

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:

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CESSNA 208B DAMAGED IN ACCIDENT

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NEAR SALT LAKE CITY INTERNATIONAL

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Accident No.: WPR22LA251

AIRPORT IN SALT LAKE CITY, UTAH

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ON JULY 13, 2022

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Interview of: BRANDON SELBIG, Meteorologist
Salt Lake Weather Service

Salt Lake City, UT



APPEARANCES:

PAUL SUFFERN, Operational Factors Investigator
National Transportation Safety Board

SCOTT BIRCH, Western Region Aviation Meteorologist
National Weather Service, Western Region Headquarters
Salt Lake City

DARREN VAN CLEAVE, Meteorologist-in-Charge
National Weather Service, Weather Forecast Office
Salt Lake City

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I N T E R V I E W

(2:11 p.m.)

MR. SUFFERN: We are on the record at 2:11 Mountain Time. So I'll step through just what we talked about a little bit earlier, just running through that. Again, the NTSB investigation is here for safety and the transcript of this audio recording will be -- or the audio will be sent off for it to be transcribed and things like that. The audio recording will not be seeing the light of day there.

But you're okay with recording the interview?

MR. SELBIG: Yeah.

MR. SUFFERN: All right, thank you. And your representative, you may confer with them at any point in time but all of our answers have to come from you.

MR. SELBIG: Okay.

MR. SUFFERN: So if you need to step out or take a break or confer for anything, by all means, we can stop the recording and do that. So, if there's no more questions we'll go ahead and get started.

INTERVIEW OF BRANDON SELBIG

BY MR. SUFFERN:

Q. So, Brandon, could you give me your full name for the record?

A. My name is Brandon Selbig.

Q. All right. And could you spell your last name?

A. S-E-L-B-I-G.

1 Q. Thank you. And what is your official title here at Salt Lake
2 Weather Service?

3 A. I'm a meteorologist or forecaster but I'm entry level so I'm
4 a journey technically, a GS-9.

5 Q. Okay. All right.

6 A. I'm sorry, GS-7.

7 Q. I remember those days.

8 A. Yeah.

9 Q. Okay. And then what background did you have before coming
10 here to -- or how long have you worked at the Salt Lake City
11 Office?

12 A. I've been at Salt Lake since February 14th of this year so
13 fairly new.

14 Q. Okay.

15 A. Just passed my sixth or seventh month so, yeah.

16 MR. SUFFERN: And I apologize, I forgot for the recording, we
17 need to introduce the other people in the room as well. So,
18 Scott, could you introduce yourself?

19 MR. BIRCH: Yeah, I'm Scott Birch, that's B-I-R-C-H, I'm the
20 Western Region Aviation Meteorologist and my office is in Salt
21 Lake City, Utah.

22 MR. SUFFERN: All right. And, Darren.

23 MR. VAN CLEAVE: Yeah, I'm Darren Van Cleave, V-A-N, space,
24 C-L-E-A-V-E for the last name. I'm the Meteorologist-in-Charge
25 here at the National Weather Service, Weather Forecast Office in

1 Salt Lake City.

2 MR. SUFFERN: Thank you, Darren. Scott, I apologize for
3 forgetting that. All right. So, well, thank you, Brandon, for
4 that.

5 BY MR. SUFFERN:

6 Q. I know it has been almost a month and a half now since the
7 day of the accident but you -- and as you're answering these
8 questions it is -- if you don't recall something it's totally fine
9 to say, I don't recall that.

10 So but it's been about a month and a half since the accident,
11 what do you recall from the accident day, if you remember, and
12 what shift were you working on that day?

13 A. So I was working our U shift which I was in from 12 to 9, I
14 believe. And I don't remember like anything to the exact setup of
15 the day. I recall that it was an active day in terms of showers
16 and thunderstorms moving northward over the valley so it can be
17 very hectic for aviation weather for sure.

