U.S. Department
of Transportation

Office of the Secretary
of Transportation

GENERAL COUNSEL

1200 New Jersey Avenue, SE
Washington, DC 20590

June 25, 2010

Karen P. Gorman, Esq.
Deputy Chief, Disclosure Unit
U.S. Office of Special Counsel
1730 M Street, NW, Suite 300
Washington, DC 20036-4505

Re: OSC File No. DI-08-3138

Dear Ms. Gorman:

This is to follow up on your recent request for supplemental information in the above-referenced matter. Attached please find a June 4, 2010 memorandum from the Office of Inspector General, to whom the Secretary delegated the investigation. Please treat this memorandum as our supplemental report.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Debra J. Rosen

Debra J. Rosen
Senior Attorney
Office of General Counsel

Enclosure

Memorandum

U.S. Department of Transportation
Office of the Secretary of Transportation
Office of Inspector General

Subject: **ACTION**: OIG Investigation #I09Z000021SINV, Re: TRACON Management at Detroit Metropolitan Wayne County Airport OSC File No. DI-08-3138

Date: June 4, 2010

From: Robert A. Westbrooks
Acting Assistant Inspector General for Special Investigations and Analysis, JI-3

Reply to Attn. of: R. Engler

To: Judith S. Kaleta
Assistant General Counsel for General Law
Office of General Counsel

This supplemental report responds to an email to the Department from the U.S. Office of Special Counsel (OSC) dated April 21, 2010, requesting additional information from the Office of Inspector General's (OIG) investigation into aviation safety concerns arising out of the Detroit Metropolitan Wayne County Airport Terminal Radar Approach Control (TRACON) facility. We respectfully request that you forward this information to OSC.

If you have any questions or concerns about this report, please contact me at (202) 366-1415 or the Director of Special Investigations, Ronald C. Engler, at (202) 366-4189.

1. **OSC request:** "Allegation 1, as discussed on page 5 of the OIG memorandum report, identifies the disclosure as a concern that an aircraft departing from Oakland County International could occupy the same airspace as a missed approach aircraft from Oakland/Troy without being seen by the controller. Further, it notes the whistleblower's concern that the alternate missed approach procedure for uncontrolled Monroe Custer airport may also result in a violation of FAA Order 7110.65, because the procedure may direct an aircraft into the airspaces of Detroit City and Windsor, Ontario airports. The response states that the missed approach procedure for Oakland/Troy and Monroe Custer airports were reviewed, and OIG 'found they were flight-checked, as required under FAA Order

7110.65, to ensure missed approach aircraft safely avoid ground obstacles, such as antennae.'

The report also states that although interviewees did not consistently demonstrate adequate knowledge of requirements for separating non-radar aircraft from radar identified aircraft, the report did not find information demonstrating a loss of separation during the execution of a missed approach procedure. A footnote does reflect that there may have been a loss of separation on January 22, 2010, and that AOV is reviewing the data from this event.

Please clarify the findings with respect to the missed approach procedures – how does the flight check affect the possibility of aircraft avoiding other aircraft? What about Detroit City and Windsor, Ontario? Was the only information obtained in the investigation the Front Line Managers' recollections, or did investigators audit or observe the procedures at the facility? Further, did the AOV review determine that a loss of separation occurred on January 22, 2010?"

OIG response: During a flight check, FAA pilots fly a missed approach or alternate missed approach procedure published by FAA. To make clear, the check is not used for aircraft separation purposes. Instead, it is intended to ensure aircraft receive navigational aid signals and are clear of obstructions.

When a missed approach occurs at an uncontrolled airport, such as Oakland/Troy airport or Monroe Custer airport, an aircraft is authorized by a Detroit TRACON controller to execute the published missed approach or alternate missed approach procedure. At that point, although the controller would terminate radar service for the aircraft, he/she would maintain safe separation from other aircraft along the aircraft's projected flight route from the uncontrolled airport to the holding pattern area designated in the missed approach or alternate missed approach procedure. Nonetheless, the whistleblower suggests that, in the event of a missed approach at Monroe Custer, suspension of all operations at Detroit City and Windsor airports is warranted because the aircraft executing the missed approach procedure may occupy airspace in the vicinity of those two airports.

Prompted by the whistleblower's suggestion, Gary Ancinec, then Acting Motown District Manager, sent a memorandum dated June 11, 2009, to Nancy Kort, Director of Terminal Operations for the Central Service Area, in which he requested guidance on what airspace to protect in the event of a missed approach. On June 17, 2009, Kort forwarded the request to Acting Director of Terminal Safety and Operations Support Tony Mello.

In an April 21, 2010, memorandum responding to Kort, Mello advised:

> [T]here are no specific requirements for "protected" airspace for missed approaches and/or holding patterns at satellite airports for which the controller is responsible. Controllers are expected to plan for the possibility of aircraft executing missed approaches or go arounds and are expected to apply standard [air traffic control] separation should such an event occur.

We discussed the whistleblower's concern about maintaining safe separation in Detroit City and Windsor airspace in the event of a missed approach with David Dodd, Acting Manager of Terminal Operations and Procedures, to whom Mello referred questions regarding the April 21 memorandum. Dodd advised that in the event of a missed approach at Monroe Custer, it is not necessary to suspend air traffic operations at Detroit City or Windsor because the relatively small number of aircraft using those airports is unlikely to result in a loss of separation between those aircraft and an aircraft conducting a missed approach. Moreover, Detroit TRACON controllers are prepared to apply FAA air traffic procedures to ensure safe separation.

As for how we obtained information during our investigation, we interviewed Detroit TRACON Frontline Managers regarding airspace protection for satellite airports, including a possible missed approach. We did not monitor satellite airport operations upon learning from TRACON managers that missed approaches rarely occur. For example, one Frontline Manager employed at Detroit since 1986 recalled "less than a handful" of missed approaches at Monroe Custer airport during his 23 years. In addition, we did not receive an allegation of a loss of separation due to a missed approach at Detroit's satellite airports during our two site visits to the facility or, for that matter, within 45-days of our visits (the time during which we could have reviewed replay and voice data to determine whether a loss of separation occurred).

The alleged loss of separation we mentioned in our footnote, which took place on January 17, 2010, occurred after our site visits. AOV requested the corresponding voice data for this incident on February 22, 2010, within the 45-day retention period. The FAA Air Traffic Organization Office of Safety (ATO-Safety) Quality Assurance employee who received the request, however, did not immediately retrieve the data from the Central Service Area. Instead, she sought the data from the Central Service Area after the 45-day period had elapsed and the data was destroyed. Therefore, AOV was unable to determine if a loss of separation occurred on January 17, 2010.

We interviewed the responsible ATO-Safety employee to determine if her failure to obtain the data was intentional. She told us that, rather than immediately ask the Central Service Area to retain the data for January 17, 2010, she asked AOV why it wanted the data. According to the employee, she asked for an explanation because the Central Service Area sometimes asked her why the data was sought. Although AOV provided her the reason (it was for a "whistleblower" case) within the 45-day period and she did not request the data from the Central Service Area until after that period had elapsed, she denied that she purposely delayed the request. Instead, she blamed her failure to timely retrieve the data on her workload. She also denied having any interest in the outcome of the question of whether a loss of separation occurred. For example, she told us she has no relationship with any Detroit TRACON personnel.

We also interviewed the Quality Assurance employee's immediate supervisor, ATO-Safety Quality Assurance Manager Ronald Schneider. Schneider informed us that another ATO-Safety Quality Assurance official, Safety Investigations Manager Mary Strawbridge, had instructed the employee on multiple occasions within the last two years that she should not question the reason for a data request. Schneider and the employee informed us, however, that Strawbridge's instructions were not documented and the employee's questioning of requestors had not previously resulted in her failure to timely retrieve data. Schneider also told us that he met with the Quality Assurance employee on May 13, 2010, and counseled her that determining the basis for data requests is unnecessary and that any future occurrences would result in progressive disciplinary action. He also told us he documented this conversation.

We determined that the evidence is insufficient to prove by preponderance that the Quality Assurance employee intentionally failed to obtain the data. She did not treat AOV's data request differently than previous requests from other sources. For at least two years, she had asked requestors why they wanted the data. Although she later became aware that AOV's request was for a "whistleblower" case and she had not failed on other occasions to timely retrieve data, we found no evidence that she had an interest in the outcome of this whistleblower case which might provide her a motive to delay her request. In addition, we are unable to factually dispute her claim that a heavy workload caused her failure to timely request and ultimately retrieve the data.

2. **OSC request:** "Allegation 4, page 11 – A March 30, 2009 ATO-Safety investigation is referenced. Was there a report prepared in connection with this investigation? If so, please provide a copy of the report. Reference is also made to a May 27, 2009 memorandum issued by Detroit TRACON Management, rescinding guidance provided by the Operations Manager in a January 23, 2009 e-mail. Please provide copies of the documents referenced."

OIG response: The ATO-Safety report is enclosed as Attachment 1; the May 27, 2009 email and corresponding "Briefing Read & Initial Sheet" are enclosed as Attachment 2.

3. **OSC request:** "The report identifies witnesses by title only, and contains a list of witnesses interviewed. The titles are not consistently keyed to the list of witnesses (for example, the report refers on page 19 to the Operations Manager, but the list of witnesses refers only to a former Operations Manager – this could be the same person but it is not clear). Please provide a copy of the report containing names and titles for clarity."

