



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

May 15, 2012

The Honorable Carolyn Lerner
United States Special Counsel
U.S. Office of Special Counsel
1730 M Street, NW, Suite 218
Washington, DC 20036

Re: OSC File No. DI-12-1847

Dear Ms. Lerner:

By letter dated March 13, 2012, you referred for investigation disclosures from Timothy Funari, a Federal Aviation Administration (FAA) Frontline Manager at the Detroit Terminal Radar Approach Control (TRACON) (D21). Specifically, Mr. Funari alleges that D21 managers improperly used an email from an Air Traffic Organization (ATO) official as justification for controllers' failure to meet all the requirements in FAA Order JO 7110.65 (Air Traffic Control), paragraph 7-4-4c2, resulting in at least three instances of unreported, uninvestigated losses of required separation between aircraft. Further, Mr. Funari asserts that the use of informal guidance, such as emails, may occur elsewhere in the National Airspace System (NAS), resulting in noncompliance with FAA Order JO 7110.65 throughout the NAS.

I delegated this investigation to FAA's Office of Audit and Evaluation (AAE). Enclosed are two versions of the Report of Investigation (ROI) into this matter: an unredacted version for the Office of Special Counsel's (OSC's) official use and a redacted version for posting on OSC's public file. The latter version redacts witness names in accordance with Departmental policy which considers witness names associated with OSC-directed investigations to be sensitive personally identifiable information which should not be publicly released.

In summary, the AAE investigation did not substantiate Mr. Funari's allegations that D21 managers used an email to justify the failure of D21 air traffic controllers to meet the requirements contained in FAA Order JO 7110.65, paragraph 7-4-4 c2, regarding simultaneous visual approaches, resulting in an improper clearance authorization and unreported, uninvestigated loss of separation safety events. The investigation also did not substantiate the allegation that officials at facilities throughout the NAS are relying on improper guidance instead of obtaining official interpretations of FAA Order JO 7110.65.

There is no official guidance or FAA Order that prescribes the circumstances regarding when a facility must request a formal interpretation of FAA Order JO 7110.65; however, since Mr. Funari first raised the issue in January 2012, new orders clarifying the roles and responsibilities of divisions within the ATO have been implemented. This includes the implementation of a centralized system of records and assigning responsibility of reporting,

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investigating, and determining loss of separation of events to one office, instead of several offices as was previous practice.

I am grateful to Mr. Funari for raising these concerns and appreciate the opportunity to review this important matter.

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 spans across the width of the typed name.

Enclosures



Federal Aviation Administration

Redacted

Memorandum


Date: APR 13 2012

To: Michael Huerta, Acting Administrator, AOA-1

From: H. Clayton Foushee, Director, Office of Audit and Evaluation, AAE-1

Prepared by: Erika Vincent, Senior Technical Advisor, AAE-1

Subject: Report of Investigation: OSC Disclosure No. DI-12-1847; Failure by Detroit Metropolitan Terminal Radar Approach Control personnel to comply with all requirements for Simultaneous Visual Approaches (FAA Order 7110.65 paragraph 7-4-4 c2)



At the request of Secretary Ray LaHood, the Office of Audit and Evaluation (AAE) examined safety concerns brought forward by a Detroit, Michigan, air traffic supervisor, which were referred for investigation by the U.S. Office of Special Counsel (OSC) on March 13, 2012. Specifically, the OSC referred allegations submitted by Timothy Funari, a Frontline Manager (FLM) at FAA's Detroit Terminal Radar Approach Control (TRACON), who expressed concern regarding Detroit TRACON (D21) management's reliance on informal guidance for the operation of simultaneous visual approaches. The following specific claims were contained in the referral:

1. FAA Managers in Detroit have improperly used an e-mail from an ATO official as justification for D21 controllers' failure to have met all requirements in FAA Order 7110.65U, paragraph 7-4-4c2 prior to authorizing a visual approach clearance.
2. As such, instances in which controllers have failed to comply with the conditions of paragraph 7-4-4 c2 have resulted in loss of separation safety events which have gone unreported and uninvestigated. Mr. Funari provided three such instances having occurred in January and February, 2012, which were not investigated and reported as losses of separation.
3. The use of informal guidance such as this e-mail may exist elsewhere, and allows for noncompliance throughout the National Airspace System (NAS).