18 After going back through some of our product logs that we put
19 out that day, some of it was able to stick out to me just because
20 of my last TAF that went out about 50 minutes before the accident
21 occurred, and I only recall that because it was the first time in
22 which I put variable into the Salt Lake TAF, because we don't do
23 that unless there's thunderstorms in the area and if there's very
24 erratic winds.

25 So that was the only time to date that I have done that and

1 the first time doing that, so all that really sticks out to me
2 just because, like you said, it has been a very active season and
3 it's been about a month and half so -- yeah, as I said it was very
4 active but to the point where I had to put that in and it sticks
5 out to me but that's about it.

6 Q. Okay. And as far as your duties while working that shift,
7 I'm assuming aviation wasn't the only thing you were looking at or
8 was it -- what other collateral duties besides, you know, working
9 on the TAFs or --

10 A. Well, so actually like the few crazy, crazy-ish days that I
11 have been on they're -- and that, I remember, was one of them
12 where I was just given aviation just to focus on because we had
13 showers over not only the valley but for our lower airports like
14 Cedar City and St. George as well.

15 So I was just handling that and just trying to be proficient
16 in getting that correct. So, yeah, just for that day it was just
17 aviation, you know, being in contact with the tower and then CWSU
18 and, yeah.

19 Q. Okay. How many TAFs is the Salt Lake City Weather Service
20 Office responsible for?

21 A. I'd say --

22 Q. The amount of TAFs --

23 A. I always get this wrong; it's either nine or 10.

24 Q. Nine or 10, okay.

25 A. Yeah, because we have one in Southwest Wyoming and then eight

1 across Utah so I think it's nine.

2 MR. VAN CLEAVE: It's 10.

3 MR. SELBIG: 10, okay.

4 BY MR. SUFFERN:

5 Q. Okay. Not a pop quiz at all. So, no. So and then I'm
6 assuming Salt Lake is probably your biggest airport?

7 A. Oh, absolutely, yeah, and our most important. Which is why
8 we give more frequent updates to them and then they're the only
9 one that we'll call --

10 Q. Okay.

11 A. -- I guess, or at least in my case haven't called any of the
12 others for anything outstanding.

13 Q. Okay.

14 A. But, yeah, on those days always, always in contact with the
15 tower.

16 Q. Okay. And so just to follow-up right where you're talking
17 about, what do you mean by, are you calling -- I mean, obviously,
18 if you're calling CWSU you've got to pick up the phone and call
19 them. When you're calling the tower, who in the tower are you --
20 or do you know who you're talking to, is it like a supervisor, is
21 it a manager, or do you --

22 A. I guess it's whoever answers the phone.

23 Q. Okay.

24 A. I guess I'm not too sure. They don't like address themselves
25 as like the manager or whatever.

1 Q. Okay.

2 A. I'm assuming it's someone with some strength but, yeah, I
3 guess, just calling them to -- usually just airport weather
4 warnings are being put out, there have been instances where I've
5 been in contact with someone at CWSU and they'll call over to
6 relay things that we're talking about.

7 But I've only had to call for airport weather warnings or
8 when the balloon's getting launched which it doesn't really matter
9 for this.

10 Q. Okay.

11 MR. BIRCH: Is it okay if I ask questions or do I need to
12 wait? I wasn't sure the --

13 MR. SUFFERN: It would, it would be best if you wait until
14 the part of the thing but --

15 MR. BIRCH: Okay.

16 MR. SUFFERN: Thanks, Scott.

17 BY MR. SUFFERN:

18 Q. But, yeah, as far as on that day, did you call over for the
19 airport weather warning or did somebody?

20 A. Yeah. Yeah, anytime that I've put out an airport weather
21 warning I've been the one to call.

22 Q. Okay.

23 A. So on that day it was no different.

24 Q. Okay. So you -- not only do you issue the TAF, but you're
25 the one who issued the airport weather warning, is that part of

1 the aviation?

