



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

January 14, 2010

William E. Reukauf
Associate Special Counsel
U.S. Office of Special Counsel
1730 M Street, NW, Suite 218
Washington, DC 20036

Re: OSC File Nos. DI-08-2777 and DI-08-3157

Dear Mr. Reukauf:

I am responding to your letter of December 19, 2008, which referred for investigation aviation safety concerns at Detroit Metropolitan Wayne County Airport (DTW) air traffic control facilities raised by Vincent Sugent and Paul Mueller, both air traffic controllers at the facility. In response to your referral, former Secretary Mary Peters delegated these matters to the Department's Office of Inspector General (OIG) which has concluded its investigation. Enclosed are the OIG's Report of Investigation and the Federal Aviation Administration's (FAA's) response.

In summary, the OIG investigation partially substantiated some of the information in the allegations submitted to the Office of Special Counsel (OSC). First, investigators substantiated that on July 21, 2008, a front line manager improperly directed controllers to depart three Boeing 747 jet aircraft in a manner contrary to DTW local policy. DTW management investigated the matter and took administrative action to address it. Second, investigators also found six other violations of local policy; however, none of the events violated the national standard regarding minimum separation standards. Third, investigators were unable to substantiate by a preponderance of the evidence that DTW officials failed to report violations of the wake turbulence criteria occurring on July 21. Because the runways where the July 21 violations occurred do not intersect or have intersecting flight paths, wake turbulence requirements do not apply, and there was no violation of FAA Order 7110.65. Finally, the investigation substantiated the whistleblowers' disclosure concerning the inconsistent wind speed readings between the two wind detection devices since at least July 2006. Detroit airport officials have repeatedly attempted to address this problem, but are still awaiting higher-level approval to fund their repair requests.

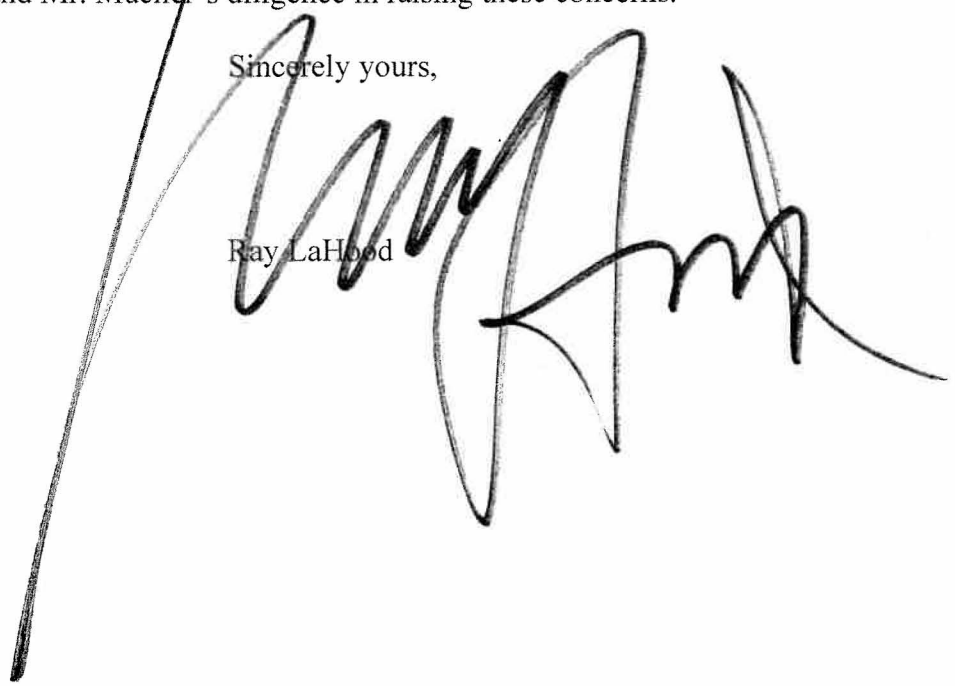
By the enclosed memorandum, FAA Administrator Babbitt accepted the findings of three of the four allegations. Regarding the allegation concerning the two wind detection devices, Administrator Babbitt accepted the OIG's findings with qualification. Specifically, he noted a sensor was replaced on one of the devices while the OIG investigative team was on-site in March 2009. He also noted that both devices now function as designed, and there will be

mandatory educational briefings for controllers to be completed by March 31, 2010, to address the differences in wind speed readings between the two devices.