OIG response: A copy of the report with names and titles is enclosed as Attachment 3.

ATTACHMENT 1

Federal Aviation Administration

Memorandum

Date: MAY 0 5 [illegible]

To: James C. Bedow, Acting Director, Quality Assurance, AJS-3

From: Mary Kate Strawbridge
Mary Kate Strawbridge, Manager, Quality Assurance, AJS-3200

Subject: Onsite Investigation at Detroit Airport Traffic Control Tower and Terminal Radar Approach Control Concerning Issues Identified by Frontline Manager Whistleblower and Central Service Area, Safety Assurance Group

BACKGROUND

The Detroit Airport Traffic Control Tower (DTW ATCT) and Terminal Radar Approach Control (D21 TRACON) have been the subject of several onsite investigations since 2007 by multiple organizations including the Department of Transportation (DOT) Office of the Inspector General (OIG) which in the spring of 2008 investigated whistleblower allegations against the facilities' Southwest Flow operations (see OIG Investigation Report #081HB33H001); the FAA Office of Air Traffic Safety Oversight, AOV, which investigated operational issues at the facilities on August 14, 2007, March 24, and May 12, 2008; and this office, AJS-3, which conducted two previous onsite investigations at the facilities, on October 15, 2007, and May 12, 2008. These previous investigations have identified deficiencies in the facilities' training programs, unclear guidance from local management to operational personnel regarding operational procedures, and local operations that were non-compliant with national directives.

The most recent investigation was by the Central Service Area, Safety Assurance Group (CSAG) which conducted a Quality Control Review (QCR) at D21 during the weeks of February 9 and 16, 2009. This CSAG review was prompted by allegations by a D21 Frontline Manager (FLM) reporting local operational practices that compromised operational safety.

The CSAG report from this investigation contained specific observations in five major areas (please see attached report):

1. Safety Culture Around Event Reporting;
2. Quality Assurance Program Oversight;
3. Standard Operating Procedures (SOP) and Letters of Agreement (LOA);
4. Adequacy of D21 Airspace Design;
5. Validation of Runway Occupancy Time for 4R/22L.

The ATO Office of Safety's Quality Assurance Division, AJS-3, initiated an independent onsite investigation at D21 during the week of March 30, 2009. This AJS investigation was to validate the CSAG observations and determine effectiveness of facility actions to-date addressing identified issues.

ISSUES, FINDINGS, AND RECOMMENDATIONS

Focus Area 1: Safety Culture Around Event Reporting

Allegation: The FLM alleged that events were not being reported as required by national directives.

CSAG Finding: The CSAG found that there were "misperceptions among CPCs what constitutes an event to be reported." CSAG cited the example of a CPC statement that, "if an event was not that serious, then it doesn't need to be reported." CSAG also reported that an Operations Manager (OM) stated that there "is good cheating and bad cheating." The CSAG concluded that the D21 management team had given its "tacit approval" to these views.

AJS-3 Finding: While the AJS team was unable to fully validate the extent of the facility's failures to report events, in reviewing the facility's results from mandatory internal audits and through the team's own audit of random data, the AJS team did identify five events which the facility had not previously detected and/or properly reported.

The AJS team forwarded these five observed events to facility management for further review. Of these five forwarded events, the facility reported two Category C operational errors involving wake turbulence and two Proximity Events. One of the events that was later determined to be a wake turbulence error had been previously opened and closed as a Quality Assurance Review by the DTW management team. The facility also reported one loss of separation attributed to a pilot deviation.

Recommendations: ***AJS and Terminal Services (AJT) should immediately establish the Traffic Analysis and Review Program (TARP) at D21 to accomplish daily random radar audits.*** Although facility management told the AJS team that "everything is reported," the above findings and also those concerning the facility's Quality Assurance Review process (see below) indicates this is not the case. TARP training for facility employees was completed on February 4, 2009. A TARP configuration should be completed and implemented operationally as an audit tool for as many hours daily as practical. The use of TARP would provide facility management with improved detection capabilities and would facilitate oversight of the facility's reporting programs.

Focus Area 2: Quality Assurance Program Oversight

Allegation: The FLM alleged that events were not being reported as required by national directives.

CSAG Finding: The CSAG identified numerous problem areas with the Quality Assurance Review (QAR) program at D21.

AJS-3 Finding: The AJS team validated the QAR process problems identified in the CSAG report, including the following:

- FLMs could not consistently relate the QAR process, nor in some cases, state the types of events requiring a QAR. During one interview, an FLM stated that "everything gets logged." When asked about in-flight medical emergencies, the FLM stated, "except those." When asked about reported in-flight mechanical issues the FLM stated, "except those, too."
- Multiple QAR entries found in facility logs were found unclosed and with no supporting investigative documentation beyond the original log entry. For example, a go-around on March 10, 2009 at 22:11 UTC was logged by DTW as "all tower ops satisfactory". There was no corresponding D21 QAR log entry or QAR form. This event was one of the Category C wake errors identified by the AJS-3 team. In addition, there were five Cleveland ARTCC (ZOB) Operational Error Detection Patch (OEDP) alerts in D21 airspace that the AJS team reviewed. ZOB facility records indicate that at least one of those alerts was forwarded to D21 for review. None of the ZOB OEDP alerts was logged by D21 as a QAR. The facility was not able to provide documentation of an investigation for the lone OEDP alert that was verified as having been coordinated by ZOB with D21.
- The AJS-3 team was unable to observe any QAR trend analysis provided to employees. While individual events are briefed, trends do not appear to be tracked, summarized, or briefed

Recommendations: ***The facility should adopt QAR procedures from other facilities that have demonstrated successful programs.*** AJS, the CSAG, and AJT are able to supply several facilities whose QAR programs may be modeled.

Focus Area 3: Standard Operating Procedures (SOP) and Letters of Agreement (LOAs)

Allegation: The FLM alleged omissions and irregularities contained within the facility's SOP and LOAs.

CSAG Finding: The CSAG concluded that the D21 SOP did not appear to be in compliance with national directives in several areas (see below).

AJS-3 Finding: LOAs between D21 and Detroit City (DET) ATCT and Ann Arbor (ARB) ATCT require five miles radar separation between arrivals. The facility was unable to explain to the AJS team the original rationale for using five miles, versus standard three, radar separation between arrivals. Several FLMs suggested this was a legacy requirement held over from a previous time when radar coverage was poorer prior to the commissioning of a second ASR-9 radar at Northville. While the facility's LOAs with DET and ARB still require 5 miles separation, the facility appears to apply the requirement only inconsistently. During AJS interviews, several D21 personnel stated that numerous controllers coordinate with these towers for reduced separation (3 miles) between arrivals.

Recommendation: ***The facility should clarify the three vs. five mile separation question at ARB and DET airports without delay and either delete the requirements in local directives or brief employees on why the requirements remain needed.***

AJS-3 Finding: The missed approach procedure for the Vulcan/Troy airport (VLL) VOR/GPS-A returns the aircraft to the Pontiac VOR (PTK) which may conflict with aircraft on approach to Pontiac airport.

Facility management maintains that since radar coverage exists to the surface at VLL that there is no need to protect PTK traffic through non-radar procedures from the VLL arrival and potential missed approach. There is no published alternate missed approach procedure for the VLL VOR/GPS-A. The AJS team's observations suggest that even with adequate radar coverage, controllers may not have

adequate time to separate an unplanned VLL missed approach from PTK traffic.

Recommendation: ***D21 needs to establish local procedures that ensure protection for the VLL VOR/GPS-A missed approach.*** The facility should not rely on radar coverage and two-way communication for separation between aircraft operating into and out of the uncontrolled airports of VLL and PTK.

Focus Area 4: Adequacy of D21 Airspace Design

Allegation: The FLM alleged numerous deficiencies in D21 airspace design, airspace boundary separation, and the compatibility of the D21 airspace configuration with national separation requirements

CSAG Finding: The CSAG concluded that the D21 airspace design "does not appear to ensure traffic flows in, out, and through the Detroit Metro Airspace without controllers being burdened with completing additional coordination..."

AJS-3 Findings:

- **"look and go:"** The AJS-3 team did not observe the use of "look and go," by D21 personnel as alleged by the FLM. "Look and go" is the non-compliant, informal practice in which controllers agree to miss one another's traffic in their or another controller's area of jurisdiction. Look and go procedures allow the use of another controller's airspace without benefit of individual aircraft coordination.
- **Pre-arranged Coordination Procedures (PACPs):** The AJS-3 team did however validate several of the employee-identified problems with the D21 airspace design including the high volume of both formal and informal PACPs used routinely by D21 personnel to work around airspace design problems.

The facility has a number of formal PACPs which are established and properly documented in local directives. Through interviews with FLMs, the AJS-3 team established that the facility also uses *informal* PACPs . These informal PACPs do not meet requirements of national directives. For example, in anticipation of an arrival bank, the FLM will verbally brief the affected controllers as to what airspace will change to expedite the flow. Also, the line(s) of jurisdiction depicted on the radar displays are modified to reflect this temporary operation. D21 personnel call this the "F13 line". The line(s) are changed through the STARS automation platform. These types of informal PACPs appear to be used as workarounds for airspace issues and are established by controllers on an ad hoc basis with involvement of the FLMs, but they are not published as required in a facility directive.