Summary of Findings

We found that Mr. Funari's concern regarding the wording of FAA Order JO 7110.65, paragraph 7-4-4 c2 was first documented in April 2010. A Quality Assurance Review (QAR) conducted by D21 management determined that the events disclosed at that time were not loss of separation events.

On January 11, 2012, Mr. Funari again raised his concerns regarding the intent of the phrasing contained in JO 7110.65, paragraph 7-4-4 c2, when he identified instances in which aircraft, operated on visual approach clearances, had failed to intercept the extended centerline of the runway at angles of 30 degrees or less. Because the controller had failed to ensure that the aircraft's intercept angle was less than 30 degrees before authorizing the visual approach clearance, the controller had improperly granted visual separation. As such, Mr. Funari alleged the controller had failed to provide standard separation and the events should have been classified as loss of separation occurrences.

In response to Mr. Funari's concerns, D21 conducted a Quality Assurance Review (QAR) of the events, which concluded that the controller properly maintained separation and that no reportable event (e.g., operational error) had occurred. However, before closing the matter, D21 Air Traffic Manager (ATM) ██████████ sought verification of his team's findings from personnel at the Central Service Area Quality Control Group (CSA QCG) in anticipation of future inquiry into his actions.¹ Rather than answering ██████████ a CSA QCG member forwarded the ATM's e-mail to ██████████, Manager, Terminal Safety and Operations Support and other ATO officials with a request for assistance in determining whether operational errors had occurred.

In response, ██████████ sent several e-mails, one of which contained a general discussion of visual approaches, noting that there is a distinct difference between visual approaches and Instrument Landing System (ILS) approaches when analyzing angles related to heading and track of an aircraft, in order to determine compliance with FAA Order JO 7110.65. A separate e-mail specifically advised the reader that ██████████ previous e-mail was generic guidance, and that his office did not make preliminary determinations of events. ██████████ clarified that the decision of whether an event was classified as an operational error belonged to the facility with QCG guidance.

Based on his own previous decision and backed by ██████████ e-mail indicating that it was his decision to make, ██████████ closed the QAR as a non-event in late January 2012.

Three weeks later, after several new orders pertaining to the investigation and reporting of events became effective, and ATO's Office of Safety became the primary investigating and reporting authority for event determination, Mr. Funari identified two additional

¹ Detroit Air Traffic Control Tower (ATCT) and TRACON has been the subject of at least 7 OSC whistleblower safety disclosures, resulting in numerous investigations by personnel from OSC, Office of Inspector General (OIG), ATO-Safety, Air Traffic Safety Oversight Service (AOV), and the Central Service Area in the past five years.

“loss of separation” events occurring on February 13, 2012. Using the new safety process to file Mandatory Occurrence Reports (MORs), Mr. Funari reported two instances in which aircraft operating under visual approach clearances had failed to intercept the extended centerline of the runway at an angle less than 30 degrees. As such, the controller had failed to ensure that standard separation existed before he granted visual separation. However, the ATO Safety specialist investigating the matter determined that these events were not loss of separation events, and, after wrongly excerpting part of one of [REDACTED] January e-mails and referencing [REDACTED] by name in his justification, the safety specialist closed the occurrence reports.

After Mr. Funari elevated his concern to our office regarding the use and content of [REDACTED] e-mail in closing an occurrence report, we commenced a review. When notified, ATO Safety managers promptly corrected the occurrence report, removing the e-mail excerpt and counseling staff that they were not allowed to rely on inter-office e-mails as justification for their determinations. Given the singularity of this instance and the newness of the process, we believe the incident was limited to a one-time action by an employee, which is not indicative of systemic use and reliance on informal or improper guidance to close loss of separation events.