I appreciate Mr. Sugent's and Mr. Mueller's diligence in raising these concerns.

Sincerely yours,

Ray LaHood

A large, stylized handwritten signature in black ink, appearing to read 'Ray LaHood', is written over the typed name. The signature is highly cursive and fluid, with a long, sweeping underline that extends to the left.

Enclosures

REPORT OF INVESTIGATION	INVESTIGATION NUMBER #I09Z000011SINV	DATE Dec. 14, 2009
TITLE Re: Air Traffic Management at Detroit Wayne County Metropolitan Airport	PREPARED BY: Robert A. Westbrook Acting Assistant Inspector General for Special Investigations and Analysis, JI-3	STATUS FINAL
	DISTRIBUTION OST	APPROVED BY: J-1, J-2, JI-1

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BACKGROUND

On December 19, 2008, the former Secretary of the U.S. Department of Transportation received an investigative referral from the U.S. Office of Special Counsel (OSC). Two air traffic control specialists separately disclosed aviation safety concerns to OSC alleging improper air traffic management by officials at Detroit Wayne County Metropolitan Airport (DTW) and the Federal Aviation Administration (FAA). The former Secretary referred the matter to the Office of Inspector General (OIG) for investigation. OIG conducted the investigation with the assistance of the FAA's Air Traffic Safety Oversight Service (AOV), which concurs with this report. Attachment 1 describes the methodology of our investigation.

DTW has six runways. There are four parallel runways, which are designated Runways 21R, 21L, 22R, 22L, when operating to the south. There are also two intersecting runways. Runway 27R runs east to west, and intersects Runways 21L, 21R, and 22L. Runway 27L intersects 21L, and intersects the flight path of aircraft on Runway 21R.

The whistleblowers alleged that on July 21, 2008, FAA officials created a danger to public safety by ordering controllers to manage air traffic in a manner that violates FAA Orders and local procedures, resulting in underreporting the accurate number of operational errors and deviations.

Specifically, the whistleblowers alleged that on July 21, weather conditions required DTW to conduct a West Flow configuration, during which aircraft arrive and depart in a westerly direction using Runways 27R and 27L. DTW typically conducts the West Flow during high easterly winds, as the aircraft depart and arrive into the wind rather than perpendicular to it. During the operation of the West Flow, the front line manager supervising the DTW Air Traffic Control Tower (DTW Tower) allowed three Boeing 747 jet aircraft to depart in a southerly direction from Runway 22L in between the Runway 27R and Runway 27L arrivals and departures. Because their size and weight extend the distance required for takeoff, "heavy" jets such as the 747 typically depart from Runway 22L, DTW's longest runway.

At least one DTW controller present in the tower on July 21, 2008, promptly mentioned the events of July 21 to the complainants out of concern that the front line manager did not follow proper procedures regarding the separation of the three Boeing 747 aircraft from the Runway 27L arrivals. Sometime within the next week, one of the complainants requested the air traffic data for July 21 from DTW's Acting Staff Manager, who in turn, investigated the relevant data with

DTW's Support Manager for Quality Assurance and Training. The managers, with the assistance of DTW quality assurance personnel, determined that the departures resulted in three operational errors in violation of the separation minima required under FAA Order 7110.65, and notified FAA Headquarters of this on July 30, 2008. Pursuant to subsequent discussions with FAA officials from AOV and Terminal Operations and Procedures (ATO-Terminal), however, DTW officials requested the operational errors be reclassified as non-occurrences. After reviewing DTW's request, FAA officials in Washington, DC determined the three incidents were not operational errors or deviations and reclassified the incidents as non-occurrences.

The whistleblowers disagreed with the reclassification and alleged that DTW and FAA officials ignored additional operational errors or deviations that occurred on July 21, 2008.

The whistleblowers also disclosed to OSC that the two primary wind detection devices at DTW routinely show wind speeds inconsistent with one another, thereby undermining the facility's ability to safely manage its air traffic.

