

Factual Report – Attachment 1

Interview Summaries

AIR TRAFFIC CONTROL

CEN17MA183

Interviewee: Louis Ferdinandi (Local Control (LC) On-the-Job Training Instructor (OJTI))
Representative: Nicole Vitate

Date: May 17, 2017
Location: Teterboro Airport (TEB) airport traffic control tower (ATCT)
Present: Adam Rhodes, David Waudby
Investigator: Betty Koschig

During the interview Louis Ferdinandi stated the following:

Mr. Ferdinandi's air traffic control experience began in January 2009 when he was hired by the FAA and attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial air traffic control training he worked at Atlantic City International Airport (ACY), Atlantic City, New Jersey from 2009 to 2013, and TEB from 2013 to present.

He was qualified on all positions in the tower, and was certified as a CIC and OJTI. He possessed a current second-class medical certificate. His medical certificate included a restriction to wear corrective lens while performing air traffic control duties. He stated he was wearing them at the time of the accident. His supervisor was Harley Aronson.

He graduated from New Jersey Technical Institute with a Bachelor of Science degree in Mechanical Engineering. He worked scheduled overtime about five days a year. He felt well rested on the day of the accident.

On Monday, May 15, 2017, he worked his regularly scheduled shift and was assigned as the OJTI on the LC position. His work schedule leading up to the day of the accident was:

Tuesday	0600 to 1400
Wednesday	0600 to 1400
Thursday	0600 to 1400
Friday	0630 to 1430
Saturday	Off
Sunday	Off
Monday	1415 to 2215 (Day of accident)

Mr. Ferdinandi had been conducting training with a developmental controller on the LC position at the time of the accident. Prior to N452DA contacting TEB ATCT on the LC frequency, Gotham 832 (GTH832) had been inbound for the circle approach to runway 1 [ILS runway 6, circle to runway 1]. The pilot of GTH832 reported that he was going around. The developmental controller instructed the pilot to fly a 360° heading and climb to 2,000 feet. The developmental controller immediately switched the flight to N90. He told the developmental controller that his actions may have been premature, and perhaps they should have called N90 to find out what instructions they needed to give to the pilot. He had a quick moment to talk to the developmental controller, and expressed why he would have liked for him to ask GTH832 about the reason for the go-around. The developmental controller stated that he understood the rationale behind that critique.

He recalled N452DA had been inbound to TEB, but the pilot had not talked to the tower yet. The developmental controller attempted to contact N452DA, but the pilot did not respond. The developmental contacted the N90 Mugzy sector controller and requested they switch N452DA to the TEB frequency again. In the meantime, they had received a release for a departure on runway 1 [which would depart after the arrival had landed.] After the arrival had landed on runway 1, the developmental controller put the aircraft, that had been released, into position on runway 1. The developmental controller attempted to contact N452DA again, and that time the pilot responded they were on the ILS to runway 6 circle to runway 1. The developmental controller instructed N452DA to “continue.”

The developmental controller had been waiting for a landing flight (on runway 1) to exit the runway so he could give the aircraft, in position, takeoff instructions. Once the runway was clear, the developmental controller issued departure instructions to flight holding on runway 1, and issued a clearance to land with the wind check to N452DA.

Mr. Ferdinandi noticed that N452DA was about 1 1/2 mile out for the ILS runway 6, so he keyed up the frequency and asked the pilot if he was going to start his turn. The pilot responded that they were starting their turn now. He recalled seeing N452DA on the ILS runway 6 and it had looked perfect for the ILS. He questioned the pilot about circling because the airplane got closer [to the airport] than what he was used to seeing [for this approach,] and N452DA still had not turned.

Mr. Ferdinandi visually observed N452DA start the turn [circle from runway 6 to runway 1], then brought his attention to the standard terminal automation replacement system (STARS¹) display to see where the airplane was located on the scope. He looked back out the window at N452DA, and observed the airplane in an extreme right turn. He noticed N452DA was just west of the stadium, and saw the entire underbelly of the airplane. When N452DA was on the east side of the stadium, he observed the airplane turning towards the runway. It looked like N452DA was in a turn, then the nose went down, and the airplane went below the tree line. He heard a scream on the frequency and saw smoke come up from the tree line.

