercom. So if they're in the middle of the aircraft
13 serving and then you have them come to the front, you know, it
14 just takes a lot longer to serve. I don't know. I think most
15 people, with the seatbelt sign being on -- which is obviously a
16 problem, though, because some people leave the seatbelt sign on
17 for the whole flight. We push pretty heavily to turn it off if
18 it's, if it is, you know, light chop or less. But obviously, some
19 people are still in the old way of, if I turn it off, then I'm
20 liable for anything that happens. And they think -- they're
21 worried about not turning it off then.

22 Q. Okay. And do you guys still use the term "chop" in
23 turbulence or -- I know you --

24 A. Not with, not with the flight attendants. We are required to
25 use just light turbulence, moderate turbulence, severe turbulence.

1 Q. Does the pilot still use "chop?"

2 A. Between each other. Yeah, right. Just because it is so hard
3 to determine that. And like, I think it's -- like, I wish there
4 were six different layers because there is -- and once again,
5 though, until we all have a G meter, accelerometer or something in
6 the cockpit, it's going to be hard to really know, because you
7 know, somebody could say that was light turbulence, another person
8 could say moderate turbulence, another could say light chop. You
9 know, all the same weather, so --

10 Q. So how would -- help me understand. If I'm in the flight
11 deck with you, how would you classify turbulence? Help me --
12 you're teaching me. So how would you help me understand? Is that
13 light chop? Is that light turbulence? Is that moderate?

14 A. I'd say, could you get out your FOM, and let's read it. And
15 it's -- light turbulence is usually, like, your drink -- the best
16 one I like is the water is in there shaking but it's not --
17 nothing is splashing out, that you're feeling a little queasiness.
18 You can walk easily up the, up the aisle. And for us as an, as an
19 airline, as I'm sure you've heard, we just can't do hot liquids if
20 the seatbelt sign is also on. Takes two things, actually, which I
21 didn't know. And then -- but then moderate turbulence is when
22 it's splashing out of the cup and you're straining against the --
23 your, kind of, I guess, just lap belt in that case. And then
24 severe being past all those things. There's no water in the cup.

25 Q. It's on you, right?

1 A. Yeah, yeah.

2 Q. How about the difference between turbulence and chop?

3 A. Just, like, I would cut to just -- you know, chop is usually,
4 you know, lighter than turbulence, I would think. And a little
5 bit is amplitude, but a lot of it, I think, is just people use
6 that as severity. So you know, so if you say moderate chop -- I
7 have actually heard that -- would mean it's in between light and
8 moderate, I guess.

9 Q. Okay. All right. So you probably heard about this event
10 we're investigating, the turbulence event.

11 A. Yeah.

12 Q. Would you expect -- have you heard the situation around the
13 weather? Have you --

14 A. I heard it was VFR, and that she was hurt on the arrival into
15 Raleigh.

16 Q. Would you expect your crews to have a weather radar on in
17 those circumstances?

18 A. No.

19 Q. Why?

20 A. Well for one thing, like I said, we don't really -- can't
21 really see any weather out there by having it on. And it's VFR at
22 night. I would expect them to have it on even -- you know,
23 because there might be something that you can't see. And if I, if
24 I had more trust in the turbulence, maybe that would have been a
25 good idea. Maybe. But I don't think that's a good tool for what

1 we're talking about. If anything, they might, they might think,
2 hey, I have nothing. Did they -- I don't know if they had any
3 PIREPs. I mean, you know, that's the kind of thing I would hope
4 that somebody told them, but sometimes you don't get them.

5 Q. Is there any guidelines at American for when a crew is
6 required to have the weather radar on?

7 A. Probably so. I'm not sure what the guidance is, but I think
8 everybody has it on most time at night. And it depends also. Now
9 that they exceeded WSi and they can see at night even, they can
10 see what's around them. So they may not be doing it at night.
11 I'm still old school, so I turn it on at night. And then if you
12 see there's clouds or possible convective activity.

13 Q. Okay. Since you're the lead check airman, the head guy, I
14 assume all check airmen -- you guys probably get together and talk
15 about what check airmen are seeing out there, whether it's OE,
16 whether it's line checks. Has there been any discussion amongst
17 the check airmen on weather radar usage or turbulence?

18 A. No, other than what we're talking about: about light,
19 moderate turbulence for the flight attendants communication.
20 That's been a pretty big deal. And avoiding it, which -- that's
21 always been the case.