At our request ATO Safety officials reviewed the January 2012 events reported by Mr. Funari. Their review found that D21 officials had appropriately determined that the events were not losses of separation. Because these officials concluded the QAR was appropriately closed as a non-event, they did not conclude that losses of separation had gone unreported at D21 or across the NAS.

The OSC disclosure also raises Mr. Funari’s concern that the agency refuses to adhere to the requirements contained in paragraph 7-4-4c2 (specifically that aircraft adhere to standard separation until the aircraft is established on a heading which ensures that an aircraft will intercept the extended centerline of the runway at an angle not greater than 30 degrees), and that this safety issue has been identified as a top risk in the National Airspace System.

We found that while the requirements of JO 7110.65 paragraph 7-4-4 c2 pertain to airports such as Detroit which have parallel runways separated by 2,500 feet but less than 4,300 feet; no such requirement exists for airports with parallel runways separated by 4,300 feet or more. Absent the requirement, controllers were granting the visual approach clearance early in the arrival sequence, such as during the base leg, without a speed restriction and without a turn from the base leg to the localizer [thus resulting in aircraft attempting to join the localizer on a 90 degree turn]; or, in some instances, when the aircraft was on the downwind, resulting in a 180 degree turn. These turns, while legal, resulted in unstable approaches as the aircraft flew through the centerline of the runway, conflicting with traffic on the parallel runways. A Correction Action Plan was implemented, which included a safety risk management panel (SRMP), and changes to JO 7110.65 7-4-4 c3 have been proposed via the ATO Document Change Process, (DCP).

The ATO Office of Safety holds the responsibility for making loss of separation determinations, and to identify safety risks throughout the NAS based on their analysis of data and the content of JO 7110.65. As such, we found no evidence that these officials failed to appropriately consider all conditions of FAA 7110.65 paragraph 7-4-4, or that they acted in an improper manner. While Mr. Funari believes the intent of the phrasing in JO 7110.65 paragraph 7-4-4 c2 is to ensure a heading is issued which ensures the actual course of the aircraft intercepts the extended centerline of the runway at a 30 degree angle or less before a visual approach clearance is granted, all guidance we reviewed indicates that the intercept angle is related to the track of an aircraft only during instrument approaches, not visual approaches.

Given the above circumstances, we did not substantiate the allegation that D21 failed to report or investigate "loss of separation" safety events. Moreover, we did not substantiate the allegations that officials improperly used an e-mail as official guidance, or that other facilities in the NAS are relying on improper guidance instead of obtaining official interpretations.

However, because there is no official guidance or Order which proscribes the circumstances regarding when a facility should or must request a formal interpretation, or whether an interpretation appeals process existed, we understand why [REDACTED] e-mail was perceived as an official interpretation. We believe that the implementation of the new Quality Assurance Order (JO 7210.633), which clearly identifies ATO-Safety as the investigating and determining office for loss of separation events will eliminate future such instances.

However, the ATO would benefit from implementing additional actions demonstrating transparency in future analyses of FAA Order JO 7110.65. Therefore, we recommend that the ATO:

1. Thoroughly review all data contained in ATSAP, CEDAR, ATQA and other data systems to determine whether other facilities with runways spaced between 2,500 but less than 4,300 feet have identified concerns regarding angle of intercept on visual approach clearances.
2. Consider implementing a quality control check by providing a dedicated staff member to conducting random reviews of MORs and EORs closed by an ATO-Safety specialist with a finding that determines a loss of separation did not occur.
3. Consider whether to add the definition of heading into JO 7110.65 pilot/controller glossary. (We note that course and track are defined; however, there does not appear to be a corresponding entry for heading.)

Detailed Discussion

FAA Order 7110.65U, paragraph 7-4-4 c2

Mr. Funari asserts that FAA Managers have adopted informal guidance for the operation of simultaneous visual approaches that results in specific violation of FAA Order 7110.65, paragraph 7-4-4-c2, and that noncompliance with this paragraph results in losses of separation² which are required to be identified, reported and investigated. He provided a copy of JO7110.65U, 7-4-4, which states that there are conditions which apply to visual approaches being conducted on simultaneous parallel, intersecting and converging runways. Once the condition (a prerequisite or qualifier that must be fulfilled to proceed) is/are met, then the controller may apply reduced separation. The conditions or prerequisites are:

- (a) Standard separation is provided until the aircraft are *established* [Mr. Funari's emphasis] on a heading which will intercept the extended centerline of the runway at an angle not greater than 30 degrees; and
- (b) Each aircraft has been issued and the pilot has acknowledged receipt of the visual approach clearance.