SYNOPSIS

We were unable to substantiate by a preponderance of the evidence that FAA officials violated any law, rule, or regulation, or created a substantial and specific danger to aviation safety, in its reclassification of the three incidents of July 21, 2008, as non-occurrences rather than operational errors. However, we substantiated that a front line manager improperly directed controllers to depart three Boeing 747 jet aircraft in a manner contrary to DTW local policy. DTW management investigated the matter and took administrative action to address the issue. (Allegation 1)

We also found six other violations of local policy; however, none of the events violated the national standard regarding minimum separation standards. (Allegation 2)

Because the runways involved in the July 21 Boeing 747 departures do not intersect or have intersecting flight paths, wake turbulence requirements do not apply, and there was no resultant violation of FAA Order 7110.65. (Allegation 3)

We substantiated the whistleblowers' disclosure concerning the inconsistent wind speed readings with the two wind detection devices at DTW, since at least July 2006. Detroit airport officials have repeatedly attempted to address this problem; however, DTW is currently awaiting funding to remedy the problem by moving the wind speed devices. (Allegation 4)

Below are the details of the individual allegations and our findings.

DETAILS:

Allegation 1: FAA officials improperly reclassified three reported operational errors occurring on July 21, 2008 as non-occurrences.

FINDINGS

FAA officials did not violate law, rule, or regulation by reclassifying the incidents of July 21, 2008, as non-occurrences, and DTW management has addressed the violations of July 21, 2008, by conducting a follow-up investigation, taking administrative action against the responsible front line manager, and re-briefing DTW local Notice N7110.156.

DTW conducted an air traffic configuration known as the Southwest Flow during which aircraft depart Runways 21R and 22L, while arriving on Runways 27L and 22R, until it suspended the operation on March 28, 2008, with Notice DTW N7110.156. Among other things, this Notice provided procedures for transitioning between the South Flow and West Flow while not actually engaging in the Southwest Flow configuration. According to local Notice DTW N7110.156:

- (1) To transition from a South flow to West flow configuration, the last departure from Runways 21R or 22L shall have crossed the Runway 27L projected center line prior to the Runway 27L arrival crossing the Runway 27L ILS Final Approach Fix or 5.3 nautical miles from the runway threshold.¹
- (2) To transition from a West flow to a South flow configuration, the last arrival for Runway 27L shall have landed and be clear of Runway 27L prior to a Runway 21R or 22L departure being cleared for takeoff and commencing takeoff roll.

DTW management officials issued Notice DTW N7110.156 in response to numerous concerns raised by controllers and FAA safety personnel (AOV and the Air Traffic Organization's Office of Safety Services (ATO-Safety)) regarding the operation of the Southwest Flow configuration. When issued, the Notice imposed

¹ The Instrument Landing System (ILS) Final Approach Fix is the point at which aircraft begin final approach during arrivals using ILS, which provides precision guidance during approach and landing.

greater separation requirements than are required under FAA Order 7110.65; however a facility may issue any such additional requirements they believe necessary to ensure a level of safety even if such standards are higher than those required under the national standard. The minimum compliance standards are contained in the national standard, FAA Order 7110.65.

Training records indicate that DTW's five front line managers reviewed DTW Notice N7110.156 between March 27 and April 13, and in turn, verbally briefed their controllers. Additionally, DTW Operations Manager Kevin Grammes, via an April 21, 2008, email, advised the facility's front line managers that the Notice should be used when departing heavy jets from Runway 22L. In the email, Mr. Grammes specifically advised that sufficient gaps should be provided for aircraft using Runway 27L so that the heavy jet has crossed the Runway 27L extended centerline before arriving aircraft have reached the Runway 27L final approach fix.

The complainants alleged that three Boeing 747 Aircraft [Northwest Airlines (NWA) Flights 11, 69, and 71] were improperly launched by controllers on July 21, 2008, at the direction of front line manager Kevin Barttelt with less than the required separation minima identified in local Notice DTW N7110.156. Therefore, such events were operational errors and, according to the complainants, should have been classified as such.

The complainants stated they became aware of the Boeing 747 departures on approximately July 22, 2008. Within a week, one of the complainants requested the air traffic data for July 21, 2008, from DTW's Acting Staff Manager, Gary Ancinec. Mr. Ancinec, in turn, conveyed the matter to the facility's Support Manager for Quality Assurance and Training, Earl Grand, who led a preliminary investigation. Mr. Ancinec and Mr. Grand, with the assistance of DTW quality assurance personnel, determined the events of July 21, 2008, constituted operational errors and Mr. Grand reported the errors to FAA on July 30, 2008. According to the corresponding Preliminary Operational Error/Deviation Investigation Reports generated by FAA: (1) NWA Flight 531 crossed the Runway 27L landing threshold before NWA Flight 11 crossed the Runway 27L extended centerline in violation of FAA Order 7110.65, Paragraph 3-10-4; (2) Comair Flight 1284 was not clear of Runway 27L prior to NWA Flight 69 crossing the Runway 27L extended centerline in violation of FAA Order 7110.65, Paragraph 3-9-8; and (3) Atlantic Southeast Airlines Flight 4508 was not clear of Runway 27L prior to NWA Flight 71 crossing the Runway 27L extended centerline in violation of Paragraph 3-9-8.