2 A. Yeah, that's part of everything, yeah.

3 Q. Okay.

4 A. Because right, right when I would have put out the airport
5 weather warning there would have been a TAF amendment to go with
6 it and match with it.

7 Q. Okay. Okay, cool. Okay. And so you recall and so somebody
8 over at the tower got that phone call on the day of the accident?

9 A. Yeah.

10 Q. Okay.

11 MR. SUFFERN: Yes, Darren.

12 MR. VAN CLEAVE: So we called it airport weather warning,
13 we're calling airport operations, right?

14 MR. SELBIG: Okay.

15 MR. VAN CLEAVE: When we do the weather balloon launch that's
16 when we're calling the airport tower.

17 MR. SELBIG: Okay, yeah.

18 MR. VAN CLEAVE: So, so just if you wanted to give that
19 clarification of who, who you would have been calling.

20 MR. SELBIG: Okay, yeah. Yeah, there is a difference in who
21 we call for different things. So it's the -- yeah, it's the tower
22 we call when it's doing the balloon.

23 MR. SUFFERN: Okay.

24 MR. SELBIG: And then it's -- yeah, it's, I want to say
25 ARTOCC [sic] or something.

1 MR. VAN CLEAVE: It's the airport operations.

2 MR. SELBIG: Yeah, airport operation center.

3 MR. SUFFERN: Okay. Okay, thank you. That's good, good
4 clarity there.

5 MR. SELBIG: Yeah.

6 MR. SUFFERN: Okay, that's good, okay.

7 BY MR. SUFFERN:

8 Q. Could you just in general, I guess, not necessarily on the
9 accident day but in general could you kind of step me through your
10 process for writing TAFs and things like that and maybe some
11 things that you look at or how you go through that process?

12 A. Uh-huh. Yeah, so there's definitely a part of like the
13 models that play into it. I'd say in my time here the models
14 mostly help when something funky might arise or how they might act
15 within showers. There's a big diurnal way in which winds act for
16 sure around here out of the north and south predominantly and then
17 across other TAFs as well.

18 So a lot of it is like climatologically based.

19 Q. Okay.

20 A. Based on the time of day and everything. So just, I guess,
21 it depends on what shift I'm on and what time of day it is. But,
22 yeah, just putting the two pieces together, I guess, you know,
23 models can only say so much but they definitely help. But calm
24 days are super easy around here for sure but things can be really
25 hectic when you throw storms into the mix.

1 So just having to take it into account, stuff like that when
2 that's happening, you know, that might be predominantly out of the
3 north in the afternoon here when showers are coming through but
4 one outflow boundary can change that real fast. So just having to
5 be just up on what's happening at the time when that's happening.

6 Q. Okay. And as far as the accident day, you said it was just
7 active with showers. Was it unusually -- I mean, I know as
8 monsoonal, I assume as monsoonal moisture, that particular day,
9 was it unusually active or just a typical kind of monsoon pattern
10 that you would see?

11 A. I mean, so being new here I've actually only probably worked
12 at this point like probably five to seven super active days and
13 that was one of them. So it definitely sticks out to me in that
14 way that, you know, we just had some really good storms developing
15 over the valleys and moving all, you know, sorts, you know, in
16 Tooele, south of here, north of here, so it was just a mess.

17 But it doesn't stand out to me exactly how crazy, I guess, or
18 I don't have like a big bank of knowledge of storms around here to
19 put it up against.

20 Q. Okay. And as far as, I mean, showers and storms over the
21 airport having no knowledge of the CLIMO here or anything like
22 that, is that typical for the showers and storms to move over the
23 airport, do they tend to stay over Great Salt Lake? Does it just
24 depend on where things are forming that day, they mainly stay over
25 the mountains or --

1 A. Yeah, it just really depends on the day, you know, I've seen
2 days where they're forming in Tooele Valley then they hop into
3 ours or sometimes they funnel right through the Traverse Mountains
4 and just shoot north right up through the valley and will just
5 keep going or sometimes they dive into the mountains. So, yeah,
6 it just really depends.

