Factual Report – Attachment 4

TALON27 Phone Conversation Transcription

AIR TRAFFIC CONTROL

DCA19MA143

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *
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BOEING 737-800 OVERRUN *
JACKSONVILLE, FLORIDA * Accident No.: DCA19FA143
MAY 3, 2019 *
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Interview of: LT MATTHEW STARSIAK, Instructor Pilot
LT STEPHEN McINTYRE, Ground Safety Officer
LTJG RYAN PAJOR, Junior Pilot
TALON27, U.S. Navy

Via Telephone

Tuesday,
June 4, 2019

APPEARANCES:

PAUL SUFFERN, Senior Meteorologist
National Transportation Safety Board

BRIAN SOPER, Senior Air Traffic Control Investigator
National Transportation Safety Board

JOHN O'CALLAGHAN, National Resource Specialist for
Aircraft Performance
National Transportation Safety Board

WARREN ABRAMS, Operational Factors Investigator
National Transportation Safety Board

CDR SCOTT MORRILL, Party Coordinator
U.S. Navy

I N D E X

I N T E R V I E W

(1:04 p.m.)

MR. SOPER: Okay. So we're on the record now.

I'm Brian Soper. I'm an air traffic investigator with the National Transportation Safety Board. We are an independent agency. We're charged with determining probable cause of transportation incidents or accidents and to promote aviation safety as a whole -- or to promote safety, for that matter.

We're not part of the Department of Transportation. We're not part of the FAA, and we have no direct affiliation with them at all. And we also have no regulatory authority. We don't make rules. We don't enforce rules, and we don't have enforcement powers. That's not our part of the thing.

So that being said, today here with us we've got myself that you've already talked to, Paul Suffern, who is a senior meteorologist with the National Transportation Safety Board, as well, John O'Callaghan, who is a senior -- you know what -- I don't want to misspeak your title, John. What is your actual title?

MR. CALLAHAN: The actual formal thing is National Resource Specialist for Aircraft Performance.

MR. SOPER: Okay. There you go. He's our man.

And I have Warren Abrams on here, who is an Operational Factors Investigator with our Operational Factors Division here, as well. So that's who we have on the line with us, and then

we'll be using, we'll be using this recording to develop a transcript from it. We have that professionally transcribed after the fact. We produce this recording to them, and they take care of that for us.

The purpose of the investigation, itself, is strictly safety for us. Our objective is, as I mentioned earlier, to determine probable cause and prevent reoccurrence. Our role is not to assign fault, blame, or liability. That is not our part of the job at all. This interview and discussion that we're having today is just part of the whole fact-finding phase of this investigation.

We cannot, though, as Commander mentioned earlier, and I think he -- you already spoke about it, but just so that everybody is clear, it works a little differently. Almost everything we do is parallel to what happens in a Navy safety investigation with the exception of privilege. We do not offer privilege. So everything that we glean here can be utilized in the course of the investigation.

So each of the group members will all have a chance to ask questions of you all. You, as well, can ask questions, and as we go through this, we will -- we're pretty adept at this. We do this quite often, and we all know the rules of not stepping on each other and keeping our questions one at a time and kind of following in order.

We won't finish until everybody has an opportunity to ask

everything they need to ask so that we catch everything in one thing. Stand by one second, please.

(Off the record.)

(On the record.)

Okay. I apologize, everybody. I had a little minor emergency happening over here. So I apologize for that.

Do I still have everybody on the line?

UNIDENTIFIED SPEAKER: Yep, we're still with you.

UNIDENTIFIED SPEAKER: Still here.

MR. SOPER: Okay. As we continue to go through this, we just ask that you answer all the questions to the best of your ability and the best of your recollection. Please don't try to fill in the blanks or tell us what you think we want to hear.

So if you don't understand something, it's okay to say "I don't understand" or if you need something repeated, please ask us to repeat it. And if you don't remember something, it's okay to say you don't remember or that you don't know. There's no trick questions. We don't try to paint you into a corner. That's not what we're about.

All of you three that we're talking with today, you all have an opportunity to have a representative there of your choosing.

Do any of you want a separate representative to be with you during this discussion?

LT STARSIAK: That's a no for the crew of Talon27.

MR. SOPER: Okay. So for all three of you, that's a no.

Thank you for that.

And what I'd like to remind everybody here before we actually kick off into questions is that because we are recording this, to avoid confusion and to increase clarity, I just ask that when we change the course of a person talking that you state who you are. So if you have a question, say -- you know, just state -- just start it off with this is Brian Soper, I have a question for you. And I'll ask the question.

Now, I can go through a series of three or four questions if we're back and forth. When that speaker changes, the next person please say yes, this is John O'Callaghan, I have a couple questions for you. The same way for you, Lieutenant and your crew, if you could do that for us, that would be really great. Does everybody copy on how that works then?

LT STARSIAK: Understood.

MR. SOPER: Very cool. Okay. So to start it off, what I'd like to do is I'll start with you, Lieutenant. If you could give me your first and last name and your job title, and then I would like the other two crew, two crew members to do the same for me and just speak it on the record.

LT STARSIAK: My name is Lieutenant Matthew Starsiak, and I am instructor pilot at VP-16 and former pilot NATOPS officer.

MR. SOPER: Okay.

LT McINTYRE: I am Lieutenant Stephen McIntyre, a patrol plane commander and also a ground safety officer here at VP-16.

MR. SOPER: Okay.

LTJG PAJOR: I'm LTJG Ryan Pajor. I was the junior pilot of the crew.

MR. SOPER: All right. Thank you for that. Okay. So we've go the black and white stuff out of the way for the moment. So I'd like to -- do you have any questions for us before we begin asking you questions?

LT STARSIAK: No, not really. Fire away.

MR. SOPER: Okay, sounds good. I'm going to go ahead and start off with Warren Abrams, actually, our operational factors investigator.

So any questions that you have right off the bat, Warren, I know -- I think you're kind of asking on behalf of Kat Wilson, also, who can't be with us, but she worked with your group while you were on site. So fire away, Warren.

