

Factual Report – Attachment 1
Interview Summaries and Record of Conversation

AIR TRAFFIC CONTROL

CEN18FA371

Interviewee: Peter Merriman

Representative: Brian White – NATCA Facility Representative (FACREP)

Date / Time: September 7, 2018 / 1500 eastern daylight time (EDT)

Location: Cleveland Air Route Traffic Control Center (ZOB)

Present: Michael Richards – NTSB, Brent Eberhart – FAA, Bryan Roberts – NATCA

Investigator: Brian Soper

During the interview, Mr. Merriman stated the following:

His air traffic control (ATC) experience began in August 2008 at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial ATC training he was assigned to ZOB.

He worked a rotating shift schedule with regular days off on Saturday, Sunday, and Monday. His work schedule for the week leading up to, and the day of the accident was:

Thursday	2100-0700
Friday	2100-0700
Saturday	Off
Sunday	Off
Monday	Off
Tuesday	0755-1455 and 2255-0655 (Quick turn day shift to mid-shift)
Wednesday	2200-0600 (Day of accident)

His operating initials were PR and his supervisor of record was John Crouch. He was the sector 12 radar (R12) controller (with all sectors in area 1 combined to R12) at the time of the accident. This configuration was routine at ZOB during the mid-shift configuration. He was certified on R12 in December 2010 and was current and proficient at the time of the accident in accordance with facility standards. He had no documented operational incidents and had never been suspended. He held no collateral duties and had not been on any recent details. He recalled nothing remarkable about the 72 hours leading up to the time of the accident, and reported routine daily activities, sleep, and meals.

He possessed a current second-class medical certificate and his last ATC physical had been conducted in January 2018. He had no waivers or restrictions to his medical certificate. He held a commercial pilot certification and was not current.

On the day of the accident, he was working his normally scheduled shift and recalled there being a lot of weather throughout the area, with thunderstorms in the vicinity. He had reviewed the audio and video replays of the event with staff prior to the day of the interview. No training was being conducted on R12 at or leading up to the time of the accident. On a scale of 1 to 5 (5 being the heaviest) he classified the traffic volume as 3 at the time of the accident. On a scale of 1 to 5 (5 being the most complex) he classified the traffic complexity as 5 at the time of the accident. He said that a relief briefing was conducted when he assumed the R12 position, and that it was

recorded, and a checklist was utilized. He was not required to perform post-accident toxicology testing. He filed an ATSAP¹ report because of this accident.

He had accepted a manual radar hand-off from Toronto Area Center (CZYZ); a routine procedure. The pilot of C-GLKX checked on frequency direct to the initial approach fix for the RNAV RWY 22 Approach to St. Clair County International Airport (KPHN). He verified that the pilot had current weather information for the KPHN airport and advised the pilot to contact Flight Service Station (FSS) for NOTAM²s. The pilot of C-GLKX reported he was unable to contact the FSS, so Mr. Merriman relayed pertinent NOTAMs from ERIDS³ including information about an unlighted obstruction in the vicinity of the airport. Moderate precipitation was depicted on the radar display immediately south of the KPHN, but he did not advise the pilot. Mr. Merriman stated it was an oversight, and that he had been advising other pilots of displayed precipitation throughout the time he had been on position at sector 12. Mr. Merriman asked the pilot of C-GLKX to report crossing the IAF, and at some point, lost radar contact and advised the pilot as such. He said it was very common to lose radar contact below five or six thousand feet. He noted there were a couple of isolated radar track returns as the pilot neared the airport, but radar contact could not be re-established. Once the pilot reported turning south over the final approach fix, Mr. Merriman advised the pilot to change to the common traffic advisory frequency and report the cancellation of his IFR⁴ flight plan through the servicing FSS or with ZOB on the radio.