Mr. Ferdinandi had taken the frequency [control of the position] from the developmental controller, when he had asked N452DA if the pilot was in a turn, until the accident occurred. The developmental controller never said another word over the frequency after that, but he was still plugged in to the workstation listening to the frequency, and observing the operations. When Mr. Ferdinandi heard the scream on the frequency, he unplugged the developmental controller's headset from the workstation [to prevent the developmental controller from hearing the scream].

He did not recall if GTH832 had checked back on the TEB frequency again [after being vectored back around for another approach], but out of instinct he reached out to GTH832 and instructed the pilot to go around. He contacted N90 and advised them to break other aircraft landing TEB out, and not to bring anyone into the TEB airspace. He thought he tried to contact GTH832 again, but did not receive a response, however, he noticed GTH832 climbing, so he assumed N90

¹ STARS program receives and processes target reports, weather, and other nontarget messages from both terminal and enroute digital sensors.

was talking to him. He also noticed aircraft taxiing, so he transmitted on frequency and told all aircraft to stop taxiing because the airport was closed.

Although the weather had been cloudy and very windy that day at TEB, the visibility was very good. He was able to see the aircraft clearly.

Mr. Ferdinandi had received two pilot reports (PIREPs) during that shift. One PIREP indicated that there was no wind shear, and the second PIREP indicated that there was plus or minus 5 knots [on final]. The GC received the first PIREP. They had been soliciting PIREPs because of the wind at the airport. He believed they had been broadcasting low level wind shear advisories on the ATIS.

The routine for disseminating PIREPs was for the LC to write the information on a flight strip, place the strip in front of them, and pass the information to inbound aircraft. They also notified the CIC, who would submit the information in the aeronautical information system replacement (AISR)². Typically, when Mr. Ferdinandi received a report of 5 knots or less, he would not usually advise N90 of the PIREP; however, for more significant wind he would notify them. He did not recall if there were significant meteorological information (SIGMETs)³ or airmen's meteorological information (AIRMETs)⁴ at that time.

When aircraft conducted a go around he would generally issue the pilot an initial climb to 1,500 feet, and then coordinate with N90 to find out what instructions they wanted them to give the pilot. He did not believe there was a letter of agreement (LOA) with N90 that required set go-around instructions. The class bravo airspace started at 2,000 feet, so they needed to keep aircraft away from it in case there was an overflight. He believed the minimum vectoring altitude (MVA) in the area was 1,800 feet.

The average time on position was about 1 1/2 hour. He did not think that he had ever gone over 1 3/4 hour on a position. Breaks were normally 45 minutes.

Mr. Ferdinandi did not recall what the GC and clearance delivery (CD)/flight data (FD) controller were doing after the accident, but he recalled the CIC activating the crash phone.

He was relieved from the LC position soon after the accident, and he went downstairs. He did not recall if he took a walk or something else, or, if he went to the trailer (break area).

They are aware of weather updates because the terminal data link system (TDLS)⁵ computer would make an audible beep. The clearance delivery controller would acknowledge it,

² AISR is a web-enabled, automation means for the collection and distribution of Service B messages, weather information, flight plan data, notice to airmen (NOTAM) messages, PIREP message, and other operational information to all FAA ATC facilities.

³ SIGMET - A weather advisory issued concerning weather significant to the safety of all aircraft.

⁴ AIRMET- 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,

⁵ TDLS- A system that provides Digital Automatic Terminal Information Service (D-ATIS) both on a specified radio frequency and also, for subscribers, in a text message via data link to the cockpit or to a gate printer.

change the weather on status information area (SIA), and shout out the new information; for example, "Information A." They had a computer monitor that displayed the current ATIS information and the METAR (an aviation routine weather report) information.

Mr. Ferdinandi recalled that the CIC had started a mandatory occurrence report (MOR) for the go around on GTH832. He knew the CIC had an issue submitting it, and had to restart the page; but he did not know if the CIC had finished it.

He filed an air traffic safety action program (ATSAP) after the accident. There are four front line managers (FLMs) positions available at TEB, but they only have three of those positions filled. It was normal to have a CIC sign on in the tower.

He recalled the ATM had come up to the tower, as well as Larry Brady, a TEB Staff Specialist, after the accident had occurred.

