

WPR22LA251

AIR TRAFFIC CONTROL

Group Chair's Factual Report - Attachment 1

Interview Summaries and Transcript

May 28, 2024

Interviewee: Jordan Allen
Representative: Adam Humpal, NATCA President SLC Tower

Date/Time: September 7, 2022 / 1022 MDT
Location: Salt Lake City, UT
Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Investigator: Betty Koschig

During the interview Jordan Allen stated the following:

His air traffic control career began at the FAA on September 30, 2016, when he attended the FAA Academy in Oklahoma City, OK. After successful completion of initial air traffic control training, he worked in Lubbock, TX until February 2020, then SLC from March 2020 to present. He was a certified professional controller (CPC) and had qualified on all positions in the control tower; and was certified as a Controller in Charge (CIC) for the mid shift only.

His supervisor was Nathan Stewart. His operating initials were JD. He held a current ATC medical clearance with no restrictions. He did not have prior military experience, a college degree, or any other aeronautical certificates or ratings.

His normal work schedule was Wednesday and Thursday RDOs, Friday and Saturday swings, Sunday and Monday days, and Tuesday day or mid shift. He worked about 2 to 3 overtime shifts per month.

On Wednesday, July 13, 2022, he was working an overtime shift and was assigned to the Local Control Center (LCC) position at the time of the accident.

He showed up to work that day and everything appeared normal. He expected afternoon thunderstorms. They started developing into the SW, and as they were going into the cargo bank, they started getting gusty winds and wind shear traffic was light at the moment. He had DAL642 a B757 on final, which he cleared to land. He had windshear report, but on the southwest corner, and he issued that.

The Air Spur (CPT7727) checked in while on left base, and he cleared him to land number 2. He thought he had issued Air Spur wake turbulence but did not.

He then asked a departure pilot for a PIREP, the pilot talked about gusty crosswinds midfield. He then asked DAL 642 for a PIREP, and he said there was wind shear gains and losses of 10 knots on short final. There was a wind shear alert on WSP

with a loss of 15 knots on his runway. With Air Spur on the frequency, he issued that advisory.

He watched Air Spur which looked stable, then it touched down but saw him go up, and the pilot said he was going around. He issued altitude of 9,000 and runway heading to the pilot and told the tower team that Air Spur was going around. He was not able to reestablish communication after that point.

He told the supervisor that Air Spur had crashed. The supervisor asked if he was able to reach him (the pilot) and he said he was not. There was another Air Spur behind him on final, so he called down to the Terminal Radar Approach Control Facility (TRACON) final controller and told him what happened, and he could not take any more aircraft. He switched the second Air Spur to runway 35.

Emergency vehicles had been called out and responded. They said there appeared to be a fire in the cockpit and it was taken care of. Some controllers came up to the tower and he was relieved off the position, and then went downstairs. He stayed to the end of the shift, answering questions.

Asked if this was an overtime shift, he said yes it was his 6th day.

Asked when he called the TRACON controller and said that he could not take any more aircraft, did the next aircraft initiate the go-around or was that because the airport was closed, he answered airport was closed.

Asked if he was able to get other airplanes off the frequency he said yes.

Asked how he was alerted to wind shear information, he said the WSP and continued that an audible alarm goes off. It says the loss and where it is.

Asked if he received information from other sources in addition to WSP, he said that he gets information from other aircraft and controllers.

Asked what the process was for getting a pilot report, he said in this case, if he had airplanes on final, he would announce it to other pilots, and after that he would clear the next airplane to land and give the PIREP.

Asked if he used the PIREP form, he said Yes.

Asked if he looked at the display or both, he said he used WSP (Weather Systems Processor) to get wind shear alerts.

Asked to explain the process for the pre-duty weather briefing, he said it was required before taking position. He came into the facility, signed in, checked pre-duty

stuff on CEDAR, watched the weather brief, and signed a form to show he received the brief.

Asked if he remembered anything that stood out to him that day, he said the afternoon thunderstorms but that was normal for that week.

Asked if he found wind shear information, they received to be reliable or if it was over alerting. He said it was reliable but on a couple of occasions it was over alerting; after airplane lands, they ask the pilot about it, and they said they did not experience windshear. He said it would alert when there was no weather in the areas, there were no signs that there should be a wind shear. Then they get a pilot report saying they were not experiencing wind shear.

Asked what kind of environmental cues he used for potential wind shear, he said when thunderstorms approach, clouds and with Great Salt Lake dry he could see the wind moving in with dust.

Asked if he saw virga, and he said he did see it, but not daily. Asked if he could see where the dust came up from the ground, he said yes. If there were thunderstorm in the area, they saw virga daily.

Asked if there were any weather scenarios that he found challenging, he said snowstorms because visibility drops, and it was difficult keeping the airport clear.

Asked whether he found the pre-duty weather briefing valuable or not, he said it was valuable for sure. They get changing conditions quickly; the wind shifts so much that sometimes it was not reliable. In general, it was important to have.

Asked when working in the tower, did he have access to radar depictions, he said they have Standard Terminal Automation Replacement System (STARS) that depicts precipitation. Asked if he recalled around the depictions on STARS around the accident time, he said there was precipitation to the SW moving NE but could not recall the intensity.

Asked if there was any equipment in the tower that would show the location of lightning around the airport, he said the METAR was the only thing.

Asked when he worked any of the positions, did he have access to the Integrated Terminal Weather System (ITWS) display, he said he was more focused, looking out the window, and would expect the supervisor to relay information.

Asked if the ITWS did display microbursts, would he assume that the supervisor would provide it, he said, yes.

Asked if the ITWS provided an aural alert, he said he did not recall if ITWS would provide an alert.

Asked if they get microburst alerts, he said, yes, on the WSP, it would say MBA. Asked how long after that alert do you provide that alert to the pilots, he said every arrival after that; he would get multiple PIREPs from pilots before he stopped issuing them.

Asked who changes the Automatic Terminal Information Service (ATIS), he said the clearance delivery controller changes it; they input the new weather then broadcast, then they announce what was current. And then controllers relay the new ATIS to pilots.

Asked if he recalled how many ATIS changes occurred prior to the accident, he said he did not recall ATIS changes for that time.

Asked if he received a PIREP and he received a wind shear alert from the WSP at the same time, which one he would give to the next airplane first, he said he would give the wind shear advisory off the WSP, which could be more correct, the pilot might not have the same experience then could issue the PIREP too.

Asked when the last time he received training on weather equipment such as WSP, ITWS, was; he said when he first got to SLC. It was just introductory, no great detail, March 2020 when he got the facility. He knew how WSP worked from his experience at Lubbock.

Asked if he thought training on equipment could be better; he said, maybe, because even if someone came there and they had experience, just go over it in detail as a refresher.

Asked when he broadcasts a new ATIS code, what his expectation of the pilots is, he said, he would broadcast the ATIS and expect them to have it then. He would give them wind and altimeter.

Asked if he knew how often the pre-duty weather briefing was recorded, he did not know, he assumed it was current for the shift.

Asked if thought they needed better or more weather equipment, he said they do the best they can with what they have. He said that Lubbock had similar equipment, but they had more at Salt Lake than they did.

Asked if he found discrepancies in wind depending on which runway aircraft were landing; he said they find a difference, but they use the same wind for all three runways.

Asked if he noticed differences in the pilot reports for wind on different runways, he said there had been occasions where 34L was reporting a crosswind, but 35 was reporting a tailwind, so some differences.

Asked if he knew how many wind sensors they had; he said he did not recall.

Asked what the environment was like at the time of the accident in the tower, was there anything that would cause you to have extra noise or anything, he said nothing controllers were focusing on traffic.

Asked if he felt like staffing was adequate at the time, he said, yes.

Asked if he felt like PIREPs were getting entered in the system fast enough, he said he did not recall, but thought the supervisor was putting them in.

Asked if he had seen a microburst alert, he said 80 to 90 % were wind shear alerts, and he had seen one microburst alert since he had been here.

Asked if he was aware of airport weather warnings from NWS and what they provide, he said no.

Asked if there was a particular direction that the wind sensor did not pick up very well, according to what pilots were reporting, he said no he did not recall any.

Asked if he recalled getting a hazardous weather briefing for spring, he said they do winter refreshers and a sim. That was mostly to refresh them on separation standards. As far as weather goes, they expect storms to come through. Did not recall if they have a spring refresher for hazardous weather.

Asked concerning the STARS weather information, did he find that what he was seeing on STARS was being reliable, he said it was pretty spot on and reliable.

Asked if there was anything he could think of that would help for weather information, he said he cannot think of anything.

Asked if there was a certain wind speed that he saw where pilots would not continue; he said anything over 10 knot tailwind or crosswind, pilots start not taking it.

Asked what the process was for coordinating a runway change, he said the supervisor calls the TRACON to coordinate. They contact multiple parties, airport, operations, and they decided which would be the last arrival and departure. Then they switch the navigation equipment, the ITWS, and the ASDE-X. Most controllers would switch their preference settings.

Asked if runway changes were usually done in advance or all of a sudden, he said they were done in advance, but sometimes the wind takes them by surprise, when it was not what was forecasted.

Asked how Air Spur normally react to weather situations, he said they normally take anything. Asked if they fly in all types of weather, he said yes.

Asked what his first thought was on what caused the accident, he said the first thing came to mind was wind shear.

Asked if it was at an attitude where he thought he should call for a go-around, he said, no, he basically almost touched down and they said this was Air Spur, they were going around.

Asked if he had seen other aircraft that had done similar but had made it, he said yes, smaller aircraft with the wind, but they land. You can tell they were fighting the wind.

Asked if there was any particular area on the airport where that happens, he said it depends, the smaller guys land 35.

Asked what he thought pilots could see as far as weather or wind shear, he said he knows they can see wind shear, SkyWest and Delta pilots tell him that, but as far as caravans go, he thought they could see precipitation.

Asked if he had seen an aircraft crash before, he said no.

Asked if he thought he could have done anything differently, he said there was always things you could, but no.

Asked if he filed an ATSAP, he said yes.

Interview concluded at 1122 MDT.

Interviewee: Mr. Brian Bradford Rasmussen
Representative: Mark A. Tomicich, Senior Attorney Office of the Chief Counsel

Date/Time: September 8, 2022 / 0848 MDT
Location: Salt Lake City, UT
Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Investigator: Betty Koschig

During the interview Mr. Brian Rasmussen stated the following:

His air traffic control career began at the FAA on March 31, 2003, when he was direct hired to worked at Salt Lake City ARTCC (ZLC). In September 2014 he transferred to Salt Lake City Tower (SLC) until present. He was a Front Line Manager (FLM) and had qualified on all positions in the control tower, including operational supervisor.

His supervisor was Todd Ulrich. On the day of the event his supervisor was Clint Bradley. His operating initials were XH. He held a current ATC medical clearance with corrective lenses restriction which he wore on the day of the event. He did not have prior military experience; he graduated from the MARC Academy with a bachelor's degree in management. He did not have any other aeronautical certificates or ratings. His normal work schedule was Saturday and Sunday RDO, Monday and Tuesday evening, Wednesday and Thursday midday, and Friday day shift.

On Wednesday, July 13, 2022, he was working a regularly scheduled day on a later shift due to leave. He was working the Operations Supervisor (OS) position at the time of the accident.

He stated that it was a pretty standard shift as far as workload and staffing and was aware of potential convection. Noted building of cloud layers, cloudiness, and overcast layer. He did not remember anything remarkable prior to the accident. He recalled at the time of the accident staffing was normal for that time of the shift. He had 3 Local Controls open, Ground Control combined with Flight Data/Clearance Delivery, and he staffed the OS position.