MR. ABRAMS: Thank you, guys. This is Warren Abrams. As Brian said, I'm an air safety investigator here.

INTERVIEW OF LT MATTHEW STARSIAK

BY MR. ABRAMS:

Q. Lieutenant Starsiak, just some basic -- real basic stuff, when did you get your wings?

A. I'm LT Starsiak. It would be August of 2014.

Q. And how long have you been an IP on the P-8?

A. Let's see. A little over a year now.

Q. Okay. And in that year's -- not in that year's time -- how

much time, total time do you estimate you have the in the P-8?
A. I have over 800 hours in the P-8 currently.
Q. All right. I am taking notes, even though this is being recorded, so forgive the pause a little bit between my questions.
And before you were a P -- before you were aircraft commander on the P-8, what was your position before that in the cockpit? Were you -- do you go from the right seat to the left seat on it?
A. We fly in both seats, but when we enter the squadron, we enter the squadron as a 3-P, and then you upgrade to a 2-P, and then once you're done with the 2-P syllabus, you qualify as the aircraft commander or, as we call it, the PPC, the patrol plane commander.
Q. Okay.
A. Instructor pilot is what I am currently designated as, which is the step up from patrol plane commander.
Q. Was this a training flight when you were -- or was this a training flight the night of the incident?
A. It was, yes. LTJG Pajor and LT McIntyre were both conducting upgrading events with me as the instructor pilot.
Q. Very good. As Brian said earlier, we don't want to step on any toes. If I ask something that's out of line, just say you can't answer that or something like that, because I have no intention of getting into something that I shouldn't get into, but I can cross a line at times.
In the cockpit, were just the three of you there? There's

not a fourth jump seat is there, or is there room for anyone else in the cockpit?
A. There are the two regular seats and then the jump seat that's aft those two regular seats and to the middle of them. So all three pilots were in the flight deck for the whole course of events.
Q. Lieutenant Starsiak, was this your first billet? In other words, after you got your wings, where did you go after you got your wings?
A. So after we get our wings, we go to the FRS, which is -- the squadron is VP-30, and that squadron is what gives us the initial introduction to flying the P-8 --
Q. Okay.
A. -- and become basically qualified out of there. And then they send us over to our fleet squadron, which we go through the other syllabuses that we previously talked about to ultimately become a patrol plane commander.
Q. Got it. So you don't have to go through the P-3 -- what's left of the P-3 squadrons to become a P-8 now, do you?
A. No. No, we do not. VP-30 trains both P-3 and P-8 pilots, but all three of us have only had hours in the P-8 as far as operational Navy aircraft.
Q. Okay. And can I assume, prior to wings, you went through the T-34C and the TC-12B? Is that a normal track for the Navy guys these days?

A. That is correct. Yeah. All three of us flew the T-6-Bravo, I believe it is, and then I, myself, flew the T-12, and both of the other guys, LTJG Pajor and LT McIntyre flew the T-44.
Q. Okay, good. All right. Approximately how much of your total flight time would you consider nighttime these days? It's an estimate. I'm not looking for hard numbers, just an estimate.
A. I honestly couldn't say. That's not something I regularly look at in my logbook, so I really couldn't give you an accurate number. I can write it down, and I can email it --
Q. No. No.
A. -- to you.
Q. No. It was just -- since this was a night landing, I was just going there. How many squadrons are there in Navy Jackson P-8?
A. We have six P-8 squadrons here.
Q. A whole bunch. I've got a lot of questions, but it talks about arresting cables and weather, and I'm going to stop my questions at the -- well, I got one more. Lieutenant, how long were you airborne prior to your landing back in JAX, Navy JAX, approximately?
A. Prior to coming back to JAX, it would be approximately 4 hours.
Q. Once you took off from JAX, did you land at any intermediate airports on the way?
A. We did not land, but we conducted touch-and-gos at

Wilmington -- no, where'd we go?

UNIDENTIFIED SPEAKER: Gulfport.

LT STARSIAK: Oh, Gulfport, yeah, and -- Gulfport and Tallahassee is the two locations we conducted our touch-and-gos at.

BY MR. ABRAMS:

Q. Okay. Did you cut your training mission short based on the predicted weather in JAX?

A. No. We did not cut it short. When we did get into Tallahassee, we did notice a lot of conductive activity in the area, mostly up the northwest. So we had a good discussion as a flight crew if that started moving into Tallahassee, we were going to return to Navy JAX sooner. But at the time, it stayed well away from us so we continued training and finished all training (indiscernible) and then went back to Navy JAX.

Q. Okay, great. I thank you for your time.

MR. ABRAMS: Like -- I've got some follow-up later on, but as -- we've got meteorologists on the line with us, and I don't want to step on their toes by asking all these weather questions, and if they don't ask something, I'll get back on on the second round of questioning. But I'm going to turn over the mike, the virtual mike, and Brian, let somebody else answer -- ask questions for the moment.

MR. SOPER: Thanks, Warren, I appreciate it. I have a couple of questions while I'm here. So this is Brian Soper on again.

BY MR. SOPER:

Q. Lieutenant, the -- I know -- and I think Commander mentioned to you, I'm prior Navy. I retired from the Navy as a controller, so I'm familiar with some of the things. But for the sake of the record here, is it safe to say that is not uncommon for you to operate with the arresting gear rigged there -- periodically throughout operations at Jacksonville?

A. Yeah. That is correct, not uncommon at all.

Q. Okay. And for the sake of understanding, because I know every operator has their own requirements, and every military has their own tac pros and everything. So what is the requirement for you when operating over the raised cable arresting gear there, and is it different between when it's a short field gear and a long field gear? So what I'm looking for there is what are your guidelines for landing when it's a short -- when the short field gear is rigged; is there any specific requirements, or things you can and can't do, or things that you're supposed to do and vice versa also when it's a long field gear?