Messrs. Ancinec, Grammes, Grand, and Motown District Manager Joseph Figliuolo subsequently conferred among themselves and with other FAA officials, including Director of Central Terminal Operations Nancy Kort and then Terminal Quality Assurance Manager R.D. Engelke, to determine whether the events of July 21, 2008, constituted operational errors. On August 1, 2008, Chuck Chamberlain, Acting Manager, Terminal Operations and Procedures, informed Mr. Ancinec that AOV official Joseph Mantello had concluded the three incidents were a violation of DTW's standard operating procedures rather than operational errors. As a result, the DTW management officials considered the incidents violations of local Notice DTW N7110.156 and not operational errors or deviations.

Consequently, in an August 5, 2008, memorandum to Ms. Kort, Mr. Figliuolo formally requested that the three operational errors reported to have occurred on July 21, 2008, be reclassified as non-events. According to his request, discussions with personnel from ATO-Terminal and AOV determined the events were not operational errors or deviations.

Ms. Kort concurred with Mr. Figliuolo's request, and forwarded the information to Raul Trevino, FAA's Director of Terminal Safety and Operations Support on September 8, 2008. In turn, on September 11, 2008, Mr. Engelke reported to James Bedow, Acting Director of ATO-Safety's Safety Assurance Group (Safety Assurance) that based upon his staff's review of the events, he supported the reclassification request.

Accordingly, personnel from Safety Assurance in Washington, DC reviewed the request, concurred with Ms. Kort's approval decision, and changed FAA records to designate the three DTW events of July 21, 2008, as non-occurrences. Mary Strawbridge, Safety Investigations Manager for Safety Assurance, told us that she and her staff reviewed the audio tapes and radar replays of the events of July 21, 2008, and concluded that because no losses of separation had occurred as defined in FAA Order 7110.65, there were no operational errors.

Ms. Strawbridge further advised that she and her staff were not aware of the specific procedure contained in local Notice DTW N7110.156 during their review of DTW's reclassification request. During our interview of Ms. Strawbridge, we showed her a copy of local Notice DTW N7110.156. She advised that the July 21, 2008, events would not constitute an operational error or deviation, because the departures had only violated local, not national standards. In order to be classified as an operational error or deviation, the event must be a violation of the national, not local, standard.

Additionally, then AOV Air Traffic Investigator Scott Proudfoot, reviewed the radar replay tapes and confirmed that although the three alleged operational errors constituted a violation of local Notice DTW N7110.156, the departures did not constitute operational errors or deviations.

Moreover, we learned that facilities are not required to report violations of local procedures to FAA headquarters or its regional service center when the facility reports operational errors or deviations. Ms. Strawbridge added, moreover, that she and her staff are only responsible for reviewing events for non-compliance with national standards which result in operational errors or deviations or unsafe conditions as defined in the national standards. She added there was no requirement on the national level to have reviewed the alleged violation consisting solely of a local procedure, even if it was reported to them. Therefore, we did not substantiate the allegation that FAA officials improperly reclassified the three alleged operational errors as non-occurrences.

In addition, Mr. Grammes investigated Front Line Manger Kevin Bartelt, who was responsible for ordering the departures of the three Boeing 747 aircraft on July 21, 2008. We reviewed Mr. Grammes' investigation and determined that it was sufficient.

The evidence indicates that although Mr. Bartelt was originally briefed regarding the requirements of local Notice DTW N7110.156 on April 13, 2008, he claimed to have forgotten to coordinate the necessary gaps between aircraft arriving on Runway 27L to comply with the Notice. Although Mr. Bartelt contended this constituted a "mistake," he nevertheless admitted responsibility for violating DTW N7110.156 by failing to coordinate the requisite gaps.

Based on Mr. Grammes' findings, he, with the concurrence of Mr. Figliuolo and Mr. Ancinec, took administrative action pertaining to Mr. Bartelt. Additionally, Mr. Grammes verbally re-briefed all five of DTW's front line managers concerning compliance with local Notice DTW N7110.156. According to training records, the re-briefings occurred between July 31 and August 6, 2008, and included Mr. Bartelt.