The pilot of C-GLKX subsequently checked back onto the sector 12 frequency and reported a right engine failure. Mr. Merriman asked the pilot if he was able to continue to KPHN; the pilot advised he was working on it. Mr. Merriman contacted the operations manager in charge (OMIC) and reported the developing situation. The pilot did not declare an emergency, and neither did the controller or OMIC. However, Mr. Merriman stated they were handling the aircraft as an emergency anyway, and any declaration would not have changed the services provided to the pilot. Moments later the pilot reported he was directly over the KPHN airport but could not activate the pilot-controlled lighting. Mr. Merriman asked the OMIC to help by contacting the airport manager in hopes of getting the runway lights turned on. Once the aircraft passed the airport, Mr. Merriman searched the VFR⁵ sectional chart located above the radar display and identified a private landing strip five to seven miles south of KPHN and advised the pilot of the location. He said the private strip may have been a viable option since it would require a minimal turn to the south directly off the departure end of RWY 22 at KPHN. Mr. Merriman said there was no response from the pilot

¹ ATSAP – The FAA’s voluntary safety reporting program for ATC personnel based on the Aviation Safety Action Program (ASAP) model. A defined partnership model where safety issues are resolved through corrective action rather than through punishment or discipline. The program includes collection, analysis, and retention of safety data reviewed and acted upon by the FAA and NATCA.

² NOTAM – Notice to Airman. A notice containing information concerning the establishment, condition, or change in any component of the National Airspace System which timely knowledge is essential to personnel concerned with flight operations.

³ ERIDS – En Route Information Display System – An interactive touchscreen display system utilized in Air Route Traffic Control Centers to give air traffic controllers direct access to pertinent air traffic control related information on position.

⁴ IFR – Instrument Flight Rules [ICAO] – A set of rules governing the conduct of flight under instrument meteorological conditions.

⁵ VFR – Visual Flight Rules – Rules that govern the procedures for conducting flight under visual conditions. The term "VFR" is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

of C-GLKX about the private airport location. Once radio communications were lost, Mr. Merriman attempted a relayed contact with C-GLKX through a United Airlines flight. He also had other pilots operating in the vicinity check for ELT⁶ alarms over guard frequencies. Subsequently, an ALNOT⁷ was issued to locate C-GLKX.

Mr. Merriman described the radio coverage in the area as unreliable below six or seven thousand feet and mentioned that CZYZ may have better radar coverage over the area that outside of the mid-shift configuration was controlled approach control at Selfridge Air National Guard Base (KMTC). When questioned about the activation of the pilot-controlled lighting at KPHN, Mr. Merriman said it did not occur to him at the time to verify the pilot had the accurate frequency for the lights. Regarding PIREP⁸ solicitation and dissemination, Mr. Merriman stated that he had not solicited any reports that would have impacted C-GLKX, and he did not recall disseminating any PIREPs that were received. At ZOB PIREPs were hand-written by controllers and passed to the supervisor who would take them somewhere to be entered into the system. He explained that SIGMET⁹s were delivered via the EDST¹⁰ and that a box on the display would light up when one came in and believed that some non-convective SIGMETs were probably valid in the airspace during his time on position. He was not sure how AIRMET¹¹s were handled when they came in. When asked about his experience with pilots checking in straight from Canadian airspace, he thought they seemed to have a good understanding of the local area weather. He said the KPHN airport was not very active, and in his experience the pilots routinely cancelled their IFR services quickly.

Mr. Merriman stated the main source of pre-duty weather briefings was on CEDAR¹² and were developed by the Center Weather Service Unit (CWSU). He mentioned they were not particularly useful, especially on mid-shifts when the products could be invalid because of their

⁶ ELT – Emergency Locator Transmitter – A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.

⁷ ALNOT – Alert Notice – A request originated by a flight service station (FSS) or an air route traffic control center (ARTCC) for an extensive communication search for overdue, unreported, or missing aircraft.

⁸ PIREP – Pilot Weather Report – A report made by a pilot of meteorological phenomena encountered by an aircraft in flight.

⁹ SIGMET – Significant Meteorological Information - A weather advisory issued concerning weather significant to the safety of all aircraft. SIGMET advisories cover severe and extreme turbulence, severe icing, and widespread dust or sandstorms that reduce visibility to less than 3 miles.

¹⁰ EDST – En Route or ERAM Decision Support Tool – an en route decision support tool that is used by the sector team in performing their strategic planning responsibilities. EDST uses flight plan data, forecast winds, aircraft performance characteristics, and track data to derive expected aircraft trajectories, and to predict conflicts between aircraft and between aircraft and special use or designated airspace. Applicable hazardous in-flight weather advisories and urgent PIREPs are displayed on the EDST display at the controller workstation as well.