A. Our biggest obstacle, I guess, with gear being rigged like that is we try to land beyond it. We do not want to land on top of it, especially do not want to land before it, because we run the risk of having the nosewheel catch it. But every once in a while somebody will miss a landing, and if we land on it, it usually throws it off and then they have to go back out and re-rig it. So that is our chief obstacle with flying with those sorts of

systems.
Q. Okay. And a question with regards to the rain there. So what is your experience -- you've been operating out of there for a while. You're familiar with the field, obviously, and the way operations go there. Do you -- is there an issue or a -- I shouldn't say an issue -- is there a known element to standing water on the runways during heavy rain or thunderstorms in the area? Do you just -- does the runway there accumulate standing water to the point that it affects braking action on the runway on any regularity?
A. I personally have not experienced any hydroplaning or any aerodynamic effects, I guess, with standing water, but from my experience here, pretty much ever since they've repaved the field -- I've been here actually before they repaved the runway. So when it was brand new, I would say within the first 6 months of operating at the field, there was reports of -- multiple reports, I believe, of hydroplaning.
Q. Okay.
A. And I don't know exactly why, but I've been told before that that is why every time it rains, the field ATIS reports possible standing water on the runway.
Q. Understand. Okay. And I understand for you guys, you're normally picking up the ATIS via UHF, correct?
A. That is correct.
Q. So that part was an issue for you. I know they recently

commissioned a VHF frequency for the ATIS, and that doesn't really apply to you because you've had the ATIS for a while.

In your experience, has the ATIS been pretty accurate as far as -- I mean, you know, for what you've noticed for operations out there when it's operational, or has there been an issue with lagging or latency or information not being included or anything like that?

A. Give me one moment here, I'm just going to just pause --

Q. Sure.

A. -- while I discuss with the crew --

Q. Absolutely, not a problem.

A. All right. We're going to try to get back with you. We kind of discussed it amongst each other. We think that -- I mean, kind of like we were talking about before where anytime it rains, it's always reporting standing water.

Q. Yeah.

A. It's -- or possible standing water, sorry, is the verbiage they usually use. It can -- when you compare the field ATIS to Cecil ATIS, which you know, the thunderstorms are normally moving from Cecil Field over to Navy JAX --

Q. Right.

A. -- it seems like Navy JAX is always much more restrictive. I know, regardless of -- like personally, I've heard them report, you know, cloud-to-cloud lightning, cloud-to-ground lightning, and all sorts of lightning even when the clouds are in the -- you

know, pretty distant from the field.
Q. Okay.
A. I wouldn't say it is inaccurate because -- but I think we all kind of agree that it probably overshoots sometimes and leans on the conservative side. I've definitely experienced that in regards to reported ceilings and some other times that it's reporting, and that could very well be from the location of where it is on the field and how it's taking it's observation; that we're not sure of.
Q. Understand, understand. Okay. I have a couple of air traffic specific related questions. So you have been operating there for a while and anybody else who may have operated prior to, I'd be kind of curious to know -- as I understand, Navy JAX has went through a couple of changes over the years with regards to how they operate. So there was a time when, the way it was explained to me, that they had airspace that was delegated to them from the approach control where they would -- when you were doing practice GCA approaches or anytime you had an arrival, an IFR arrival into the field, the air traffic control would call up and say, hey, we have an arrival. They would give them the airspace; they had arrival airspace. They would actually radar contact you. They would vector you and, you know, set you up for the approach and do whatever.
Since then, there's been -- since there was the big closure for the runway, after reopening, the procedures kind of changed a

little bit in that now you have -- then you went to air traffic controllers did not have airspace, and they provided -- essentially, they were picking you up from TRACON and just putting you onto the final approach course, and you received a -- either a PAR approach or a visual approach to the tower or an RNAV approach, which initially was just an RNAV approach and you went to the tower, and, as I understand, they've changed that now to an RNAV approach with GCA monitoring and arrival to the tower.

Do you -- can you tell me your experience with that? Have you experienced all of that, only part of that, and if so, what has -- what's your feelings about the way that works? Is there something -- is there anything confusing about it or does there seem to be something that's amiss there, or is it locked on? I mean, how -- you know, what's your experience with that?

A. My personal experience, again, I wasn't -- I did not operate at this field before the runway closed and went under construction, then reopened. So upon initially coming back to the field and operating out of here, the only time I'm switched to Navy radar services are for PAR or ASR approaches, or any RNAV approach or even a TACAN approach, I believe it's just JAX TRACON that's giving us the vectors to get on the approach.

Q. Okay.

A. I don't know if that answers your question or not.

Q. Oh, yeah. That's fine. That's absolutely fine.

MR. SOPER: Okay. I'm going to pass it off for now to Paul

Suffern, our meteorologist, and let him ask a few questions.

MR. SUFFERN: All right. Thanks. Thanks, Brian, and thank you, everyone, for your time today, and I really appreciate that.

BY MR. SUFFERN:

Q. As far as what you were checking with the weather after you did -- you were doing your touch-and-gos over there in Tallahassee and you saw the line of storms or weather in the northwest of Navy JAX, what do you recall looking at, checking there as you were having your crew discussions? What information was available?

A. It was mostly just visual information that we were using. Like we -- yeah, and as well as our weather radar in the plane as far as the decision. While we were at Tallahassee, we -- you know, like I said, we talked about if it moved into Tallahassee, we would leave. But Tallahassee actually had pretty good weather for our duration there for our training, and then upon leaving Tallahassee, it was night at that time, and then we began seeing a lot of lightning and conductive activity east of our route of flight, which was basically direct from Tallahassee to Navy JAX, and we used our weather radar to dodge a couple cells on our way back to JAX.