He identified instances from January 9 and 10, 2012, and February 13, 2012, in which the aircraft intercepted the extended centerline of the runway at angles greater than 30 degrees. As such, he believed the aircraft were not established (fixed) on a heading which would ensure the appropriate intercept angle, and therefore the aircraft were not eligible to be granted visual approach clearances. When the controller authorized such a clearance, a loss of separation occurred.

Mr. Funari stated that the ground track, as opposed to the aircraft heading (the actual course the aircraft must fly to compensate for the effects of a crosswind) must be a factor used by controllers in determining what heading to assign an aircraft prior to clearing the aircraft for a visual approach.³ He believes that the Order intends for controllers to consider heading and track as meaning the same thing when applying the requirements of JO 7110.65 7-4-4 c2. Thus, he contends that although the Order says, "established on a heading," the intent of the paragraph is that a controller must assign a heading to the aircraft which will ensure that the aircraft's track will intercept the extended centerline of the runway at a 30 degree angle or less, and ensure that the aircraft is fixed or established this track before the controller can provide a visual approach clearance.

² Losses of separation are instances in which two or more aircraft have not maintained 1,000 vertical feet or three nautical miles lateral separation.

³ Strong crosswinds can cause large discrepancies between an aircraft's heading and ground track. For example, an aircraft cleared to land on a hypothetical Runway 36 (heading 360 degrees) would fly a heading of 360 in the absence of any crosswind component. However, if the winds are 15 knots from 270 degrees, that same aircraft may be forced to fly a heading of plus or minus 330 in order to maintain the proper ground track of 360 for landing.

However, all Air Traffic Organization (ATO) officials responsible for issuing guidance pertaining to JO 7110.65 have documented that in all instances identified the aircraft are established on headings which would intercept the extended centerline of the runway at an angle of 30 degrees or less, and therefore the controllers and management have properly applied the requirements of 7110.65 paragraph 7-4-4-c2. Specifically, during both February 13, 2012, instances reported in the disclosure, the controller assigned a heading of 190 degrees, and when the aircraft was established on the heading, it was provided a visual approach clearance. Because the extended centerline of the runway is 220 degrees and the heading was 190 degrees, the angle of intercept was 30 degrees, and the result was a proper application of the rule.

FAA's Aeronautical Information Manual (AIM) and JO 7110.65 paragraph 7-4-3 discuss visual approach clearances, which are issued to expedite the flow of traffic to an airport during optimal weather conditions. It authorizes a pilot to proceed visually and clear of clouds to the airport. The pilot must have either the airport or the preceding identified aircraft in sight. Once the pilot reports the airport in sight, the pilot assumes the responsibility for their own separation and wake turbulence avoidance.

Thus ATO officials determined, and we agree, that because the pilot is completing the turn without air traffic control guidance, deviations to the aircraft track may legally occur as the pilot adjusts his heading (the direction the nose of the aircraft points) to compensate for any wind effects, to ensure the aircraft does not overshoot the turn to final and the aircraft intercepts the extended centerline of the runway in a stable manner.

The D21 ATM requested affirmation from the Quality Control Group (QCG) that his decisions regarding January 2012 events were sound, resulting in several e-mails from [REDACTED] one of which was incorrectly identified as an "official interpretation" of JO 7110.65 paragraph 7-4-4 c2.