¹¹ AIRMET – Airmen's Meteorological Information - In-flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications.

¹² CEDAR – Comprehensive Electronic Data Analysis and Reporting - The CEDAR system provides air traffic management with an electronic means of capturing safety-related information, events, and metrics. It streamlines several facility managers' responsibilities, including assessing air traffic employee performance and managing resources, and provides a standard interface for the collecting, retrieving, and reporting of data from multiple sources. CEDAR automates the creation, management, and storage of facility activities and events; briefing items; occurrence reports; technical training discussions.

age. He explained the weather changed often and could be difficult to predict. Mr. Merriman said that he disseminated SIGMETs but was unsure about how they were disseminated throughout the facility or to areas directly impacted by the weather advisory. He did not recall any convective SIGMETs or AIRMETs at time of the accident. He stated that on some shifts, he had entered upwards of twenty PIREPs into the system. When asked about weather related training, Mr. Merriman could not recall any specifically. However, when reminded, he did recall an NTSB weather briefing held at the facility in the past. Mr. Merriman said in hindsight, he would have verified with the pilot of C-GLKX that the correct frequency was being used to activate the pilot-controlled lighting (which was available on the published instrument approach procedure).

Interview concluded at 1600 EDT.

Interviewee: Dale Juhl

Representative: Matthew Smith – FAA Attorney

Date / Time: September 7, 2018 / 1610 EDT

Location: ZOB

Present: Michael Richards – NTSB, Brent Eberhart – FAA, Bryan Roberts – NATCA

Investigator: Brian Soper

During the interview Mr. Juhl stated the following:

His ATC experience began in 1983 when he served as an air traffic controller in the US Marine Corps (USMC) until his honorable discharge in 1987. In 1988 he attended the FAA Academy in Oklahoma City, Oklahoma. After successful completion of ATC training at the academy he was assigned to ZOB.

He worked a rotating shift schedule with regular days off on Friday, Saturday, and Sunday. His work schedule for the week leading up to, and the day of the accident was:

Thursday	2100-0700
Friday	Off
Saturday	Off
Sunday	Off
Monday	2100-0700
Tuesday	2100-0700
Wednesday	2100-0700 (Day of accident)

His operating initials were UM and his supervisor of record was Mike Sands. He was the front-line manager (FLM) and in the process of relieving the OMIC at the time of the accident. He had been certified FLM for about 14 years and was current and proficient at the time of the accident in accordance with facility standards. He had no documented operational incidents and had never been suspended. He held no collateral duties and had not been on any recent details. He recalled nothing remarkable about the 72 hours leading up to the time of the accident, and reported routine daily activities, sleep, and meals.

He possessed a current second-class medical certificate and his last ATC physical had been conducted in August 2018. He had a special consideration to his medical clearance that was documented in his medical record and did not require medication. He held no other aeronautical certifications.

On the day of the accident, he was working his normally scheduled shift and recalled there had been weather in the area all afternoon, some of it significant. However, contrary to what he had observed in the ERAM¹³ replay he had watched after the accident, at the time of the accident he did not recall seeing any precipitation depicted in the vicinity of KPHN, so he was surprised by that. He had reviewed the audio and video replays of the event with staff prior to the day of the interview. He stated that no training was being conducted at or leading up to the time of the accident. On a scale of 1 to 5 (5 being the heaviest) he classified the traffic volume as 1 at the time of the accident. On a scale of 1 to 5 (5 being the most complex) he classified the traffic complexity as 2 at the time of the accident. He said that a relief briefing was conducted when he assumed the FLM position, and that it was recorded, and a checklist was utilized. He was not required to perform post-accident toxicology testing.

He recalled sectors in the area were open later than normal due to the weather, closed routings to Chicago, and more than normal west coast traffic. He recalled putting the area into the mid-shift configuration at about 2310-2315 and headed to the watch desk to relieve the OMIC. As he began a relief briefing with Mr. Vogel, the R12 controller called and said that he just had an aircraft lose an engine. He said that Mr. Vogel went to the area to assist the R12 controller while he remained back at the watch desk engaged in other discussion. He remembered Mr. Vogel trying to call the airport manager to try and get the lights on at KPHN, and then the R12 controller said he had lost communications with the aircraft. He did not think losing radio contact with an aircraft was normal for that area and believed they should have good communications all the way to the ground, however losing radar contact was normal.