And at the time, it seemed like most of the conductive activity was, I would say, maybe slightly west of Gainesville. It seemed pretty out of the way from the JAX terminal area. And even while getting into -- like while arriving to the JAX terminal area, we didn't see any lightning or conductive activity, just a

lot of clouds which were mainly just precip.
Q. Do you recall receiving any pilot reports from air traffic control between taking off there, your touch-and-gos in Tallahassee, all the way until your landing there at Navy JAX?
A. No. We received no pilot reports in regards to Navy JAX's conditions. The one thing that may be relatable, while we were on final approach going through the clouds and the rain, Navy JAX tower did ask us for a PIREP for conditions on final, and we told them to stand by until we landed. And then before switching ground, we gave them a PIREP.
Q. Okay. And do you -- I mean, I know this is quite a bit of time after that flight, do you recall what you told them in that pilot report?
A. Loosely, I do remember them telling about precip on final. I don't remember if we told them it was heavy or moderate. We all kind of -- yeah, we all definitely feel it was at least moderate. I do recall giving them that, and then we might have given them a braking action report, but I'm not 100 percent sure of that.
Q. Is it typical for the air traffic control there in the Navy JAX, if there is weather in the area that you're flying through coming in, do they typically request a pilot report, you know, and you guys give -- provide the report once you get on the ground?
A. Yeah. Yeah. They take -- well, there's no standard, you know, PIREP format that they're asking for, but they typically just ask for the conditions on final. That is, we all agree, a

pretty regular thing for them.
Q. Okay. And as far as the weather radar in the cockpit there, do you recall any -- I know you were -- the whole crew there was busy trying to land the plane safely and all that, but do you recall any of the colors that you saw there on the weather radar as you're landing?
A. As we were landing, no. We were pretty focused on the approach at that time, so I don't even know if we had the weather radar up to the approach. Once we got in the terminal area and we saw that there wasn't any lightning near the field, I don't know if we -- to my memory, we weren't still using the weather radar. The flight data recorder might say something different. I can't really attest to that. Neither of us -- none of the three of us recall using it.
Q. Okay. Not a problem there. And as far as when you took off from Tallahassee and then flying over towards Navy JAX, do you recall what tilt settings you had selected for the weather radar?
A. I typically will climb and descend with it in the auto-tilt mode, and then when I'm on a level trajectory, I usually use a -1 to a -2, and I switch between those two tilt settings to develop a better picture of the storm in its entirety and to see the body of the storm.
Q. Okay. As far as weather forecasts around the Navy JAX area, what tool or forecast has been useful for you as a crew in trying to land there, whether you're, you know, sitting there in

Tallahassee, sitting somewhere else, what do you find is your most valuable tool for the pre-flights or during flights for going into the Navy JAX area?

A. For going into the Navy JAX area, I personally have bought an ADS-B receiver. The planes are equipped with ADS-B out, but we do not have ADS-B in. So I use an application called ForeFlight on my phone, and then I use the ADS-B receiver to get SIGMET and a radar picture usually before returning to JAX, especially for a long transit. From Tallahassee to JAX on that night, it's a relatively short transit, so I did not use my ADS-B receiver to check the current conditions because I didn't feel that it -- they were -- it hadn't deteriorated enough to cause us any concern.

Q. Okay. Thank you. That's all the questions I have for now.

MR. SUFFERN: Brian, back to you.

MR. SOPER: Thanks, Paul. I'll go ahead and shift right over to John O'Callaghan. So, John, go ahead.

MR. O'CALLAGHAN: Hi, everybody. Thanks again for spending time with us and answering these questions. Again, I do aircraft performance which is specifically the physics behind the motion of the airplane.

BY MR. O'CALLAGHAN:

Q. So for this case, I'm really interested in the friction on the runway and all that. So my questions will be directed towards getting a feel for how you think the runway was performing in terms of friction. But before that, I'd like to start a little

bit up on the approach, and I'll probably ask some questions that are stemming from my understanding of how things happen in the commercial world, and I'm not really sure how they apply to the military, but maybe there are some parallels.

So the first question is basically just about preflight planning and dispatch, or field length and things like that. And in the commercial world, if you dispatch and a number of conditions changed en route, especially if they deteriorate, a lot of operators have op specs to say they have to do an inflight landing distance assessment to account for the changed conditions.

My question is, can you just briefly describe your preflight planning and your dispatch rules and whether, like I say, you go somewhere and then on your way back, the weather changes, and if you have to do any calculations in the air to recheck the numbers for landing field length, and all that kind of thing?

A. We do not have any restrictions prior to takeoff other than ceiling and visibility minimums. Once airborne, we have a requirement in our logarithm standardization note that requires us to run landing numbers for every full-stop landing that we're going to do regardless of the field or the weight conditions. We -- it's required from every flight. As well as any field we do touch-and-gos at, we have to run basically max manual braking numbers just in case we have to abort a touch-and-go while still on the runway.

Q. Okay. Thanks. And then so to feed those calculations are

see any winds and probably field conditions, and so where did you pull that data from?

A. So that data is normally pulled from the ATIS.

Q. Oh, from the ATIS, okay.

A. With the -- the only exception to that would be if ATIS is reporting something and it's significantly different. Like we -- ATIS is reporting a dry runway and then we hear from tower or something that it's a wet runway, we'll go ahead and re-run braking numbers before we do the full stop.

Q. Okay, great. And do you -- this is pretty detailed. You probably don't recall. But do you have any feel for what the inputs on that night were when you landed on 2-8, the wind and the field condition that you put there, and any idea of the -- recall the general number that was coming out in terms of field entry required?

A. Give me just one moment here. I'll discuss it with the rest of the flight crew to see if we can come up with a consensus.

Okay. We've come to a pretty close consensus here. We're all pretty certain that the basic inputs were -- the runway condition we used was wet, and as far as the exact temperature and whatnot, it would've been pretty much straight off the ATIS that was reported before the time of arrival. I also do very closely remember using -- I'm not sure if you're familiar with it, but autobrake 3 setting for the landing.