Prior to the accident he monitored up to three control positions. He recalled monitoring Local Control West (LCW) but did not remember which other positions he monitored. Just prior to the accident there was a FedEx B757 that reported moderate turbulence, possibly wind shear, he assisted in putting that PIREP out. He updated the ATIS to show wind shear advisories, coordinated that. He was behind the supervisor desk when the accident happened and was not monitoring the position working Air

Spur (CPT7727), Local Control Center (LCC). He became aware of the accident when the LCC controller said, "hey, that guy just crashed." He then picked up the crash phone and called an Alert 3. There was another caravan, and he believed a Delta from London on final. He told all of the local controllers to send all aircraft around because of the Alert 3. He observed fire command respond to the aircraft.

Asked how long he was on position after the accident, he stated that he assigned a controller the Controller in Charge (CIC) position so that he could engage in other post-accident activities which took an estimated three hours.

Asked to describe the workload experienced right before the accident, he said moderate workload, moved behind the desk to the put in the PIREP and cut the ATIS, then returned behind the flight data/clearance delivery console to continue monitoring other positions.

Asked if he remembered what was displayed on the ITWS at the time of the accident, he said he did not remember.

Asked if he remembered equipment alarming, he said the Wind shear display alarmed, recalled wind shear alert advisory on displays.

Asked did he recall anything about an airport weather warning, he said he did not remember.

Asked if outside weather forecasters called with urgent or pertinent information, he stated occasionally forecasters from the Center Weather Service Unit (CWSU) would call with the AWW but did not occur often. They get convective SIGMET/CWA/AIRMET from FIDO.

Asked since the controllers do not have the ITWS in their visual scan whether he believed that it was his job to relay the information to the controllers, he said yes.

Asked to describe the location of equipment in the tower and if there were any pieces of equipment that were out of the normal scanning area, he said yes, the ITWS. He said that the ITWS was off to the right (NW side of Cab). He said near the ITWS there were several other computers to do eLMS, Pre-duty Weather Briefing and other training, the computer that controlled the airport lighting system and other equipment that they did not use often.

Asked if there would be anything helpful in changing the layout, he said that he believed moving the ITWS closer to the control panel would be more in line with equipment used more regularly.

Asked if there was any weather equipment that the facility did not have that would help, he said he did not know what weather equipment would be available to answer the question.

He stated that the ITWS was helpful during convective activity, he looked for gust fronts that would generate a wind shift, help to estimate flow change and what time the change would arrive. He said that often the ITWS became a secondary tool to the STARS.

Asked why STARS was more primary, he said it was front and center, used to monitor radar predicted precipitation. As you were monitoring positions and there was precipitation that was one of the things they were queuing into. There was a heightened awareness when you see the radar depicted weather.

Asked if he recalled what the STARS showed at the time of the accident, he said he did not recall other than general areas of precipitation.

Asked how often he saw gust fronts compared to microburst on the ITWS and if he recalled a microburst on the ITWS, he said, he did not recall seeing a microburst alert on the ITWS, only gust fronts. He said that he usually became aware of a microburst or wind shear alert, after the wind ribbon display had alarmed. The ITWS would show the alert and the countdown timer after ribbon alert alarm. He did not recall seeing a microburst alert prior to the alarm.

Asked where the microburst and wind shear came from on the ribbon display, he said the TDWR. He said training would be helpful on the equipment, had no formal training on TDWR and ITWS.

Asked how accurate the wind sensor information was compared to PIREPs, he said that the center field wind, which was issued to pilots was normally consistent.

Asked whether on days with wind shear was the wind equipment accurate, he said it picked up gusts that he would expect. He said in the tower there was latency in what was seen out the window and what center field wind show and predict, He said in a heatwave, often aircraft were very heavy, they cannot depart with tailwind component. They requested runway specific wind but due to one sensor it created a challenge.

Asked if additional sensors would be helpful, he said yes.

Asked what guidance controllers were given to relay observed dust or other phenomena on final to aircraft, he said none.

Asked did he observe virga on accident day, he said he did not recall but virga was common on other weather days. He said as a supervisor it was his responsibility to scan for virga to predict possible wind shifts.

Asked would you advise controllers to watch for virga, he said absolutely, would ask for PIREPs and account for latency in what was reported and what was observed,

Asked if there were wind directions that the center field wind did not pick up, he said it depends.

Asked his opinion on the Pre-Duty Weather Briefing, he said there was a lot of information that starts from a global perspective, drilled into a more precise forecast for terminal areas which was more relevant and useful. Asked what would be helpful to SLC Tower, he said he would put the terminal forecast first. He said he did like the graphical depicting of the hourly forecasted wind. Would make it bigger. Liked the TAF, paused briefing to read what was predicted for the shift.

Asked if there was an LSC (Local Safety Council), he said yes, he was on it, did not generally discuss weather.

Asked other than ITWS, if they receive raw precipitation data in the tower, he said on STARS.

Asked if he was aware of intermittent communications issue prior to event and would he be notified, he said a communications issue would be a challenge, that they notify via the daily log. He did not recall prior to the event, remembered communications out but not specific to the accident day.

Asked about knowledge of wind sensor, he said center field wind was not ASOS wind, they issue center field wind, he observed that there was a difference between wind on METAR and sensor south of field were often different, he understood that these two were different and that there were only two sensors.

Asked to describe the PIREP process in the tower and his involvement, he acknowledged he would be responsible for when PIREPs were solicited, ensure PIREP was written on paper form. He would get controller to write PIREP but if engaged in other duties would complete form for them. He said clearance delivery (CD) could enter it in AISR near ground control (GC), other equipment at supervisor desk. He said that keyboard to input PIREP was not directly in front of the monitor. There were multiple workstations in front of FD/CD. The keyboard for PIREP input was difficult to move, physically moves away from position to use.

Asked why it was set up that way, he said the controller would have a different keyboard that connected to the CPDLC (Controller Pilot Data Link Communications) directly in front of them. Not the most ergonomic setup.

Asked about notification from National Weather Service (NWS), how often did he collaborate with weather offices, he said it depends. He said on a night with possible convection, they collaborate well. He would tend to call the weather forecaster at ARTCC first. He stated that he found them useful and a familiar source. He said it was a tool that he used often. He said if they were not there, he would not hesitate to call forecaster, but he would probably do that more for a wind shift rather than a convection.

Asked about accuracy of TAF forecast, he said as accurate as can be, but always had to be aware and question validity based on what they see outside too.

Asked if he recalled any lightning that day, he said he did not remember lightening at that time.

Asked if he had access to the airport weather cameras, he said no.

Asked when there were strong winds, can you feel the wind shaking the tower, he said yes. He added that there was an airplane that hangs from the ceiling, he can see that move before he felt it.

Asked what kind of weather training he gets seasonally; he said there was an annual briefing. The Center Weather Service Unit (CWSU) would come here and provide that. He cannot remember the last time they had come over to brief in person. He said before the pandemic he recalled multiple times.

Asked if he felt that the facility coordinated configuration changes well enough in advance or more combat mode, he said that he felt that they do well planning in advance. He said that they try to mitigate those challenges.

Asked if they receive both a PIREP for wind shear and the wind shear alert goes off at the same time, which would have the higher priority, he said no priorities, would issue both.

Asked what wind shear advisory alert tool, the one on the NIDS or the Ribbon display was used more frequently. He said most controllers use the ribbon display because they do not know how to configure the one on the NIDS (NAS Information Display System), the box was so small. He cannot remember if the NIDS WSA warning box flashes to alert or had an audible alarm. He said that the audible alarm from the Ribbon Display overrides the volume of the NIDS alert if there was one.

Asked if he enters the PIREP into the NIDS, he said yes.

Asked how he would characterize Air Spur's typical weather operations; he said no really strong thoughts about whether they were more or less aggressive culturally. He said he was concerned with single pilot operation, and that the pilot was making decisions alone.

Asked about whether he uses the ITWS countdown timer, he said yes. He hears the audible alert, knows to put warning onto the ATIS, the scans countdown timer to know when to discontinue warning on ATIS.

Asked whether during the time of the accident, if he had staffing to open flight data, He said yes.

Asked if he thought that opening the position on the day of the accident would have reduced his workload, he said, yes it would have been helpful for those 30 seconds, but leading up to the accident he did not feel that there would be any issues.

Asked what they do when a pilot asks for a specific runways wind, he said it was very rare that a pilot asks for a runway specific wind check, they just issue the wind that they had, pilots do not question.

Asked what improvements could be made, he said that if they could further the dialogue, enhanced training on weather tools in the tower would be helpful. He said maybe equipment reconfigurations to make things more visible and functional to tower needs.

Asked if he saw the accident occur, he said no, his first awareness was from the Local controller that the pilot had crashed. He added it was a very good moment when he talked with the emergency personnel and found out the pilot was ok.

Interview concluded at 0955 MDT.

Interviewee: Michael Smith
Representative: Mark Tomicich, FAA Attorney

Date/Time: September 8, 2022 / 0857 MDT

Location: Salt Lake City, UT

Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Albert Nixon, NTSB

Investigator: Betty Koschig

During the interview Michael Smith stated the following:

His air traffic control career began with the FAA in August 1997, when he was a direct hire by the FAA, he had attended MARC. He started work at Cleveland ARTCC then worked at ZLC from OCT 1999 to November 2020, took a detail to SLC as acting ATM from November 2020 to January 2021, then went back to ZLC from January 2021 until June 2022, at which time he came back to SLC as the ATM.

He served in the United States Air Force (USAF) as a Weapons Controller from 1986-1990, and then transferred to the Utah National Guard from 1990 to 1997.

His operating initials were MS. He had no other aeronautical certificates and did not have a current ATC clearance and was not required to have one. His supervisor was Chad Hudgins AGM TWLC (Salt Lake District). He obtained a bachelor's in aviation management Westminster college in Utah.

His normal work schedule was Monday to Friday from 0700 to 1600, and when necessary.

Asked what his expectations were from the supervisor and controllers in the tower after the accident occurred, he said he expected they get the controllers off the position and ensure everyone was safe. They were expected to get help up there. He had 2nd level support; they had Operations Manager (OMs) that work weekends. When something happens, they need to know about it, the OM needs to know about it, and they need to be notified. They had his phone numbers and the OM's phone numbers.

Asked if the process worked the way he expected it, he said yes. His more senior supervisor was working at the time, and Clint Bradley, who did not work here anymore was the OM.

Asked what equipment may have been having issues at the time of the accident with the Air Spur, he said did not know if there were any issues at that time. The only thing he could think of the KVM switches with the ASDE-X (Airport Surface Detection Equipment X), which was the interface with the keyboard and track ball. They had ATSAP open on that since he came here. The controllers do not have control at their own position, there was just one position with the control of the ASDE-X.

Asked who was the prior SLC ATM, he said Don McFarland was the previous for both facilities (TRACON and tower). Before that was Jill Story. He was asked to come over as the Acting ATM to split the facility until Jeremy Beecher, the TRACON ATM could get here.

Asked what he recalled of the history of request to have additional weather sensors, his recollection was that Tech Ops said you could have 6 sensors, but it was a one for one replacement. He said Tech Ops knows the story.

Asked during the time as acting and permanent ATM, had controllers or managers mentioned to him that it would be nice to have more wind equipment, he said only one time, and that was just after the accident when the new Ops manager, Todd Ulrich, who was acting OM, said it would be great to have more sensors, said they would need to go to the requirements group. That was the only time. Then they heard that you guys would be coming out.