He said that area 1 would normally go into the mid-shift configuration at about 2230, but on the evening of the accident had waited a little longer due to weather re-routes, and the Gamble and Peck sectors were still open until about 2300 so he also held a controller over until midnight. Once he observed the last push leaving the high side [high altitude sectors], and the lows [low altitude sectors] looked good, he shifted to the mid-shift configuration. The “high side” being the high altitude sectors and the “lows” being the low altitude sectors.

He indicated that the CWSU opened at about 0600 and closed about 2130 or 2200. He stated that there was no protocol for getting weather assistance when the CWSU was closed. When asked about the pre-duty weather briefings that controllers were required to receive prior to taking position, he felt they were not useful at all. He said the information was stale for every shift. 0710 and 1510 were the only times the weather briefings were updated, and they dealt more with “live weather” rather than forecasted, and said if there was something significant, they handled it, and position relief briefings were where the real information was. He said the R12 controller advised him it was not normal to lose radio communications at KPHN and that aircraft can typically

¹³ ERAM – En Route Automation Modernization - The Next Gen system designed to replace the En Route Host and backup system previously utilized at Air Route Traffic Control Centers and allows for faster processing of route requests and in-flight route changes.

maintain radio communications all the way to the ground there. Mr. Juhl explained they had held controllers for overtime because of the traffic and weather situation. He said there was no protocol or ability to obtain expert weather assistance on mid-shifts since the CWSU was closed during that time. He expressed that in hindsight, that issuing displayed precipitation and taking the extra step to bring the pilot's attention to the note on the approach plate about night landings would probably have been helpful.

According to Mr. Juhl, the fact that an emergency was not declared in this case was irrelevant because they handled it as if it were an emergency anyway.

It was his experience that OMICs did not go to the area to remind controllers to solicit PIREPs when conditions required solicitation, however said it would be helpful if they did. At ZOB, they had the choice to forward PIREPs manually by filling out the PIREP form and passing it to the supervisor who would take it to flight data (FDC) for dissemination, or they could use the ERIDS to pass the PIREP directly to FDC. When using ERIDS they had to follow up with a phone call to ensure they knew there was a new PIREP waiting, so most used the form.

Interview concluded at 1655 EDT.

Interviewee: Matthew Vogel

Representative: Matthew Smith – FAA Attorney

Date / Time: September 7, 2018 / 1710 EDT

Location: ZOB

Present: Michael Richards – NTSB, Brent Eberhart – FAA, Bryan Roberts – NATCA

Investigator: Brian Soper

During the interview Mr. Vogel stated the following:

His ATC experience began in September 1998 when he was hired by the FAA through the FAA's Midwest Aviation Resource Consortium (MARC) program. Upon successful completion of initial training, he was assigned to ZOB.

He worked a rotating shift schedule with regular days off on Monday and Tuesday. His work schedule for the week leading up to, and the day of the accident was:

Thursday	0700-1500
Friday	0600-1400
Saturday	0600-1400
Sunday	0600-1400
Monday	Off
Tuesday	Off
Wednesday	1500-2300 (Day of accident)

His operating initials were VV and his supervisor of record was Jim Gomoka. He was the OMIC and in the process of being relieved at the time of the accident. He had been certified OMIC

for about 3 years and was current and proficient in accordance with facility standards at the time of the accident. He had no documented operational incidents and had never been suspended. He was responsible for supervisor scheduling and had not been on any recent details. He recalled nothing remarkable about the 72 hours leading up to the time of the accident except for having a sleep study conducted during his days off, and reported routine daily activities, sleep, and meals outside of that.

He held no medical clearance and as OMIC was not required to. He held a dispatcher certification that was no longer current, as well as, a private pilot, commercial pilot, certified flight instructor that were also not current.