22 Q. Yeah. And you say it's a big deal, the communication with
23 the flight attendants. Help me understand what's the big deal.
24 Is it the lack of?

25 A. Just to make sure that we are communicating with them and

1 that we are clear in what we're saying, is going to be the future.
2 Tell them when it's going to hit if you know in advance, how bad
3 it's going to be and when it'll -- how long it'll last.

4 Q. Okay. And have your check airmen been coming back saying
5 crews are doing that?

6 A. We haven't discussed how the crews are doing -- it's just a
7 discussion about best practices, I guess.

8 Q. And when did that practice change, or modify? I don't want
9 to say "change."

10 A. Good question. Probably a year ago, I'd assume?

11 Q. So not -- don't want you to speculate, necessarily, but long
12 enough that most crews have already rotated through a training
13 event to learn it?

14 A. Right. A lot of this is also in our -- like, we get our DL
15 every -- quarterly. So they would have seen that in the last year
16 in DL. We do what's called our recent developments. You know,
17 like, our airplane magazine, which we actually had a story in
18 December. That was, that was -- our boss's column was about
19 turbulence and procedures for turbulence, so it was kind of funny.
20 Who knows if -- who reads those, necessarily. And then our flight
21 publications do a great job talking about that kind of thing. I
22 don't remember when the last time they had an article, but they're
23 pretty -- they've been pretty much following anything that's the
24 big deal for the airline, and this has been a big deal for the
25 last year. So I'm sure there's been one probably in there on

1 flight safety. Just guessing.

2 Q. My last round of questions here, and then you'll be done with
3 me for a little bit, so you can start to breathe. You brought up
4 DLs, your distance learning. I assume they do them once every
5 quarter?

6 A. Correct.

7 Q. Do you recall if, in those DLs, there's ever been any
8 training on weather radar, turbulence? Kind of, help me
9 understand what those usually cover?

10 A. Right. And I'm sure you've probably seen them. I'm not 100
11 percent sure, but I know I've seen when they talk about radar
12 returns and what you should stay away from, and the altitudes to
13 stay away from, convective activity. But they really have, you
14 know, seven different aircraft types and different radars. So
15 that part of it, they don't really discuss much.

16 Q. So the DL is airline-wide? It's not --

17 A. Right.

18 Q. -- Embraer 190-specific? It's not 73-specific?

19 A. This part of it is airline-wide. They do have -- they'll
20 have modules for the specific aircraft, but it's usually that's
21 more based on, you know, are we having a problem with engine
22 flameouts on final or, you know, dealing with pack failures or
23 things that may be more related just to that aircraft. Although
24 there are certain things. Like, we do over water, and on the 190
25 we don't, we don't do international over water as much, so we

1 don't have to do that module. But we'll get other information
2 based, you know, on international procedures that we do or
3 something. So some of them are specific, but most of them -- the
4 weather ones are usually company-wide.

5 Q. Okay. I feel bad asking this, but can you recall when the
6 last time you saw the weather one? DL?

7 A. No.

8 Q. And if you can't, it's okay. I know that's not a question
9 you were expecting, maybe, but --

10 A. Right. I'm not sure. But I would assume it'd be the
11 beginning of the summer. I mean, they do it all on purpose. So
12 just a guess would be the beginning of the summer, getting ready
13 for the summer season or thunderstorms and --

14 Q. Okay. Okay.

15 MR. ETCHER: That's all I have for now, so thank you so much.

16 MR. COLLINS: Okay.

17 MS. WILSON: Charley?

18 MR. COLLINS: Thank you, Shawn.

19 MR. DAVIS: Thanks, Jim. He asked me that question. I can't
20 remember either.

21 BY MR. DAVIS:

22 Q. So you talked about, you know, as a check airman, you're
23 training, you're instructing. You're also observing and checking.
24 You were talking about the LOE or -- yeah, the LOE. Could you
25 just, for the group that may not be familiar, describe what is the

1 LOE?

2 A. So that's, like, our final check for them to get a type ride
3 if they're new in the airplane, or just get checked out to be in
4 the left seat if they're moving to the left seat. And it's based
5 on real life. Like, this is as realistic as we get. The last 2
6 days, the LOFT day, we do a quick flight from Philadelphia to
7 Washington, DC and then up to Boston. And then LOE day, we go --
8 it's the same thing. Then they get the paperwork, and it's like a
9 real flight. The idea is that they -- it's all as realistic as we
10 can make it. And they'll go from LaGuardia to Boston and then
11 back to Philadelphia. And so on each of those, we try and be as
12 realistic as possible. All the things, which is, like,
13 communication. If it's nighttime, you're turning on the radar.
14 And then like I said, in the second leg, that's where we introduce
15 the moderate turbulence or light turbulence, depending.