Asked about his experience and knowledge for the ITWS technology and use, he said he had no user knowledge because he was responsible but not a user. He knew the sensor was by Centerville. Whenever there was a runway change, they go over to the display and switch it around. They put it in there, you get the ribbon read out, and you get an audible.

Asked if the ITWS provided audible alarm as well, he said he did not know.

Asked what his expectation were for the supervisor using the ITWS information, he said they always had a portable headset, so they were always interfacing with it. They use the ITWS as part of the scan, our wind changes here a couple times a day and it causes work for them and the TRACON, they had to need to use it and it was part of the tools.

Asked if he was aware of any training on weather equipment in the tower, he said that he thought it was part of the initial training when they first came to the facility.

Asked if there was recurrent training on equipment, he said he did not know. Asked about training on ribbon display, ITWS and all weather equipment, he said he would take an IOU (I owe you).

Asked if he interfaced with local safety council, and if there was discussion on weather, he said that he and the FACREP are the sponsors, and the OM was a member. They are the sponsors, but nothing had come up on weather discussion.

Asked if he was familiar with the airport weather warning, he said he was not, he also said he did not know if it would be helpful for operations.

Asked if there had been any discussion on reconfiguring different equipment layouts in the cab to make operations a little easier, he said he and Mr. Humpal had that discussion and wanted to create a CWG (Collaborative Work Group) on local control podiums and discuss moving actual ground control positions. They had discussions on possibly moving things like the ITWS around since the accident, and they would engage with tech ops to see if that was possible.

Asked if he knows of any input on the accuracy with wind sensor and which one was more accurate, he said no.

Asked if they had regular meetings with tech ops, he said yes daily with Paula Fries, the SSC manager; Tiffany Cheney, manager for radar; Gary Brooks, and Winston. Also, Stan Zgorcelski, who was responsible for the building dials in, he was their boss. For air traffic, they have the ATMs, the OMs, the supervisors if they could make it, and typically the QC and Scott Penn.

Asked if he knew about intermittent communications problems with the TDWR, and if that was something he expected to be notified on, he said he was not aware of the problem, and he expected the tower to be notified of TDWR problems.

Asked if he recalled any discussion on FTI lines, he did not recall.

Asked if he had a facility top 5, he said no, but that sounds like a good idea.

Asked what the facility emphasis items were, he said weather and phraseology always, and safety concerns. Asked if there was anything specific, he said yes, PIREPs, everyone did a good job getting the PIREPs but disseminating them back was a battle. It was constant.

Asked If a controller received a PIREP for wind shear and then received an alert for wind shear, what would take precedence, he said it depends on what the PIREP was and what was more pertinent to safety. Always about mitigation risk, so it depends.

Asked who gets notified of outages in the tower, he said it depended if the tower had the issue. They call TRACON or vice versa to let them know. At stand-up it

would be discussed. They make sure our supervisors know about it. In the stand up they go over it ,and hand it over to our tech ops ; it was like a double fail safe. That is the normal procedure, they call local techs or OOC.

Asked if it would be his experience that OCC would disseminate that, he said the normal procedure for an outage, local would call OCC. He provided an example from this past Wednesday when there were problems with the HVAC unit and the ASDE-X went down for 3, 4, 5 hours and they reported it up. From his experience in the ARTCC, he always talked to the SOC. He said it needed to be an emphasis item.

Asked how many people he managed, he said he had 29 controllers, no CPC, 4 supervisors, one acting OM, a support manager, a management program assistant (MPA) and staff support specialist MSS1, 38 total.

Asked what the biggest challenges were that they had, he said staffing was ok, but still a few short. Major challenges were tech ops and no money. They keep saying the supply depot had surplus equipment, but not an option anymore. Money was spent on COVID cleaning. He said there were no retirements for this year, and in the summertime, they deal with fire towers in the west. They have to support fire towers to protect our resources and our country.

Asked if he knows of any future upgrades, he said not that he was aware. Have not heard of anything, and nothing was in the pipeline.

Asked what were his actions after he received notified of the accident, he said they happened to be with his AGM and Mr. Beecher, they were downtown. He left and was probably there 15 minutes after being notified, the OM came in, he was here ready to answer questions and making sure the controller was relieved and taken care of. The Alert 3 closed down the runway.

Asked if there was any room for improvement, he said the process notification was quick. Was happy with how the process worked.

Asked how often they get wind shear and microbursts; he said it depends on the convection activity. He did not know how often.

Asked if they have ECVs (External Compliance Verification), ICVs (Internal Compliance Verification), he said QA did that, its once a year, for internal, its every 2 or 3 years for external, but they did not come during COVID.

Asked if he had done an internal one, he said yes. They look at publications, to make sure it was updated. Equipment wise they look at that. They do the same thing that external looks at. They talk over things; they share what was going on there are no secrets in the district.

Asked if there was anything that would relate to the accident. No.

Asked about the SOP, and where it mentions that the TDWR was the official wind, he said it was understood that the ATM determined what the official wind was. It appears the tower provided the centerfield wind to the airplane. The controllers were providing the SWS wind, not the TDWR wind. Asked the SOPs were consistent, he responded he would get us an IOU.

Asked about what was covered in the morning stand-up, he said it was conducted 0800 Monday to Friday. They dial in; Northern Utah who maintains the long range, the DFM (District Facilities Manager), and Stan Zgorcelski. They always start the call with Paula, and they talk about what was going on. He expressed that the ASDE-X was a thorn in his side. They talk about radar and what was going on with that, and then Northern Utah. They wanted to make sure there were not any overlaps in outages and that they were not missing anything. For example, at 1100 tonight to 0700 next Monday they have rubber removal going on. If there was not anything else for tech-ops then they go to QC, then talk to OMs and supervisors. They talked about box haulers and them being behind schedule and interfering with banks, then airspace meetings, recurrent training at the ARTCC, and everything else that was going on, so they do not get blind-sided.

Asked if weather was discussed, he said absolutely. In wintertime they were frost off, there was always something winter and summer.

Interview concluded at 0959 MDT.

Interviewee: Jeremy Beecher
Representative: Mark Tomicich, FAA Attorney

Date/Time: September 9, 2022 / 1135 MDT

Location: Salt Lake City, UT

Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Albert Nixon, NTSB

Investigator: Betty Koschig

During the interview Jeremy Beecher stated the following:

His air traffic control career began with the FAA in July 2006, as a direct hire to Los Angeles International Airport. Prior to transferring to S56 as the ATM in December 2021, he had worked at Northern California TRACON, and Joshua TRACON.

He had previous military experience in the USAF; he was stationed in England at RAF Mildenhall for 3 years, then 2.5 years in Nebraska Offutt AFB. He was a controller in the military. He did not have a college degree. He had a commercial pilot's license but was not current. He did not have a current medical and was not required to have one. His supervisor was Chad Hudgins. His normal schedule was Monday through Friday from 0700 to 1600. His title was S56 Air Traffic Manager.

Asked what the process was for accident notification from the facility to him, if he felt like it went well, and what was his expectation of the controllers. He said the expectation would be that as soon as possible the OS or CIC would reach out to the OM and OM would reach out to him as soon as he had the information.

Asked how he found out about the accident, he said he was at dinner with the tower ATM, AGM (Assistant General Manager) and ZLC ATM. The tower manager was notified through a phone call, and they were all made aware then.

Asked if he came to the facility after the notification, he said no. Asked what he did after that, he said he went with the AGM and ARTCC ATM to the hotel of the AGM and started working from there. As soon as he found out about it, he notified the OM, so he [OM] was aware that he knew about it, and they were both in direct communication with the facility.

Asked what types of communication he would expect the OM or OS to relay, he said, the call sign, type aircraft and detailed information about what happened,

that would be the initial information. He said they can gather other information like staffing after.

Asked if he felt the process went well, he said yes.

Asked if he felt like he was in the loop, he said yes.

Asked if the controllers were relieved right after the accident, he said not immediately, but shortly after. Asked if that were something he would expect, he said yes.

Asked if there was any reason they would not be relieved immediately, he said it was going to be based on the situation, he expected them to be relieved completely off of the position.

Asked if he thought they had good communication between the tower and the TRACON, he said yes, nothing he could think of to make things smoother.

Asked if the OM was at the facility at the time of the accident, he said no.

Asked if the OM was at the facility after the accident, he said no.

Asked if he remembered when the controller was interviewed, he said no.

Asked if he knew if there were any microburst alerts at the time of the accident, he said no. Asked if he would normally get that information, he said no.

Asked if he knew when the TDWR outage was resolved, he said approximately 1 to 2 weeks later.

Asked how tech-ops notifies them of an outage, he said OCC was supposed to notify TRACON of outages.

Asked if there were any other issues with weather equipment, he said intermittent issues with ASR derived weather, not a recurring history, a one-time event.

Asked if they had a facility top 5, he said no.

Asked if they had facility emphasis items and if weather was one of them, he said yes, he would have to look for weather because they change emphasis items as they go.

Asked how they call in intermittent outages or outages in the TRACON and if they notify the tower, he said that the supervisors would call techs locally. Depends on the situation.

Asked if there was a time where TRACON would call techs locally to fix something and it would not be documented. Absolutely could happen where tech-ops were made aware and then fixes and issue without documentation.

Asked if he knew much about tech-ops tickets and how they were opened, he said OCC would be the best to notify for accountability.

Asked when he became ATM at S56, he said he returned last September, and was a direct hire as the ATM.

Asked how many people he was managing right now, he said he had 2 direct reports, but in the facility approximately 45-50. No staffing issues.

Asked if there were any challenges with your position right now, he said, no, not that stands out.

Asked about Air Spur's flight operations, he said there were no issues as far as their flight operations.

Asked what the corrective action was on the intermittent communications, detail wise, he said he did not know; it was his understanding that there was corrective maintenance performed.

Asked why he went to the AGMs hotel when he heard about the accident, he said it was private and they had Wi-Fi access.

Asked if he was an active participant after the accident, he indicated that he would say he was an active participant.

Asked if he remembered what details they gave him on this one, including any weather, he said, no explicit details on the weather, but through the review they determined it.

Asked who makes the determination on emphasis item changes, he said that it was the facility as a whole, a collaborative effort.

Asked if he had recurrent training in the TRACON on the weather equipment that they use, STARS, ITWS, he said that Recurrent Training was national, they do regular refresher training locally on PIREPs, Hazardous Weather, weather dissemination piece was what they would be training them on.

Asked, as ATM, what was his expectation for the use of the ITWS information, he said using it for situational awareness of the weather and to alert the controllers.

Asked if something weather wise was displayed that was potentially hazardous would he expect the OS to give a heads up to the controllers, he said, absolutely.

Asked if he was aware of what an Airport Weather Warning issued by the Weather Service was, he said, it sounded familiar, it had been a long time since he had been involved in the delivery of weather products, but it sounded very familiar.

Asked about the TRACON's coordination with CWSU, and if he was familiar with that and how often it occurred, he said he did not have knowledge of how often it occurred, but they do rely on them to give the TRACON information or if they have a question, they can reach out to get more information about TAF's, storms, wind shifts.

Asked if they discuss weather concerns in the daily stand-up briefing, he said, absolutely.

Asked how useful he, as the ATM, believed the pre-duty weather briefing was, he said, good for situational awareness, but not detailed enough to know what was going on in the local terminal area.

Asked what he thought would make the pre-duty weather briefing better, he said he would have to give it some in depth thought.