FLMs stated that, while the airspace problems exist and should be corrected, they do not believe they present significant safety concerns. According to the facility, the PACPs, formal and informal, are necessary to enhance the flow of traffic.

Recommendations:

- ***AJT and the CSAG should assist the facility with immediately suspending any pre-arranged coordination practices that are not in compliance with national directives.***
- ***The facility should publish a mandatory briefing item stating the proper policy and regulations for coordination of traffic in compliance with national directives.***

- ***AJT and the CSAG should assist D21with an immediate review of the current airspace design.*** Problem areas should be identified and any potential safety issues immediately mitigated until any redesign is completed.

Focus Issue 5: Validation of Runway Occupancy Time for Runways 4 Left and 22 Right

Allegation: The FLM alleged that the D21 was conducting instrument approaches to Runways 4 Right and 22 Left using reduced longitudinal separation without the required supporting runway occupancy time study in place.

CSAG Finding: The facility suspended the use of reduced separation for Runways 4 Left and 22 Right following the CSAG onsite investigation due to a lack of runway occupancy time (ROT) data.

AJS-3 Findings: The AJS team observed a facility briefing item suspending the use of reduced separation to Runways 4 Left and 22 Right.

Additional Issue "Straight and Level"

Allegation: The FLM alleged consistent misapplication by D21 personnel of the requirement for controllers to provide arrival aircraft conducting simultaneous ILS approaches "Provide at least 1 mile of straight flight prior to the final approach course intercept.

CSAG Finding: The CSAG report contained the allegation under the heading "Issues Given to the D21 QCR Team," but stated no position.

AJS-3 Finding: While the AJS team did not observe a consistent violation of the "straight and level" requirement, the group was provided with a copy of an email message from an OM which states that the straight and level component could occur "at any point within our airspace…including an outer fix that the pilot has been instructed to cross at 12000' and slowing to 250 knots." This statement is clearly counterintuitive to the intent of providing a stabilized turn to final and intercept of the ILS. The facility states that they are requesting formal interpretations on this and several other related paragraphs.

During a 1-hour period of radar reviewed, the AJS team identified nine aircraft that were vectored to join an instrument approach final out of compliance with the requirement for at least one mile of straight and level flight.

Recommendation: ***AJT should direct the facility to immediately brief its operational personnel on the correct application of "straight and level"*** This requirement is fundamental to the safe radar control.

Additional Issue "Transfer of Communication"

Allegation: The FLM reported that arrival aircraft are frequently issued frequency changes from the D21 final approach controller to the DTW local controller at a point beyond that required by the D21 SOP. The FLM suggested that these instances of late frequency change should be considered Operational Deviations (ODs).

CSAG Finding: The CSAG report contained the allegation under the heading "Issues Given to the D21 QCR Team," but stated no position.

AJS-3 Finding: DTW FLMs interviewed by the AJS team stated that there is a consistent issue with late frequency changes on arrivals from D21. The D21 SOP requires frequency changes to be *completed* at

the Transfer of Control Point (TCP). The D21 application of this rule instructs aircraft to *contact the tower at* the TCP. The time required for the pilot to physically switch frequency results in the aircraft establishing communications with the tower inside the TCP. DTW FLMs stated that in some cases, the delay in establishing arrival aircraft on tower frequencies presents a safety concern when DTW personnel are left with less time to resolve arrival separation issues. Longitudinal separation compression, particularly that involving wake turbulence, for example, cannot be addressed by the local controllers until the aircraft checks in on tower's frequency.

A draft facility response reviewed by the AJS team stated that "SAG is not clear on whether the failure of D21 to transfer communications…is an operational deviation" and says that the facility maintains this issue is "not only symptomatic to D21 and needs to be addressed at the national level."

Recommendation: ***D21 should immediately modify its local SOP and/or LOAs as appropriate and brief their operational workforce on these changes so as to ensure DTW tower personnel are afforded adequate communications with arrivals to accomplish their control responsibilities.*** Discussion as to whether late transfers of communication constitute an OD should not distract the facility and AJT from ensuring that local procedures provide for safe transition of control and communications of arrival traffic between D21 and DTW.

Supporting Investigative Information

Focus Area 1: Safety Culture Around Event Reporting

FAA Orders 7210.56, *Air Traffic Quality Assurance*, and 8020.16, *Air Traffic Organization Aircraft Accident And Incident Notification, Investigation, And Reporting* provide the specific guidance to air traffic control facilities on identifying and reporting air traffic incidents.

The AJS team reviewed twenty-six hours of random (IFR conditions) radar data using Continuous Data Recording Player Plus (CDRPP) and/or TARP. The AJS team also reviewed the facility's monthly 2-hour radar audits for October 2008 through February 2009. Audio data for the month of October had not been retained as required by FAA Order 7210.56. For the month of November, the facility's audit report states that all positions were reviewed in radar replay but only Satellite position audio data was retained. The facility was reminded in November 2008 by the Central Service Area, Safety Assurance group of the retention requirement for audio. The facility appears to now be properly retaining audio files from audit periods. While the format of retained radar data did not permit the use of TARP, the AJS-3 team did not detect any unreported events in their review of the facility's monthly audits using CDRPP.

Focus Area 2: Quality Assurance Program Oversight

FAA Orders 7210.56, and 7210.3, *Facility Operation and Administration*, prescribe facility requirements for conducting and documenting QARs.

Local facility directive 7210.56A, *Motown Hub Quality Assurance Order*, prescribes the following local QAR requirements:

"d. Entire QAR's may be entered on the Daily Record of Facility Operations (FAA Form 7230-4), in lieu of the separate facility QAR form for events such as missed-approached, minor aircraft emergencies (including medical), that conclude safely and uneventfully, and controller performance was determined normal and routine with no deficiencies noted. When utilizing this documentation method, include the

operating initials of all employees that worked the aircraft. Additionally, include a statement such as: "ATC service normal and routine, with no performance deficiencies noted."

The team found that the facility's QAR procedures do not require completion of a local investigation form for "minor" events.

The AJS team's review found forty-three QARs were noted on facility logs between February 20, and March 31, 2009. The facility was able to produce only eleven individual D21 QAR forms (DTW 7210-6) apparently completed for this period. Several of these appear incomplete, for example, QAR entries of February 20, March 8, and March 11, 2009 do not contain any information beyond a flight call sign, did not generate a QAR form, and are not closed. A QAR entry of March 28, 2009 indicates the event is a "possible pilot deviation". The entry states course deviation as the possible cause, but does not contain any other information or controller initials as required by the management briefings. A QAR form was not provided for this entry. An AJS check of ATQA shows a D21-reported pilot deviation for course on this date.

There is a standard but unpublished local policy of initiating QARs on go-arounds and pull-outs. DTW is reportedly responsible for these QARs, regardless of their location on the final approach course. The AJS-3 team was provided with six tower QAR forms for the time period February 20 through March 31, 2009, none of which concerned go-arounds. A review of tower logs (FAA Form 7230-4) indicates that not all go-arounds are being documented. Fifty go-arounds were detected by AJS's Performance Data Analysis and Reporting System (PDARS) for the month of March. Twenty-six of these events were not logged by DTW. Five of these events state that either "D21" or "TRACON" was advised, but there is no corresponding entry on the D21 logs or QAR forms.

Focus Area 4: Adequacy of D21 Airspace Design

FAA Orders 7110.65, *Air Traffic Control,* and 7210.3 prescribe facility requirements for establishing pre-arranged coordination procedures

Additional Issue "Straight and Level"

FAA Order 7110.65, paragraph 5-9-7b4, prescribes "*Clear the aircraft to descend to the appropriate glideslope/glidepath intercept altitude soon enough to provide a period of level flight to dissipate excess speed. Provide at least 1 mile of straight flight prior to the final approach course intercept*"

Attachment: Memo: Detroit Metro TRACON Quality Control Review (QCR) Report

Attachment: Clarification Email

ATTACHMENT 2

Federal Aviation Administration

Memorandum

Date: 05/27/09

From: Patricia Bynum, D21 Support Manager

To: All Operational TRACON Personnel

Subject: Refresher/Clarification MBI – Straight/level Flight Requirements During Simultaneous Independent ILS/MLS Approaches-Dual & Triple

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The following item shall be **verbally** briefed to all operational personnel.

As a result of a recent audit/investigation by ATO-Safety, the following from FAAO 7110.65 warrants a review/clarification.

5-9-7b4

Provide at least 1 mile of straight flight prior to the final approach course ***intercept***.

To clarify, this requirement must be met on the intercept heading to the final approach course and not on any other segment.