On January 11, 2012, Mr. Funari notified D21 Quality Assurance Manager [REDACTED] and [REDACTED] via e-mail that he had observed probable losses of separation occurring on January 9 and 10, 2012, while conducting a review of facility data via the National Offload Program (NOP). He specifically identified the following:

- COM3090/FLG4234 23:25:15Z –On January 9, 2012, a possible loss of separation occurred when an aircraft intercepted the extended centerline of the runway in excess of 40 degrees. Mr. Funari's e-mail indicated that although visual separation instructions were in use, they were inappropriate in that circumstance, because the aircraft (COM3090) was turning in front of the aircraft it was directed to maintain visual separation from (FLG4234).
- DAL1863/FLG4016 23:21:38Z– This event, which also occurred on January 9, 2012, entailed DAL1863 being vectored through the 22R final approach, and at a later point as it was S-turning to establish itself on the final, it flew east of the

centerline, causing FLG4016 (on 22L) to respond to a Traffic Collision Avoidance System issuing a resolution advisory (TCAS RA).

- COM2892/FLG3902-23:21:55Z – On January 10, 2012, a potential loss of separation occurred when the aircraft intercepted the extended centerline of the runway on 22R at an angle of 32 or 33 degrees (tracking the localizer was reported to show 208-209 degrees). Combined with the fact that the aircraft on 22L was S-turning on final (to dissipate speed after having joined the localizer at 240 knots), Mr. Funari expressed concern that the facility is “pushing the 30 degree minima to the max...setting ourselves up for undesirable outcomes.”

After discussion, the facility opened a Quality Assurance Review (QAR) of the events on January 18, 2012. Operations Manager (OM) [REDACTED] completed his review of the QAR, reporting to [REDACTED] on January 23, 2012, that he concurred with the QA findings that there were no reportable events. [REDACTED] also indicated that the events in the January 18, 2012, QAR were very similar to circumstances and events previously identified and investigated by D21 regarding an event on April 27, 2010 which was closed as a non-event upon receipt of guidance from CSA QCG and ATO-Safety that the instance was not a loss of separation because the aircraft was established on a heading and cleared for visual approach.

In anticipation of future inquiry, on January 24, 2012, [REDACTED] forwarded Mr. Funari's January 11, 2012, e-mail to [REDACTED] at the Central Service Area Quality Control Group (CSA QCG), copying [REDACTED], the Detroit District Manager, and [REDACTED], a Senior Advisor to the Director of Central Terminal Operations. [REDACTED] requested verification from QCG that the facility's actions were correct. He notes that the D21 QA office had conducted a QAR in which they assessed the voice and radar data for the January 9-10, 2012, events identified by Mr. Funari, determining that no operational errors had occurred, and that an OM review had concurred with those findings.

Despite his staff's review, [REDACTED] requested that the CSA QCG review events and provide advice. He specifically noted the assertion that an operational error had occurred if the track of the aircraft exceeded 30 degrees on a visual approach, and that such a position was contrary to previously issued guidance from CSA QCG and ATO Safety. [REDACTED] forwarded [REDACTED]'s e-mail later that day to ATO-Safety officials including [REDACTED], [REDACTED], and [REDACTED]; as well as Terminal personnel, including [REDACTED], the Manager for Terminal Safety and Operations Support. In her e-mail, [REDACTED] requested assistance in determining whether operational errors had occurred. She noted that D21, the Central Region Director of Operations (DO) and QCG wanted to ensure that the results of the investigation were complete, correct and accurately reflected that proper event reporting and processing took place during the QAR.

[REDACTED] replied with a general discussion of visual approaches, noting that when his group looks at events for analysis, there is a distinct difference between visual approaches

and ILS approaches when analyzing angles. He ended his e-mail with a request that if there are differing opinions he would like to hear them as he particularly enjoys debating the topic.

██████████ replied to ██████████'s e-mail, copying the original recipients, "██████████: given your response are you saying no ops errors?" To which ██████████ replied:

Our office does not call events OE's or not except in the case of formal re-class requests. I cannot imagine anyone saying OE vs no OE without analyzing both audio and video of an event, and I of course have not seen either. That is a facility call with QCG guidance. That being said, on any simultaneous Visual Approach analysis, IF all of the other requirements of 7-4-4 are met and the headings are assigned in a manner that enables the aircraft to complete the turn, and the only thing left was the difference between heading and track, the heading would be the data point I would use to make the call if I were the ATM, not the track.