On the day of the accident, he was working his normally scheduled shift and recalled there had been weather in the area because he had been conducting weather audits to ensure controllers were calling precipitation as required. He had reviewed the audio and video replays of the event with staff prior to the day of the interview. He stated that no training was being conducted at or leading up to the time of the accident. On a scale of 1 to 5 (5 being the heaviest) he classified the traffic volume as 3 at the time of the accident. On a scale of 1 to 5 (5 being the most complex) he classified the traffic complexity as 4 at the time of the accident. He said that a relief briefing was conducted when he assumed the OMIC position, and that it was not recorded, but a checklist was utilized. He was not required to perform post-accident toxicology testing.

Mr. Vogel said that there were maintenance activities on the “Buick” radios, but otherwise there were no distractions to the operation. He recalled he was at the end of his shift and had began a position relief briefing when the R12 controller called and advised that there was an aircraft attempting to land at KPHN that had lost an engine and the pilot was unable to activate the pilot-controlled lighting. He remembered thunderstorms, SIGMETs, AIRMETs, and CWA¹⁴s valid across the facility. He said that when he walked into the area to inquire about C-GLKX, he did not recall observing displayed precipitation in the immediate vicinity of KPHN. He instructed the R12 controller to copy the latitude and longitude of the last known position. While the controller was looking at the VFR sectional chart for alternate airports, Mr. Vogel went back to the watch desk to get Mr. Juhl who was the expert in area 1. Mr. Vogel then went to the area while the worked on finding an alternate airport that they may be able to confirm the lighting status.

He recalled talking to the sheriff’s department to ask for assistance and advise them of the location of KPHN. Mr. Juhl was going back and forth between the watch desk and area 1, then once he had returned to the watch desk to stay, Mr. Juhl began the ALNOT. Additionally, he had controllers solicit airborne pilots in the vicinity to see if anyone was receiving an ELT. Minutes into the ALNOT, he had received calls from a police dispatcher about broadening the search for C-GLKX. He stated all emergency notification checklists were followed. At some point he called to notify CZYZ of the missing aircraft. Regarding weather service audits, he explained that the OMIC was required to conduct a minimum number of audits when displayed weather was present. These audits were normally conducted from the OMIC position and recalled hearing controllers issue displayed weather information while monitoring the night of the accident. He explained he

¹⁴ CWA – Center Weather Advisory – An aviation weather warning for conditions meeting or approaching national in-flight advisory (AIRMET, SIGMET or SIGMET for convection) criteria. The CWA is primarily used by air crews to anticipate and avoid adverse weather conditions in the en route and terminal environments.

was not really involved in the PIREP dissemination process. He felt the training on ATC weather was of good quality.

Law enforcement then called to advise that customs had called, and they were at the airport still waiting for C-GLKX to arrive. At that point he broadened the search a little further.

He mentioned that there were controllers held over for a short time because of traffic and weather impacting the area that night.

Interview concluded at 1820 EDT.

Record of Conversation

Name: Mark McKinley / Meteorologist In-Charge (MIC)
Date / Time: September 8, 2018 / 0900 EDT
Location: ZOB CWSU
Investigator: Michael Richards – NTSB

During the conversation Mr. McKinley provided the following information:

The ZOB CWSU was open from 0530 or 0600 until 2130 EDT each day. The ZOB CWSU created three pre-duty video weather briefings for controllers per day (first thing in the morning, in the afternoon, and before they leave for the night). The briefings were posted on the ZOB CWSU's public website and were available through KSN¹⁵ and CEDAR. These pre-duty briefings are not updated prior to creation of the next briefing. The ZOB CWSU creates different weather briefings (still images) that are intended to be presented at the ZOB "stand up" briefings at about 1000 and 1500 each day. These briefings are more operations-specific than the pre-duty controller briefings. The still images are available on the ZOB CWSU's public website and are updated as needed. In addition, the ZOB CWSU provides daily verbal weather briefings to Detroit, Cleveland and Pittsburgh Terminal Radar Approach Controls (TRACONS). These TRACON briefings can occur multiple times per day. The ZOB CWSU also provides weather briefings to the ZOB OMIC and ZOB Traffic Management Unit (TMU).

Standup briefings used to occur in the CWSU workspace, but now take place in a different part of the ZOB operational floor, and this move has been positive.

If weather assistance is required during times when the CWSU is closed, the FAA can call the local (Cleveland, OH) National Weather Service (NWS) Weather Forecast Office (WFO), whose telephone number is posted at the watch desk, the TMU and at each area on the operational floor.