Allegation 2: FAA officials ignored and failed to investigate additional operational errors or deviations that occurred on July 21, 2008, concerning the Boeing 747 departures and Runway 27L arrivals.

FINDINGS

Six other violations of Notice DTW N7110.156 occurred on July 21, 2008, but were not identified by the facility. Although the violations were not operational errors or deviations, FAA should ensure DTW thoroughly investigates air traffic events and properly documents all local violations.

The complainants allege that FAA officials ignored additional operational errors or deviations in violation of DTW N7110.156 that occurred on July 21, 2008. Specifically, they allege that: (1) NWA Flight 1682 had not cleared Runway 27L prior to NWA Flight 11 commencing its takeoff roll on Runway 22L; (2) NWA Flight 243 and Pinnacle Airlines Flight 2948 were inside the final approach fix for Runway 27L at the time NWA Flight 11 commenced its takeoff roll; (3) Continental Airlines Flight 1088 and NWA Flight 754 were inside the final approach fix for Runway 27L at the time NWA 69 commenced its takeoff roll on Runway 22L; (4) Mesaba Airlines Flight 3055 had not cleared Runway 27L prior to NWA Flight 71 commencing its takeoff roll on Runway 22L; and (5) CommutAir Flight 8801 and Pinnacle Airlines Flight 5869 were inside the final approach fix for Runway 27L before NWA Flight 71 crossed the Runway 27L projected center line.

During our investigation, AOV reviewed the replay tapes from July 21, 2008, identifying two additional violations of local Notice DTW N7110.156 for each of the three previously referenced Boeing 747 departures. AOV determined, however, that none of the violations resulted in a loss of separation in violation of FAA Order 7110.65 or otherwise constituted an operational error or deviation.

We interviewed Mr. Grand, who originally investigated and notified FAA Headquarters officials of the three alleged operational errors, discussed in Allegation 1, which occurred on July 21, 2008. Mr. Grand prepared the aforementioned August 5, 2008, reclassification request from Mr. Figliuolo based on discussions with AOV and ATO-Terminal officials who concluded that the incidents were not operational errors or deviations. Mr. Grand told us he could not specifically recall why the relevant documents mentioned only one arrival flight for each of the Boeing 747 departures when, in reality, three arriving aircraft entered the Runway 27L final approach fix before each of the Boeing 747 aircraft crossed the Runway 27L extended centerline.

However, because none of the six additional violations of local Notice DTW N7110.156 on July 21, 2008, resulted in operational errors or deviations, and we are aware of no law, rule, or regulation that requires the facility to report violations of a local procedure to FAA Headquarters, we did not substantiate this allegation.

Allegation 3: FAA officials violated the wake turbulence criteria set forth in FAA Order 7110.65, Paragraphs 3-9-8 and 3-10-4, during the Boeing 747 departures and Runway 27L arrivals of July 21, 2008.

FINDINGS

The departures of July 21, 2008, did not result in violations of the wake turbulence requirements of FAA Order 7110.65.

The complainants allege that the three Boeing 747 aircraft that departed on July 21, 2008, from Runway 22L were too close to the aircraft arriving on Runway 27L, thereby violating the separation minima requirements of FAA Order 7110.65, Paragraphs 3-9-8 and 3-10-4. According to complainants, if an aircraft landing on Runway 27L must execute a go-around, it may travel through the wake turbulence created by a heavy jet that just departed Runway 22L or that a heavy jet executing a go-around from Runway 27L could create dangerous wake turbulence for aircraft departing Runway 22L.

Paragraph 3-9-8 of FAA Order 7110.65 requires air traffic control staff to “separate departing aircraft from an aircraft using an intersecting runway, or nonintersecting runways when the flight paths intersect[.]” According to the “Wake Turbulence Application” of the Paragraph, air traffic control staff must not depart aircraft utilizing Instrument Flight Rules (IFR) or Visual Flight Rules (VFR) until two minutes after a heavy jet departs from: (1) crossing runways if projected flight paths will cross or (2) a parallel runway separated by at least 2,500 if the projected flight paths will cross.

Similarly, Paragraph 3-10-4 of FAA Order 7110.65 requires air traffic control staff to “separate arriving aircraft using one runway from another aircraft using an intersecting runway or a nonintersecting runway when the flight paths intersect[.]” According to the Paragraph’s “Wake Turbulence Application,” air traffic control staff must “[s]eparate IFR/VFR aircraft landing behind a departing [heavy jet] on a crossing runway if the arrival will fly through the airborne path of the departure [by] 2 minutes or the appropriate radar separation minima.”