7 And that's one thing I've learned so far about being out here
8 in the mountains is they play a lot of factors and things can go
9 awry pretty quick but you've just got to stay on your feet.

10 Q. Okay. And then as far as -- I mean, I know we talked a
11 little bit about writing TAFs, as far as amending TAFs for the
12 airport, I guess, specifically for Salt Lake because they're --
13 what is -- when would you typically amend for the TAF or things
14 like that for Salt Lake, I guess?

15 A. So usually if there's something that's going awry like an
16 outlet, especially for here when it's predominantly north and
17 south but, and if you have the timing off on a storm per se or
18 there's been a lot of times where an outflow boundary's coming
19 towards you and you have to -- you know, it's not a race against a
20 clock but you don't want to be too early on telling them when
21 because you don't want the outflow to die.

22 But you've got to give them a pretty good timing so that they
23 can change their operations there. So it's weighing against
24 what's happening out there with, you know, how they're doing
25 operations over at the airport. Because, you know, amending 10

1 minutes before an outflow boundary gets here is, I don't know,
2 probably not enough for sure.

3 Q. Okay. And, I mean, how, since you worked five to seven, I
4 guess, active days this spring and summer, have you seen, you
5 know, outflow and wind shifts and things like that move through
6 that you had to amend, amend before, before the accident happened?

7 A. Yeah, for sure. My first time actually when I learned just
8 how the boundary layer works out here when a tiny shower like just
9 west of the Great Salt Lake started putting out like 60 to 70 mile
10 per hour wind gusts and watching that outflow move in. And so
11 that was my first time and so I've seen stuff like that and
12 started to like, you know, get a databank for it and understand
13 how things happen out here. So, yeah.

14 Q. As far as the outflow winds and then, I guess, gusty winds
15 and things like that, are you just working with the observations
16 that you're seeing them and trying to amend the TAF on that, is
17 there any other guidance, computer models or otherwise that
18 provide help as far as like the strength of the winds, this day
19 will be this or anything like that?

20 A. So observations is definitely a huge key, always have our
21 like weather and hazards observation page up, which is a huge help
22 from different ADAS or AWA stations across the state that we use
23 to bring in the opti-time observations. And then, you know,
24 there's a neat tool on AWIPs, time of arrival, definitely helps
25 for just tracking an outflow, you know, tracking it on radar and

1 then can give you a really good baseline of when, when it's going
2 to be arriving to Salt Lake Airport, for example.

3 Q. Okay. So speaking of radar, do you all have -- I don't know
4 if you do or not, do you all have access to the Terminal Doppler
5 Weather Radar information here?

6 A. Yeah.

7 Q. TDWR?

8 A. Yeah.

9 Q. Okay. Is that helpful and does that --

10 A. Absolutely.

11 Q. And do you all have the -- ITWS here or is that -- CWSU or
12 the -- I forget the acronym for ITWS, Integrated Terminal Weather
13 System, something like that.

14 MR. BIRCH: Yeah.

15 BY MR. SUFFERN:

16 Q. I think it's probably that. Are you familiar with that?

17 A. So that one I'm not entirely sure about but TDWR for sure and
18 that's definitely a huge one that when I work aviation just gets
19 its own part of the screen.

20 Q. Okay.

21 A. With Salt Lake being our, our most important airport that we
22 take care of. So and that one gives great cues on when that
23 outflow boundary is working through or when storms are working up
24 or down the valley.

25 Q. Okay. And so you find it more helpful, especially for

1 supporting Salt Lake Airport then probably the WSR-88D or does it
2 just depend?

