

Factual Report – Attachment 2

Summary of an interview conducted with the National Weather Service meteorologist who wrote the Aviation section of the Area Forecast Discussion issued at 0429 and 0933 PST on February 23, 2019, by the National Weather Service Weather Forecast Office in Reno, Nevada.

METEOROLOGY

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*Submitted by: Mike Richards
NTSB, AS-30*

Interviewee: Zach Tolby
Representative: Jon Mittelstadt, Meteorologist in Charge, National Weather Service (NWS) Weather Forecast Office (WFO), Reno, Nevada
Date / Time: March 28, 2019 / 0800 Pacific daylight time (PDT)
Location: Telephone
Present: Mike Richards, NTSB; Brian Hirsch, NWS
Investigator: Mike Richards

During the interview Mr. Tolby stated the following:

He has been a journeyman forecaster at NWS WFO in Reno, Nevada, for 4 years but has been at the Reno WFO for 8 years. Prior to that time, he had experience in the Sierras in the ski industry and was involved with the ski patrol, which led to an interest in avalanche control and weather and his return to college. He received a degree in Meteorology from the University of Nevada, Reno. He has lived in the Reno area for the last 18 years.

He stated he was aware of the accident from watching it on TV and was familiar with the accident aircraft's diversion to the Reno airport and the images of its overturned service cart.

Regarding his routine for developing parts of the Area Forecast Discussion (AFD) when working an overnight shift, he has a lot of responsibility. The discussion part of the AFD is written close to the end of when it is due, around 0330. He usually allows 30 to 45 minutes to write the aviation and long term sections of the AFD. On the morning of the accident, he had the forecast responsibility for the long term forecasts, the Terminal Aerodrome Forecasts (TAF) and the AFD. Mr. Tolby recalled an emphasis on the first 12 to 18 hours of the forecast as they were looking at a very active weather situation that day. He noted one of the things they will do at the Reno WFO is to add a broader forecast discussion for aviation than what is found in the TAFs due to feedback they have received from their aviation customers.

When developing the aviation section of the AFD, he will review other parts of the forecast and look at model output and in-situ observations to assess the current situation and overall general pattern. On the day of the accident there was a pretty extreme situation happening with the Pacific storm impacting the region. When considering the aviation forecast on the accident day, he was looking mostly at the ridgetop winds which were "really howling."

At the Reno WFO they look to create a "well rounded" forecast focused mostly on the surface but they also look at mountain obscuration and things which pilots might encounter prior to arriving at the TAF site. When writing the aviation section of the AFD, he will pretty much try to speak to the environment as it applies to all operations (e.g., high and low altitude, commercial and general aviation). He is probably a little more focused on the surface but also tries to hit other impacts.

He does not have much of any direct communication with the Center Weather Service Unit (CWSU) at the Oakland Air Route Traffic Control Center (ZOA) and indicated that his WFO communicates with neighboring WFOs on a more regular basis on the coordination of watch and warning products. For coordination between NWS offices he routinely used the collaborative

software on the Advanced Weather Interactive Processing System (AWIPS) and kept NWSChat open for communicating with external customers (e.g. TV meteorologists) but no one at the Reno WFO really used NWSChat. He could not recall but did not believe the ZOA CWSU was one of the chatrooms he routinely joined on shift. Regarding collaboration of aviation forecasts and information, he would not collaborate with the CWSUs much “because I see their role as upper air and ours as the local terminals.” His WFO does not have any routine communications with the CWSUs regarding the TAF and no routine coordination regarding instrument flight rule (IFR) or other conditions. The CWSU is not one of the first things on his mind. There is no communication or coordination with the Aviation Weather Center and he does not always monitor products like the SIGMET, AIRMET and Center Weather Advisory when writing the aviation section of the AFD, but they are products he looks at.

Aside from the AFD, there is no other product issued by his WFO that explicitly discusses turbulence, however the TAFs can include low level wind shear.

Regarding how often in their Country Warning Area they deal with embedded convection, it depends on the year but that this winter had been very active. He sees more embedded convection in the spring time but this winter it occurred a good handful of times. He has been trying to make sure to add it into the forecasts (e.g., including chance of thunderstorms in the “point and click” forecasts) because lightning makes people in the ski industry very nervous.

Regarding the AFD, the Reno WFO Aviation Focal Point had recommended that forecasters discuss more than just what’s happening at the terminals and speak more to all the different people that were reading the product to help in their decision-making. He had spoken with Truckee airport (TRK) and they were looking for more equipment to monitor wind along the ridge lines. They would read the TAF and believe it wasn’t windy along the ridges and get into trouble when they encountered strong winds.

Regarding the use of the phrase “particularly dangerous situation” (PDS) in the aviation section of the AFD published about 0430 PST on the morning of the accident, he had never used that term in an aviation product before. He had adapted it from their local use in fire weather products. In his area they only have the Red Flag Warning product to alert people to fire danger, but in extreme situations they will use the PDS phrase as a bulletin on the top of the product to get people’s attention and to let them know that it is not a standard warning.

There were two main things that alerted him that the accident day was not going to be a normal day. One was that the overall magnitude of the wind in the overnight sounding was about 190 knots and those winds were perpendicular to the Sierra Nevada mountain range. The other was the “phasing together” of the polar and subtropical jet streams. As far as he has seen, this was one of the more extreme events. He wanted to get people’s attention to this event. His mother was a private pilot, and in the past, he had personally witnessed a scary incident where he believed a plane was going to crash, and this might have played a role in his desire to get people’s attention to the hazardous conditions present on the accident day. The lee of the Sierra Nevada mountain range can be dangerous for aviation.

Interview concluded about 0845 PDT.