Mr. Ferdinandi believed there was nothing he could have done differently [to change the outcome]. It was normal procedure to land runway 6 and depart runway 1. Either N90 or EWR dictated TEB's configuration; it all depended on the wind. If he had been given the opportunity to choose the runway configuration for that day, he would have used the same configuration they were on at the time of the accident.

When the traffic flow was switched to a different configuration, TEB tower made the decision to land runway 6, or circle to runway 1. Mr. Ferdinandi tried to use the runway more aligned with the wind, as much as he could; however, he would change the runway if pilots complained.

Mr. Ferdinandi said it was unheard of for N90 to clear an aircraft for a visual approach to runway 1; for the most part N90 used ILS approaches into TEB.

Interviewee: Keith Glass (Controller in Charge (CIC))

Representative: Nicole Vitate

Date: May 18, 2017

Location: Teterboro Airport (TEB) airport traffic control tower (ATCT)

Present: Adam Rhodes, David Waudby

Investigator: Betty Koschig

During the interview Keith Glass stated the following:

Mr. Glass' air traffic control experience began in May 2007 when he was hired by the FAA, and attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial air traffic control training he worked at Washington Air Route Traffic Control Center (ARTCC) (ZDC), Leesburg, Virginia until 2009, Joint Base Andrews (ADW), Camp Springs, Maryland from 2009 to 2013, and TEB from 2013 to present.

He was qualified on all positions in the tower, and was certified as a CIC and OJTI. He possessed a current second-class medical certificate which included a restriction to wear corrective lens while performing air traffic control duties. He stated that he had been wearing corrective lens at the time of the accident. His supervisor was Rich Vilinsky.

Mr. Glass had completed classes in computer science at the Community College of Beaver County. He worked scheduled overtime about three to four days a year. He felt well rested on the day of the accident.

On Monday, May 15, 2017, he worked a 1430 to 2230 shift that day and was assigned as the CIC. He believed that he had switched shifts with someone else that day, but could not recall if he had or not. His work schedule leading up to the day of the accident was:

Tuesday	1415 to 2215
Wednesday	1415 to 2215
Thursday	1415 to 2215
Friday	1415 to 2215
Saturday	Off
Sunday	Off
Monday	1430 to 2230 (Day of accident)

Prior to the accident, a JetSuite Air had landed, and he asked the GC to solicit a PIREP (due to the wind) from the pilot. The GC said the pilot reported, "it was rough, but no wind shear." Shortly after that, GTH832 executed a go around. Mr. Glass asked the LC if he received a reason for the go around, and LC stated that they had not. He began working on the MOR, for the go around of GTH832.

After the go around, a Global Express airplane landed, and the pilot reported there was wind shear of plus or minus 5 knots. Mr. Glass filed the PIREP in the AISR, and while doing that, looked out the window and noticed N452DA was close to the airport. The pilot had not started to circle to runway 1, so Mr. Glass brought it to the LC's attention by mentioning it to him. The LC had been busy at the time looking at the departure that just taken off. The LC OJTI, keyed up the frequency and asked N452DA if they were going to start the turn. The pilot replied to the LC, and he saw that the airplane seemed to make a hard turn for runway 1. The turn was not typical for that type of approach and the airplane appeared to be "kind of wobbly." It was very nonstandard, and it looked "hard and kind of forced." He saw the top of the airplane when it was on base turn. He observed one wing facing the ground and one wing facing the sky, and then the airplane went below the tree line and he saw smoke.

Typically, aircraft did not get that close in to the airport [ILS runway 6 circle to runway 1 approach.] Mr. Glass had never seen that exact situation before this accident. Aircraft normally start to circle at TORBY, which is about 4 miles from TEB. He thought the pilot might be landing on runway 6. The controllers tend to let the pilot in command, "do their thing" [on final approach].

Mr. Glass remembered standing behind the LC position, and hearing the GC saying, "call the trucks." He initiated the crash phone and recalled everyone in the tower helping in some way

with the accident. The first call Mr. Glass made was on the emergency line [crash phone], then he called the regional operations center (ROC), who informed him that they would contact the domestic events network (DEN). Airport operations called and said the airport was closed for about 15 minutes. The ATM and the staff specialist were in the tower cab within a couple of minutes. The time after that was a blur. The ROC called, and he gave the line to the ATM. The controller who had been on break returned to the tower shortly after the accident had happened; he had already been on his way back to the tower when the accident occurred. Mr. Glass instructed that controller relieve the LC position. Mr. Glass could not recall how long he stayed on the CIC position after the accident. His manager called someone to come into work, so he could be relieved from the position.