Given the configuration of DTW, however, Runway 22L and Runway 27L do not physically intersect nor do their flight paths intersect. Consequently, the events of July 21, 2008, did not violate FAA Order 7110.65 because Paragraphs 3-9-8 and 3-10-4 do not apply to Runway 22L departures and Runway 27L arrivals. Moreover, because no go-arounds occurred that day, the complainants' concerns regarding that possibility are not applicable to the events of July 21, 2008.

Allegation 4: The ASOS and TDWR wind speed indicators at DTW frequently show significantly different wind speed readings.

FINDINGS

The ASOS and TDWR have shown contradictory results since at least July 2006. Detroit airport officials have repeatedly attempted to address this problem and are currently awaiting funding to remedy the problem.

According to the complainants, as often as two to three times a week, the ASOS and TDWR, which are the primary wind speed indicators at DTW, show different wind speed readings. Given the allegedly inaccurate readings of the TDWR, the complainants contend that controllers lack confidence in relying on the TDWR in the event of ASOS failure, as is required in the facility's standard operating procedures. The complainants allege that providing pilots with an incorrect wind speed could compromise the safety of aircraft and undermine the facility's ability to designate the proper air traffic flow.

The evidence indicates that as early as July 31, 2006, Detroit's Tower Support Specialist Rodney Harris sought advice from an official at Minneapolis-St. Paul International Airport regarding how that facility solved the problem of the TDWR not matching the ASOS or other wind sources. Later, DTW's Support Manager for Operations (Operations Support Manager), Patricia Bynum, in an August 14, 2006, written announcement to all DTW personnel, advised that the centerfield TDWR had been found inaccurate and logged out of service.

In a follow-up written announcement on August 15, 2006, Ms. Bynum announced that effective on that date, the ASOS was now the official primary wind source. The announcement also advised that the TDWR would serve as the primary wind shear and microburst source and would, in the event the ASOS is unavailable, become the official wind source. Per the terms of facility notice DTW N7110.133, which was attached to the announcement, the change was incorporated at Chapter 2-17 of DTW's standard operating procedures.

In an October 13, 2006, email Ms. Bynum sought assistance from Joseph Jirschele, Manager of Terminal Requirements at the FAA Central Service Area Planning & Requirements Group in Fort Worth, Texas, advising that DTW had determined the TDWR unreliable and unable to detect gusts. Ms. Bynum also stated in the email that although this constitutes a safety issue, DTW's Technical Support Center had not tried anything to address the issue because tests conducted by the unit's staff determined the TDWR was properly calibrated. Then, on March 5, 2007, Ms. Bynum reminded DTW's front line managers that the ASOS was the primary wind source and that if the ASOS fails and the TDWR was not reliable, they were to estimate wind (which is done at DTW by observing a windsock).

In a March 23, 2007, email to Ms. Bynum and Mr. Figliuolo, then DTW System Support Center (SSC) Manager John Chamberlain, advised that the ASOS and TDWR "will never agree with one another." In a reply email to Mr. Chamberlain later that day, Mr. Figliuolo stated that despite repeated requests from the DTW Tower to address the issue, "ALL we ever hear is that they will not agree." Mr. Figliuolo also asked in his email that a recent example of the discrepancy be sent to "whoever keeps telling us that they will not agree but it is okay[.]" as DTW Tower officials believed the discrepancy constituted a safety issue for the facility.

During our interviews, more than one DTW management official advised us that Mr. Chamberlain was not readily helpful in addressing their concerns about the discrepancy between the ASOS and TDWR. However, Mr. Chamberlain has since retired from FAA.

Between May and July 2007, various DTW personnel continued to look into the concern, and Detroit Technical Support Center official Dave Dethloff suggested that lowering the TDWR may prove successful. Although Andrew McMurry, Senior Operations Engineer from the Operations Support Center in Chicago, concurred with this suggestion, Mr. Jirschele advised it would be difficult to justify moving wind instruments when the instruments were over a mile apart and the data from both had been certified as accurate and acceptable.