** FAAO 7110.65 Paragraph 5-9-7. b. 4. review **

		O.I.	Date			O.I.	Date
DTW-8 Auxier, Cliff	CD	CA	6/15	DTW-9 Boland, Tom	GA	GA	5/28
DTW-8.1 Gill, Tom	TG	TG	6/15	DTW-9.1 Murphy, Tom	TM	TM	6/7
Blow, Jeff	JF	JF	6-2	Bailey, Dennis	BL	BL	6/15
Brouwers, Lynn	RE	RE	6-2	~~*Bross, David*~~	~~*SD*~~		
Cerda, Chris	CC	CC	6-12	Cryderman, Dave	CY	CY	6/15
Green, Alicia	*AG*	AG	6/15	Gonzalez, Armando	AA	AA	6-7-09
Jenkins, Dave	DJ	DJ	6-2	*Hopkins, Charles*	*CH*	CH	6/7/09
McDonald, Martin	*XM*	XM	6-7	*Juhl, Jeremy*	*UM*	UM	6/12
				~~*Lobdell, Jennifer*~~	~~*JL*~~		
DTW-8.2 Kuhn, Tom	KN	KN	6-11-09	Malboeuf, Jacques	JM	JM	6/7/09
~~Belue, Dirk (ATA)~~	~~DB~~			Rawski, Ryan	RR	RR	6/7
Bragg, Maia	*MA*	MA	10-9-09	~~Sheridan, Rich (ATA)~~	~~RS~~		
Figueroa, Chris	*CR*	CR	5-28	Teuber, John	TZ	JT	6/8
Fisher, Al	*FR*	FR	6-11	*Trimble, Jamie*	*JT*	JT	6/7
Gillen, Tracy	TD	TD	6/8	Vosters, David	DV	DV	6/16
Green, James	SG	SG	6/5/09				
Hasselbach, Russell	HR	HR	6/6	DTW-9.2 Bussey, Dan	BZ	BZ	6/7
Hatchard, Deidre	PI	PI	5-14	Bennett, Teresa	TQ	TQ	6/16
Kivela, Karl	KI	KI	5/28	Czub, Mike	MC	MC	5/28
Lanham, Tod	TL	TL	6-11	Eberhart, Patrick	PE	PE	6-8-09
Smith, Tammy	TB	TB	5-28	*Frisch, Brian*	*RI*		
				Kosek, Terri	VT	VT	6-8
DTW-8.3 Funari, Tim	TF	TF	6/12	Moore, Kenneth	KC	KC	6/8
Frutos, Tom	FS	FS	6/11/09	*Perczak, John*	*PK*	PK	6-10
Haller, Eric	EH	EH	6/10	Quinn, Glenn	GQ	GQ	6/8
Huttenga, Alex	AH	AH	6/5/09	Roy, Kim	KR	KR	6-9
Kanavel Rolly	RK	RK	6/5/09	Scruggs, Glynn	GS	GS	6/16
~~*Kennedy, Houston*~~	~~*IC*~~			**Thomas, Paul**	**PT**		
Klinski, Kevin	*VD*	VD	6/12	Vasquez, Lupe (ATA)	GV		
Marihugh, Patrick	PM	PM	6-12				
~~Mendoza, Dan (ATA)~~	~~DM~~			DTW-9.3 Sawyer, Robert	SJ	SJ	6/10
Meyers, Daniel	DW	DW	6/5	Burgess, James	GM	GM	6/17
DTW-8.4 Vacant				Cid, Sal (ATA)	SC		
				Keefe, Terry	TT	TT	6/12
				Lindman, Russell	LR	LR	6-5
				Mack, Steve	HB	HB	6/10
				Slota, Eric	*ES*	ES	6-10
				Trujillo, Anthony	TS	TS	6-5
				DTW-9.4 Vacant			
DTW-5 Grand, Earl	EG						
Olson, Randy	RO			SYS-1 Guth, John	GH		
				Glaze, Tom	GE	GE	6/2
				~~*Harcula, Brian*~~	~~*BH*~~		
D21-09-047 F to F				Kurdziel, Ken	KK	KK	5/28
Updated 5/26/2009				Rockman, Mike	RC	RC	6/5

5/28/2009

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ATTACHMENT 3

U.S. Department of Transportation
Office of Inspector General

REPORT OF INVESTIGATION	INVESTIGATION NUMBER #I09Z000021SINV	DATE Feb. 22, 2010
TITLE Air Traffic Management at Detroit Wayne County Metropolitan Airport	PREPARED BY: Brian Uryga Senior Attorney/Investigator Special Investigations and Analysis, JI-3 U.S. Department of Transportation Office of Inspector General	STATUS FINAL
	DISTRIBUTION	APPROVED BY: JI-3

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BACKGROUND

On March 19, 2009, U.S. Department of Transportation Secretary Ray LaHood received an investigative referral from the U.S. Office of Special Counsel (OSC). A whistleblower who served as a Frontline Manager at the D21 Terminal Radar Approach Control (TRACON), Detroit Metropolitan Airport (DTW or Detroit Metro), reported aviation safety concerns to the OSC. The whistleblower alleged numerous procedural irregularities at DTW, including the violation of FAA orders and directives, the failure to follow airport procedures, and the lack of adequate procedures. The whistleblower's specific concerns relate to missed approaches at nearby satellite airports, failure to maintain required boundary separation, a lack of controller understanding regarding alternative radar sites, failure to report and investigate operational errors or deviations, and other related issues. He claims his attempts to bring these safety concerns to the attention of management officials at the airport during the last six years have been met with considerable resistance.

The Secretary delegated investigative responsibility jointly to the Office of Inspector General (OIG) and the FAA Air Traffic Safety Oversight Office (AOV). AOV 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 Detroit Air Traffic Control Tower is responsible for the airspace within approximately five miles of the airport. It manages takeoffs and landings for Detroit Metro's six runways, as well as aircraft and surface vehicles on taxiways and service roads. The Detroit TRACON controls airborne aircraft beyond that approximate five-mile radius and up to approximately 40 miles from the airport.

Several smaller, satellite airports are located within the Detroit TRACON's airspace. Some, such as Detroit City airport and Oakland County International airport are "controlled," meaning they have their own air traffic control tower. Others, such as Oakland/Troy airport and Monroe Custer airport, lack a control tower and are considered "uncontrolled." The TRACON is responsible for ensuring the safe arrival and departure of aircraft using the uncontrolled satellite airports, as there is no control tower staff to manage takeoffs and landings at those airports.

A missed approach occurs when an aircraft, at the pilot or controller's discretion, aborts a landing during final approach and climbs in altitude. The aircraft must follow a published missed approach procedure, which typically turns it away from its arrival runway and attempts to keep the aircraft a safe distance from other aircraft and ground obstacles in the area. The controller also may issue the aircraft a published alternate

missed approach procedure if he/she wishes the aircraft to execute something other than the missed approach procedure.

The Instrument Landing System (ILS) provides precision guidance to an aircraft as it approaches and lands on the runway. The system is located at the airport and uses a "localizer," which emits radio signals providing lateral guidance, and a "glideslope," which emits radio signals providing vertical guidance. Instruments within the cockpit receive the radio signals and notify the pilot if the aircraft is following the appropriate approach path.

Dual ILS approaches occur when aircraft simultaneously arrive at, for example, Runways 27L and 27R or Runways 22R and 21L. To date, Detroit Metro has not conducted triple ILS approaches, although the facility has submitted a waiver to FAA to do so and is awaiting a response.

SYNOPSIS

We were unable to substantiate by a preponderance of the evidence that that the Detroit TRACON's missed approach procedures may, in violation of FAA Order 7110.65, *Air Traffic Control*, result in aircraft occupying the same airspace. (Allegation 1)

We substantiated that the Detroit TRACON has not identified which part of FAA Order 7110.65 authorizes five nautical miles of Miles-In-Trail separation between successive arrivals into three of Detroit Metro's controlled satellite airports. Consequently, Detroit TRACON air control staff does not know which separation requirements to follow regarding those arrivals. (Allegation 2)

We substantiated the allegation that Detroit TRACON controllers have, in violation of FAA Order 7110.65, allowed aircraft to come within 1.5 nautical miles of the adjacent airspace boundary without prior coordination or documented coordination procedures. (Allegation 3)

We substantiated the allegation that Detroit TRACON controllers have operated dual ILS approaches in violation of FAA Order 7110.65. However, we were unable to substantiate by a preponderance of the evidence that such violations resulted in operational errors or deviations, or that Detroit Metro management officials improperly treated such violations as performance issues. (Allegation 4)

We were unable to substantiate by a preponderance of the evidence that Detroit TRACON officials certified a controller-in-training before his performance justified it. (Allegation 5)

We were unable to substantiate by a preponderance of the evidence that a Detroit TRACON Operations Manager manipulated a March 2008 Runway Occupancy Time

(ROT) survey to produce results that would allow the TRACON to reduce separation minima between aircraft on final approach. (Allegation 6)

We substantiated that Quality Assurance Review procedures and investigations into operational errors and deviations at Detroit Metro have been inadequate. However, we were unable to substantiate by a preponderance of the evidence that Detroit TRACON officials purposely failed to detect, report, investigate, and address operational errors or deviations or discouraged employees from reporting such events. (Allegation 7)

Below are the details of our investigation.

DETAILS:

Allegation 1: The Detroit TRACON's procedures do not safely ensure that an aircraft conducting a missed approach from an uncontrolled satellite airport will not occupy the same airspace as aircraft departing other local airports. As a result, losses of separation may occur, in violation of FAA Order 7110.65.

FINDINGS

We were unable to substantiate this allegation.

In support of his claim, the whistleblower cited the Detroit TRACON's procedure for aircraft having missed a "VOR/GPS-A" approach to uncontrolled Oakland/Troy airport. Under this procedure, a TRACON controller instructs the aircraft to conduct a climbing left turn to 3,000 feet and hold position at a navigational aid approximately seven miles northwest of Oakland County International airport (approximately 15 miles northwest of Oakland/Troy airport). The whistleblower claims that because the TRACON controller releases the aircraft from radar coverage services upon final approach to Oakland/Troy, this missed approach procedure takes the aircraft directly over Oakland County International without radar coverage services.