Asked what the most useful weather information in the TRACON was, he said ASR-9 weather and weather they see on the ITWS and NEXRAD on the TSD (Traffic Situation Display).

Asked if he knew how many wind sensors were on the airport, he said that they use one.

Asked if he remembered how many wind sensors were at LAX, he said he did not remember.

Asked if he was aware that the controller may have been put on a dead position after the accident, he said, not that he recalled.

Asked if it was his expectation that more positions would be opened, rather than the controllers be relieved, he said that it would be situational.

Asked if it would be his expectation that his controllers be relieved rather than moved to a slower position, he said, yes, but that would be situational.

Asked if there were any discrepancies between what the wind equipment was reporting vs. what the pilots were reporting, he indicated that when he was here previously as a TMC, they would have discussions about different wind sensors and how they were different. He said he would go to a National Weather site to see different wind sensors.

Asked if there was anything in the TRACON that shows lightning, he said there was lightning data on the TSD but did not recall where it came from or how accurate it is.

Asked if there was an expectation to overlay lightning data on the TSD, he said that there was not an expectation on the lightning being displayed on the TSD and there was no standard for what was displayed on TSD. It was for informational purposes only.

Asked what other weather equipment would be beneficial, he said he thinks wind sensors at the approach end of each runway would be extremely valuable.

Interview concluded at 1215 MDT.

Interviewee: Tiffany Cheney
Representative: Mark Tomicich, FAA Attorney

Date/Time: September 9, 2022 / 1428 MDT
Location: Salt Lake City, UT
Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Albert Nixon, NTSB
Investigator: Betty Koschig

During the interview Tiffany Cheney stated the following:

Her career began with the FAA in Sep 2005 when she was hired as an FAA intern at SLC, where she was currently employed as the Radar Automation manager. Her supervisor was Stan Zgorzelski. She went to College at Weber State and earned a Bachelor of Science in Electronic Engineering Technology. Her normal work schedule was a 5/4/9: Mon to Fri. Every other Friday off.

She said as the manager of the automation radar group, her group maintained and repaired the radar and automation equipment. She leads the group training, equipment preventative maintenance (PMs), time keeping, procurement, and contract support. The radar group's equipment included the ASR-9, Mode-S Beacon, TDWR, ITWS, ATCBI-6 (Air Traffic Control Beacon Interrogator) in Provo, STARS, TDDS (Terminal Data Display System), FDIO (Flight Data Input Output), TDLS (Tower/Terminal Data Link Services).

Asked if she was familiar with the Air Spur accident from July, she said yes.

Asked about a TRACON communications problem and the TRACON reporting an intermittent outage with the TDWR, she said she was not familiar with the TDWR outage.

Asked if she was aware of problems with the FTI lines from the TDWR, she said she was. Earlier in the year there was construction north of the airport and the construction cut the TDWR line. They have experienced issues ever since.

Asked if it was repaired, she said it was in the middle of Summer, around the middle of July.

Asked if FTI line issue impair the ASR-9, she said, no.

Asked if she was aware of any problems with the data from ASR-9 during the day of the accident, she said she was aware, she thought it was cleared up. She told the techs about it, and they reset the card at the site. She asked air traffic if they saw any more issues with ASR-9, it was her understanding that it had cleared up. She said that the problem had happened before. The problem had occurred about 2 times this year, but during the middle of July was the first time she recalls hearing about it.

Asked if the frequency interference was separate from the FTI line, she said yes. Asked if it was an ongoing problem, she said yes. Asked where the frequency was located, she said it was in the middle of nowhere and now was impacted by Wi-Fi. In the past 10-15 years it had gotten worse. The interference could possibly impact the information from the TDWR. It created holes in the scanning. The frequency problem was caused by increased Wi-Fi use in the area of the radar. More homes were being built in the area so there was more Wi-Fi. The problem caused the radar strobing.

Asked if she was familiar with today's (September 9, 2022) TDWR outage scheduled from 1100 to 1500 UTC, she said, no.

Asked if that was related to the strobing issue, he said no. She said, generally when they have a frequency problem, she received a phone call and call SPECTRUM, and they have a tech go out.

Asked if TDWR problems were normally communicated to other FAA facilities (ARTCC, TRACON and tower), she did not know.

Asked if the FTI lines were cut if they would receive a signal from TDWR, she said they would not get a signal at all. If the line was cut, they do not get wind shear info.

Asked what other equipment in the Tower or TRACON the FTI lines being cut would impact, she said she believe TDDS, but would have to check with the technicians.

Asked if the cut line would impact ITWS, she said she believed the ITWS would continue to work but she would need to check with her technicians.

Asked how long she had been in her management position, she said since October 2019.

Asked how many people she supervises, she said she supervised 7 techs and one MPA (Management Program Assistant), she should have 9 techs for full staffing.

Asked if there was any special training they gave her for her position, she said she did not receive equipment training for this particular position. She did receive some management training but no technical training.

Asked besides the line inadvertently being cut, what were her challenges, she said staffing. She had 2 vacancies now, and at the beginning of the year they were down 5. She had 4 new people. The equipment was old, getting older, budgetary challenges, they have difficulties getting parts from the depot.

Asked about the equipment outage notification procedures, she said the controllers would call the radar office and report the problem, the techs would call OCC, and the techs would go fix the equipment.

Asked how she found out about the intermittent issue, she said she was notified by a phone call. The tech drove to the TDWR and saw a backhoe and the line was cut. That line was cut in March; it happened again in May where she drove out and saw them working on it.

Asked about the morning stand-up briefing, she said it occurs Mon-Fri there was a briefing with ATM, and the communications problems were discussed.

Asked if she worked on July 13, she said she worked that day but was not on the shift that it occurred.

Asked when she was notified of the accident, she said the next morning, when she returned to work.

Asked if she knew the date of when the line was damaged, she said she did not know the exact date. Asked if she remembered the time frame and she said early spring, March.

Asked if she had received any complaints recently and she said, no it happened in March and she saw them working on it again in May, to her knowledge that was when it stopped.

Asked if there was anything done as a result of accident, she said they pulled up the playbacks (info) on the TDWR, STARs, and ITWS.

Asked if the ribbon display data was still recorded, she said it depended on the equipment. She said that she believed they have the STARs and TDWR, but the ITWS only archives for 14 days, and when they were asked for it, ITWS was gone, and they pulled data for a similar weather event.

Asked about the ribbon display wind shear data, she said, not all equipment had the archive, he did not know if the ribbon was archived.

Asked if the ASR-9 weather issue had happened before, she said yes, she would have to check when it was.

Asked how often intermittent issues with ASR-9 weather had occurred, she said from what she could recall it had only been two times this year, but that was the first time she recalls hearing about the issue.

Asked if an ASR-9 problem was reported by controller, did she know what they were seeing on the scope, he said she would not.

Asked if she felt the procedure for reporting was followed, she said, yes. They always notify OCC and develop a ticket. As far as she could recall the procedure was followed for the accident.

Asked if it was the OCC's responsibility to call the affected facilities, she said yes.

Asked if the ".ppb file" and weather depicted was archived, she said it was saved but she did not know the file name.

Asked where she thinks the disconnects were coming from with the Tower and TRACON logging of outages or the intermittent communications problems with the TDWR, she believed the problem was with OCC.

Asked if they logged who they had talked to for outage coordination, she said they call her technicians, and her techs call the OCC to open a ticket. Then the techs go and do the trouble shooting, it was her understanding the OCC contacts the other facilities. The OCC would initial who (techs) called.

Asked if they notify the OCC or other facilities when equipment was returned to service, she said it depends. Generally, they call OCC when it was returned to service. However, in the past they have had problems getting a hold of OCC so they would notify the facility.

Asked if there was a specific time of day of the week when your techs have noticed it more difficult to get ahold of OCC, he said, its random.

Asked if it was possible for air traffic to notify the techs of an outage before notifying OCC, he said yes, they had asked air traffic in the past to do that.

Asked if it would help her if air traffic called the OCC directly, she said the SLC techs prefer for air traffic to contact the techs directly so they could ask specific questions about the problem the controllers see.

Asked if there were two FTI lines and if one was a backup, she said FTI was the main contractor that works on the lines, she talked to Century Link because they subcontract Century Link, and they were having line problems too, she said to her knowledge there were no backup FTI lines.

Asked if the ASR-9 had 2 channels, she said it did and they both receive weather.

Asked if both channels were having intermittent outages that day, she did not remember.

Asked if during COVID there any PMs that were put on hold, she said she would need to check the logs. They had several PMs that were suspended, but she was not sure which ones.

Asked if they had ever considered moving the TDWR or using another contractor due to the Wi-Fi problems, she said SPECTRUM was another line of business within the FAA. Moving the TDWR would cost a couple million dollars. She was not aware if moving the TDWR had been discussed.

Interview concluded at 1516 MDT.

Interviewee: Steven Todd Saline
Representative: Mark Tomicich

Date / Time: September 7, 2022 / 1413 MDT
Location: Salt Lake City, UT
Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Investigator: Betty Koschig

During the interview Steven Todd Saline stated the following:

His career began at the FAA on November 8, 2009, when he was hired at the Gallop long-range radar enroute environment. Prior to working at Salt Lake City Tech Support (TSOC), he worked in the Salt Lake City Radar group for a year. He had no prior military service. He holds an associate degree in automotive and diesel and an associate degree in computer networking. His supervisor was Todd Macintosh. His normal work schedule was 10 hour shifts 0600 to 1630 Tuesday to Friday. His official work title or position was TID (Technician in Depth) support.

He described a normal routine day would depend on what work request and needs arise at the time. It would depend on what was coming in phone call wise and depends on who needs help. If everyone was doing okay, then He stated they go out and see who they can help. He stated their work consists of both working on the equipment and the software.

He stated that the weather systems he supports around the airport consisted of the Terminal Doppler Weather Radar (TDWR), which feeds the ITWS, which goes to air traffic with the data, and he supported the ASR-9 which had a feed to the ITWS, but the ASR-9 cannot detect windshear. He did not support the wind sensor. The ASR-9 depicted precipitation both for the tower and the TRACON. He stated that the Salt Lake ASR-9 did not have the extra feature attached, which consisted of an extra cabinet that was specifically for weather. He noted that Tucson ASR-9 did have this feature.

He stated that the ITWS had products it can supply. The ASR-9 just shows the 6-level weather. The ITWS puts out information and information on wind shears, tornados, and such.

Asked if there was there any specific software that was particular to the Salt Lake City ITWS, and he stated he would not be able to tell you that. He stated that if the ITWS was like STARS, that each one had their own adaptations. He stated that the

ITWS data was only going 5 miles past the end of the runways, even though the radars were further away.

He stated that the software updates came from Oklahoma; he believed AJI-144 was over weather. When they provide software, they also tell them how to install it, and the procedure for installing it. Asked how often you get software update, he stated that he had seen only one ITWS software update in the year and a half he worked at the Salt Lake City Radar group during the times he was asked to work with the updates.

He stated they supported updates to the TDWR, in March or April and changed the 2 elevation motors in the antenna; they have azimuth and elevation drive motors. It was part of corrective maintenance, and He stated they have to do a sun track in the morning and the evening to calibrate the equipment. He stated the corrective maintenance was usually done every 1 to 2 years, but the frequency depended on the quality of the parts supplied.

Asked if he had been contacted on the quality of weather and other data from ATC at Salt Lake and he stated that ATC would be going to the local techs, the radar automation group, for that and if the radar automation group needed additional support, they would call him to go assist.