3 A. I suppose it depends but, I guess, I just have grown
4 accustomed to using TDWR.

5 Q. How is the, is the -- does it pick up enough, I guess,
6 particulates to provide helpful wind information at all or is it
7 too dry out here?

8 A. You can usually get a pretty good idea on velocity.

9 Q. Okay.

10 A. You know, you want to match that with the observations that
11 are coming through in the valley as well, you know, kind of use
12 both to give you an answer.

13 Q. Okay. As far as, stepping back a little bit to writing the
14 TAFs and things like that, as far as putting in vicinity
15 thunderstorms and things like that, you know, do you have guidance
16 as far as when to issue that, what's your kind of take on putting
17 vicinity thunderstorms in the TAF and such?

18 A. Yeah. So I believe it's, you want to move it over to TS once
19 it moves within 10 to 15 miles of the airport but vicinity is more
20 so, I guess, I've used it on days where moving up into a storm
21 surge where, where you have storms moving up from Central Utah
22 and, you know, they're splitting through the mountains and going
23 through the Tooele Valley.

24 And just as easily could hop over at any time and they might
25 be spotty popping up throughout the valley at times. So, I guess,

1 those, I've used it in days where it's like we're most likely
2 going to get thunderstorms at some point but so this is your idea
3 that there could be in the vicinity, we'll update when, when it
4 looks like they're going to be coming right for the airport.

5 Q. Okay. And now typically if they're coming right for the
6 airport is that -- do you -- is that TEMPO just because it may not
7 actually come over the airport still, there's some uncertainty
8 there or do you go ahead and put it in the mainline as a
9 thunderstorm or are you waiting for the observer to see that too
10 or --

11 A. For sure depends on the event, right, like if it's a big line
12 of storms or a squall and it's moving right up to the valley and
13 you want to give them some lead time and it's more than likely
14 that thunderstorms will be moving in, then that would definitely
15 be something.

16 But probably more so in the TEMPO range in the day where, you
17 know, you have vicinity in there and then here comes a cell that's
18 going to be moving through the valley for the next hour or two,
19 and you know it's going to hit the tower.

20 Q. That's helpful. So just talking about people are reaching
21 out to you and such, does air traffic controller operators and
22 Delta Airlines, do they ever call over to the office and ask about
23 the TAF or aviation things, do they do that in this office?

24 A. Not to my knowledge. Yeah, not to my knowledge. I feel like
25 there's been days where they've reached out to the CWSU and then

1 the CWSU has contacted us.

2 Q. Okay.

3 A. I know I've gotten messages where like from them saying,
4 like, hey, the tower was wondering about this. So, not to us
5 directly at least.

6 Q. Okay. So in your experience the CWSU is kind of a liaison
7 for anything, either operator or traffic related --

8 A. Yeah.

9 Q. -- if they're coming this way? Okay, okay. I know you've
10 only been here a short time and we're still, you know, in and out
11 of COVID and things like that. Does the office do any like
12 outreach as far as aviation to the local outreach? I don't know
13 if you're the aviation focal point or if that's somebody else and
14 so maybe they do those things but --

15 A. Not in my time here.

16 Q. Okay.

17 A. Like I moved here like kind of during -- we just kind of got
18 out of being in high and medium COVID wise for a while and I know
19 that we've sent some IMETs people to like different aviation shows
20 and stuff of that matter, but if they -- maybe they do. I just
21 haven't been a part of that yet or read up on any of that.

22 MR. SUFFERN: Okay. Okay. As far as, I think that's all the
23 questions I have for right now but I'll let Scott, you can go
24 ahead and ask some questions.

25 MR. BIRCH: Okay, yeah. For the most part, you eventually

1 got to the questions I was, I was thinking about asking.