According to the whistleblower, an aircraft departing Oakland County International would not immediately appear on the TRACON controller's radar scope because the radar does not capture images close to the ground. Therefore, the departing aircraft could occupy the same airspace as the missed approach aircraft from Oakland/Troy without being seen by the controller. The whistleblower also alleges that the alternate missed approach procedure for uncontrolled Monroe Custer airport may also result in violations of FAA Order 7110.65, because the procedure may direct an aircraft into the airspaces of Detroit City and Windsor, Ontario airports.

We reviewed the relevant missed approach procedure for Oakland/Troy airport and the alternate missed procedure for Monroe Custer airport and found they were flight-checked, as required under FAA Order 7110.65, to ensure missed approach aircraft safely avoid ground obstacles, such as antennae. We interviewed five current and former Frontline Managers who worked with the whistleblower at the Detroit TRACON, and none recalled a missed approach at any of Detroit Metro's satellite airports that resulted in a loss of separation. Although some of the Frontline Managers we interviewed did not demonstrate adequate knowledge of requirements for separating non-radar aircraft from radar identified aircraft, we have not received, nor did we find, any other information demonstrating a loss of separation during the execution of a missed approach procedure.[1]

Allegation 2: It is unclear under which FAA authority the Detroit TRACON is providing Miles-in-Trail separation for successive arrivals into certain controlled satellite airports.

FINDINGS

We substantiated this allegation.

Although the Detroit TRACON currently provides five nautical miles of Miles-In-Trail separation between successive arrivals into three of its controlled satellite airports, the TRACON has not identified which part of FAA Order 7110.65 requires such separation. Consequently, Detroit TRACON air traffic control staff do not understand why they are required to provide five miles separation and may inadvertently apply less than what is required. Although this may have resulted in violations of FAA Order 7110.65, we could not identify any specific violations because relevant electronic data no longer exists.

The Detroit TRACON has two primary radar sites for tracking aircraft within its airspace, "DTW-A," which is located at Detroit Metro, and "DTW-C," which is located approximately 25 miles northwest of the airport. The DTW-A radar site is the primary radar source for Detroit Metro, Detroit City, and Willow Run airports, while the DTW-C site is the primary radar source for Oakland County International and Ann Arbor airports. According to Daniel Chambers, the Coordinator for the Radar Unit at Detroit Metro, the DTW-C site was established to provide better radar coverage at Oakland County International and to serve as a back-up for the DTW-A site.

[1] On January 22, 2010, the whistleblower provided us with information concerning a possible loss of separation during a missed approach at Oakland/Troy airport. AOV is reviewing the data from this event.

The applicable separation standards for successive arrivals at Detroit Metro's controlled airports are provided in the Detroit TRACON's Standard Operating Procedures (SOP) or the Letter of Agreement (LOA) the TRACON has with each airport. According to the TRACON, the separation for successive arrivals at each airport is based on the sufficiency of radar coverage that is provided.

The required separation at Willow Run airport is three nautical miles, regardless of the radar site in use. Because of less radar coverage, the minimum separation at Ann Arbor and Detroit City airports is five nautical miles, regardless of the radar site used. The separation for Oakland County International is three miles when using the DTW-C radar site and five miles when using the DTW-A site. Therefore, in the event of an outage at the DTW-C radar site, Oakland County International would rely on the DTW-A site, and the Detroit TRACON would, accordingly, increase the separation between successive arrivals to five miles.

The whistleblower contends that the Detroit TRACON has not identified the FAA authority on which the facility relies to require the increased five-mile separation at Ann Arbor, Detroit City, and Oakland County International airports. Therefore, according to the whistleblower, Detroit TRACON controllers do not know which separation requirements to follow when controlling successive arrivals into those airports. For example, the whistleblower contends that controllers have reduced the separation for successive arrivals into Ann Arbor and Detroit airports from five to three nautical miles because the TRACON controllers mistakenly believed the increased, five-mile separation was merely a request from the tower controllers at the two airports. As explained below, this would constitute a violation of FAA Order 7110.65.

According to the whistleblower, if the increased five-mile separation at Ann Arbor, Detroit, and Oakland County International airports is based on insufficient radar coverage, then the Detroit TRACON must provide a form of non-radar separation called a "timed approach," or the respective air traffic control tower needs to provide visual separation for the successive arrivals. The whistleblower believes that the TRACON is, in fact, conducting a timed approach because such approaches require a minimum separation of five miles between successive arrivals. According to the whistleblower, if the TRACON is conducting timed approaches when providing the five-mile separation, it is not following all of the conditions required to conduct those approaches as provided in FAA Order 7110.65, Paragraph 6-7-1.

FAA Order 7110.65, Paragraph 5-5-4, states the standard minimum separation that the Detroit TRACON must provide for successive arrivals at Detroit Metro's controlled satellite airports is three nautical miles. The order also provides, however, that a TRACON cannot provide the three-mile separation if radar coverage does not extend within ½ mile from the end of a runway. According to Patricia Bynum, the Detroit TRACON Support Manager, such lack of radar coverage at Ann Arbor, Detroit, and

Oakland County International (while using the DTW-A site) is why the standard three-mile separation cannot be used at those airports.

It is unclear, however, which portion of FAA Order 7110.65 authorizes the *five*-mile minimum the Detroit TRACON has chosen. For example, during the week of March 30, 2009, the FAA Air Traffic Office of Safety, Quality Assurance Division, (ATO-Safety) conducted an on-site investigation of the TRACON to assess the facility's progress after a February 2009 review of the TRACON conducted by the FAA Central Service Area Safety Assurance Group. According to ATO-Safety, the TRACON was unable to explain why the increased five-mile separation for successive arrivals was required at Ann Arbor and Detroit City airports.

Additionally, during our interview with TRACON Support Manager Bynum, she could not identify a part of FAA Order 7110.65 authorizing this five mile separation. Instead, she stated that the increased separation at Ann Arbor, Detroit City, and Oakland County International airports has always been required by each airport's LOA or the TRACON SOP. Although Bynum stated the TRACON does not, as the whistleblower believes, conduct timed approaches, she also stated that the five-mile minimum indeed derives from the part of FAA Order 7110.65 dealing with timed approaches. According to Support Manager Bynum, the facility uses the five-mile standard of the timed approach without adhering to all of the conditions required to conduct a timed approach. Thus, it is unclear what part of FAA Order 7110.65 authorizes the five mile separation for Detroit Metro's controlled satellite airports.

If the Detroit TRACON is, in fact, conducting timed approaches by providing the five-mile separation for successive arrivals, we find that the facility is indeed not meeting all of the conditions required by FAA Order 7110.65, Paragraph 6-7-1, for conducting those approaches. Moreover, the interviews we conducted indicate that Detroit TRACON staff or controllers have not been trained on how to conduct timed approaches. Thus, even if the conditions for conducting timed approaches exist, the evidence indicates Detroit TRACON air traffic control staff does not know how to conduct such approaches in accordance with FAA Order 7110.65.

ATO-Safety also found that the Detroit TRACON applies the five-mile separation requirement inconsistently, and corroborated the whistleblower's allegation that controllers have coordinated with the air traffic control towers at Ann Arbor and Detroit City airports to reduce the separation between successive arrivals to three miles. During our on-site interviews, Detroit Metro staff corroborated ATO-Safety's findings. Under certain circumstances, controllers may coordinate to provide less separation for successive arrivals than is called for in an LOA. As stated above, however, the radar coverage at those two airports does not meet the criteria for applying the standard three-mile separation. Thus, if the TRACON controllers applied three-miles of separation, they would have violated FAA Order 7110.65. We cannot, however, independently verify that

this has occurred, as we are not aware of any existing electronic data portraying such events.

In any event, in response to ATO-Safety's investigation, TRACON Support Manager Bynum issued a memorandum on May 27, 2009, to all TRACON personnel explaining that "due to inconsistencies in radar coverage," the respective LOAs for Ann Arbor and Detroit City airports require five nautical miles of separation for successive arrivals. The memorandum stated Detroit TRACON staff would be verbally briefed on this information, and training records indicate this occurred in May and June 2009. However, Support Manager Bynum's memorandum still did not identify a part of FAA Order 7110.65 authorizing five miles of separation.

Allegation 3: Detroit TRACON controllers have allowed aircraft to come within 1.5 nautical miles of the adjacent airspace boundary without prior coordination or documented coordination procedures, in violation of FAA Order 7110.65.

FINDINGS

We substantiated this allegation.

The Safety Assurance Group conducted a Quality Control Review (QCR) in February 2009 and found instances of controllers violating the 1.5 nautical mile adjacent airspace boundary separation requirement. In response to the Safety Assurance Group's findings, Director of Terminal Operations for the Central Terminal Service Area Nancy Kort required Detroit Metro senior management officials to formulate a plan to address the findings of the QCR Report and provide periodic updates on the facility's progress. Director Kort also required the facility to provide weekly audits that include reviewing sample data replays for compliance with the 1.5 nautical mile boundary separation requirement.

The interviews we conducted during our September 2009 site visit, however, confirmed that controllers still occasionally fail to maintain the 1.5 nautical mile adjacent airspace boundary separation. According to the Frontline Managers we interviewed, violations of FAA Order 7110.65, Paragraph 5-5-10, occur despite reminders to controllers about the separation requirement. Further, Director of Terminal Operations Kort confirmed during her January 29, 2010, interview that this non-compliance remains an issue, as it has been detected during weekly audits.