He stated that if there were problems as far as the equipment and software that ATC notice that the local techs were supposed to work on them, and He would go assist them but cannot actually work on the equipment.

He stated that during the ATC in brief the morning this interview was conducted was the first he had heard from the intermittent communication issues with weather equipment on the day of the accident. He stated there were 2 FTI lines coming from the TDWR. One was main feed, and one was the back up. He stated he cannot say that the backup FTI line would have full data if one of the two lines went down.

Asked who could we [NTSB group] talk to in order to get technical information, he said someone in Tiffany Cheney; s group would know, it would be local. He stated his co-worker Brian would know but he went on emergency travel.

Asked do you know where the TDWR was located, he stated he did not know the TDWR' s exact location; that the TDWR was located toward Farmington toward one of the bird refugee areas, but he did not know the name of it, but that he would look on google.

He stated if there was a problem with the TDWR, if the tower cab noticed the issues, they would notify Winston Weiss' group, and they would create a trouble

ticket, and they would repair it. He will only get involved if they need help and cannot fix it.

He stated that they need a full day for corrective maintenance (on the TDWR), because they need to do a sun check morning and night. There was no backup for TDWR.

He stated for wind sensors, they should contact Paula's [Paula Fries] group, maybe radar group because some of the feeds feed into the radar. He then stated the TDWR was by Farmington Bay waterfowl reservation in Farmington.

He stated that he did not have contact with air traffic controllers.

Interview concluded at 1440.

Interviewee: Paula Fries
Representative: Mark Tomicich, FAA Attorney

Date/Time: September 8, 2022 / 1553 MDT
Location: Salt Lake City, UT
Present: Paul Suffern, NTSB
Scott Birch, NOAA
David Leslie, FAA
Sarah Lewis, NATCA
Albert Nixon, NTSB
Investigator: Betty Koschig

During the interview Paula Fries stated the following:

Her career began at the FAA in 1996, when she was hired to work at Oakland Bay TRACON. On February 20, 2000, she transferred to SLC , where she was currently employed. She was the SSC Manager for Navigation, Communication and Environmental at SLC.

She had prior military experience as an ET1 (Electronics Technician) in the U.S. Navy for 10 years and 10 months. She did not have any college degrees or other aeronautical certificates.

Her normal work schedule was Monday through Friday 0600-1430.

Asked what equipment she was in charge of as an SSC Manager, she said navigation, communication and environmental.

Asked out of that equipment what specific weather equipment. She said SWS (Surface Weather System) and RVR (Runway Visual Range).

Asked as far as SWS, if that would be centerfield wind, he said, yes.

Asked what a typical schedule or day was as far as maintenance on SWS, was there regular maintenance, he said that her techs maintain it, she would have to look at the technical documentation for periodicity for maintenance.

Asked as far as wind equipment, if that was the only wind equipment that her group works on, he said yes.

Asked how long she had been working here at Salt Lake, she said since February 2000.

Asked if there had ever been other wind equipment here at the airport, she said that they used to have WME (Wind Measuring Equipment).

Asked where it [WME] was located, she said a couple locations, the last was on the 16L glide slope.

Asked if it was removed, she said it was replaced with SWS which was an upgrade.

Asked if she could recall when the upgrade happened, she said approximately in the last 5 years.

Asked when the location was picked, since she was here, how was that determined, she said there was a site survey for the installation and the original intent was where the WME was, but because of the electrical they could not do that. It was determined that it go slightly to the east for power, so it was in line with where the glide slope was.

Asked who runs the site survey, she said engineering services. Asked if they were located locally, she said they get them out of Seattle and LA. Asked if they were FAA employees, he said yes.

Asked was there anybody from the Air traffic facility that had input on where the sensor was placed, ATM or LSC, he said she did not remember an air traffic role.

Asked if during her 20 plus years of experience at Salt Lake if there had been other occasions when air traffic requested other wind sensors to be located here, he said, yes in the SWS site survey phase, there was an explanation at the time and the ATM asked for 6 sensors, one at each glideslope.

Asked if she recalled why 1 was installed as opposed to 6, she the Program Office had determined it was a 1 for 1 replacement upgrade and did not have the funding for the expansion of the system.

Asked about one of the things she was in charge of being communications if it includes communications for the TDWR, he said, the demarc at the building, FTI which was the lines was a contractor.

Asked if she remembered intermittent communications outages with the TDWR or discussions about that and what they would have been, he said she was not involved.

Asked if she was involved with ITWS, she said, no it was maintained by radar.

Asked at the time of the SWS upgrade, what the previous ATM's name was, she said Jill Story.

Asked how long she had been SSC Manager, she said since April 2009.

Asked what her major responsibilities as an SSC Manager are, she said that her unit took care of infrastructure, 42 shelter and all the power and environmental that goes with that, lighted NAVAIDs, voice switch. If it needs power or needs to be cool, they do it.

Asked how many people she manages, she said currently at 14, full staffing was 16.

Asked if she was aware of any issues with the equipment that she was responsible for, of which she was aware, he said, no.

Asked if there were any major upgrades planned for this facility, weather equipment, he said, she was not aware of anything planned for weather equipment.

Asked who Danny and Tiffany work with, she said that Danny was radar and Tiffany was the radar manager.

Asked about the process for FTI lines for TDWR to get fixed, he said, they call the OCC; they would contact the FTI, they would take their line out and do their test. After the test, they would diagnose whether a technician would be dispatched.

Asked if she knew of any other requests for additional wind equipment, she said she did not know of any other requests. Last would have been the site survey that Jill requested the additional sensors in 2014-2017.

Interview concluded at 1612 MDT.

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

CESSNA 208B DAMAGED IN ACCIDENT
NEAR SALT LAKE CITY INTERNATIONAL
AIRPORT IN SALT LAKE CITY, UTAH
ON JULY 13, 2022

Accident No.: WPR22LA251

* * * * *

Interview of: CHRISTOPHER BOTTS, Air Traffic Controller
Federal Aviation Administration

Salt Lake City, Utah

FREE STATE REPORTING, INC.
Court Reporting Transcription
D.C. Area 301-261-1902
Balt. & Annap. 410-974-0947

APPEARANCES:

BETTY KOSCHIG, Air Traffic Control Investigator
National Transportation Safety Board

ALBERT NIXON, Investigator in Charge
National Transportation Safety Board

PAUL SUFFERN, Meteorologist Investigator
National Transportation Safety Board

SCOTT BIRCH, West Region Headquarters
NOAA National Weather Service

SARAH LEWIS, Air Traffic Controller
Oklahoma City

DAVID LESLIE, Air Traffic Manager
Las Vegas TRACON

BRIAN MURDOCK, Representative
Salt Lake TRACON

<u>ITEM</u>	<u>I N D E X</u>	<u>PAGE</u>
Interview of Christopher Botts:		
By Ms. Koschig		8
By Mr. Leslie		14
By Ms. Lewis		19
By Mr. Suffern		21
By Mr. Birch		26
By Ms. Koschig		29

I N T E R V I E W

MS. KOSCHIG: Thank you for being here. Appreciate you coming in to talk to us, because you've got all kinds of information we want.

MR. BOTTS: Okay.

MS. KOSCHIG: But before we get into that, I first want to introduce myself. I'm Betty Koschig, and I'm with the NTSB, and I'm an air traffic control investigator.

MR. BOTTS: Okay.

MS. KOSCHIG: And I am the air traffic control chair of this group, and I will -- this is, it's a little different, because we also have Paul, which, he will introduce himself. He is the group chair for the weather folks.

MR. BOTTS: Okay.

MS. KOSCHIG: And another person we have is the investigator in charge --

MR. BOTTS: Okay.

MS. KOSCHIG: -- which is Mr. Nixon, and we'll go around here in a minute and get each other's names and stuff.

MR. BOTTS: Okay.

MS. KOSCHIG: But first, I will let -- how about, Albert, you introduce yourself first.

MR. NIXON: Good afternoon.

MR. BOTTS: Hi.

MR. NIXON: I appreciate your time. Albert Nixon. I'm the

1 investigator in charge, as she mentioned, of this accident, so --

2 MS. KOSCHIG: Paul

3 MR. SUFFERN: Yeah, sure. My name is Paul Suffern. I'm a
4 meteorologist investigator with the NTSB. I've been here about
5 11 years. And before that, I worked for the National Weather
6 Service up in Alaska. And so, I'm the chair of the meteorology
7 group helping out, gathering information. You're the expert, so
8 I'm looking --

9 MR. BOTTS: Okay.

10 MR. SUFFERN: -- forward to learn.

11 MR. BOTTS: Okay.

12 MS. KOSCHIG: And I will -- how about if you go ahead --

13 MR. BIRCH: Certainly.

14 MS. KOSCHIG: -- introduce yourself, Scott.

15 MR. BIRCH: I'm Scott Birch. I'm with NOAA National Weather
16 Service. I'm here at the Western Region Headquarters here in
17 Salt Lake City.

18 MR. BOTTS: Okay.

19 MS. KOSCHIG: Okay. And the part of the ATC group, I will
20 let Sarah introduce herself.

21 MS. LEWIS: I'm Sarah Lewis. I've been a controller for
22 22 years. I started in '90, and then (indiscernible) to
23 Oklahoma City, where I am now. And I just help the NTSB on behalf
24 of the union for technicalities and to just be -- I'm a current
25 controller, so I know what the current rules are and whatnot, so

1 that's why I'm here.

2 MR. BOTTS: All right.

3 MR. LESLIE: And I'm Dave Leslie. I'm the air traffic
4 manager of Las Vegas TRACON. Kind of like Sarah, I'm here as
5 (indiscernible) to assist in the investigation.

6 MR. BOTTS: Okay.

7 MS. KOSCHIG: And, yeah, in this setting, we are the NTSB
8 (indiscernible), but we do rely heavily on our parties which have
9 the expertise. I mean, we can pull out regs, and we know
10 everything, but it's good to have people that have hands on. That
11 helps us. So, first of all, just to give you a little idea, the
12 NTSB is an independent agency. We're not part of the Department
13 of Transportation or the FAA.

14 So, the purpose of this investigation is to determine what
15 the probable cause of the accident is and to get the ATC end of it
16 to see, well, what's going on? What can -- is there any safety
17 issues? Is there anything that you guys can tell us that will
18 help (indiscernible) safety throughout, not just here, but
19 possibly through the NAS (ph.)? So, that's the reason we really
20 want to pick your brain to see what you guys know. So, we are
21 here, just to make clear, we're here for the Air Spur accident
22 that happened.

23 So, as part of this, what we're going to do is go around the
24 room, and when we start asking questions, I'll start out. You
25 know, then, we'll pass around to different people to ask questions

1 so we won't be talking all at the same time. But as far as the
2 audio recording's concerned, we will not be putting that audio
3 recording out to anyone. We are going to get a transcript. So,
4 everything is just going to be a transcript. The audio, no, it
5 goes. So, you don't have to worry about that ending up on YouTube
6 or something. Don't worry.

7 But, so, when we ask questions, sometimes, we're going to ask
8 questions that are you're going to think, well, you should know
9 the answer to that. But we don't want to put words in your mouth.
10 So, if they seem simple, you know, that's the reason. Also, if we
11 ask a question you don't know, say you don't know. If we ask a
12 question, you know, you're like you don't know what we're talking
13 about, say, can you please explain it, or, what are you taking
14 about?