To finish the correspondence, ██████████ sent a final e-mail stating, "Facility will process QAR accordingly." Based on these e-mails, previous guidance provided by QCG and ATO Safety personnel in April 2010, and absent opinion or guidance in support of Mr. Funari's reading of paragraph 7-4-4 c2, ██████████ closed the January QAR as a non-event around January 25, 2012.

On January 30, 2012, approximately two weeks after the January 2012 events were reported at D21, several new orders related to its Voluntary Safety Reporting Programs, Quality Assurance, Quality Control, and Occurrence Reporting became effective. ATO Safety's Quality Assurance Group was identified as the responsible office for identifying possible safety-related trends in the system; ensuring all policies and procedures were being followed correctly, and when not, whether mitigations, plans/efforts put in place were effective.

The review, investigation, and determination of an occurrence, reported via either a Mandatory Occurrence Report (MOR) or an Electronic Occurrence Report (EOR) in the Comprehensive Electronic Data Analysis and Reporting (CEDAR) database tool⁴ then shifted from being specific to a facility (with QCG guidance), to becoming the sole

⁴ The Comprehensive Electronic Data Analysis and Reporting (CEDAR) system is a web-based, comprehensive data reporting, collection, and analysis tool used by both quality control and quality assurance to record data. Mandatory Occurrence Reports (MORs) are reports generated at the facility level, generally by a manager, reporting occurrences such as suspected losses of separation into CEDAR. The MOR will also contain any radar data, voice files, and supporting documents associated with a specific reported occurrence. Electronic Occurrence Reports (EORs) are alerts automatically generated and uploaded into CEDAR upon identification by an automated system such as the Traffic Analysis and Review Program (TARP).

Both EORs and MORs are reviewed and investigated at the regional service area by an ATO-Safety Quality Assurance specialist. The specialist is responsible for obtaining/retrieving voice tapes and radar replay, synthesizing the data for review, and determining what actually transpired during the event, to include determining whether a loss of separation occurred.

purview of ATO Safety (See JO 7210.633 Chapter 3). The safety specialists, located in three regional offices, are assigned to specific air traffic facilities; requiring them to be proficient not only with national air traffic orders, but also in regards to facility-specific items including airspace boundaries and local standard operating procedures.

Using the new reporting process, Mr. Funari, filed two MORs regarding potential loss of separation events occurring on February 13, 2012. His MORs indicated that aircraft operating on visual approaches had failed to intercept the extended centerline of the runway at an angle of 30 degrees or less.

When Mr. Funari filed the MORs, a safety specialist in Fort Worth, Texas assigned to work D21 matters, reviewed the MORs, determining that the events in the MORs were not losses of separation because the aircraft in question were given headings which would intercept the extended centerline of the runway at a 30 degree angle or less, and were established on the heading at the time the visual approach clearance was given. Based on his expertise, the specialist determined that proper application of the rule had been applied, appropriate separation was maintained, and the occurrences were not losses of separation. In support of his determination, the specialist wrongly added text copied from one of [REDACTED]'s January e-mails, before closing the MORs on February 14, 2012.

Mr. Funari told us he met with the [REDACTED], QA Manager [REDACTED], OM [REDACTED] and OM [REDACTED] on February 15, 2012, during which time he was told that the events he identified in January and February had been reviewed by Safety Quality Assurance personnel, and an interpretation (Mr. [REDACTED]'s e-mail) had determined that the identified events were not loss of separation incidents.

During that meeting, Mr. Funari requested a copy of the formal interpretation. On February 21, 2012, [REDACTED] e-mailed Mr. Funari advising him that there was no formal interpretation of paragraph 7-4-4; however, he [REDACTED] would request one from headquarters. Mr. Funari replied, advising [REDACTED] that absent an official interpretation listed on the interpretations website (containing the only validate ATC interpretations), D21 was using an invalid interpretation which was resulting in the failure to report numerous losses of separation.