Q. Yeah.

A. Because I remember the autobrake 2 setting being slightly too long for that field length going into runway 2-8. Does that answer your question?
Q. It does. And I don't know if you'll know this, but the numbers, do they account for reverse thrust, or are those numbers that are generated not taking credit for reverse thrust?
A. They do account for reverse thrusts for landing. Our takeoff numbers, depending -- for a dry runway, they do not.
Q. Okay. For dry they don't, but for wet they do. Okay.
A. Sorry. I might be confusing you there. For -- I'm just saying for takeoff numbers in regards to like critical field lengths and accelerate stop distance, they don't. But for the purposes --
Q. Oh, oh okay.
A. -- of this conversation and landing numbers, it does account for reverse thrust.
Q. Okay, great. Thank you.
A. Yes.
Q. And again, thinking analogously to the commercial world where they've got this thing called alpha arc -- you may have heard of it -- in the Runway Condition Assessment Matrix, which is sort of the new way that FAA launched all field conditions to report it, and they've got a scale for various frames. I know you said that the runway condition was wet, but perhaps in the Navy or the military they use perhaps a different way of describing the field.

But my question is what are the options? Is it dry, wet, slippery when wet, icy; what are kind of the options for reported runway conditions that you guys use?

A. I believe they're identical to a standard Boeing on board performance tool. We have -- I'm actually extremely familiar with the Runway Condition Assessment Matrix. I wrote a white paper on it this last deployment because we operated out of Misawa, Japan on contaminated field conditions pretty frequently. So I can tell you our options are pretty much identical to what a standard 737 has. We can run standing water, wet numbers, I believe dry snow, wet snow, compact snow, and then I think it's wet ice is the last number, or something to do with ice.

Q. All right. Okay.

A. Those are the general ones I can rattle off on the top of my head.

As far as reporting runway friction, the military uses a scale called runway condition readings, which they use a sled that just goes down the runway and basically an accelerometer that measures the deceleration from a truck or whatever they're actually using to have the device, and that -- based on the friction reading and the mu from that, they translate into a runway condition reading, and that runway condition reading is what we use to assess stopping friction. So it's very similar to a Runway Condition Assessment Matrix except for instead of reporting mu readings and using that to assess the friction, they

use the runway condition reading.
Q. Okay. That makes some sense or a lot of sense, I should say. And so the wet that was used that would translate into an RCAM 5 about, I guess if you're familiar with that?
A. Yeah. I don't have the matrix in front of me, but that sounds pretty close.
Q. Right.
A. I think it's like 6 to 1 is the scale.
Q. Yeah, 6 to zero, where zero is nil and so nobody can operate, and then 1 being 4 or something.
A. Yeah. And I wish we operated on that. I would like that. Our base operations typically just gives you a friction reading, and actually, now that I say it, maybe JAX -- I don't think I've ever heard them give a runway condition reading here. It was frequently reported when we operated out of Misawa, Japan, which is an Air Force field, and I've definitely heard them reported before, but -- and at least in recently memory, I can't remember Navy JAX reporting them regardless of the precipitation conditions.
Q. Okay. Yeah. That's interesting because, as you may know, the RCAM, though 6 is dry and 5 is wet, and dry snow and something else, and then there's 4 for other things, and then, interestingly, there's -- 3 is wet, slippery when wet, and that gets coded when -- the commercial world, they run CSME devices which sound a lot like your runway condition reading sled, and if

they fall below a certain reading on those, then the runway can get classified as wet, slippery when wet. And I think you've already answered the question but I'll ask it again. So have you ever heard any -- heard JAX's runway as classified as slippery when wet or any kind of indication that when they're wet, they might be more slippery than a standard wet runway?

A. No. From all three of us, no. We frequently hear the possible standing water reported on the ADIS, but none of us can recall hearing anything about it being slippery when wet.

Q. Okay. Thank you. And that reminds me, I had a follow-up on an earlier answer you gave to -- I think to Warren. I understand the runway was paved, and then I heard something about hydroplaning reports, and I thought I heard that those were before the runway was repaved, and then, but since the runway was repaved, all you get is standing water? Or is the other way around? Can you clarify that?

A. Yeah. I can clarify. So once again, when I came to Jacksonville about 3-ish years ago -- 3½ years ago now, we operated out of Cecil Field while they were repaving their runway at Navy JAX. So I have zero experience, neither do any of the other two pilots here, with operating on Navy JAX -- on the runway at Navy JAX before the runway was remodeled. And since coming back to Navy JAX -- so once the new runway construction was complete, which I'm not sure you're familiar with, but they just added a displaced threshold basically to the western end of the

field and then as well as repaved the entire runway. But shortly after having the runway repaved and operating out of Navy JAX, in safety meetings and whatnot, we've heard multiple stories of pilots hydroplaning down the runaway and wave off landings because of it.

Q. Interesting. So the hydroplaning reports were after -- were with the runway as it is now?

A. Correct.

Q. Do you know if any action was taken in response to those reports?

A. I would say nothing definitive. Possible correlation with the ATIS at the field reporting possible standing water. I do remember that coming about shortly after we started operating back out of the field.

Q. Okay. So they added the standing water to the ATIS?

A. Yes. Like I said, anytime it rains, we usually hear that.

Q. Yeah. Have you -- did you ever get any firsthand war stories from any of the pilots who experienced hydroplaning and what they felt -- how they determined they were hydroplaning?

A. No. None of the three of us have actually heard anything specific, and to be honest, no one in our squadron, to my knowledge, has experienced actual hydroplaning or even perceived hydroplaning on the runway.

Q. Okay, thanks. I'm going to go back up in the air a little bit here. So we did the landing field distance assessment in real

time in the air, check on that. And then, so obviously you have the wind reports from ATIS, and you're using a runway -- going to 2-8.

Out of curiosity, do you happen to look up the wind vector on the -- I'm assuming your P-8 has -- like other Boeing 737s, there's a -- has a green arrow, which I think they call the wind vector, and it projects the airplane's calculation of wind. And is it a practice to look at that and compare it with what the tower's reporting or -- I'm just wondering if that's used in your approach at all.

A. Yeah. It's definitely the standard practice to look at that on the way down to confirm what the ATIS is reporting or assess any change in conditions on final. Due to the approach being IMC and, you know, being pretty busy as the pilot monitoring trying to get the windshield wipers and everything working and trying to get the plane broken out and on centerline, I do not recall looking at that before the approach. Again, the flight data recorded might have some of that info in there, but -- and I speak for myself and the other two pilots, none of us were able to observe anything from that on the approach.