15 MR. BOTTS: Okay.

16 MS. KOSCHIG: So, that's good. Any questions so far?

17 MR. BOTTS: Not so far.

18 MS. KOSCHIG: Okay. So, you have a representative, and I'm
19 going to let the representative introduce himself.

20 MR. MURDOCK: Yep. Brian Murdock, Salt Lake TRACON. I've
21 been here, I don't know, 14 years, something like that, so half of
22 those is the (indiscernible).

23 MS. KOSCHIG: Okay. And so, any question we ask is going to
24 be to you. If you want to talk to your rep, want to go out of the
25 room, take a break, discuss something, it's fine. If you just

1 want to take a break, it's fine. Just let me know.

2 MR. BOTTS: Okay.

3 MS. KOSCHIG: But hopefully, we won't be here that long.

4 MR. BOTTS: Yeah.

5 MS. KOSCHIG: So, yeah, all right, and I want to make sure I
6 said everything I'm supposed to say. Yeah. So, at this point, I
7 do want you to be comfortable. I know this is not something that
8 you got up this morning and said, yay, I get to talk --

9 MR. BOTTS: Right.

10 MS. KOSCHIG: -- so -- but we want you to be as comfortable
11 as possible, because we're not here to blame; we're here just to
12 find fact.

13 MR. BOTTS: Right.

14 MS. KOSCHIG: That's our whole mission.

15 INTERVIEW OF CHRISTOPHER BOTTS

16 BY MS. KOSCHIG:

17 Q. So, without further ado, what is your name?

18 A. I am Christopher Botts. B-O-T-T-S is the last name.

19 Q. Okay. And you'll see us taking notes, as well, just to make
20 sure, you know, in case something happens to the recording. What
21 are your operating initials?

22 A. Charlie X-ray.

23 Q. When did you start working for the FAA?

24 A. I was hired in May of 2008.

25 Q. Was that the academy?

FREE STATE REPORTING, INC.
Court Reporting Transcription
D.C. Area 301-261-1902
Balt. & Annap. 410-974-0947

- 1 A. That was the academy.
- 2 Q. Where did you go from there?
- 3 A. Maui was my first facility.
- 4 Q. Maui?
- 5 A. Um-hum.
- 6 Q. Wow. How long were you there?
- 7 A. Four and a half years, approximately.
- 8 Q. Where did you go from there?
- 9 A. Cape Cod, Cape TRACON.
- 10 Q. That's pretty nice places.
- 11 A. Yeah.
- 12 Q. How long were you there?
- 13 A. Two and a half years.
- 14 Q. And where did you go from there?
- 15 A. Salt Lake TRACON.
- 16 Q. And what year did you get here?
- 17 A. 2015. I think.
- 18 Q. Okay.
- 19 A. 2014 or 15.
- 20 Q. Okay.
- 21 A. Yeah.
- 22 Q. And you haven't gone anywhere else since you've been here?
- 23 A. I have not.
- 24 Q. Okay. Do you have any military time?
- 25 A. I do not.

1 Q. Any college?

2 A. Yes. I have a bachelor's degree from the University of
3 Georgia.

4 Q. What's that in?

5 A. My major was history. I minored in political science and
6 economics.

7 Q. Do you have any other aeronautical certificates?

8 A. I do not, and -- well, as far as like flight?

9 Q. Yes.

10 A. No, I don't.

11 Q. Yeah, other than just air traffic.

12 A. No, just air traffic.

13 Q. Do you have a current medical?

14 A. I do.

15 Q. Any restrictions?

16 A. Glasses.

17 Q. Did you have your glasses on at the time of the accident?

18 A. I did.

19 Q. Who's your supervisor?

20 A. Kurt Walker (ph.)

21 Q. Are you qualified and certified on every position now in the
22 TRACON?

23 A. I am.

24 Q. I have to ask. You current in every one?

25 A. I am.

1 Q. What position were you working at the time of the accident?

2 A. Final.

3 Q. What's your normal shifts, the weekly shifts?

4 A. Typically, we start late on our first day back, so 3:15 to
5 11:15. And by the end of the week we're working early, 6:00 a.m.
6 to 2:00 p.m.

7 Q. And what are those days that you start off at 3:00?

8 A. 3:15, Monday would be my -- I'm off on weekends.

9 Q. Oh, oh, very good.

10 A. Yeah.

11 Q. You've got seniority, huh?

12 A. I do.

13 Q. All right. Were you working your normal shift the day of the
14 accident?

15 A. I was.

16 Q. Do you work overtime?

17 A. I'm on the no overtime list, but I do occasionally get
18 assigned overtime.

19 Q. And how often do you end up working overtime? How many times
20 a month or year?

21 A. Every couple of months, I have one shift.

22 Q. Okay. So, I think those are the basic questions that I need.
23 So, now, let's talk about the accident, the day of the accident.
24 And you can start out at any point that you feel comfortable
25 talking about, how long you were down in the TRACON before the

1 accident occurred, how long you were on position, what you recall
2 about what was going on, anything like that.

3 A. Okay.

4 Q. And I'll let you just start filling that in.

5 A. Okay. It was a normal summer day where thunderstorms are
6 developing. There's convective activity, and we kind of know that
7 it's coming, but not there yet.

8 Q. Yeah.

9 A. I believe I was in the last hour of my shift when the
10 accident occurred. It was my last stint on position. I think I
11 had been on position for about half an hour when it happened.
12 Worked a few people in, and, you know, it was a period of time in
13 the evening when we have cargo aircraft coming in, lots of
14 smaller, propeller-driven aircraft, and I worked a couple in
15 before the aircraft in question. And, you know, when something
16 like this is developing, it typically develops southwest of the
17 airport and moves northeast over the airport. I was able to get a
18 few of the guys in on fairly short approaches to get them in in
19 front of the weather, and I was thinking that the same thing was
20 going to occur with the Air Spur. We got a wind shear report from
21 the tower that they called down; and then, I had Air Spur on the
22 visual approach shortly after I switched them to the tower. We
23 had either a wind shear or a microburst. I don't remember.

24 MR. BOTTS: Do you remember which one it was, wind shear or
25 microburst?

1 MR. MURDOCK: Might have been both.

2 MR. BOTTS: Yeah.

3 MR. MURDOCK: Because it was for --

4 MR. BOTTS: I believe the first alert was a wind shear alert,
5 and the next one was a microburst alert. That went off after I
6 switched the Air Spur to the tower. And then, I got a call from
7 the tower that he had crashed on the runway.

8 BY MS. KOSCHIG:

9 Q. Okay. And you said the tower called down to give you a wind
10 shear?

11 A. Correct.

12 Q. Okay. Is that how you normally --

13 A. If they get one that is reported to them by a pilot that
14 we're not getting off of the equipment, then they will call down
15 and pass that on. They're not going to call down if it's going
16 off if the equipment's going off, obviously.

17 Q. Do you recall anything after that, or -- how long were you on
18 the position after that?

19 MR. BOTTS: Isn't that what I asked, to be taken off? I
20 finally got put on Jordan?

21 MR. MURDOCK: Yeah.

22 MR. BOTTS: Yeah.

23 MR. MURDOCK: Unfortunately.

24 MR. BOTTS: Everybody else kind of went into holding, and I
25 asked to not be working aircraft anymore. I said, can I be put on

1 a dead sector, basically just, yes, a placeholder.

2 BY MS. KOSCHIG:

3 Q. Okay.

4 A. If I have to stay in the room.

5 Q. Exactly. And you just finished up the rest of the shift,
6 just --

7 A. I got held over for almost two hours of overtime, if I recall
8 correctly, so that I could be talked to by the operations manager.

9 MS. KOSCHIG: Okay. I'm going to let other people ask some
10 questions. David, do you want to start at this time?

11 MR. LESLIE: Sure.

12 BY MR. LESLIE:

13 Q. So, on your NIDS, when you get a wind shear alert, does it
14 display on the NIDS?

15 A. Not always, but usually.

16 Q. Do you look at the NIDS for the wind shear alert --

17 A. No, we have a different --

18 Q. -- or do you look at the --

19 A. Yeah, the --

20 Q. -- the Ribbon display?

21 A. The Ribbon display, correct.

22 Q. Okay.

23 A. And that goes off very loudly, so it's very hard to miss.

24 Q. Okay. When you get ATIS code changes for Salt Lake, how does
25 that get to you?

- 1 A. The NIDS.
- 2 Q. Okay.
- 3 A. Yeah, it flashes.
- 4 Q. Yeah. And then, you acknowledge?
- 5 A. Correct.
- 6 Q. Okay. What is your expectation of the pilot when you
- 7 announce an ATIS code change? So, if you're getting multiple ATIS
- 8 code changes, what is your expectation of the pilot when you
- 9 announce those?
- 10 A. That he's going to go and listen to the new ATIS.
- 11 Q. Okay.
- 12 A. Or she.
- 13 Q. Let me ask you about runway configuration changes. So, how
- 14 do you feel you guys do in anticipating runway configuration
- 15 changes? So, do you plan? Is it kind of a last-minute --
- 16 A. No, it's definitely --
- 17 Q. -- type change?
- 18 A. -- planned, and, you know, as best we can, they occur in
- 19 periods of light traffic. We don't try to change the
- 20 configuration of the room when the airspace is full of airplanes.
- 21 Q. Okay.
- 22 A. I feel like they go very smoothly, and they're very well
- 23 planned.
- 24 Q. Typically, you don't wait for --
- 25 UNIDENTIFIED SPEAKER #1: Are you talking about runway

1 changes direction north to south, or --

2 MR. LESLIE: Yeah, configuration change.

3 UNIDENTIFIED SPEAKER #1: Okay.

4 MR. BOTTS: Yeah.

5 UNIDENTIFIED SPEAKER #1: Yeah.

6 MR. LESLIE: Okay.

7 UNIDENTIFIED SPEAKER #1: Not from --

8 MR. BOTTS: That was my understanding.

9 UNIDENTIFIED SPEAKER #1: -- instrument to visual --

10 MR. BOTTS: No.

11 UNIDENTIFIED SPEAKER #1: -- approaches? Okay.

12 MR. BOTTS: Configuration changes.

13 UNIDENTIFIED SPEAKER #1: Right.

14 BY MR. LESLIE:

15 Q. Yep, yeah. So, you guys don't wait until you have a bunch of
16 go-arounds, and then ultimately --

17 A. No.

18 Q. -- make the switch?

19 A. That's not --

20 Q. It's very (indiscernible)?

21 A. That's not ordinary. That has happened when the wind shifted
22 from outflow from a storm, let's say, and there was just nothing
23 to be done. That's what happened, you know. But that is not the
24 ordinary course of a runway change here.

25 Q. Okay. How would you describe Air Spur as far as how they

1 operate in weather? Do they tend to be more conservative with
2 weather, or are they more aggressive?

3 A. In my opinion, I would say they were a little bit more
4 aggressive.

5 Q. Okay.

6 A. Less so now than previously. I would say they're becoming
7 more conservative.

8 UNIDENTIFIED SPEAKER #2: Since the accident?

9 MR. BOTTS: No, we never know. Over the past several years.
10 They used to, for instance, cancel VFR, and they don't do that
11 anymore.

12 MR. LESLIE: Okay.

13 MR. BOTTS: Or, cancel IFR and go VFR.\

14 BY MR. LESLIE:

15 Q. Do you tend to give them short approaches, whereas other
16 similar type IFR aircraft, you wouldn't?

17 A. I don't give anyone a short approach. I clear them for a
18 visual. If they choose to perform a short approach, then that's
19 up to them.