Mr. Glass did not generally listen to the frequencies as the CIC. He assisted all controllers with their duties when needed. He did not wear a headset as the CIC, because he moved around the room a lot.

He believed the transfer of control point for N90 to transfer aircraft communication to TEB tower frequency was at the final approach fix. There was no defined point in space where the arrivals had to be talking to them on the tower frequency. If the pilot was not on the TEB frequency by DANDY, they would usually call N90 [ask them to switch the pilot to tower frequency]. Occasionally, pilots would not switch to the TEB frequency until they were between DANDY and TORBY. If TEB had not talked to a pilot by TORBY, the LC contacted N90 [to instruct the pilot to contact TEB].

There was no standard go around procedure for runway 1, but when a go around was executed, Mr. Glass usually instructed the pilot to fly runway heading, and assigned an altitude of 1,500 feet, until he received further instructions from N90. He knew the MVA for the area was 1,800 feet. He said that TEB controllers knew N90 had aircraft flying over their airspace, and the N90 controllers would need to separate the go arounds from those overflights. He did not initially know why GTH832 had elected to go around.

They received automatic releases from N90 on some occasions, but mainly they received individual releases. Those could take ten minutes in some cases. TEB utilized the departure sequencing program (DSP)⁶. He explained when using DSP, the flight strip was scanned by clearance delivery controller, which put the strip into system and then the strip was scanned at the various stages, like taxi, departure, etc. N90 was aware of what flights were waiting because of the DSP. The N90 departure controller would call TEB with the release and TEB would give a rolling call to the N90 departure controller.

Procedures for soliciting PIREPs were based on wind shear, or whatever the weather situation may be at that time. Mr. Glass solicited PIREPs when conditions existed. The PIREPs were submitted into the AISR, and the LC would inform N90 of significant conditions. The LC often told the approach controller about PIREPs, just out of habit. The CIC or supervisor ensured the wind shear information was broadcasted on the ATIS. TEB would inform pilots if it would impact their arrival. When a wind shear was more severe, such as plus or minus 15 knots, they generally would inform the pilots.

⁶ DSP - A program designed to assist in achieving a specified interval over a common point for departures.

Mr. Glass did not recall if a SPECI (nonroutine (special) aviation weather report) was taken after the accident and did not recall if there had been a SIGMET or AIRMET active at that time; but he knew there had been wind shear.

He could not think of anything they could have changed. Mr. Glass stated that everyone had been open to helping out, and “overall, we take care of each other.”

Interviewee: Erica Locke (Ground Controller (GC) and Gate Hold (GH) Controller)

Representative: Nicole Vitate

Date: May 18, 2017

Location: Teterboro Airport (TEB) airport traffic control tower (ATCT)

Present: Adam Rhodes, David Waudby

Investigator: Betty Koschig

During the interview Erica Locke stated the following:

Ms. Locke’s air traffic control experience began in February 2008 when she was hired by the FAA, and attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial air traffic control training she worked at Republic Airport (FRG) Farmingdale, New York until 2010, Newark Liberty International Airport (EWR), Newark, New Jersey from 2010 to 2011, and TEB from 2011 to present.

She was qualified on all positions in the tower, and was certified as a CIC. She possessed a current second-class medical certificate, which included a restriction to wear corrective lens while performing air traffic control duties. She stated she had been wearing corrective lens at the time of the accident. Her supervisor was Harley Aronson.

Ms. Locke had graduated from Dowling College with a Bachelor of Science in Aeronautics degree. She worked scheduled overtime about two days a year. She felt well rested on the day of the accident.

On Monday, May 15, 2017, she worked her regularly scheduled shift and was assigned to the combined GC/GH position. Her work schedule leading up to the day of the accident was:

Tuesday	Off
Wednesday	Off
Thursday	1415 to 2215
Friday	1415 to 2215
Saturday	1415 to 2215
Sunday	1415 to 2215
Monday	1415 to 2215 (Day of accident)

Ms. Locke first became aware of N452DA, when the airplane was on about a four mile final to runway 6. The next time she saw the flight was when it was on a one mile final. She heard

the LC OJTI ask N452DA if they were in the turn yet. They all had been watching and wondering if the pilot was going to make the approach, or go around. She noticed N452DA start to make a turn, and noticed the airplane was really low; she saw the top of the airplane as it was in the turn. The airplane seemed to level out and then it went below the trees, followed by an explosion. She had seen other aircraft circle in the same vicinity as N452DA but “not like that.”