Once per hour, a "non-qualified" controller would come by the CWSU and get an update (example in figure 1 below) on where PIREPs needed to be solicited and would then walk down

¹⁵ KSN – Knowledge Services Network – An FAA integrated collaborative secure system, accessible via the Internet, which enables groups to use knowledge management concepts, principles, and technology to improve the way that goals and objectives are achieved.

to the areas and ask/remind controllers to solicit these PIREPs. The person filling this function is known as a “floor walker.”

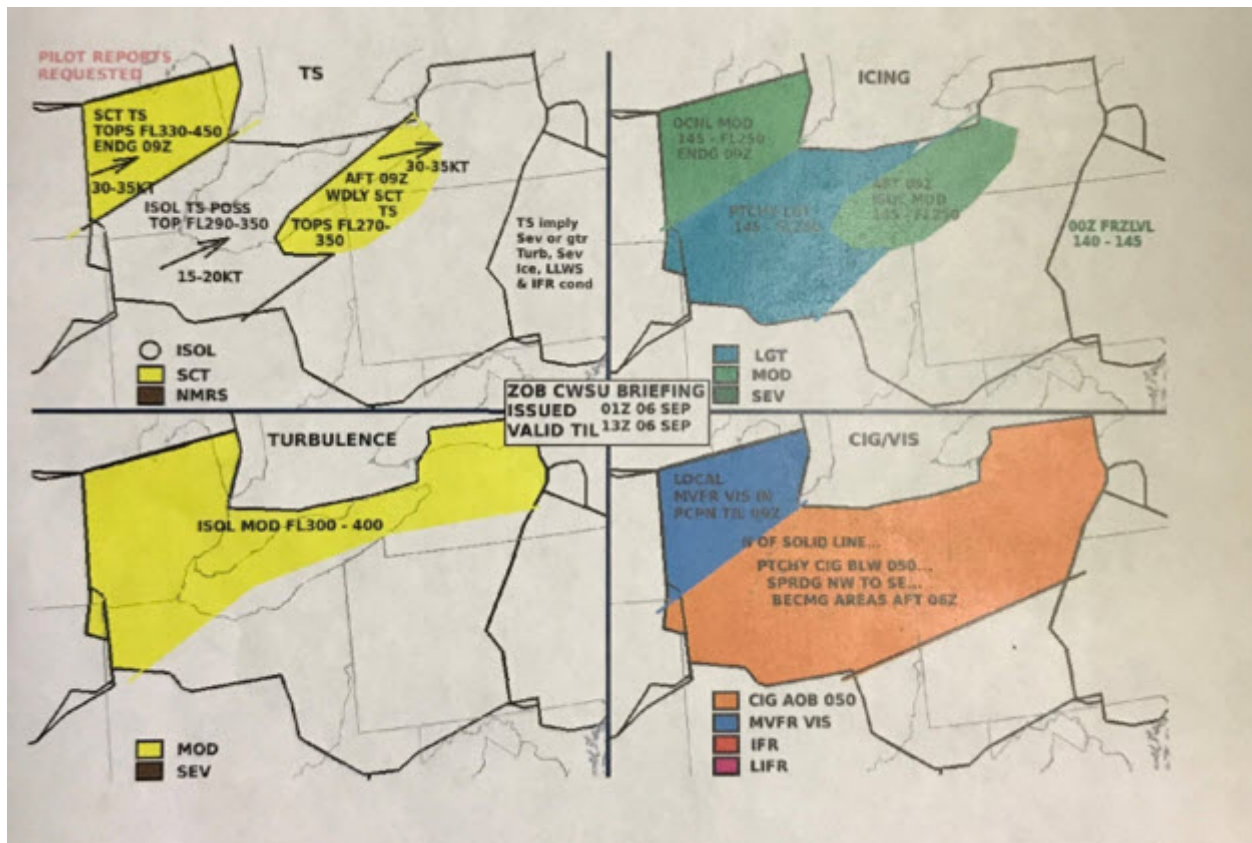


Figure 1 – Example of CWSU update used by ATC for solicitation of PIREPs.

At least once per year, the ZOB CWSU participates in ZOB refresher training. A PowerPoint presentation on PIREPs was developed for presentation to controllers.