Later in the day on February 21, 2012, the D21 ATM forwarded Mr. Funari's e-mail to several individuals, including Central Service Area officials and [REDACTED] indicating that he had limited personnel to work on preparing a request for formal interpretation,⁵ and that if such an interpretation was to be a priority, "...maybe we could get some help?" In response, [REDACTED], a senior advisor to the Director of Operations in the

⁵ FAA's Air Traffic Control Procedures Office (ATCPO) is responsible for, among other things, the development of all interpretations, and the maintenance of the interpretations database. The ATCPO Standard Operating Practices v. 3.0⁵ outlines the process for requesting an interpretation. Specifically, a request for an interpretation originates from the facility manager (the change initiator) who submits the required form to their validating office – the service center for the region the facility is located. If the service center declines to validate the request, a copy of the justification is sent to ATCPO, but the request is not processed.

Central Service Area wrote, "...I would expect an interpretation request only if the management team, or a majority of the facility is confused."

██████████ told us, that other than Mr. Funari, no other individual had raised the issue as a concern, or expressed confusion regarding the requirements contained in 7-4-4 c2. Because he, his QA staff, QCG and ATO Safety staff all read paragraph 7-4-4 in the same manner, that the paragraph said exactly what it meant, he did not believe confusion existed. In addition, based on the e-mails and telephone conversations with ██████████ and QCG staff who believed an interpretation request was unnecessary, the ATM ceased pursuit of a formal interpretation.

On February 28, 2012, Mr. Funari sent an e-mail to ██████████ and to our office expressing concern regarding ██████████'s "interpretation" of paragraph 7-4-4. In response, we facilitated a March 9, 2012, telephone conference with ██████████ Mr. Funari, and personnel from our office and ATO Safety. Mr. Funari discussed his concern regarding the content of ██████████'s guidance, as well as the use of the e-mail itself to close the MORs. In response, ██████████ told us that his e-mail was not a formal or informal interpretation of the specific events disclosed by Mr. Funari, and he was unaware the e-mail had been used as an interpretation or rationale for closing a specific event. However, he maintained that the content of his e-mail pertaining to JO 7110.65 paragraph 7-4-4 was correct – that the requirement states, "heading" which is what the controller gives prior to authorizing the visual approach clearance. Once the pilot completes the turn and is established, he can make heading corrections at his discretion, the track of which is not a measurable air traffic item.

In response to this conversation, Acting National Quality Assurance Group Manager ██████████ was notified of the excerpt in question, and it was removed. He also instructed the other two service area Safety Quality Assurance managers to ensure that their specialists review and complete MORs basing their findings only on existing Orders and formal interpretations contained in the ATO official interpretations library. However, neither we nor ██████████ are aware of any additional instances where MOR evaluations relied upon inter-office communication as the justification for closing a reported occurrence. Given the singularity of this instance and the newness of the process, we believe that this instance was limited to a one-time action by an employee, which is not indicative of a systemic use and reliance on informal or improper guidance to close loss of separation events.

We found that aircraft vectored at speed and/or angle of intercept which result in aircraft overshooting the final approach course is one of the ATO- identified Top 5 Hazards in the National Airspace System (NAS); however, the data demonstrated that the risk events were occurring at airports in which the distance was greater than 4,300 feet between runways, as such airports do not have angle of intercept requirements.

OSC's disclosure reports that an aircraft's failure to intercept the extended centerline of the runway at an angle of 30 degrees or less has been identified as a top risk in the NAS,

and therefore the failure to comply with the requirements of JO 7110.65 paragraph 7-4-4 c2 affects air traffic control in TRACON airspace nationally.

The ATO has implemented a process for reviewing collected data to determine the top 5 hazards contributing in the NAS, as part of the ATO's Safety Management System (SMS). The Risk Analysis Process (RAP) evaluates each Risk Analysis Event (RAE),⁶ the results of which are classified into categories, prioritized based on risk. On February 11, 2011, the top 5 identified hazards in the NAS included, "Aircraft vectored at speed and/or angle of intercept that result in aircraft overshooting final approach course, resulting in a loss of separation with traffic on parallel approach." The RAP determined the causal factors for these events were that, "Current requirements in JO 7110.65 allow for aircraft to be turned on to final approach at excessive speed;" and "Current requirements in JO 7110.65 allow for aircraft turned to final at excessive intercept angle."