She then turned around to the CIC and yelled, “pick up the crash phone,” and contacted N90 to advise them what had occurred. She overheard the LC OJTI say, “the airport was closed,” and then heard LC send GTH832 around. She then contacted the ATM to come upstairs to the tower cab. Ms. Locke recalled being on position a while after the accident, because there was no one to relieve her.

About 20 minutes prior to the accident, she had received a PIREP that did not include wind shear. She recalled being prompted to get a PIREP, but was not sure who had asked her to obtain one. After she received a PIREP, she informed everyone in the tower; but did not recall if the PIREP was put into the AISR. Controllers were not limited aviation weather reporting station (LAWRS) certified at TEB.

TEB typically averaged about two go arounds per day. When issuing go around instructions, Ms. Locke would initially instruct the pilot to fly a 280 heading and maintain 1,500 feet, and then coordinate with N90. The 1,500 foot altitude was below the MVA, but the TEB controllers issued that altitude to deconflict with the overflight aircraft.

N90 and EWR determined TEB’s traffic flow, but the LC determined the landing runway. Flights usually landed runways 6 or 19; aircraft would never be given a visual approach to runway 1 because of the proximity to Newark’s airspace.

When a pilot contacted TEB on the tower frequency, they would inform the controller what they were doing. The typical instructions TEB provided the pilot was “after TORBY circle to runway 1.” She had seen aircraft begin to circle late, but that was not normal.

Ms. Locke did not file an ATSAP after the accident.

Interviewee: Marc Cain (Local Control (LC) Developmental Controller)

Representative: Nicole Vitate

Date: May 18, 2017

Location: Teterboro Airport (TEB) airport traffic control tower (ATCT)

Present: Adam Rhodes, David Waudby

Investigator: Betty Koschig

During the interview Marc Cain stated the following:

Mr. Cain’s air traffic control experience began in June 2012 when he was hired by the FAA, and attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial air traffic control training he worked at Miami ARTCC (ZMA),

Miami, Florida, for six months until he filed an employee relocation request to New York ARTCC (ZNY), Ronkonkoma, NY, He worked at ZNY from 2013 to 2015, and TEB from 2015 to present.

He was qualified on FD, CD, and GC positions. He possessed a current second-class medical certificate, with no restrictions. His supervisor was Michael Guarnieri

Mr. Cain graduated from Dowling College with a Bachelor of Science in Aeronautics. He held a certified flight instructor (CFI) single engine land pilot certificate. He did not work overtime. He felt well rested on the day of the accident.

On Monday, May 15, 2017, he worked his regularly scheduled shift and had been assigned to LC position for on the job training. His work schedule leading up to the day of the accident was:

Tuesday	0600 to 1400
Wednesday	0600 to 1400
Thursday	0600 to 1400
Friday	Off
Saturday	Off
Sunday	1415 to 2215
Monday	1415 to 2215 (Day of accident)

Before the accident occurred, Mr. Cain recalled GTH832 had elected to go around; that was the first go around he had worked since he began training on LC. He instructed the pilot to turn left heading 270° and to maintain 1,500 ft. He then coordinated with N90 to find out exactly what go around instructions they wanted him to issue the pilot. N90 told him to give the pilot a northbound heading and 2,000 ft. He instructed GTH832 to fly heading 360° and maintain 2,000 ft., and then transferred communications to N90. He had not asked the pilot the reason for the go around; his OJT instructor told him that he should do that in the future before transferring communications.

N452DA was late checking in with TEB tower. Normally aircraft checked in on frequency with TEB prior to the FAF. Mr. Cain contacted N90 on the “801 line” [interphone line] and instructed them to transfer communications with N452DA again. N90 did not acknowledge the call, but the pilot of N452DA checked in on the TEB frequency and stated they were on the ILS runway 6 circle to runway 1.

Mr. Cain instructed N452DA to continue for runway 1, and that there was traffic holding in position. After he cleared the airplane that had been holding in position [runway 1] for takeoff, he cleared N452DA to land.