Q. How about in general, in your experience, have you ever -- maybe into JAX, specifically, but anywhere else where you, you know, you'll get a report from the ATIS or the tower and say they favor a particular runway, and you get all the way down and the wind vector is showing you have a tailwind or something? Did you

ever experience that?
A. Yeah. Actually yesterday's flight.
Q. Oh, yeah. And then when you got to the ground, was the wind as the tower reported or was it sort of contrary the whole way?
A. I've seen it both ways. But yes, specifically yesterday when I flew, both times it was -- I mean, to be fair, they were also reporting variable winds, but it was -- once you got like a reading from tower, like a wind check on final and we landed, we ended landing with a tailwind, whereas (indiscernible) --
Q. This was at JAX?
A. The second landing was, yes.
Q. Okay. Thank you. Okay. I think you mentioned autobrakes 3, and that was -- and I read -- I had -- I read your written statement, too, and it sounds like, from your written statement, there was no issue with the deceleration. You were pretty satisfied, but you -- somebody attributed it mostly to reverse thrust. Maybe you can just describe the whole braking? I mean, you say you had autobrake 3 and you touched down, and can you just describe how you felt the deceleration, and you ever had any concerns about that?
A. No. We touched down on centerline and had no issues with the deceleration; thrust reversers deployed. And I mean, it -- I don't know if you've ever -- if you have anytime like in the sim or have flown a 737, but with the autobrake setting, you're not actually on the brakes. You're making centerline with the rudder

pedals, but it's not like a car where you can, you know, feel them modulating or something. If you actually are locking up -- if the brakes actually are locking up, it kind of does its own thing independently and without any feedback to the pilot.

Q. Right.

A. So we basically just use -- in our heads-up display, we have visual cues that tell us what the deceleration rate is on the plane. And from observing those cues, as well as the boards remaining on the runway and correlating the remaining runway distance from the board's width, our current indicated airspeed, we noticed no really detrimental effects to the stopping distance for -- or sorry, with using that autobrake setting.

But I think I said in my statement, we were pretty light. I think we had maybe 12,000 pounds of gas max. So it would've been -- the gross weight would've been under 130,000 pounds pretty comfortably.

Q. Yeah. I haven't see the FDR data yet. So your speed at landing, would do you guesstimate what --

A. I'm sorry?

Q. -- it was?

A. Could you say that one more time?

Q. I'm sorry. Yeah, I haven't seen the FDR data, so if you're light that -- it also means the approach speed was a little bit on the lower side. Do you recall what speed you were approaching at?

A. No. I couldn't give you an accurate estimate on that.

Q. Okay.
A. Yeah. It would probably be somewhere in the -- probably the 140-range, and I do remember it being a flaps 30 landing. So at lower weight, it's usually somewhere in the low 140s.
Q. Okay. And at any point did you need manual brakes?
A. At 60 knots, our procedure is to stow the thrust reversers and go on manual brakes, and LTJG Pajor, I'll put him on the spot here for a second.
LT STARSIAK: Did you notice any detrimental effects when you went to manual braking?
LTJG PAJOR: No. LTJG Pajor. Throughout the landing, like LT Starsiak said, normal landing, maintained centerline. Then when I came off the -- or when I came on the brakes at 60 knots, no adverse condition that seemed to be affecting the aircraft.
MR. O'CALLAGHAN: Okay. Thank you. How about directional control, any slipping or sliding, drifting, anything feel light in that -- how was the directional control? I'll just ask it that way.
LTJG PAJOR: Yeah. It was just like normal. The only thing I would say of note is that we did -- could clearly see water standing on the runway.
LT STARSIAK: Yeah. To kind of expand on that -- this is LT Starsiak again. From my experience here, when I do see heavy precipitation or, you know, like near the runway or the precip that's just gone over the runway, typically -- it's hard to give

an exact distance, but if you ran on centerline, you can usually see the pavement. The pavement is definitely wet but you don't see any standing water. But the second -- if you deviate from centerline too much, you can definitely see where all the water is crowning left and right of centerline. And like I say in my statement, upon taxiing off the runway, we had to almost come to a complete stop to be able to pick up the taxi lines to make sure we were centered up on Alpha 2 -- actually we took off.

BY MR. O'CALLAGHAN:

Q. Yeah. I think we saw some of that while we were there because a storm came through and then went on the runway and -- I think I saw what you're describing, where the center -- the 20 feet on the other side or so, you know, you could see that was one color of pavement, and then there was like a line going down, you know, the runway on either side that was more shiny or something, and it looked like there was something changing with the optics there, just --

A. Yeah. That --

Q. That's what you're describing, something like that?

A. Yeah. Precisely. That sounds pretty close to what I'm trying to describe.

Q. Yeah. Okay. Regarding water depth -- well, compare that night with like was it the most water you've ever seen on any kind of runway or have you landed in even more torrential downpours, or is this -- where is it on the scale of a lot of water?

A. From my experience, which I gave earlier in my 3½ years operating out of Navy JAX, it was definitely the most standing water I've seen exiting the runway. I've seen -- I've landed here plenty of times in the rain, and most of the time, like we just talked about, you can see that distinction between centerline and how it's relatively dry in your centerline, and then once you get towards the edges of the runway you see that water start to pool up. But this was the first and only time I've ever actually had to almost come to a complete to pick up the centerline for the taxiway. That -- I'll also caveat that with it could've just been because that night we did have all the lights available to us on the plane, and despite all the lighting, we were still really struggling to pick up that line. So I would say it was the deepest I've ever seen it at the field.

Q. Okay. Thank you.

A. Yes.

Q. I think I've run out of questions.

A. Yeah.

Q. You've kind of caught the gist of what I'm asking about. Is there anything I should've asked but I didn't that you're thinking about, say, why hasn't he asked this? If there's anything like that, just, you know, go ahead and mention it and any other thoughts you may have before I turn it over.

A. No. We're good.

MR. O'CALLAGHAN: All right. Well, thank you again very

much.

Brian, it's back to you, please.

MR. SOPER: Thanks, John, appreciate it.