Nonetheless, we found that Detroit TRACON management is making an ongoing effort to eliminate violations of the 1.5 nautical mile boundary separation minimum. As part of this effort, Director of Terminal Operations Kort recently asked for monthly briefings from the Safety Assurance Group about the progress on safety issues, including controller

non-compliance with the 1.5 nautical mile boundary separation minimum, at Detroit Metro. Moreover, on May 11, 2009, the TRACON created an Airspace Redesign Team to facilitate the safer movement of aircraft within its airspace. According to Motown District Manager Joseph Figliuolo and Director Kort, the 1.5 mile boundary separation non-compliance will be addressed during the redesign process.

Allegation 4: The Detroit TRACON's operation of dual or triple ILS approaches caused violations of FAA Order 7110.65, and management improperly viewed such violations as performance issues rather than operational errors or deviations.

FINDINGS

We partially substantiated this allegation.

FAA Order 7110.65, Paragraph 5-9-7.b., establishes the requirements for conducting dual or triple ILS approaches. Subparagraph 4 requires that controllers: (1) clear an approaching aircraft "to descend to the appropriate [glideslope] intercept altitude soon enough to provide a period of level flight to dissipate excess speed" and (2) "[p]rovide at least 1 mile of straight flight prior to the final approach course intercept." The requirement of a period of level flight is intended to ensure an aircraft is able to slow enough to conduct a stabilized approach, while the mile of straight flight is intended to ensure the aircraft does not turn too abruptly onto its final approach course and is properly aligned with the runway.

The whistleblower alleges that the above requirements are selectively adhered to by controllers at the Detroit TRACON. Additionally, he alleges that violating these requirements should constitute an operational error or deviation rather than, as management believes, a performance issue for the responsible controller.

In response to the whistleblower's concerns, TRACON management issued Notice D21 7110.157 on September 28, 2008, which told controllers of the installation of a "Dual Bar," or a line on the Standard Terminal Automation Replacement System (STARS) video monitors, to aid them in adhering to the requirements for conducting simultaneous ILS approaches. The notice provided the procedures for using the Dual Bar, and the facility briefed the controllers and Frontline Managers on those procedures in September 2008. The procedures, which have been incorporated into the Detroit TRACON SOP, require controllers, with some exceptions, to ensure aircraft are on the ILS localizer at or outside the Dual Bar. The Dual Bar is displayed on the STARS approximately 17 nautical miles from Detroit Metro for both northerly and southerly approaches to the airport. The localizer, meanwhile, has a useful range of approximately 18 miles.

Although the Dual Bar has improved the controllers' ability to comply with FAA Order 7110.65, Subparagraph 5-9-7.b.4, controller non-compliance continued after its implementation. For example, in its March 30, 2009 investigation, ATO-Safety found several instances of non-compliance.

Moreover, ATO-Safety found that guidance provided by then Detroit TRACON Operations Manager Thomas Boland subsequent to the implementation of the Dual Bar did not comply with the intent of FAA Order 7110.65, Subparagraph 5-9-7.b.4. In a January 23, 2009, email to Detroit TRACON frontline managers, Boland wrote:

> Compliance of a "period of level flight to dissipate excess speed" can occur at any point within our airspace, including an outer fix that the pilot has been instructed to cross at 12[,]000 [feet] and 250 [knots]. This also provides the opportunity of "at least 1 mile of straight flight prior to final approach course intercept."

ATO-Safety found, however, that Operations Manager Boland's guidance provided in the email did not comply with the intent of FAA Order 7110.65, Subparagraph 5-9-7.b.4, to ensure a controller enables an aircraft to safely execute arrival during dual ILS approaches. We concur with ATO-Safety's conclusion because if the level and straight flight can occur anywhere within the Detroit TRACON's 40 miles of airspace, the aircraft may regain speed during final approach and still need to make an abrupt turn onto its final approach course.

In response to ATO-Safety's finding, Detroit TRACON management issued a memorandum on May 27, 2009, that rescinded the guidance provided by Operations Manager Boland in his January 23, 2009 email. The memorandum clarified that the requirement for at least one mile of straight flight must occur on the "intercept heading to the final approach course and not any other segment." In other words, the new memorandum required the one mile of straight flight to occur immediately prior to the aircraft intersecting the ILS final approach, rather than anywhere within the TRACON's airspace. Training records indicate TRACON controllers were briefed on this clarification between May and July 2009.

Nevertheless, during our December 2009 site visit, we were informed by a Quality Assurance Department official at Detroit Metro that Detroit TRACON controllers still violate either or both of the requirements in FAA Order 7110.65, Subparagraph 5-9-7.b.4. These are among the types of violations the Quality Assurance Department is to look for during the aforementioned weekly audits required by Central Terminal Operations. However, we have not found evidence that these violations resulted in a loss of separation or other operational error or deviation. Consequently, we cannot substantiate the allegation that TRACON management improperly viewed such violations as performance issues rather than operational errors or deviations.

Allegation 5: Detroit TRACON officials certified a controller-in-training before his performance justified it.

FINDINGS

We were unable to substantiate this allegation.

According to the whistleblower, in June 2008 then TRACON Operations Manager Boland ordered him to certify a controller-in-training on the "K" position within two weeks, so the controller-in-training could receive a pay increase. The Detroit TRACON has approximately 15 controller positions, each assigned to a specific portion of airspace. The controller assigned to the "K" position, for example, is responsible for a portion of airspace around several satellite airports, while the controller at the "D" position is responsible for a portion of airspace around Detroit City airport.

The whistleblower contends that when he refused the order, Operations Manager Boland removed the controller-in-training from the whistleblower's crew and assigned him to another Frontline Manager. Allegedly, that Frontline Manager prematurely certified the controller-in-training on the "K" position, the fourth required certification for a pay increase.

According to the whistleblower, the improper certification of the controller on the "K" position was possible because that position is almost always worked in combination with the "D" position, on which the controller-in-training was also being trained. The whistleblower contends that the controller-in-training's new Frontline Manager trained the controller on both positions, but recorded more hours to the "K" position than actually occurred. According to the whistleblower, the new Frontline Manager could still monitor the allegedly unqualified controller-in-training on the "K" position under the pretext that the controller was being trained on the "D" position.

FAA Order 3120.4 provides the guidance, instructions, and standards for air traffic controller training. Subparagraph 3-2.b. states that the allocation of training time "may be allotted between the consolidated positions based on traffic activity, as determined by the [instructor]." Although the whistleblower believes that the amount of time allotted to the controller-in-training on the "K" position was unusually high in comparison to the time allotted to the "D" position, we did not find any independent records or electronic data that would verify the amount of traffic activity at the time of the training in June 2008.

Additionally, the whistleblower provided training documents he suggested demonstrated that the controller was not sufficiently proficient at the "K" position to be certified at that position. He argues that the documents show that the instruction given to the controller-in-training on the "K" position are not what he would expect be given to someone already

certified on that position. We found, however, that Frontline Managers continue to provide guidance and instruction to controllers even after training is complete. Thus, these documents alone are insufficient to demonstrate the controller was prematurely certified.

Further, Operations Manager Boland denied ordering the whistleblower or the controller-in-training's subsequent Frontline Manager to prematurely certify the controller. According to Boland, he reassigned the controller's training from the whistleblower to the other Frontline Manager because there were new controllers-in-training that he wanted the whistleblower to train and he assigned the controller to the other Frontline Manager because they previously worked well together. We recognize that it is in Boland's self-interest to deny the whistleblower's allegation; however, none of the other individuals we interviewed provided any evidence to corroborate the whistleblower's allegation. The Frontline Manager who certified the controller no longer works at FAA, and we could not locate him for an interview.

Allegation 6: A Detroit TRACON Operations Manager manipulated a March 2008 ROT survey to produce results that would allow the TRACON to reduce separation minima between aircraft on final approach.

FINDINGS

We were unable to substantiate this allegation because we could not verify the accuracy of the March 2008 ROT survey. Detroit Metro, however, conducted another ROT survey in 2009 that was verified and approved by FAA's Central Terminal Operations.

Under FAA Order 7110.65, Paragraph 5-5-4, separation between aircraft on final approach within ten nautical miles of the arrival runway may be reduced to 2.5 nautical miles if an ROT of 50 seconds or less is documented. ROT is defined as the length of time between the arriving aircraft passing over the runway threshold to a point clear of the runway. FAA Order 7210.3, Paragraph 10-4-8, requires the average ROT to be calculated using a sample of no less than 250 arrivals that need not be consecutive, but must represent the types of aircraft using the runway. If a stopwatch is used, the survey must record the call sign, type, and ROT for each aircraft.

The whistleblower alleges that then TRACON Operations Manager Boland manipulated the March 2008 ROT survey for Runways 22R and 4L to achieve an average ROT under 50 seconds. The whistleblower claims that Boland told the whistleblower and others that he would advise the airlines ahead of time that he was conducting the survey. This would enable the airlines to attempt to move their aircraft off the runway more quickly. He also finds suspicious the TRACON's inability to produce the survey during the Safety Assurance Group's February 2009 review, previous surveys showing a ROT of more than

50 seconds, and the whistleblower's own informal observations showing a ROT of 51 seconds.