The CIC asked Mr. Cain and his instructor if N452DA was turning. N452DA seemed to be on a “perfect stabilized approach for runway 6.” He observed the LC OJTI, key up on the frequency and heard him ask the pilot of N452DA if they were circling. The pilot replied that he was [circling.]

Mr. Cain saw N452DA make a hard turn and observed the underbelly of the airplane. [Mr. Cain used hand gestures to illustrate a right turn that was perpendicular to the ground.] The airplane leveled out for a moment [hand gestures illustrated the flight leveling out], and then made another hard turn back [hand gestures illustrated a left turn that was perpendicular to the ground] to line up for runway 1, at which time he saw the top of the airplane. He then observed a constant descent into the trees, and heard a scream.

His instructor unplugged him and took over the position. He heard N90 call the tower, someone else called the emergency line, and another person called the ATM upstairs. He left the tower and went downstairs after that. He went home about two hours before his shift ended that evening.

Mr. Cain thought that N452DA was late to start his circle, but the pilot did not exhibit any sounds of distress prior to accident.

Interviewee: Dominik Bocelli (Newark Area Metro Sector Approach Controller (412))

Date: May 19, 2017

Location: New York TRACON (Terminal Radar Approach Control)

Present: Adam Rhodes, David Waudby

Investigator: Betty Koschig

During the interview Dominik Bocelli stated the following:

Mr. Bocelli's air traffic control experience began in December 1990 when he was hired by the FAA, and attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial air traffic control training he worked at Essex County Airport, (CDW) Caldwell, New Jersey until 1995, and N90 from 1995 to present.

He was qualified on all positions in the Newark area including CIC. He possessed a current second-class medical certificate, with no restrictions. He had completed one year of college. His supervisor was James Szendrey.

Mr. Bocelli worked scheduled overtime about 20 hours per week. He felt well rested on the day of the accident.

On Monday, May 15, 2017, he worked his regularly scheduled shift and was assigned to Metro sector position. His work schedule leading up to the day of the accident was:

Tuesday	0830 to 1830
Wednesday	0830 to 1830
Thursday	0630 to 1630
Friday	0630 to 1630 (Overtime shift)
Saturday	Off
Sunday	1330 to 2330
Monday	1030 to 2030 (Day of accident)

Mr. Bocelli recalled it was windy on the date of the accident. There had been a crosswind component, so they were conducting ILS approaches to runway 6 circle to runway 1 at TEB.

He became aware of N452DA when the pilot reported on his frequency. There was another aircraft above N452DA, that was also inbound to TEB. His priority was to issue N452DA a turn that would provide a good sequence to the Mugzy controller for the arrival into TEB. After he had built in separation with the aircraft ahead of N452DA, he instructed N452DA to descend and intercept the localizer, and then issued a frequency change for the Mugzy sector controller.

He was then relieved from the position, for a normal break, and went outside. The normal time on position was about 1 hour, and breaks were about 40 to 45 minutes. Traffic on the Metro sector had been light to moderate, but not complex.

The normal procedure when a pilot checked in with N90 approach control, was to provide the altimeter, and inform the pilot to expect vectors for the approach in use, or just issue a vector. Usually, the first controller to provide services to the pilot would ensure that the pilot was in receipt of the correct ATIS. He did not recall not issuing the ATIS information to the pilot or why he did not ensure the pilot had received the ATIS. He said that they gave the ATIS when pilots check in.

He believed staffing was “not bad” at N90. Generally, between 1300 and 1600 they usually had more controllers than they needed because of shift overlaps. The FLM made the determination if more radar positions needed to be open. He believed that if there were more radar positions opened, they would be able to provide automatic releases to TEB.

He did not recall if there had been wind shear advisories, SIGMETs, or AIRMETs in effect that day.

When TEB made an ATIS change they called N90 advising them of the new ATIS code, and the information display system 4 (IDS4⁷) was updated with the new information.

Mr. Bocelli did not recall anything unusual going on in the area at the time. There was just some conversation between Mugzy and departure controller, trying to get them to coordinate on the phone [interphone line] instead of shouting information to each other.