2 BY MR. BIRCH:

3 Q. But, I guess, a couple things I'm not sure about. So you
4 worked the noon to nine shift, 9 p.m. shift, correct?

5 A. Uh-huh.

6 Q. Now so you issued the 0Z TAF that day?

7 A. No, that wasn't me.

8 Q. Okay.

9 A. That was Nicole and then I took over for her after she issued
10 the 0Z TAF.

11 Q. Okay. But you issued the, you issued the amendment --

12 A. Yes.

13 Q. -- and the AW -- the airport weather warning?

14 A. Yeah.

15 Q. Okay. What about the aviation section of the AFD that was
16 valid at 0Z with the 0Z TAF, would that, would that have been
17 Nicole or did you write any of the AFD --

18 A. I didn't write any of -- no.

19 Q. You --

20 A. I didn't do the AFD that day.

21 Q. Okay. But you're not sure who did, I guess, we could -- we
22 could look at the product.

23 MR. VAN CLEAVE: I know who did. I can tell you.

24 MR. SELBIG: Okay.

25 MR. VAN CLEAVE: It was Nicole --

1 MR. SELBIG: Okay.

2 MR. VAN CLEAVE: -- did it as part of that TAF test.

3 MR. SELBIG: Okay, yeah. So, yeah, Nicole would have
4 because, yeah, she would have been doing long term that day, I
5 believe, and -- or no, she would --

6 MR. VAN CLEAVE: She was doing aviation --

7 MR. SELBIG: Yeah, yeah. Never mind.

8 MR. VAN CLEAVE: -- for that TAF package.

9 MR. SELBIG: Yeah. So, yeah, Nicole did. I didn't write any
10 of the AFD that day.

11 MR. BIRCH: Okay. That was the only follow-up questions I
12 had, Paul, all the others you asked for me.

13 MR. SUFFERN: Okay.

14 BY MR. SUFFERN:

15 Q. Like I said, Brandon, you're the expert here. Are there any
16 tools that as you're working aviation and writing TAFs, are there
17 any tools that you wish you had that you don't have that could
18 help you to have done better?

19 A. I don't know, maybe a couple years in I could answer that
20 question better but I feel like I -- at times I, even just being
21 new, I have like so much that I -- you know, so much at my
22 disposal, so just constantly checking things so if there's more, I
23 don't know where I'd fit in to use it.

24 But, you know, we have cameras, we have, we have radar. We
25 have observations over the entire state. Yeah, just have to use

1 your brain at that point.

2 Q. So you did mention cameras, do you guys have cameras that
3 point towards the airport or the airfield at all or anything?

4 A. Yeah, we have a wide range of cameras across the entire
5 state. I don't know directly any at the airport per se but
6 definitely a lot, at that point, at different angles all over the
7 valley.

8 Q. Okay.

9 A. So you can get a good shot at wherever storms are.

10 Q. Now are any of them -- being from Alaska I'm used to the FAA
11 weather cameras that they have up there that are slowly coming
12 down to the lower 48, but they provide an image every 10 minutes
13 or whatever. Are the cameras that you all have access to are
14 there -- do those provide a live view like looking out or are they
15 ever five minutes, every 10 minutes or does it just depend on the
16 camera?

17 A. I think it depends on the camera and where they're coming
18 from. I believe we have like some from like the university, we
19 have some from UDOT. So I believe most of those are five to 10
20 minutes. I don't know if any of them are much faster than that
21 but, yeah.

22 MR. SUFFERN: Okay that makes sense. Okay. Yeah, I mean,
23 that's all the questions I have. Scott, do you have any other
24 questions?

25 MR. BIRCH: No. No problem, good. No more questions.

1 MR. SUFFERN: All right. Then we will go off the record at
2 2:38.

3 (Whereupon, at 2:38 p.m., 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: CESSNA 208B DAMAGED IN ACCIDENT
NEAR SALT LAKE CITY INTERNATIONAL
AIRPORT IN SALT LAKE CITY, UTAH
ON JULY 13, 2022
Interview of Brandon Selbig

ACCIDENT NO.: WPR22LA251

PLACE: Salt Lake City, UT

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.