We interviewed Operations Manager Boland, who conducted the March 2008 ROT survey, and he denied the whistleblower's allegation. According to Boland, he conducted the survey from the Air Traffic Control Tower. He used a stopwatch, his vision, and the ground control monitors to calculate the ROT. Although he conceded he told TRACON staff that he wished to advise the airlines of the survey, he told us he ultimately did not give the airlines advance notice of the survey. Additionally, none of the individuals we interviewed provided any evidence to corroborate the whistleblower's allegation regarding the manipulation of the survey.

We confirmed that Detroit TRACON management could not produce the survey during the Safety Assurance Group's February 2009 review. This alone, however, does not demonstrate that the survey was manipulated or that the results are inaccurate. Further, in a March 3, 2009 memorandum, Motown District Manager Figliuolo acknowledged the facility could not locate the ROT survey and terminated reduced separation on Runways 4L and 22R.

During the course of our investigation, the whistleblower and District Manager Figliuolo were able to locate the March 2008 ROT survey and both provided it to us. The survey calculated an average ROT of 44.1 seconds for 260 arrivals to Runway 4L on March 16, 19, 20, 22, and 27, 2008, and an ROT of 44.0 seconds for 257 aircraft on Runway 22R on March 15, 23, 26, and 29, and April 2 and 3, 2008. Although the survey recorded the call sign and ROT of at least 250 aircraft of at least 15 different types, no relevant electronic data is available as the data was not retained after the expiration of the required retention period. Consequently, there is no independent data to verify the accuracy of the survey.

Further, we found no previous ROT surveys or other independent data to verify the accuracy of the surveys. Similarly, electronic data does not exist to verify the accuracy of the whistleblower's observation that the ROT is actually 51 seconds.

Detroit Metro's Traffic Management Unit conducted a new ROT survey after the Safety Assurance Group's review. The new survey looked at 250 arrivals on Runway 4L between April 13 and 16, 2009, and 259 arrivals on Runway 22R on June 18, 29, 26 and July 6 and 8, 2009. The 2009 ROT survey reported an ROT of 48.58 seconds for Runway 4L and an ROT of 49.91 for Runway 22R. As required in FAA Order 7210.3, the 2009 ROT survey provided the call sign, type, and ROT for at least 250 aircraft on Runway 4L and Runway 22R.

Detroit Staff Manager Gary Ancinec — who was, at the time, Acting Manager of Detroit Metro — provided the results of the new ROT survey to Director of Terminal Operations Kort. These results were forwarded in an August 21, 2009, memorandum requesting

resumption of reduced separation on Runways 4L and 22R. In a September 10, 2009, memorandum to Staff Manager Ancinec, Director Kort granted the request to resume reduced separation in accordance with FAA Order 7110.65, Paragraph 5-5-4. Director Kort also stated in her memorandum that the documentation provided by the facility met the requirements of FAA Order 7210.3 and must be maintained by the facility for the duration of the reduced separation procedure. Thus, the March 2008 ROT survey no longer serves as the basis for the reduced separation on Runways 4L and 22R.

Allegation 7: Detroit TRACON officials have purposely failed to detect, report, investigate, and address operational errors and deviations, and discouraged employees from reporting such events.

FINDINGS

We partially substantiated this allegation.

The evidence indicates that Quality Assurance Review procedures and investigations into operational errors and deviations at Detroit Metro have been inadequate. However, the evidence does not indicate that TRACON officials have purposely failed to detect, report, investigate, and address operational errors or discouraged employees from reporting such events.

The whistleblower specifically alleged the following:

- The "culture" within the Detroit TRACON "does not allow or support the reporting and investigating of air traffic events" and that "[m]anagement officials do not provide the appropriate support or oversight for controllers and do not encourage the reporting of events."

The evidence does not substantiate the existence of a culture within the Detroit TRACON that does not allow or support the reporting of air traffic events such as operational errors or deviations or discourages air traffic control staff from reporting such events. None of the individuals we interviewed, including the whistleblower's fellow Frontline Managers, agreed that a culture as described by the whistleblower existed within the Detroit TRACON. Instead, they told us that management has consistently instructed them to report all air traffic events and that they are unaware of any instances of discouragement as alleged by the whistleblower.

Further, on November 9, 2007, Motown District Manager Figliuolo sent an email to the TRACON's Frontline Managers and Operations Managers stating:

> Proximity events[2] **ARE NOT** acceptable. The standard is **3 miles and/or 1000 feet**. I have a concern about briefing controllers that [proximity events] are okay. **THEY ARE NOT**. ... When I took over as the acting manager I chose to not 'look away' if there was a loss of separation. It was a very painful and rough time in this building but we did the **RIGHT THING**. I am still **not looking away** and nobody else better be. (Emphases in original.)

In a June 26, 2008, email, this time to the TRACON and Air Traffic Control Tower Operations Managers and Quality Assurance Manager Earl Grand, District Manager Figliuolo wrote:

> [O]ur terminal services vice president made it very clear that he wants all [operational errors] to decrease. He expects all system events to be fully investigated. If the investigation shows it to be in error, then it needs to be reported. So once again, I'm reminding you that these are, always have been, and always will be my expectations too.

The whistleblower further alleged:

- Then Detroit TRACON Operations Manager Boland told him not to investigate possible losses of separation unless they are "ugly."

We found that the evidence is insufficient to corroborate the whistleblower's allegation that Operations Manager Boland told him to investigate only "ugly" losses of separation. Boland denied saying this, and we found no corroborating documentation or testimony. None of the other Frontline Managers we interviewed stated they received similar instruction from Boland.

Nevertheless, District Manager Figliuolo recalled during his interview that he met with Operations Manager Boland and the whistleblower to discuss this issue. Although Figliuolo did not recall Boland admitting that he advised the whistleblower to report only "ugly" losses of separation, he told us that Boland acknowledged there was "some confusion" regarding what Boland told the whistleblower and how the whistleblower interpreted that. According to Figliuolo, he made clear to Boland during that meeting that he expected all suspected losses of separation to be reported.

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[2] A "proximity event" occurs when aircraft are closer than allowed. Although it is a reportable event, the aircraft are not close enough to one another to constitute a loss of separation, which is an operational error.

The whistleblower further alleged Operations Manager Boland:

- Referred to a whistleblower at another TRACON as a "squealer."

We found that Operations Manager Boland did, in fact, refer to a different whistleblower at another TRACON as a "squealer." Shortly after Boland arrived at the Detroit TRACON, he sent an August 5, 2007, email to the Frontline Managers on his crew advising that he wanted to get together with each of them over a beer to informally discuss an attachment to the email described as "My Top 10." In the attachment, he made reference to an OSC whistleblower employed at the Dallas TRACON as the "DFW-D10 squealer."

Operations Manager Boland told us he did not know the specifics regarding the Dallas TRACON whistleblower's disclosures, but comments he heard led him to believe that they were having a negative impact on that facility and that controllers were "walking on eggshells." Boland's reference to the whistleblower as a "squealer" in the "Top 10 List" was inappropriate. In our opinion, the use of that pejorative term could discourage Frontline Managers from disclosing any aviation safety concerns they may have.

The whistleblower further alleged Operations Manager Boland:

- Fostered a "passive approach to the investigation of suspected air traffic events."

We did not find sufficient evidence demonstrating Operations Manager Boland fostered a passive approach to the reporting of air traffic events. In support of this allegation, the whistleblower cited a "Summer 2008 Call to Action Plan" that Boland sent to all Detroit TRACON Frontline Managers in a May 21, 2008, memorandum. However, we found the memorandum does not support this allegation. To the contrary, the memorandum states, "The FLM should be watching all positions by walking behind the sectors and when they hear something, see something unusual, inappropriate or incorrect, they should take appropriate action."

According to the whistleblower, Operations Manager Boland later told him and two other Frontline Managers that the Call to Action Plan was only intended to make it appear the facility was providing safe service, and therefore need not be followed. As evidence of this, the whistleblower noted that in his May 17, 2008, "Technical Training Discussion" performance report, Boland wrote that the whistleblower "needs to relax and only provide general supervision and not his nervous direct supervision method." According to the whistleblower, Boland's call for "general supervision" contradicts the language cited above from the Call to Action Plan.

During his interview, Operations Manager Boland denied that he told the whistleblower that the Call to Action Plan need not be followed. Boland also stated that the comments he wrote in the whistleblower's Technical Training Discussion performance report were not intended to contradict the Call to Action Plan. According to Boland, his comments in the performance report referenced the whistleblower's practice of "standing close behind our workforce, taking notes, getting in their personal space," thereby affecting the controllers' ability to focus on their jobs, as well as focusing too much on the negative aspects of each controller's performance.

Further, none of the Frontline Managers we interviewed agreed with the whistleblower's characterization that Operations Manager Boland fostered a passive approach to the reporting of air traffic events. Moreover, neither of the Frontline Managers referred to us by the whistleblower corroborated his contention that Boland stated that the Call to Action Plan need not be followed.

The whistleblower further alleged Operations Manager Boland:

- Actively attempted to interfere with the investigation, observation, and reporting of operational errors and deviations.

We did not find sufficient evidence to substantiate this claim. First, none of the other Frontline Managers we interviewed corroborated this statement. Second, a July 2008 investigation ordered by District Manager Figliuolo did not substantiate the whistleblower's allegations that Operations Manager Boland harassed the whistleblower for following FAA regulations and directives and hindered him from reporting operational errors.