EWR and TEB utilized the DSP when an aircraft was ready for release, so when the airplane was ready to depart, the control towers would scan the flight strip and the flight showed up on the computer monitor. The flight strips came out at the CD position, and CD controller would bring the flight strip to the bay.

Procedures for handling PIREPs from the control towers depended on who they passed the PIREP information to; if they pass it to the Mugzy controller, the controller would issue the PIREP to the pilots. If they passed the PIREP to the supervisor, then the supervisor would pass it to the Mugzy and Metro controller. If TEB relayed a PIREP to the Mugzy controller, that controller

⁷ IDS4 was a system of networked microcomputers that display static and real-time, rapidly changing weather, operational support, and administrative information to ATC personnel.

would give the information to the pilots on the frequency. When they received a PIREP, they wrote it down on a pad, held it up for the supervisor to take, and the supervisor would put it in the system.

Interviewee: Michael Santos (Front Line Manager (FLM))

Date: May 19, 2017

Location: New York TRACON (Terminal Radar Approach Control)

Present: Adam Rhodes, David Waudby

Investigator: Betty Koschig

During the interview Michael Santos stated the following:

Mr. Santos began working for the FAA in October 1981, as a flight data assistant at N90, Newark area. His air traffic control experience began in November 1982 when he attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After successful completion of initial air traffic control training he worked at N90, Newark Area, until 1988; Norfolk International Airport (ORF), Norfolk, Virginia Norfolk, as a Traffic Management Coordinator, from 1988 to 1991; Ocean TRACON (G90) Providence, Rhode Island from 1991 to 1997; N90 as an FLM in the Kennedy Area, from 1997 to 2004, and in the Newark Area from 2004 to present.

He was certified as a FLM in the Newark and Kennedy areas. He possessed a current second-class medical certificate, with a waiver for defective color vision, and a restriction to have corrective lens in his possession. His supervisor was Benjamin Lafleur.

Mr. Santos graduated from the University of New York – Farmingdale, with an Associate degree. He held a private single engine land pilot certificate. He worked scheduled overtime about 8 hours per week. He felt well rested on the day of the accident.

On Monday, May 15, 2017, he worked his regularly scheduled shift and was assigned to FLM position. His work schedule leading up to the day of the accident was:

Tuesday	Did Not Recall
Wednesday	Did Not Recall
Thursday	Did Not Recall
Friday	Did Not Recall
Saturday	Off
Sunday	Annual Leave
Monday	1300 to 2300 (Day of accident)

Mr. Santos recalled that it was a busy afternoon, and the Mugzy sector was busy. He had been near the supervisor's desk working on administrative duties when GTH832 executed a go around. TEB had been on a northeast traffic flow, so he did not get up for the go-around; the procedures were pretty standard for that traffic flow. The wind was out of the north/northwest with a gust, but he did not recall getting any wind shear or turbulence reports.

TEB tower called N90 and informed them about the accident with N452DA. He contacted TEB tower a couple times about the accident because he did not know the severity of the accident. Once he learned the severity of the accident, he informed New York center (ZNY) to hold their aircraft into TEB, and that there was an indefinite delay at TEB.

Mr. Santos sent another controller over to relieve the Mugzy controller, who had worked the accident airplane, and told the relieved Mugzy controller to take a break.

He expected the Metro controller to advise aircraft checking in with approach, about the type of approach to expect, ensure the pilot had the ATIS, and issue the appropriate altimeter. Mr. Santos believed the N90 controllers were pretty good about doing that. He noted that the controller working the Metro sector was good about issuing all the information and he generally was detail orientated. He did not know why the Metro controller did not ensure N452DA received the ATIS.

The Mugzy and Zeebo sectors had not operated in a spilt configuration in a long time due workload and staffing issues at N90.

When there was a go around at TEB, the TEB controllers would coordinate individual go around flights with the N90 departure controller, but sometimes, the Mugzy controller would reach out to coordinate with TEB.

When an aircraft was cleared for a circling maneuver from the ILS runway 6 approach circle to land runway 1, most of pilots would circle at the outer marker; N90 controllers would expect them to circle at TORBY. The phraseology that he used for that approach, was, "Cleared ILS 6 circle to 1," then instruct the pilot to contact TEB tower.