Commander Morrill, if you're still with us.

CDR MORRILL: I am. For the recording, this is Commander Scott Morrill, Naval Safety Commander.

BY CDR MORRILL:

Q. Just a couple questions, fellows. First of all, tell Skipper Tart hi. I was his sponsor many years ago at VP-4. So -- we flew together.

A. Will do, sir.

Q. Yeah, good guy. You mentioned about the -- about landing on the arresting gear. Is that -- you mentioned the nose and I get that, but any of your limitations for that, whether it's nose or main gear, is that due to structural problems with the aircraft or is that due to de-rigging the gear or braking the gear?

A. You know, without digging into the manual to be 100 percent correct on it, I can't give you the exact answer. I could -- we'll have -- yeah, LTJG Pajor is looking it up right now to confirm, but I believe our manual specifically just references it in regards to you would be unrigging the gear and then you cause the field attendant delays because they have to go back out there and rig it.

Q. Okay.

LTJG PAJOR: LTJG Pajor. Just to add on, the only real

guidance is just to state that there's no rollover speed restrictions for us for a cable (indiscernible). That's not something we typically worry about, but like LT Starsiak said, we do try to avoid it, if able.

CDR MORRILL: Okay.

BY CDR MORRILL:

Q. And then as a result of this ATIS reporting or any result of them adding the standing water, kind of being conservative with that, was there any change to your all's -- procedure change or addition for you all's procedures for checking for standing water? Obviously, it's difficult on an approach, but like in the pattern or anything?

A. Yeah. I think pretty much after the word came out about that, we discussed with the pilot cadre, you know, if the field is reporting that and you have the conditions to do so, to do a low approach and assess the conditions on the runway before you go in for the landing. In this case, we knew the storm was west and moving east, so we were pretty committed to the landing. We did not feel the need to go down and assess the conditions before attempting our full stop.

CDR MORRILL: Okay. Copy. That's all I had.

MR. SOPER: Great. Thanks, Commander.

And Warren, back to you to wrap with yours.

MR. ABRAMS: I just have a few questions for LT Starsiak.

BY MR. ABRAMS:

Q. I think I may answer my own questions here. When you set your on board radar, talking about the cockpit radar at auto-tilt, it does have predicted windshear for takeoff or landing; is that correct?
A. I don't know if the system works specifically through the radar for that, but they -- the plane is equipped with a windshear alerting system. I believe it works through the LLWAS system in the plane, but I'm not 100 percent sure on that. I don't think our manual explains it in that great of detail.
Q. Okay. Well, some of the Boeings have doppler radar, in essence. So I was just -- but if it was -- you had auto-tilt, that's a little advanced, so I'm assuming you have that.
But anyway, you mentioned you looked at ForeFlight on your phone from time-to-time, and I'm not sure I caught what -- I'm familiar with ForeFlight, but I'm not familiar or I didn't understand. You said your ADVAR receiver, you turned that on and you get ForeFlight. What -- tell me what that -- you said again. I'm not sure I copied that down correctly. What kind of receiver, ADVAR?
A. So, it's a -- this is LT Starsiak again. It's a piggyback device that I plug into -- or it actually works off Wi-Fi. So it's kind of like a little almost like USB thumb drive. I put in the window of the plane, and then it can --
Q. Yes.
A. -- and it can do my ForeFlight app remotely via a Wi-Fi

signal --
Q. Um-hum.
A. -- and that thumb drive that -- it's called an ADS-B receiver picks up towers all throughout the United States that broadcast weather information, radar pictures, and even a TAF line, the METAR line for fields in your area. And I can pick all that information up using that receiver to get a better assessment of conditions that I can't see with -- you know, in our general vicinity what the weather radar on your --
Q. Understand, understand, okay.
A. Yep.
Q. Oh, yeah. I understand. I got that one.
Let's see, you said you used autobrakes 3 for landing. If you were -- that night if it was a dry runway, would you have used a lesser autobrake setting, or what is your standard autobrake setting on a dry runway?
A. There really isn't a standard one. It depends on the runway length, your current environmental conditions, as well as the weight of the aircraft, which is kind of -- that's why we have in our stan note to run it no matter what every single time.
Q. Certainly.
A. For coming into Jacksonville, to Navy JAX here at low gross weight like the, you know -- or sorry -- coming into Jacksonville at low gross weights, we typically use an autobrake 2 setting, but like I said, no matter what, we always run that number,

regardless, which is -- it's kind of why I remember pretty vividly selecting autobrakes 3, because if the environmental conditions and our performance, too, are calling for an autobrake 2 landing, then I'm not really thinking that there's going to be any detrimental effects to stopping distance. But as soon as I see a higher number than autobrake 2 for our specific runway here in the summertime, I started thinking about issues with stopping distance.

Q. When you put in your variables into your landing assessment tool and you hit enter or send, how long does it take before you get a reply?

A. I would say probably 2 to 3 seconds.

Q. Okay, that quick. Good. All right. You said you cleared the runway at taxiway Alpha 2. That puts you taxiing over the arresting gear or taxiing over the arresting cable. Were you -- you were clearly -- were you out of reverse by that time and doing -- was Lieutenant Pajor doing manual braking at that time when you taxied over the arresting gear?

A. I believe so. But we typically do have -- we try to have the thrust reverser stowed by the time we have to roll over the arresting gear, but to be honest with you, I do not remember any arresting gear being rigged that night, and LT McIntyre and LTJG Pajor do not recall the arresting gear being rigged at that end of the field, either.

Q. Really? Okay.

A. Yeah. Not to say it wasn't. It could've been under some water or, you know, we could've -- we were pretty excited about the landing because the conditions were less than normal. So we definitely could've missed it, but our memories, we do not recall rolling over the arresting gear.

MR. ABRAMS: Okay. That's new information. Thank you very much.

And Brian -- and LT Starsiak and crew and CDR Morrill, I appreciate you taking your time with us today. I'm -- that's all the questions I have from an operations standpoint. So I'm going to turn the virtual mike back over to Brian and let him continue.