16 Q. Okay. Thank you. You also -- a couple times, you mentioned
17 scripting. Having been a check airman, I'm familiar with that,
18 but I don't think the group's always familiar with that. So if
19 you'll explain a little bit about the scripting and what that
20 means?

21 A. Okay. Yeah, so that's to give the check airmen, kind of, a
22 template to work with to make sure that all of our students get
23 everything they're supposed to get. So the scripting -- we're not
24 supposed to go very far off it, so like, the scripting says -- it
25 doesn't really give you a number for that turbulence, but you

1 can't go beyond that or not give them the turbulence. You have
2 to -- these are all things that have to be done during that
3 period, partially to see that they know this information,
4 partially also for the data. Because we keep data on how many
5 people fail or don't know something or don't do anything about,
6 you know -- it's about data, so we can improve the training.

7 Q. Okay. As you know, I haven't been a check airman in at least
8 5 years, probably. When you're giving the turbulence event in the
9 LOE, you mentioned that you have light turbulence, and it's --
10 they ask for a climb, it normally stays light. So that's, I
11 guess, not scripted to go to moderate. Do you expect the crew to
12 advise the flight attendants of light turbulence procedures in
13 effect?

14 A. That's what, that's what they should do. Like I said, I --
15 unless I go to moderate, I personally don't necessarily make a
16 debrief item if it's just light. With moderate, it would be
17 debrief. So we usually will try not to -- we'll pick, like, ten
18 things we'll debrief at the end. And it's a subjective, really
19 subjective idea of which things. And usually just one or two
20 things that are bigger deals, unless they failed the LOE. And I
21 probably -- I would definitely debrief if it was moderate and
22 they -- you know, what I felt like it was moderate. But I
23 probably wouldn't fail light.

24 Q. Okay. And this is also -- comes from my knowledge that I
25 think the group doesn't know. But Shawn asked you about the

1 experience of our crews on the 190. You said there was some
2 higher experienced crews, but -- you know, I was like their first
3 captain, but as I recall, there were some displacements from the
4 MD-80 when they closed St. Louis. And we had some -- did we not
5 have some MD-80 crews, captains that actually wound up as 190
6 captains?

7 A. Right, right. So we have a bunch of them who -- like I said,
8 that -- probably 10 percent, or even 20 percent. Between MD-80
9 crews and guys who just enjoyed the seniority for years and years
10 that were still on it. And so probably 20 percent, 25 percent are
11 very seasoned. And then there's a bunch in the middle, and then
12 we have maybe 10 percent that are, like, literally just off
13 probation, like 1 year with the company. So very junior. Many of
14 them coming off the 190, so they're at least familiar with the
15 aircraft, but pretty new to the airline.

16 MR. DAVIS: Thank you, that's all I have.

17 MS. WILSON: Okay. Steve?

18 BY MR. ABELMAN:

19 Q. Okay, so back to the scenario Charley just talked about a
20 little bit with the training. So I know you talked about using
21 your -- the WSi app now, and you're using more of that. And
22 you're talking about turbulence procedures as, you know, something
23 hits moderate, then -- or light, you'll ask them to do something,
24 but you have your procedures in place. Do you use any, in your
25 training, forecast products? In other words, you're hearing from

1 the WSi app or from ATC or from your dispatcher that, in the next
2 half hour to 1 hour, moderate turbulence has developed. Do you
3 run any of that through your training scenarios to -- in that way?
4 Not yet?

5 A. No, not yet. I know we will discuss that, you know. And
6 obviously that's about half the discussion, is, you know, saying
7 what your ride's going to be like, that part of the briefing for
8 the flight attendants and for your own knowledge.

9 Q. Okay. Do you think -- again, I'm not a Weather Company
10 employee. I'm an American employee, so this is not a -- no skin
11 off my back question here. But do you think that turbulence
12 forecasts are getting better?