20 Q. Okay.

21 A. I don't force anyone into a short approach, certainly not as
22 a radar controller.

23 Q. With regard to PIREPs, how do you guys handle PIREPs? So,
24 you get a PIREP from an aircraft. Say, they say they have
25 windshear.

1 A. Okay.

2 Q. Just walk me through the process.

3 A. So, we have a form that we fill out that I'm pretty sure is
4 standard. It nears what is in the computer where we enter it.
5 The controller that's working fills out the PIREP. Whoever has
6 flight data responsibility, whether that's a flight data
7 controller or the supervisor, we pass the PIREP to them. They
8 enter that into the system. And I believe our SOP is for them to
9 ask the controller if they want the form back. Only a couple of
10 people do that, but that is the SOP.

11 Q. Okay. Do you guys put any of the PIREP information into the
12 NIDS to disseminate it?

13 A. Whether or not PIREPs are a required condition is in the
14 NIDS.

15 Q. Okay.

16 A. And when the last time a PIREP was collected, or PIREPs
17 were -- or, for PIREP conditions.

18 Q. Yeah.

19 A. That is in the NIDS, as well.

20 Q. Who enters that?

21 A. Whoever has the flight data responsibility, whether that be
22 flight data, or the supervisor, or the CIC.

23 MR. LESLIE: Okay. All right. I think that's all I have for
24 now.

25 MS. KOSCHIG: Okay. Sarah?

1 BY MS. LEWIS:

2 Q. Do you remember seeing or issuing any microburst alerts that
3 day?

4 A. After the accident, yes.

5 Q. Okay. Do you recall whether it was shortly afterwards, or
6 was it a little bit later?

7 A. No, it was almost -- well, I wouldn't say almost immediately,
8 but very soon after.

9 Q. When you get that information, where do you get that
10 information from?

11 A. The Ribbon display.

12 Q. Okay, and does that make any kind of different kind of noise
13 when a microburst shows up versus a wind shear alert?

14 A. No, it's the same.

15 Q. How do you feel about that?

16 A. I mean, my requirement is to look up and read that off so I
17 have that information. I don't feel like, if the noise were
18 different, that I would feel differently about it. I mean, I'll
19 be like, oh, goodness, that's a microburst, that's -- you know.

20 Q. Right, right.

21 A. I'll see that. I don't think anything should change, if
22 that's what you're asking.

23 Q. Okay. No, that's great, thanks. Why did they not relieve
24 you completely from duty after the accident? Was it a staffing
25 issue?

1 A. I don't know.

2 Q. Okay.

3 A. I can tell you that more than one controller in the room was
4 not satisfied with that outcome.

5 Q. Okay.

6 UNIDENTIFIED SPEAKER #3: Can I ask one?

7 MS. LEWIS: Yeah.

8 BY UNIDENTIFIED SPEAKER #3: Was there a CIC, or --

9 MR. BOTTS: No, it was --

10 UNIDENTIFIED SPEAKER #3: -- who was in charge?

11 MR. BOTTS: -- a supervisor.

12 MS. LEWIS: Okay, thank you.

13 BY MS. LEWIS:

14 Q. You mentioned that sometimes, on a NIDS display, that
15 sometimes, the wind shear alert box doesn't necessarily come up.
16 Can you explain that a little bit to me?

17 A. I didn't know that it was supposed to do that. I thought
18 that was a malfunction, because it doesn't happen very regularly.
19 We have the Ribbon display up there, but there's another box that
20 pops out sometimes. I just didn't think it was supposed to do
21 that. Like I said, I thought that was a malfunction.

22 MS. LEWIS: Oh, got you. Okay. I think that's what I have
23 for right now.

24 MS. KOSCHIG: Okay. Paul?

25 MR. SUFFERN: Sure.

1 BY MR. SUFFERN:

2 Q. Thanks again for your time, Chris. I just want to step
3 through a couple of weather things here just to understand and to
4 piggyback a little bit on what Sarah was asking about the alert.
5 On the day of the accident, you mentioned the wind shear and the
6 microburst alert. Both of those, you received from the Ribbon
7 display?

8 A. Correct.

9 Q. So, the Ribbon -- so, the second alert was a microburst from
10 the Ribbon display?

11 A. Correct.

12 Q. Okay. Could you -- if you can recall at this point. I know
13 it's a month and a half later. Can you recall what the STARS
14 showed as far as precipitation?

15 A. The STARS display was intermittent. It wasn't always
16 displayed. I was told later that it was a known thing that when
17 the weather was displayed, it was reliable.

18 Q. Okay.

19 A. But that was afterwards, again. I was under the impression
20 that the weather was not reliable, and that it was a known issue,
21 and that there was a part on order.

22 Q. Okay. So, this was on the accident day. How long before the
23 accident day had this type of issue been -- had you been made
24 aware of? Like, has it been a week it had been out, or two --

25 A. I don't recall exactly --

1 Q. Okay.

2 A. -- but I would say two weeks, something like that.

3 MR. BOTTS: Do you remember?

4 MR. MURDOCK: I mean, I could give my opinion. I don't think
5 it was that long.

6 MR. BOTTS: Okay.

7 MR. MURDOCK: A week to two weeks.

8 BY MR. SUFFERN:

9 Q. Okay. And so --

10 A. It wasn't just that day.

11 Q. Yeah. Okay. No, that's great. And so, for that one- to
12 two-week period or whatever that period was, did you just -- did
13 it concern you as far as providing weather information to the
14 pilots because you didn't know what --

15 A. Absolutely.

16 (Crosstalk)

17 A. Yeah. It was -- again, it's the time of year when we get
18 thunderstorms in. We're in a valley between two large mountain
19 ranges, and when convective activity happens here, it's pretty
20 serious.

21 Q. So, outside of precipitation that's displayed on the STARS
22 there, do you have any other tools right there in your scan to see
23 precipitation at all?

24 A. That is -- for precipitation.

25 Q. Yeah. That's it. We were able to go ahead and tour the

1 TRACON. It's a very nice setup downstairs. And we saw kind of
2 where the ITWS displays are. I know that's definitely well out of
3 the scan. Would it be your expectation, if something popped up on
4 the ITWS that a (indiscernible) or a CIC, or the TMU would come
5 tell you about that, or --

6 A. No --

7 Q. No?

8 A. -- it would not.

9 Q. Okay. So, in your experience here, they never came and told
10 you, hey --

11 A. I don't like to use the word never --

12 Q. Okay.

13 A. -- but I don't recall a time when they have.

14 Q. Okay. Give me your opinion on the pre-duty weather
15 briefings.

16 A. I'll watch them, because I'm required to do so, and I don't
17 like to sign things that I don't actually do. They're intended
18 for the Center. They're not a terminal product. I would love it
19 if we had something that was more tailored towards the TRACON.
20 There's occasionally some useful information in there about smoke,
21 or possible thunderstorms, or wind shifts, or things like, but
22 it's, I would say, more rare to get useful information from the
23 weather briefing than the other way around.

24 Q. Okay. What is the most -- if you had one product that's most
25 useful to you in that --

1 A. The TAF.

2 Q. TAF? Okay.

3 A. Yeah.

4 Q. Could you -- I'm trying to figure out the correct way to
5 phrase this, so give me a second. As far as calling the weather
6 when you see it on STARS and such, can you kind of step me through
7 the process about calling the weather, you know, to an aircraft
8 that's coming in on final?

9 A. Yeah. You would tell them where it's located and the
10 intensity. All we know is -- all that we get is precipitation, so
11 you'd say there's an area of light to moderate precipitation
12 12 o'clock four miles, extends for 15 miles along your flight.

13 Q. Okay you occasionally use phraseology like, you know, over
14 the airport, or over --

15 A. Oh, sure.

16 Q. -- a certain BOR (ph.), or something like that?

17 A. Absolutely.

18 Q. Okay. Is that kind of a standard practice?

19 A. It is.

20 Q. Okay. Or you heard from at least one of the tower
21 folks -- you all have a local safety council. Are you part of the
22 local safety council?

23 A. I'm not.

24 Q. Okay. I'll use my favorite word, a bazillion. If you
25 had a bazillion dollars, and you could have any weather tool that

1 you do not currently have, what kind of tool would you like to
2 have?

3 A. I'm not familiar with things that I haven't worked with, so I
4 don't know. I would love to be able to try out some other
5 products to see what I thought about them, but, you know, I don't
6 know.

7 Q. And as far as training on the weather products that you do
8 have, how often or have you received training on --

9 A. I have, and we do have recurrent training about weather every
10 six months to year, definitely. When we change seasons, there's a
11 refresher.

12 Q. Okay. And what kind? Is that computer-based? Is that -- I
13 mean, I know we're still in and out of COVID and all things like
14 that, and so --

15 A. Sure.

16 Q. -- probably not in-person, but is it --

17 A. It is in-person now.

18 Q. Okay.

19 A. We're back to in-person. We just had recurrent training over
20 at Salt Lake Center yesterday with the tower. The TRACON and
21 Center control was all involved. I would assume that our
22 refresher training will be in-person again now, as well.

23 Q. Okay. And who gives the weather --

24 A. The refresher training for the weather?

25 Q. Yeah.

1 A. Someone from the second floor here. We have several people.

2 Q. Okay.

3 A. Duke Potter (ph.). Amy Lawson (ph.) was giving those for a
4 little while, but she's no longer employed here. Tim Henderson
5 (ph.) is another guy that gives briefings. So, somebody from that
6 office across the way, there.

7 Q. Okay.

8 A. And then, we also do have computer-based usually for the
9 season changes, a refresher course of some sort.

10 Q. And as a learning tool for you, which one -- is in-person
11 better? Computer-based? Which is the better learning tool for
12 you?

13 A. For me, in-person, I would say.

14 MR. SUFFERN: Okay. Great. That's all the questions I have
15 for right now. Thanks, Chris.

16 MR. BOTTS: You're welcome.

17 MS. KOSCHIG: Scott?

18 MR. BIRCH: Thank you.

19 BY MR. BIRCH:

20 Q. As usual, these folks covered most of the things I wanted to
21 ask, and, now, bear with me. Being National Weather Service, some
22 of these systems that you're talking about, I'm not familiar with.

23 A. Okay.

24 Q. And we call them different things.

25 A. Sure.

1 Q. So, you know, basic wind information, not necessarily the
2 alert, but just your normal wind information, how do you see that
3 in your position?

4 A. So, that -- do you know what the NIDS is?

5 Q. I don't know. I've heard it talked about --

6 A. Okay.

7 Q. -- a lot, but --

8 A. Did you tour the TRACON yesterday?

9 Q. Yes.

10 A. You noticed the screens that are above every radar scope that
11 show the ATIS codes and the METAR?

12 Q. Okay.

13 A. There's also a wind display for the airport --

14 Q. Okay.

15 A. -- up there.

16 Q. I do know what NIDS is, then --

17 A. Okay.

18 Q. -- but -- okay, so, that didn't -- we call it something else.

19 So, you mentioned STARS, and there was some intermittent issues.

20 How, normally, would you be informed if there were problems with
21 the STARS, either the intermittent issues or just other problems
22 that may pop up?

23 A. That would be logged in the IDS normally if there was an
24 abnormality or something and it wasn't functioning properly in the
25 systems area.