As supporting data, the analysis indicated that 15% of the high risk RAEs for the past year were attributed to the arrival sequencing – speed and angle category. Of these RAE, we were told that 100% pertained to an aircraft overshooting the final approach course, creating a conflict with aircraft on parallel runways separated by 4,300 feet or more. Specifically, while airports with parallel runways separated by 2,500 feet but less than 4,300 feet (such as Detroit) have a requirement for aircraft to be established on a heading which will result in an angle of intercept not greater than 30 degrees; no such requirement exists for airports with parallel runways separated by 4,300 feet or more.

Without this requirement, the RAP determined that in many instances controllers were granting the visual approach clearance early in the arrival sequence, such as during the base leg, without a speed restriction and without a turn from the base leg to the localizer [thus resulting in aircraft attempting to join the localizer on a 90 degree turn]; or, in some instances, when the aircraft was on the downwind, resulting in a 180 degree turn. These turns, while legal, resulted in unstable approaches as the aircraft flew through the centerline of the runway, conflicting with traffic on the parallel runways.

In short, the "top 5 hazard" cited by Mr. Funari in the OSC referral did not apply to airports with closely-spaced runways such as Detroit, where intercept angle requirements are in place. All of those instances occurred at airports where no such requirement was in place. On July 18, 2011, Corrective Action Plans (CAPs) for the five hazards were initiated. As corrective action for the identified hazard of aircraft being vectored at speed and/or angle of intercept which results in overshooting the final approach course, the ATO implemented a mitigation strategy, which includes convening a Safety Risk Management (SRM) panel; submission of a Document Change Proposal (DCP); implementation of General Notice change to the JO 7110.65 paragraph 7-4-4 c3; instruction to facilities to develop local procedures and standards regarding appropriate speed for vectors to the final approach course; and develop training to implement the updated procedures.

⁶ An airborne loss of separation with a Measure of Compliance (MOC) less than 66%, meaning less than 66% of the required separation (generally identified as 3 miles or 1,000 feet) was maintained.

Recommendations

It is clear from this investigation that all of the concerned parties failed to communicate effectively. Effective risk communication is critical to the successful implementation of a risk management program. Prior to January 30, 2012, the determination of events rested with the facility manager, with QCG guidance. Given several previous high-visibility air traffic whistleblower investigations throughout the NAS, individuals in the Central Region were reluctant to make decisions without support from headquarters. When [REDACTED] responded with his e-mails, he clearly indicated that he was providing guidance and that he was not responding as a deciding official, nevertheless his e-mail was used as justification or an "official" headquarters response.

With the advent of the new QA orders on January 30, 2012, the determination for loss of separation events rests with one office, ATO-Safety, in one central system of records, CEDAR. If a facility does not support the determination of the ATO Safety specialist, the facility can still request a formal interpretation from ATCPO with the assistance of the QCG. We believe this clear delineation of responsibility will eliminate future concerns regarding guidance versus formal interpretations.

However, the ATO would benefit from implementing additional actions demonstrating transparency in future analyses of FAA Order JO 7110.65. Therefore, we recommend that the ATO:

1. Thoroughly review all data contained in ATSAP, CEDAR, ATQA and other data systems to determine whether other facilities with runways spaced between 2,500 but less than 4,300 feet have identified concerns regarding angle of intercept on visual approach clearances.
2. Consider implementing a quality control check by providing a dedicated staff member to conducting random reviews of MORs and EORs closed by an ATO-Safety specialist with a finding that determines a loss of separation did not occur.
3. Consider whether to add the definition of heading into JO 7110.65 pilot/controller glossary. (We note that course and track are defined; however, there does not appear to be a corresponding entry for heading.)

If I can answer any questions or be of further assistance, please contact me at (202) 267-9000, or Erika Vincent, at (202) 267-8585.