Nevertheless, DTW officials worked with FAA engineering personnel and decided to address the discrepancy by lowering the Wind Measuring Equipment (WME) component of the TDWR from 85 to 30 feet and moving the ASOS to a more central location. Although Detroit Technical Support Center official Thomas Porter submitted funding requests for each of these actions on February 22, 2008, the requests were not forwarded above the district level until April 29, 2008, because the then Eastern Michigan General National Airspace System (GNAS) Manager Rojelio Reyes, failed to promptly provide his approval. Mr. Reyes has

since retired from FAA, and the facility is still awaiting higher-level approval to fund the requests.

Notwithstanding the budget requests, there is some debate within the facility whether the location of the TDWR is solely causing the discrepancy, as it is located at a centerfield location unobstructed by buildings or other raised features. Mr. Ancinec, for example, expressed doubt that the location of the TDWR was problematic, as did Mr. Proudfoot, the AOV Investigator who participated in this investigation. Additionally, Ms. Bynum advised us that the algorithms used by the TDWR to compute average wind speed over a set amount of time may need improvement.

Further, the aforementioned certifications that indicated the equipment was accurate entailed using a computer to electronically input wind speed into a relay unit located on the ground next to the pole containing the WME. Because the wind speed recorded during these certifications came from the computer rather than the WME itself, a malfunction within the WME or in the connection between the WME and the relay unit is possible.

DTW Technical Operations personnel replaced the WME for the TDWR during our site visit on March 12, 2009. After the site visit, one of the complainants informed us via emails sent on March 29-30 and April 16-17, 2009, that the ASOS and TDWR were now reporting the same or similar wind speed and wind direction. Thus, these similarities suggest equipment may have played a role in the ASOS and TDWR discrepancies. The complainant noted, however, that although the wind speed issue appeared to have been remedied, the ASOS reported gusts which the TDWR still was not reporting.

Although DTW has been aware of the discrepancy between the ASOS and TDWR since at least July 31, 2006, the facility has continually attempted to resolve the safety concern. The evidence indicates the delay results not from lack of attention, but from the complexity of the problem, several potential reasons for the discrepancy, layers of review within FAA, the actions and inactions of former FAA officials, and budgetary constraints.

#

cc: FAA Administrator

ATTACHMENT 1: METHODOLOGY

We conducted our investigation with an OIG investigator, who received technical assistance from an FAA Air Traffic Investigator (also certified as an Air Traffic Control Specialist) assigned to AOV. To address the complainants' concerns, we interviewed and held discussions with the following individuals:

- Paul Mueller, Detroit Air Traffic Control Specialist
- Vincent Sugent, Detroit Air Traffic Control Specialist
- Two current DTW controllers (whom we are not identifying to protect their confidentiality)
- Kevin Barttelt, Detroit Air Traffic Control Tower Front Line Manager
- Kevin Grammes, then Detroit Air Traffic Control Tower Operations Manager
- Patricia Bynum, Detroit Support Manager
- Shirlee Coppo, then Acting Eastern Michigan General National Airspace System Manager
- Earl Grand, Detroit Support Manager for Quality Assurance and Training
- Tina Siebertz, Detroit System Support Center Manager
- Gary Ancinec, Acting Detroit Staff Manager
- Joseph Figliuolo, District Manager for the Motown District
- Mary Strawbridge, ATO-Safety Quality Assurance Manager

In addition, our investigative team reviewed numerous records and documents obtained from the Detroit Air Traffic Control Tower and FAA; these included: memoranda, emails, airport diagrams, quality assurance review reports, problem reports, FAA regulations, orders, and notices, selected training records, and relevant radar data.

The team also toured the Detroit Air Traffic Control Tower to better understand operations and accompanied maintenance personnel to replace meteorological equipment on the airport grounds.

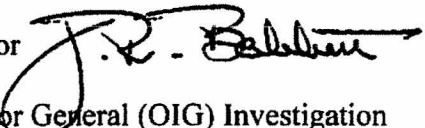


Federal Aviation Administration

Memorandum

Date: DEC 14 2009

To: Mr. Robert Westbrook, Acting Assistant Inspector General
for Special Investigations and Analysis

From: J. Randolph Babbitt, Administrator 

Subject: Response to Office of the Inspector General (OIG) Investigation
Case #I09Z0000011SINV at Detroit Wayne County Metropolitan Airport
Traffic Control Tower (DTW) dated December 4, 2009.