13 A. Yes.

14 Q. You do. Okay.

15 A. Yeah, because I feel like, especially when we were on paper
16 and it was released and there was no WSi, like I said, it could
17 be, you know, 4 hours old when you push off and now you have a 3-
18 hour flight. Maybe 7 hours old. And we literally had to entirely
19 be based on radar and PIREPs and sight. So that's been a big
20 improvement, I think.

21 Q. Okay, good. What is the -- now I know the percentage of the
22 190s. In the turbulence task force, we -- well let me, let me
23 start you off a little differently. The turbulence task force, we
24 reviewed some cases, especially in the 190s -- this case is not
25 one of them -- that there was -- because of the distance of the

1 leg, there wasn't a lot of altitude that, you know, could be
2 reached. And there was quite a bit of weather. And we saw some
3 cases where we were surprised that flight attendants were actually
4 up and serving. And again, this is not the norm; this is
5 infrequent. Do you think there's a little bit more susceptibility
6 to those routes and to trying to get the service completed in
7 those short routes if there is weather?

8 A. Not any more than our regular flights. And the nice thing is
9 that usually you've gone, you've just gone through there, so
10 usually we do know what the ride was like. Not that it can't
11 change in 45 minutes. And that's a good question. And there --
12 then there's the other side. There's our flight attendants who
13 don't want to serve, you know. Because they loved it when, 3
14 years ago, we stopped serving drinks, you know, from Charlotte to
15 LA. And we see that a lot. And most flights, because it is a
16 pretty short leg, but it is --

17 Q. (Indiscernible).

18 A. We're competing with Delta and JetBlue, and so that is --
19 unless it is going to be moderate turbulence is expected.

20 Q. Right. Okay. One sort of confirmation question, maybe for
21 the record as much as anything else. So the radar that you have
22 in the E190, and I think which is similar to some of the radars or
23 most of the radars, they have a turbulence mode. Is it your
24 understanding that, in order for that turbulence mode to report,
25 it has to be hitting precipitation of some kind to work?

1 A. That's what I was --

2 Q. Right. And I agree with that. And for the record in this
3 particular case that this -- that radar would not have shown
4 any -- in your, in your mind, in this particular case, because the
5 skies were clear, that radar would have been of no value.

6 A. Right. I know people who turn them on for bird avoidance,
7 which has never been proven true at all. But it's, you know, one
8 of those urban legends. And that would be the only reason that
9 I've ever seen anybody put it on in clear air.

10 Q. Now I know -- I do know that the, that the technology is
11 changing. But I do believe, you know, that you need to be
12 bouncing off something in order for you to pick up a Doppler
13 effect radar. So that could be changing.

14 MR. ABELMAN: So that's it. Thanks, Jim.

15 MS. WILSON: Damon?

16 BY MR. WOOD:

17 Q. So I do have a couple questions for you. So if you were --
18 in your experience, what would trigger you as a captain to call
19 this -- on a daily basis, you know, to call a dispatcher and say,
20 hey, we're looking at a lot of turbulence today. Would you
21 specifically call? I mean, I know on a VFR day, you know, it's
22 okay. I got my dispatch released. I've got my fuel. Everything
23 looks good. I'm just -- I don't talk to my dispatcher. Is there
24 any, you know, kind of, trigger point for you as a captain to even
25 say, hey, today looks like there's a lot of turbulence? Or you

1 know, when you call the dispatcher, what would that look like for
2 you?

3 A. Yeah. Yeah, if he had put on that he was -- you know, the
4 (indiscernible) was going to be at 1000 -- you could have them
5 just for other reasons, but -- and it looked pretty bad to me, I
6 would probably give him a call and say, hey, you know, have you
7 heard any reports out there? I don't call as much as I should.
8 Because I think that is a fabulous discussion to have. But I
9 would probably only do it, I mean, in a case like that. Maybe
10 call once out of every 20 flights, probably.

11 Q. I think the question Katherine had asked, you know, have
12 dispatchers ever, you know, sat with you in the cockpit, and I
13 think you had answered it. Have you ever spent any time in an IOC
14 or an SOC or whatever we're, you know, calling it these days? I
15 mean, you know, sitting with a dispatcher.