MR. SOPER: Thanks again, Warren.

Paul, do you have any other questions?

MR. SUFFERN: Just one area real quick. This is Paul Suffern again.

BY MR. SUFFERN:

Q. LT Starsiak, on your flights into the Navy JAX there, can you -- do you recall getting -- on the wind check on final, do you recall getting wind and gust information, as well, on that landing?

A. I do not recall either of those, no. And we all -- worth mentioning, we all remember something different for the winds that were reported by ATIS, too. I think I remember them being variable. LT McIntyre said he remembers a headwind on final. So we're all kind of on different sides on that one.

LTJG PAJOR: I will say -- LTJG Pajor here -- by deduction that there would be no gust, because if there was, we would've had to adjust our approach speed based on the type of approach that were doing. So, if anything, it was either a headwind component or variable, like LT McIntyre remembers.

BY MR. SUFFERN:

Q. Great. And from other landings that you've done there at Navy JAX, have you done a landing say with, you know, a little bit more wind, 5 or 10 knots, in your experience, on final, do you receive the gust information or do you always just receive the sustained wind for the wind check?

A. This is LT Starsiak again. I think we're all in agreement with this that if there is a gust factor at the field, it is reported.

Q. And you're talking about from air traffic control, you're not talking about the ATIS?

A. I definitely heard the ATIS report it before. That night, I'm pretty sure it was not reported, if there was one, but all of us have definitely heard gusts reported from tower. It's something we pay close attention to because we have to adjust our Vref landing speed if there's a gust component. So if we hear one, we call kind of perk up because that means we have to make a last minute adjustment into the FMC to correct the our Vref (indiscernible).

MR. SUFFERN: Great, thank you. That's all the questions I

have, and again, I really appreciate your time today.

And Brian, back to you.

MR. SOPER: Okay. Thanks, Paul.

John, do you have any oh, by the ways?

MR. O'CALLAGHAN: Nope. Just again, thank you all very much, appreciate it.

MR. SOPER: And Commander Morrill?

CDR MORRILL: Yeah, just one I just thought of.

BY CDR MORRILL:

Q. Are you all authorized to fly without the reverse, obviously, or thrust reverser in-op?

A. This is LT Starsiak again. We are. We have an MEL procedure that we can utilize to fly with one thrust reverser in-op. I'm not sure off the top of my head about both. We even have a procedure or a line in our standardization note that discusses that if we flew with one inoperative that we, you know, shall differential -- you know, the different types of upraising action and stuff that we're going to receive, as well as how we're going to control centerlines. So I, in my time here, have not experienced anyone or have seen anyone, I guess, have to enact that MEL, but I do know that it is a possibility.

Q. Okay. And do you have idea or any magnitude of if you do have one in-op, and it's MEL, and that's all proper, effects on landing distance or approach speeds or et cetera?

A. Yeah. In our on board flight tool --

Q. (Indiscernible).
A. -- yep, which we talked about previously, in that -- it's a little computer that we carry with us in the flight deck, and we can adjust the -- there's a setting in it for one thrust reverser, two thrust reversers, or none. So we can account for in our landing numbers through the use of that tool.
Q. Do you have any idea of some -- best guess on how much that would extend or what effect it has on your landing ground roll distance?
A. I do not off the top of my head. We could grab one real quick and let you know, though.
Q. That's okay. But if you do get a chance to try and compare some basic numbers, I'd appreciate that but no need right now. A. Yeah. I can send that over to you after this.
Q. Okay, great. Thank you.
MR. O'CALLAGHAN: Brian, that's all I've got.
MR. SOPER: Okay. Well, before we wrap up the record, I just kind of got one last question for -- and this is for all three of you. But is there anything here that maybe we haven't covered, and similar to the question John asked you earlier, but anything we haven't gone over or that you're surprised we didn't ask or anything that you can provide that you think would help us in the course of this particular investigation, whether it's about the air station, the area, the weather, the operations, the type of aircraft; I mean, you name it. If there's just anything that may

help us putting the pieces of this puzzle together, it would be appreciated. Is there anything like that that stands out for any of you?

LT McINTYRE: From LT McIntyre, from my memory, we did the take -- or we did the landing, like LT Starsiak was saying, broke out at about 800 or 1,000 from the precip, and then the landing, itself, was uneventful, by my recollection. We taxied. They put us in overflow, which is a fair distance away from our hangar. I think we called 9:15 on deck, sounds right, something like that, and then we taxied over to overflow. We shut everything down, and then we had the duty driver pick us up. He probably arrived maybe 10 to 15 minutes after we called on deck, and then he drove us over to a hangar.

I do remember when we were in the van driving to the hangar, never saw any lightning or heard any thunder, but it was raining pretty heavily at that point over the field because I remember thinking I'm glad that I'm not walking back to the hangar right now. And then we do get back to the hangar, went up in our wardroom and started debriefing -- myself, LT Starsiak, and LTJG Pajor. At that point, I'm just guesstimating now, but it could've been at about 40, 45 minutes after landing, something like that -- maybe 35, 45 minutes, somewhere around there, but I do remember hearing some pretty loud thunder at that point that you could tell was fairly close to the hangar, kind of shook the room a little bit. But that's kind of my recollection of the weather after we

landed at the field.

MR. SOPER: Great, thank you. Any of the other two of you?

LT STARSIAK: LTJG Pajor, any last thoughts?

LTJG PAJOR: No, nothing. Thank you.

LT STARSIAK: Yeah. That's about it for us. If you guys have any more questions and stuff, feel free to email me, and I can disperse the questions to the rest of the flight crew, if need be.

MR. SOPER: Okay. I'm going to stop the recording for now so we go off the record.

(Whereupon, at 2:14 p.m., the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	BOEING 737-800 OVERRUN JACKSONVILLE, FLORIDA MAY 3, 2019 Interview of LT Matthew Starsiak
ACCIDENT NO.:	DCA19FA143
PLACE:	Jacksonville, Florida
DATE:	June 4, 2019

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.

[redacted]

Transcriber