The Federal Aviation Administration has reviewed the above identified OIG Report and submits the following responses to the findings and recommendations:

Allegation 1: FAA officials improperly reclassified as non-occurrences the three reported operational errors of July 21, 2008. ***Finding:*** *FAA officials did not violate law, rule, or regulation by reclassifying the incidents of July 21, 2008, as non-occurrences, and DTW management has addressed the violation of July 21, 2008, by conducting a follow-up investigation, taking administrative action against the responsible front line manager, and re-briefing DTW local Notice N7110.156.*

Response: Concur. The FAA response to the events of July 21, 2008 was thorough and no further actions are warranted.

Allegation 2: FAA officials ignored and failed to investigate additional operational errors or deviations that occurred on July 21, 2008, concerning the Boeing 747 departures and Runway 27L arrivals. ***Finding:*** *Six other violations of Notice DTW N7110.156 occurred on July 21, 2008, but were not identified by the facility. Although the violations were not operational errors or deviations, FAA should ensure DTW thoroughly investigates air traffic events and properly documents all local violations.*

Response: Concur. The FAA's implementation of a Safety Management System, which includes greater emphasis on improving our "safety culture" (or a pervasive emphasis on safety), will help to ensure that future incidents are reported, investigated, and corrective actions taken.

Allegation 3: FAA officials failed to report violations of the wake turbulence criteria set forth in FAA Order 7110.65, Paragraphs 3-9-8 and 3-10-4, that occurred concerning the Boeing 747 departures and Runway 27L arrivals of July 21, 2008. *Finding: The departures of July 21, 2008, did not result in violations of the wake turbulence requirements of FAA Order 7110.65.*

Response: Concur. No further actions are warranted.

Allegation 4: The Automated Surface Observing System (ASOS) and Terminal Doppler Weather Radar (TDWR) at DTW frequently show significantly different wind speed readings. *Findings: The ASOS and TDWR have shown contradictory results since at least July 2006. Detroit airport officials have repeatedly attempted to address this problem and are currently awaiting funding to remedy the problem. Although DTW has been aware of the discrepancy between the ASOS and TDWR since at least July 31, 2006, the facility has continually attempted to resolve the safety concern. The evidence indicates the delay results not from lack of attention, but from the complexity of the problem, several potential reasons for the discrepancy, layers of review within FAA, the actions and inactions of former FAA officials, and budgetary constraints.*

Response: Concur with qualifications. The FAA's ASOS wind sensor used by Detroit Metro airport as the primary airport wind source is located approximately 1000 feet northeast of the Runway 21R threshold. The area within a 500 foot radius of the sensor is free of obstructions. However, a hangar and other multi-story building are located about 600 feet to the east. The ASOS wind sensor is mounted on a thirty foot high pole and the ASOS produces a 2-minute average wind speed and direction with gust information.

The TDWR wind measuring equipment (WME) is actually the former LLWAS-2 center field wind sensor. The wind sensor is mounted on an eighty-five foot high pole near the center of the airport – approximately one mile from the ASOS sensor. The WME sends a 2-minute average wind speed and direction measurement to the TDWR, but the sensor algorithm does not produce wind gust information. The TDWR forwards the WME sensor data to the ribbon displays without modification, where it becomes the “airport wind” at most TDWR airports. If, as in DTW (and MSP), the controllers use ASOS instead of TDWR as the source of airport winds, the information comes from a different display because ASOS has not been integrated with the TDWR at any TDWR airport.

The ASOS wind sensor and the TDWR wind measuring equipment (a former LLWAS-2) center field wind sensor) are located one mile apart and measure wind at different height (85 feet versus 30 feet). Based on the differences in sensor height and location, occasional discrepancies between the wind measurements can be expected, especially in gusty wind conditions. As noted above, the ASOS is the primary wind source for DTW.

At DTW, controllers may estimate the wind using the airport windsock if the TDWR WME is considered not reliable. As noted in the OIG's draft report, the disagreement between the ASOS and the TDWR WME was largely resolved when the WME sensor was replaced on March 12, 2009, while the OIG investigative team was on site at DTW. The equipment is functioning as designed; therefore, no additional funding has been requested.

The predominant issue is the difference in how the two systems calculate wind gusts. These concerns are best addressed with better education of air traffic personnel in regards to the differences of the wind sensor equipment at the DTW airport. The education on the wind sensors will be accomplished through a mandatory briefing item intended for all DTW air traffic personnel by March 31, 2010.

If additional information is needed, please contact Bob Tarter, Vice President for the Office of Safety for the Air Traffic Organization at 202-267-3341.

Atch: (MSP instructions to operational personnel regarding use of wind sensors)

cc: Senior Vice President, Operations, Air Traffic Operations (AJN)
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