16 A. I had a fabulous chance about -- when we were going through
17 the changes and merging with American, we had what were called RC
18 5, 7 and 9. Or you know, 1, 2, 3, 4, 5, 6, 7, 8, 9. And so I
19 actually was the representative to go sit with the dispatchers in
20 Pittsburgh at the time for 2 days or 3 days. And it was fabulous
21 talking to them and getting a feeling for what they do, and
22 answering some questions. Because they was -- and answering
23 questions from pilots, because pilots were calling them with
24 questions, and I was there to kind of help answer their questions.

25 Q. And I did have one last question. This goes to -- you know,

1 we had talked about captains sitting with dispatchers and CRM. I
2 know that at one point in time dispatchers would sit with
3 captains, you know, on a yearly basis as part of a class. Is
4 that -- have you ever heard of that or, you know --

5 A. No. Sounds like a pretty good idea, really.

6 MR. WOOD: Okay. All right. Thanks, Jim.

7 MR. COLLINS: Thank you, Damon.

8 MR. MINER: Thanks. Having never flown the 190 or anything
9 that wasn't Boeing, I guess I'm curious about your perception of
10 how the wing of that aircraft reacts compared to Boeing or an
11 Airbus product. There's been all the different kinds of --

12 MR. COLLINS: Right. It seemed like it was pretty close to
13 what an Airbus was, and what I can remember, 73. It sounds like
14 much different from our wide-bodies, I guess. But what I felt. I
15 do hear that it is much more bumpy in the back of the plane, but
16 that's kind of the same for most of our airplanes, I think, with
17 the rear, you know, getting amplitude motion, I guess, but --

18 MR. MINER: So it's your perception that the flight
19 attendants in the back will feel something than you do up front?

20 MR. COLLINS: Right. Or more than we do. You know, the same
21 but more.

22 MR. MINER: Thank you. That's all the questions.

23 MS. WILSON: Okay. So that's the first round of questions.
24 We're going to go around the room and just see if anybody else has
25 follow-ups. Do you need a break before --

1 MR. COLLINS: No, no.

2 MS. WILSON: -- we continue?

3 MR. COLLINS: I'm fine.

4 MS. WILSON: Okay. Everyone okay?

5 MR. DAVIS: I'm good.

6 MR. COLLINS: I do have candy here for anybody who needs it.

7 MR. DAVIS: Bribing starts.

8 MS. WILSON: Round two is typically much shorter, so --

9 BY MS. WILSON:

10 Q. I feel like we danced around this question that I have, so I
11 wanted to ask you specifically so that it's clear in my head.
12 When you see the crews coming in and working with the weather
13 radar, what are the challenges that you see? What are the biggest
14 challenges that you see them having with that?

15 A. Understanding the different modes. Because we have six
16 different modes. Not that the basic mode -- like, when you turn
17 it on, it goes automatic to a gain of 86, and then for takeoff you
18 have to raise the tilt. Otherwise you're just looking right at
19 the runway; you're not looking at anything ahead. Getting used
20 to -- but those are all, like, any airplane that they've flown
21 before. But then getting used to the ACT, the automatic tilt
22 control, and some of those other ones they've never seen before.
23 So that's the hardest part they have with it. Does that answer --

24 Q. Yes. Are you aware of the turbulence task force?

25 A. Yes.

1 Q. Did you say if you sat on that?

2 A. No, I --

3 Q. No, you're not a part of that.

4 A. I just read their -- what they put out.

5 Q. Okay. So that was going to be my question. So what have you
6 seen come out of the task force on the pilot side that's been
7 beneficial?

8 A. A big reminder that this is a problem, that we do need to
9 worry about our flight attendants and communicate with them, use
10 whatever tools we have. The five that we've mentioned, whatever.
11 But you know, to give them advance notice if we can and to just --
12 that's pretty much what I've learned, anyway.

13 MS. WILSON: Okay. Great, thanks. Shawn?

14 MR. ETCHER: Just a few.

15 BY MR. ETCHER:

16 Q. In the sim -- you know, like, a LOE in the sim. An LOE in
17 the sim. You say you make it just like a normal flight. How does
18 the WSi app work in the sim?