The July 2008 investigation was conducted by an outside official from the Flint Air Traffic Control Tower, who interviewed the whistleblower, both Detroit TRACON Operations Managers, and six Frontline Managers. According to the August 11, 2008, summary of investigative findings, all of the other Frontline Managers interviewed denied that Operations Manager Boland kept them from following regulations and directives or hindered them from reporting operational errors or any other safety events.

We did find, however, that there was a personality conflict between the whistleblower and Operations Manager Boland, and they frequently differed on appropriate management style and the interpretation of data showing suspected air traffic events. This was evident in the documentation supplied by the whistleblower and Detroit TRACON officials, as well as the comments of the whistleblower, Frontline Managers, Boland, and management officials at Detroit Metro and Central Terminal Operations.

For example, the whistleblower contends that Operations Manager Boland instructed him to not use the data equipment to determine if operational errors or deviations occurred.

Boland responded that he instructed the whistleblower only to not use the data equipment located in the TRACON operations room while serving as a Frontline Manager. According to Boland, he instead instructed the whistleblower to use the data replay equipment located outside the operations room, as he believed using the equipment during the shift and in front of the controllers was disruptive and caused undue stress, especially to the controller who may have committed the operational error or deviation. Nonetheless, there is insufficient evidence to demonstrate that the personality conflict or different management style and interpretations constituted interference or harassment by Boland toward the whistleblower regarding the reporting of air traffic events.

We also found that the whistleblower's concerns regarding Operations Manager Boland were previously addressed by TRACON management. For example, according to District Manager Figliuolo's notes of an August 29, 2008, meeting with Boland, Figliuolo advised him that, among other things, he: (1) "better not" instruct the whistleblower not to investigate air traffic events; (2) should treat the whistleblower the same as any other Frontline Manager; and (3) watch his tone and demeanor when addressing anyone, including the whistleblower.

Ultimately, District Manager Figliuolo and Staff Manager Ancinec worked with Director of Terminal Operations Kort to address the conflict between the whistleblower and Operations Manager Boland. Figliuolo transferred Boland from the TRACON to the Air Traffic Control Tower and transferred the Tower Operations Manager to the TRACON. Additionally, Boland is currently detailed to FAA Headquarters in Washington and will not work in the TRACON if he returns to Detroit Metro. The whistleblower is currently detailed to the position of the Acting TRACON Support Manager. In this position, he is responsible for addressing the same types of allegations made in this matter. All involved parties — including the whistleblower, Director Kort, and Detroit Metro and TRACON managers — have expressed satisfaction with these personnel changes.

Finally, the whistleblower alleges:

- Operational errors he reported have not been investigated in accordance with Quality Assurance Review requirements.

Specifically, the whistleblower reported that Detroit TRACON management and Quality Assurance personnel have attempted to overturn or challenge the events he has reported or failed to include him in the investigative process, including operational errors and deviations the whistleblower found during a September 2008 "informal operational audit." He also stated that in August 2008, the facility filed an inappropriate request for reclassification of a July 2008 operational error as a non-event.

Notwithstanding the lack of evidence of a culture within the Detroit TRACON that does not allow or support the reporting of air traffic events, we found the Quality Assurance

Review process within Detroit Metro failed to adequately detect and investigate operational errors and deviations.

According to the March 26, 2009 QCR Report, the Safety Assurance Group found that "there are misperceptions among [TRACON controllers regarding] what constitutes an event that should be reported" and that the "seriousness of an event" determines whether to report an operational error or deviation. Among the examples cited in the report were controllers stating that an event need not be reported if it "is not that serious" and that reporting a pilot error or deviation "for a minor infraction isn't good customer service."

The QCR Report also stated that although the TRACON's Safety Assurance Program Directive appeared to comply with FAA Order 7210.56 (which provides direction for the reporting, investigation, and recording of air traffic events), the facility did not appear to handle, process, track, and follow-up on Quality Assurance Reviews and Random Monthly Audits in compliance with the order. Specifically, the Safety Assurance Group found:

> (1) It was unclear from the facility's daily logs for December 28, 2008, to February 10, 2009, what actions, if any, were taken to investigate reported events;
> (2) "Personal observation" appeared to be the sole method for investigating such events;
> (3) The Quality Assurance Review Form, which is used to record the investigation of an air traffic event, lacked instructions for its completion;
> (4) Quality Assurance Review Forms did not always contain complete information or sufficiently describe the event; and
> (5) It was unclear if the Quality Assurance Department conducted a follow-up review of the events reported in the daily logs and Quality Assurance Review Forms.

As stated above, ATO-Safety conducted a follow-up investigation in March 2009 to determine the Detroit TRACON's effectiveness in addressing the findings of the Safety Assurance Group. ATO-Safety validated the Safety Assurance Group's findings concerning the Quality Assurance Review process. Also, ATO-Safety's review of the facility's mandatory internal audits and the investigative team's own audit of random data found five events not previously detected and/or properly reported by the facility.

The whistleblower provided us with copies of several reported operational errors or deviations that indicate the initial review conducted by the relevant Frontline Manager was insufficient. Specifically, the reviews consisted only of interviews with the controller rather than a review of the applicable data replay to determine whether an operational error or deviation actually occurred. Additionally, we spoke with Director of

Terminal Operations Kort and her Acting Senior Advisor, David Auschermann, who reiterated these findings.

Nevertheless, there is insufficient evidence to corroborate the whistleblower's contention that the facility managers have improperly challenged and attempted to overturn the air traffic events he reported. Although management disagreed with the whistleblower on occasion, we found no evidence of any intent to cover up reported operational errors or deviations. Detroit TRACON and Quality Assurance management contend that their conclusion that the events the whistleblower reported were not operational errors or deviations constitutes a reasonable difference of opinion concerning what the electronic data showed. Because the electronic data for these events no longer exists, we could not verify the accuracy of the TRACON management and Quality Assurance Department conclusions.

The whistleblower also objected to not being involved in the review of the air traffic events he reported. However, Detroit TRACON management officials told us that once the whistleblower disclosed the event, it is the Quality Assurance Department's responsibility to investigate, and we are not aware of any rule or regulation that calls for the reporting employee to be involved in the investigation.

Additionally, we found no evidence that the Detroit TRACON management filed an inappropriate request for reclassification in 2008. Records indicate that on July 14, 2008, District Manager Figliuolo sought the reclassification of a July 12, 2008, operational error as a non-event. The whistleblower informed Quality Assurance Manager Grand in a July 25, 2008, email of his belief that the facility did not have "reasonable grounds" to do so. Director of Terminal Operations Kort concurred with the reclassification request, and on October 14, 2008, FAA Acting Director of Quality Assurance James Bedow granted the request after a review by Quality Assurance staff in Washington, DC. Based on the multiple levels of review, the evidence does not support the allegation that the reclassification request was inappropriate.

As stated above, in response to the findings of the Safety Assurance Group and ATO-Safety, Detroit Metro has formulated a plan to address those findings and provide periodic updates on the facility's progress. As part of that plan, Quality Assurance Manager Grand developed a new Quality Assurance Review Directive and Reporting Form that became effective June 8, 2009. The Safety Assurance Group has reviewed and found the new directive to be adequate.

Additionally, the Quality Assurance Department contracted with a former Detroit TRACON Frontline Manager to conduct weekly audits of the TRACON, as required by the Safety Assurance Group, by reviewing random data replays of its operations. According to Director of Terminal Operations Kort, Safety Assurance Group officials

also have provided the Detroit TRACON managers with coaching and safety culture training.

Director Kort described the new Quality Assurance Review process as "very robust" and stated she is satisfied with the facility's progress in addressing the whistleblower's concerns regarding the investigation and reporting of operational errors and deviations. Moreover, our review of the new Quality Assurance Review process and Quality Assurance Review Reports, as well as the interviews we conducted, indicate the investigation of operational errors and deviations has improved.

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ATTACHMENT 1: METHODOLOGY OF INVESTIGATION

This investigation was conducted by an OIG Senior Attorney-Investigator, with technical assistance from four FAA Air Traffic Investigators (also certified as Air Traffic Control Specialists) assigned to the AOV. To address the whistleblower's concerns, we interviewed and held discussions with the following individuals:

- Timothy Funari, Acting Detroit TRACON Support Manager
- Carl Burton, Jr., former Detroit TRACON Frontline Manager
- Daniel Bussey, Detroit TRACON Frontline Manager
- Thomas Kuhn, Detroit TRACON Frontline Manager
- Thomas Murphy, Detroit TRACON Frontline Manager
- David Shoup, former Detroit TRACON Frontline Manager
- Thomas Boland, former Detroit TRACON Operations Manager
- Daniel Chambers, Coordinator for the Detroit Metropolitan Radar Unit
- Michael Foley, Manager of the Detroit Metropolitan Radar Unit
- Patricia Bynum, Detroit TRACON Support Manager
- Randy Olson, Support Specialist, Detroit Quality Assurance Department
- Earl Grand, Detroit Support Manager for Quality Assurance and Training
- Gary Ancinec, Detroit Staff Manager
- Joseph Figliuolo, District Manager for the Motown District
- David Auschermann, Acting Senior Advisor, Central Terminal Operations
- Nancy Kort, Director of Terminal Operations, Central Terminal Service Area

In addition, our investigative team reviewed numerous records and documents obtained from the Detroit TRACON and FAA including: 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 TRACON and Air Traffic Control Tower.