1 Q. So, is that a normal part of your routine? When you go on
2 shift, do you read the logs to see what outages there might be
3 there, or --

4 A. Yes.

5 Q. Okay.

6 A. The facility log? Is that what you're asking?

7 Q. Whatever log you're talking about where the --

8 A. Okay, the systems area on the IDS?

9 Q. Yeah.

10 A. Yes, we do check --

11 Q. Okay.

12 A. -- that regularly, yes. That's part of our pre-duty.

13 Pre-position checklist.

14 Q. In your position, would there be any time where you
15 coordinate with the Weather Service office, whether it be at the
16 Center weather, or the forecast office, or --

17 A. No, not directly.

18 Q. So, that'd be a supervisor?

19 A. That would be.

20 Q. And then, so, they would pass along information such as if
21 there was a wind shift coming that you need to know about --

22 A. They could call --

23 Q. -- they would --

24 A. -- the Center weather unit and discuss it with them.

25 Q. Okay.

1 A. Yeah.

2 Q. Are you familiar with airport weather warnings? Would you
3 see those at your position?

4 A. I'm not familiar.

5 MR. BIRCH: Okay. All right. The other questions, you've
6 covered, that I had, so I don't have any further ones.

7 MS. KOSCHIG: Okay. I've got one.

8 BY MS. KOSCHIG:

9 Q. Do you have any wind sensors there on the airport?

10 A. I have no idea.

11 MS. KOSCHIG: Okay. Yep, Albert, please.

12 MR. NIXON: I've just got a couple for clarification, there,
13 Christopher.

14 BY MR. NIXON:

15 Q. You mentioned corporate air or whatever is addressing -- you
16 know, getting better, but it was aggressive, and you mentioned one
17 example of IFR cancelling VFR.

18 A. Right.

19 Q. Is there any other -- something you can give an example of
20 that you --

21 A. Sure.

22 Q. -- aggressive?

23 A. If there's nobody else around, let's say, and I have no rules
24 constraining me for what I can do with an Air Spur, and they're
25 next to the airport in the downwind, and I clear them for a visual

1 approach next to the airport, my expectation, and I'm not saying I
2 want them to do this, but they're going to turn base about 2 miles
3 south of the airport from 11,000 feet and make a 7,000-foot
4 descent very, very rapidly.

5 Q. Okay. So, that's part of what you're basing on the --

6 A. Yes.

7 Q. -- aggressive -- okay. So, they do a pretty good --

8 A. Right.

9 Q. -- descent and turn at the same time.

10 A. Right. And I've asked before, if I had to hold one of them
11 up because we had marginal weather and I was trying to keep
12 getting visual approaches off the (indiscernible), how high can
13 you be, how close to the airport? And they said they could be
14 over the inner marker, or the final approach (indiscernible),
15 rather. So, in a 6-mile final of 11,000 feet, they could make
16 that descent 4,400 feet.

17 Q. Interesting. Wow.

18 A. Yeah.

19 Q. And have you ever had one on the final where you thought it
20 was a little bit erratic for your --

21 A. Erratic? No, I wouldn't say so.

22 Q. Kind of higher, you know. Maybe on course, but a little bit
23 too high or anything like that and descend --

24 A. Yeah, I --

25 Q. -- rapidly?

1 A. Like, I don't know how he's making it down, type of thing?

2 Oh, yeah. And then, they've landed fine.

3 Q. Okay. Got you. Okay. And then, now, you said you've been
4 here, I think it was, 2014/2015, correct?

5 A. Somewhere in that --

6 Q. Somewhere in that time frame?

7 A. Yeah. Several years.

8 Q. So, you've been here several years. You mentioned you got
9 the wind shear warning, and you also got the microburst. Let's
10 start with the wind chill. How common is that that you get that,
11 normally?

12 A. Fairly common when we have convective activity.

13 Q. So, give me an average for the summer months. What would you
14 say, roughly?

15 A. I mean, we'll have -- we had a period of two weeks where it
16 was almost every day.

17 Q. Okay. But it's not unusual in --

18 A. Oh, no.

19 Q. -- summer? Okay. Then --

20 A. No.

21 Q. -- same question on the microburst warning.

22 A. Not as common, but not completely uncommon. Several times
23 this summer, I would say, we would be microburst alerts.

24 Q. Because you've seen -- it's not common, but nevertheless,
25 you've seen a few in your time there, basically?

- 1 A. Yeah.
- 2 Q. Okay.
- 3 A. Yes, sir.
- 4 Q. Got you. Okay. And then, when you get those, I know they
- 5 come -- they call it the Ribbon or something, and we already
- 6 talked about -- I understand they're all the same color, and
- 7 they're the same audio, correct?
- 8 A. Correct.
- 9 Q. I just want to make sure. And everything's the same,
- 10 basically --
- 11 A. Yeah.
- 12 Q. -- except, obviously, the wording of it, but --
- 13 A. Right.
- 14 Q. -- do they give details on them, too, or is it just --
- 15 A. It tells you if it's a gain or a loss and the magnitude.
- 16 Q. Magnitude? Do you remember, on the wind shear, previous to
- 17 the accident, what it was --
- 18 A. No, I don't.
- 19 Q. -- the details?
- 20 A. I don't.
- 21 Q. Did it have some, though? Do you remember if it had some
- 22 details --
- 23 A. It did.
- 24 Q. -- associated? Okay.
- 25 A. Yeah. It was --

1 Q. And thinking of the microbursts, does it do the same thing,
2 if you know?

3 A. It does. I mean, typically, it'll be the same information as
4 a wind shear. It'll just be bigger.

5 Q. Yeah. It would increase, obviously, (indiscernible). It's
6 not the good the good one to increase.

7 A. Right.

8 Q. Okay. I just wanted to -- but once again, you don't remember
9 any specifics on the --

10 A. Unfortunately --

11 Q. Okay.

12 A. -- I do not.

13 Q. Got you. Okay. And the previous airplane on that runway, I
14 believe, was a Delta, but it was definitely a 757.

15 A. Boeing 757.

16 Q. Do you remember if you got any wind shear or microburst
17 warnings on that one on its final?

18 A. He was before the -- now, all of the wind shear and
19 microburst alerts came after I shifted the Air Spur to the tower.

20 Q. Okay. So, you didn't stay for the -- you don't believe you
21 saw any for the previous airline?

22 A. I don't think so.

23 Q. Okay. Got you. And then, I know you kind of said you
24 couldn't tell the timeline, but do you remember the wind shear,
25 was he getting several on final, or just one only?

1 A. Who's he?
2 Q. The Air Spur.
3 A. I don't know that the Air Spur got any.
4 Q. Any?
5 A. Yeah.
6 Q. Okay.
7 A. Like I said, by the time that happened, he was talking to the
8 tower.
9 Q. Tower. Okay. So, you think it happened -- before you handed
10 him off, you don't remember seeing those?
11 A. No, I do not remember --
12 Q. Okay.
13 A. -- that --
14 Q. Okay. That same thing --
15 A. -- happening.
16 Q. -- goes with the microburst?
17 A. Correct.
18 Q. You said it was after the accident, but you don't remember
19 the time frame.
20 A. It was after I transferred communications with the Air Spur
21 to the tower. I don't remember if it was after the accident --
22 Q. Okay.
23 A. -- but it was --
24 Q. Do you remember about the approximate time frame, like
25 30 seconds, a minute, or do you have any reference --

- 1 A. I would say --
- 2 Q. -- or anything like that?
- 3 A. -- within a minute.
- 4 Q. Within a minute?
- 5 A. Yeah.
- 6 Q. Okay. And that's for microburst?
- 7 A. No, wind shear.
- 8 Q. Wind shear. Okay.
- 9 A. And then --
- 10 Q. How about the microburst one?
- 11 A. I don't remember when it went from wind shear to microburst.
- 12 I don't remember the time frame.
- 13 Q. Okay. Got you. And then, you mentioned, I think you had to
- 14 go -- your supervisor read -- how did you know the accident
- 15 occurred? Just curious. The tower call?
- 16 A. The tower called down and said, nobody else is going to land
- 17 on runway three, four left. Air Spur crash on the runway. And I
- 18 said, he crashed on the runway? And they said, yes. And I said,
- 19 okay.
- 20 Q. Okay.
- 21 A. And then, I turned to my supervisor, and I said, can you find
- 22 out if the pilot's okay?
- 23 Q. Okay. So, that's when you had the conversation. And then --
- 24 A. Yes.
- 25 Q. -- one last question. Somewhere earlier, we were talking,

1 and you said you got a wind shear kind of like a verbal. I don't
2 think -- I'm assuming a call --

3 A. Correct.

4 Q. -- from tower. Do you remember, was there details associated
5 with that, or was it just, there's a wind shear?

6 A. They told me that there was a gain or a loss on how long of a
7 final, and I don't remember exactly. But yes, there were some
8 details.

9 Q. They gave some details to it?

10 A. They did, they did.

11 Q. Okay, okay. All right. And do you remember where the Air
12 Spur was when you got that phone call, Chris?

13 A. If I recall correctly, he was talking to the tower.

14 Q. Okay.

15 A. But I --

16 Q. So, just --

17 A. -- don't remember exactly.

18 Q. You just turned him over, and you got the phone call,
19 basically?

20 A. I think so.

21 MR. BIRCH: Okay. Okay, that's the questions I've got, thank
22 you.

23 MS. KOSCHIG: Okay. I think I just have one more.

24 BY MS. KOSCHIG:

25 Q. It's just weather equipment stuff. Other than on the STARS,

1 do you have any other way of looking at what convective activities
2 in the area? Like, do you have any other sort of radar display
3 that would help you see other than on the STARS?

4 A. No.

5 Q. Okay. Do you feel that it may be helpful to you guys to have
6 something --

7 A. I mean, it's never bad --

8 (Crosstalk)

9 A. -- to have a backup, right, right, if one thing's not
10 working?

11 Q. Okay.

12 A. So --

13 MS. KOSCHIG: Okay. Thanks.

14 BY UNIDENTIFIED SPEAKER #4:

15 Q. Do you find that the weather on the STARS is pretty accurate
16 compared to pilot reports?

17 A. That's a good question. When there's actually weather, I
18 feel like the STARS is fairly accurate. Sometimes, it will show
19 things as being precipitation that is not actually there. But
20 that's fairly rare.

21 Q. How about with wind shear alerts? When you're seeing wind
22 shear alerts on the Ribbon display, does that usually coincide
23 with pilot reports of --

24 A. Yes.

25 Q. -- wind shear? Okay.

FREE STATE REPORTING, INC.
Court Reporting Transcription
D.C. Area 301-261-1902
Balt. & Annap. 410-974-0947

1 A. Yes.

2 UNIDENTIFIED SPEAKER #4: That's all I've got.

3 MS. KOSCHIG: Paul?

4 MR. SUFFERN: All the questions we have.

5 MS. KOSCHIG: Okay. Scott?

6 MR. BIRCH: No, ma'am.

7 MS. KOSCHIG: Albert?

8 MR. NIXON: I'm good.

9 MR. BOTTS: Okay.

10 MS. KOSCHIG: Any questions for us?

11 MR. BOTTS: I don't believe so.

12 MS. KOSCHIG: Okay. No either ways, huh? Okay. Then, we'll
13 go ahead and end the interview, and I'll stop the recording.

14 MR. BOTTS: Okay.

15 (Whereupon, the interview was concluded.)

16

17

18

19

20

21

22

23

24

25

CERTIFICATE

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

IN THE MATTER OF: CESSNA 208B DAMAGED IN ACCIDENT
NEAR SALT LAKE CITY INTERNATIONAL
AIRPORT IN SALT LAKE CITY, UTAH
ON JULY 13, 2022
Interview of Christopher Botts

ACCIDENT NO.: WPR22LA251

PLACE: Salt Lake City, Utah

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.



Lisa D. Sevarino
Transcriber