19 A. It doesn't.

20 Q. Okay. So that part you kind of have to simulate, shall we
21 say?

22 A. Right. There's a bunch of things we have to simulate,
23 because we don't -- we can't do them. So we get the -- because
24 our release, usually we get from CCI (ph.). So it, so it -- and
25 it downloads, and it has the whole weather package on there for

1 the origin and destination, all that kind of stuff. And
2 unfortunately, we just don't have the bandwidth or the time for
3 them to go through all that. So some of the things we have to
4 kind of say, we'll have to say, you'll have to do this more out on
5 the line. And that -- you know, the radar, really using it. Then
6 the ROEs, in fact, have, like, a long list of things, and there's
7 40 things probably on there. But there's probably 10 to 15 that
8 are usually emphasized on OE. Crews get 25 hours OE with a check
9 airman. At least 25. So you know, chance to talk about all these
10 things.

11 Q. Okay. This might be a tough question, but what's your normal
12 failure rate on a given year in the 190? Do you know?

13 A. Depends on the year.

14 MR. RAAZ: (Indiscernible) that word. That's such a bad
15 word.

16 MR. COLLINS: No, no. But it is what it is. It depends on
17 the year. So for a while, we had people coming from aircraft
18 types where they had been in the Dash 8 for a long time, and just
19 in the left seat for a long time. And then to move up to a jet
20 airplane with swept wings that was moving 400 miles an hour, and
21 all the tools that are good. But it would -- so we had a high
22 failure rate for a couple years. Lately it's been pretty good.
23 We've only had, maybe, three failures in the last 6 months.

24 MR. ETCHER: Okay.

25 BY MR. ETCHER:

1 Q. And just give me a very broad, generic -- what are some of
2 the things you guys are seeing that causes --

3 A. For us, it's a lack of situational awareness. Some of --
4 very seldom is it actually flying ability. It's usually, you
5 know, head work, that type things. And the same thing -- and
6 really, like you said, it's not 100 percent. Because we do have
7 other people who don't fail on the LOE, but they have to get extra
8 training on, like, T-456 (ph.). You know, so in between. And we
9 have people who come in for their annual, and they may get an
10 extra day's training. But that's not really considered a failure;
11 it's just extra training, and then --

12 Q. Okay. Okay. Back to the radar, because I'm still -- my
13 brain's still trying to mush it together there. Is there standard
14 settings or recommended settings to set the radar tilt and gain
15 and range on takeoff, en route to send? Help me understand how --
16 is the crew just out there figuring it out on their own?

17 A. No, but people do sometimes customize what they think is
18 right. We don't have a standard that they have to do. So what we
19 usually teach them is, for takeoff, about 5 degrees up. Because
20 otherwise, like I said, it's just, it's just doing ground and
21 return. And usually go to standby as they taxi. Otherwise, if
22 they get to the runway and turn it on -- or on, because it takes a
23 long time for it to warm up. Like, 60 seconds. And if you take
24 the runway and you don't take off because you're waiting to see
25 what the weather's like on your departure, that's going to be a

1 long wait. So usually should be in standby and then on for
2 takeoff. And then the gain is up to them, but most people -- a
3 lot of people just leave it at what it's at for takeoff, and then
4 they'll adjust it as necessary. And then, and then after that, it
5 all depends on what they think they're going to expect.

6 En route, it's usually you're supposed to be able to see --
7 like I said, at night, at least the -- some return as it reaches
8 the end. And then differing it. And there's actually formulas
9 which I no longer remember, but you know, for altitudes up and
10 down. Most of the time, I will just do a sweep, an entire sweep,
11 just to see if it turns magenta where I don't expect it to. And
12 then for just an arrival, should leave it on until they're
13 actually -- until they know that there's no more convective
14 activity between them and the airport, or on the missed approach.
15 And then they'll either turn it off or standby or turn it off on
16 the ground. Ours turns off automatically, so they don't have to.
17 But there's no angles, or there's no required numbers for that,
18 just -- other than seeing what you need to see.

19 Q. Okay. So en route, 25,000 feet. Pick an altitude; I don't
20 care. What range -- if you're sitting on somebody's jump seat
21 and, yeah, there's some weather maybe out there, what range would
22 you expect them to set? Or what would, what would you hope they
23 would set? What would you set, maybe --

24 A. I would set, like, maybe 160 miles if there's nothing out
25 there so I get a little bit -- you know, a good advanced notice on

1 it. Because if you just set it, you know, to 50, it's going to
2 be -- you know, you're getting pretty darn close. By the time
3 it's -- you know, the only choice is a U-turn, possibly. But it
4 would depend on what they can see, nighttime, daytime, IFR, VFR,
5 you know.