When he received a PIREP Mr. Santos would enter it into the AISR. If he obtained a PIREP from TEB for a gain or loss of 5 knots, he would let the appropriate controllers know. He did not recall if there had been any SIGMETS or AIRMETS active when the accident occurred. TEB tower verbally called over the line [801 line] when they updated the ATIS information.

When conducting FLM duties, Mr. Santos did not normally wear a headset. He believed the operational relationship between N90 and TEB was good.

Interviewee: Eldad Yaniv (Newark Area Mugzy Sector Approach Controller (414))
Date: May 19, 2017
Location: New York TRACON (Terminal Radar Approach Control)
Present: Adam Rhodes, David Waudby
Investigator: Betty Koschig

During the interview Eldad Yaniv stated the following:

Mr. Yaniv's air traffic control experience began in March 2007 when he was hired by the FAA, and attended initial training at the FAA Academy in Oklahoma City, Oklahoma. After

successful completion of initial air traffic control training he worked at Theodore Francis Green State Airport (PVD), Providence, Rhode Island until 2010, and N90 from 2010 to present.

He was qualified on all positions in the Newark area, including certified as CIC, and On-the-Job-Training-Instructor (OJTI). He possessed a current second-class medical certificate, with no restrictions. His supervisor was Steve Ryan.

Mr. Yaniv graduated from Vaughn College with an Associate of Science in Aeronautics degree. He worked scheduled overtime about 8 hours per week. He felt rested on the day of the accident.

On Monday, May 15, 2017, he worked his regularly scheduled shift [scheduled overtime] and was assigned to the Mugzy sector at the time of the accident. His work schedule leading up to the day of the accident was:

Tuesday	1500 to 2300
Wednesday	1600 to 0000
Thursday	1600 to 0000
Friday	1500 to 2300
Saturday	1300 to 2100
Sunday	Off
Monday	1300 to 2100 (Day of accident)

Regular days off were Sunday and Monday

Mr. Yaniv recalled that he took a handoff from the Metro sector and saw that N452DA had gone through the runway 6 localizer at TEB. He issued the pilot a 020° heading to intercept the localizer. He noticed that N452DA was still flying about a 040° or 050° degree heading which he believed may have been due to the wind. He instructed N452DA to proceed to VINGS, which he observed the pilot doing, and then instructed the pilot to cross VINGS at 2,000 feet, cross DANDY at 1500 feet, and contact TEB tower. The pilot read back “cross DANDY at 200” (feet). He corrected the pilot on the crossing restriction at DANDY, and had also instructed the pilot to circle at TORBY. TEB tower called over the line and asked him to transfer N452DA to TEB. Mr. Yaniv instructed the pilot of N452DA to contact TEB tower, again, at TORBY.

Mr. Yaniv had vectored GTH832 for a visual approach to runway 1 behind N452DA. He noticed that N452DA had not begun to circle to runway 1, and called TEB tower to find out if N452DA was going to start the circling maneuver. About that time, the pilot of GTH832 transmitted that the airplane in front of them had crashed. TEB tower called Mr. Yaniv on the interfacility line and informed him that the airport was closed. Mr. Yaniv instructed GTH832 to go around and he started re-routing other aircraft that had been inbound to TEB.

The FLM had come over to the area to assist with coordination, but Mr. Yaniv did not recall specifically what the FLM was doing during that time. He was relieved from the position about five minutes after the accident and went on break outside the TRACON.

Mr. Yaniv would never assign 1,500 feet to an aircraft on a go around from TEB because that was below the MVA.

He did not recall receiving any PIREPS from TEB during that time. When he received a PIREP from TEB, he would pass that information to the pilots. If he were to obtain a PIREP from an aircraft, he would record it on a PIREP form and give the form to the FLM. When asked how he obtained the weather from TEB, he said he would obtain TEB weather from the IDS-4 and the current PIREPS, if there were any. He did not recall if there were any wind shear advisories at TEB at the time of the accident.

Mr. Yaniv thought the pilot of N452DA was “off”; the pilot had flown through the localizer, and did not seem to follow additional instructions. The pilot of N452DA “messed up the DANDY crossing instructions,” did not contact TEB tower when he instructed, and did not begin to circle as instructed.

The ATIS code was marked on the flight strip when he received it from the Metro controller, which indicated that the pilot of N452DA had the current ATIS code.

The traffic level at the time of the accident was light to moderate, and the complexity was moderate. He filed an ATSAP report.