6 Q. And you feel that -- help me understand, just so I make sure
7 I know on the radar. When it's on a 160-mile scale or 50-mile
8 scale, it's pretty accurate. It's giving you a good, real-life
9 picture of what --

10 A. Definitely on 50. 160, it wouldn't be as accurate. It just
11 gives you a basic idea of what may be out there in the future.

12 Q. Okay. Okay, perfect.

13 MR. ETCHER: That's all I have. Thank you so much.

14 MS. WILSON: Thanks. Charley?

15 MR. DAVIS: I got nothing.

16 MS. WILSON: All right. Steve?

17 MR. ABELMAN: Nothing. I got nothing.

18 UNIDENTIFIED SPEAKER: Is there any best guess questions?

19 (Indiscernible).

20 MR. ABELMAN: I don't have any follow-up either.

21 MS. WILSON: Damon?

22 MR. WOOD: Me, I'm good. Thank you.

23 MR. MINER: Just one real quick question, sir, and that's,
24 one of the real big changes, of course, for you and I as
25 silver-haired warriors of the air is the change to this. And when

1 we come out with new procedures, bulletins and things like that,
2 what indication do you have as a check airman that something is
3 about to change so that you're pre-briefed on this, and that there
4 are things that are coming down from all the billions of sources,
5 all those -- all these documents?

6 MR. COLLINS: Right. I'm lucky that I'm part of that trail,
7 that people will talk to me. Like, you know, my boss, John Hope
8 (ph.), or Charley or his department, or -- I usually hear that
9 something's in the breeze. But some things will pop up. I feel,
10 I mean, the line pilots, it could be tough, though, just to know
11 when things change, because there's so much. The volume. 2000
12 pages in our FOM, and there's -- the beginning of it tells you all
13 the changes that have happened. But it'd be easy to not look at
14 those. Is that what you're speaking to or --

15 MR. MINER: Essentially yes. The old days when you and I had
16 to take each particular piece of paper --

17 MR. COLLINS: Yeah.

18 MR. MINER: -- put it in our manual and take it out of our
19 manual. What changed on this piece of paper?

20 MR. COLLINS: Which I actually appreciate it. I mean, I hate
21 it at the time, but it really -- I mean, that way I knew when
22 things had changed.

23 MR. MINER: I have no other questions. Thank you.

24 MS. WILSON: Okay. So if you had keys to the kingdom,
25 what -- in relation to turbulence, what is something that you

1 would like to have, either as a line pilot, as a check airman?
2 What do you think would be really critical to making things
3 better?

4 MR. COLLINS: Body casts for all the flight attendants so
5 that way --

6 MS. WILSON: Okay. Work on that.

7 MR. COLLINS: And passengers would put on their seatbelts
8 when the seatbelt sign is on, or when they're seated. You know,
9 like, they tell them that all the time, but, you know, they have
10 these major -- we haven't had -- obviously this isn't one, but
11 we've had those ones where, you know, people are thrown against
12 the roof and carts are flying, and people are flying too because
13 they didn't bother to -- so that would be my wish.

14 MS. WILSON: Okay. So we've asked you a lot questions.
15 Anything that we didn't ask you that you thought we should have
16 asked you?

17 MR. COLLINS: No.

18 MS. WILSON: Any information that you think would be
19 beneficial, helpful to our study?

20 MR. COLLINS: No, it sounds like you're looking at a lot of
21 different things.

22 MS. WILSON: Okay. We really do appreciate you taking the
23 time to talk to us.

24 MR. COLLINS: Okay. Thank you, Kat.

25 MS. WILSON: And you've got our card, so if you think of

1 anything, don't hesitate to reach out --

2 MR. COLLINS: I will. Definitely.

3 MS. WILSON: -- and share. We're always here to listen.

4 MR. COLLINS: Yeah. And hopefully we can figure out better
5 ways.

6 MS. WILSON: Yeah. Exactly. Thanks, Jim. Thank you.

7 (Whereupon, at 1:40 p.m. EST, the interview was concluded.)

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CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: AMERICAN AIRLINES TURBULENCE EVENT
NEAR RICHMOND, VIRGINIA
DECEMBER 2019
Interview of Jim Collins

ACCIDENT NO.: DCA20CA043

PLACE: Richmond, Virginia

DATE: January 30, 2020

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.


Eileen Gonzalez
Transcriber