



**U.S. Department  
of Transportation**

Office of the Secretary  
of Transportation

**GENERAL COUNSEL**

1200 New Jersey Avenue, SE  
Washington, DC 20590

Catherine A. McMullen,  
Chief, Disclosure Unit  
U.S. Office of Special Counsel  
1730 M Street, NW, Suite 300  
Washington, DC 20036-4505

April 18, 2012

Re: *OSC File No. DI-11-1675 and DI-11-1677*

Dear Ms. McMullen:

This is to follow up on your recent request for supplemental information in the above-referenced whistleblower referrals. Attached please find a memorandum with attachments from the Office of Inspector General, to which the Secretary delegated the investigation of this matter. Please treat this memorandum and attachments as our supplemental report.

Regarding your question about sensitive personally identifiable information (SPII) in the original report and the supplemental report, other than witness names, the reports do not contain SPII.

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

Sincerely,

A handwritten signature in black ink that reads "Debra J. Rosen" followed by a stylized flourish.

Judith S. Kaleta  
Assistant General Counsel for General Law

Enclosure



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

# Memorandum

Subject: **INFORMATION:** OIG Investigation  
#I11A003SINV, Re: Air Traffic Management at  
Detroit Wayne County Metropolitan Airport (DI-  
11-1675 and DI-11-1677)

Date: April 17, 2012

From: Ronald C. Engler *REE*  
Director, Special Investigations, JI-3

Reply to  
Attn. of: X6-4189

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

In a March 29, 2012, email, OSC identified issues for “follow-up” related to FAA’s response to the OIG’s November 15, 2011, Report of Investigation. Among other things, OSC has asked for a status update on the corrective actions FAA proposed in its response. Attached for you to forward to OSC is FAA’s supplemental report answering OSC’s questions and detailing its actions to date.




## Federal Aviation Administration

---

### Memorandum

Date: **APR 16 2012**

To: Ronald Engler, Director of Special Investigations,  
Office of Inspector General

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

Subject: Follow-up Status Report, Divergent Headings at Detroit Metropolitan  
Wayne County Airport (DTW); ref: Office of Special Counsel (OSC)  
Case Nos. DI-11-1675 and DI-11-1677; our memos dated Nov. 18, 2011 &  
Feb. 28, 2012

---

This memo provides our status update for the allegations described in your OIG report of investigation (ROI) dated November 15, 2011, following the Office of Special Counsel (OSC) referral of File Nos. DI-11-1675 and DI-11-1677. This memo includes progress of the corrective actions, ongoing activities to support closure, and specific responses to questions received from the OSC on Mar. 29, 2012 are attached.

**Allegation 1:** *"During simultaneous arrivals and departures on parallel runways at DTW, the air traffic control rule for protecting airspace in the event of a missed approach conflicts with the rule for maintaining radar separation between aircraft."*

**Updated Response:** The FAA analyzed 21 different published instrument approach procedures (IAP) at DTW to ensure the missed approach instructions on each IAP complemented the air traffic policies. Our review of the IAPs concluded that increased separation between the aircraft on a missed approach and the departing aircraft was necessary. Our review of the published arrival and missed approach procedures at DTW is complete, and improvements were identified on 18 of the 21 approaches we reviewed. Recommended changes that meet (or exceed) the criteria contained in FAAO JO 7110.65, paragraph 5-8-5 were submitted for review and approval by the Aeronautical Products (AJV-3) office. Because the approval and publication process can take upwards of 60-days, the FAA chose to implement all 18 changes on Apr. 3, 2012 using Notices to Airmen (NOTAM) so that DTW could begin to implement the missed approach procedures prior to the formal publications (anticipated May 31, 2012) being updated. DTW controllers and pilots flying the published approaches were authorized to utilize the 18 revised missed approach procedures (as assigned) beginning on Apr. 3, 2012.

Our review did not result in any corrections or improvements to the FAAO JO 7110.65, paragraph 5-8-3, 5-8-4, and 5-8-5 thus far, and current information indicates DTW will not be required to operate with any restrictions or site-specific differences to the national policy that applies to simultaneous operations on parallel or non-intersecting runways. We will distribute a training briefing to the other airports in the National Airspace System (NAS) (excluding DTW) that will help ensure common understanding of the policies found in paragraphs 5-8-3 and 5-8-5, and the training verification will be supplied in a future status update. Our national initiatives are on-going, and the confirmation that training is complete will be supplied in a future status update.

Because of the significant number of missed approach procedures that were changed as a result of our review, the local controller (LC) training materials were totally revised at DTW. Training materials were completed on Feb. 29, 2012 following a review and comment resolution by DTW. Training materials were reviewed by the ATO's Central Service Area, Safety & Technical Training, and Terminal Services, and DTW commenced training on Mar. 11, 2012.

**Allegation 2:** *"DTW controllers have received inadequate guidance concerning the application of rules for protecting airspace in the event of a missed approach and maintaining radar separation during simultaneous arrivals and departures on parallel runways."*

**Updated Response:** DTW has temporary space constraints that prevented installation of the Tower Simulator System (TSS) purchased and waiting installation at DTW. Once it became apparent that improvements were necessary on 18 of the 21 approaches we reviewed and recommended changes that meet (or exceed) the criteria contained in FAAO JO 7110.65 paragraph 5-8-5. We recognized the training materials required for successful completion of our corrective action plan would be delayed. Since training could not begin within the ten-day period following delivery of the corrective action plan, DTW was instructed to provide radar vectors that met/exceeded the criteria of paragraph 5-8-5 for all missed approaches that might occur during the conduct of simultaneous operations and training preparation.

Training materials were completed on Feb. 29, 2012 and DTW personnel received training from Mar. 11-20, 2012 on paragraphs 5-8-3, 5-8-4, and 5-8-5. Part of the training included some common questions and answers related to application of the air traffic policies. The FAA initiated simultaneous operations training at other locations following successful completion of retraining of operational personnel at DTW. The review of training materials currently utilized at the Mike Monroney Aeronautical Center (MMAC) for paragraphs 5-8-3 and 5-8-5 was completed on Apr. 5, 2012. For facilities authorized to conduct simultaneous operations, we decided a proactive restatement of the correct application of air traffic policy was more efficient than completing an inquiry to each facility. The formal restatement of the air traffic policy for paragraphs 5-8-3 and 5-8-5 will be transmitted to the field facilities, and confirmation that operational personnel at all of the appropriate facilities received the training briefing is expected during the next 60-days. Our next update will include the corrective action status of this field training.

**Allegation 3:** *"The conflicting rules for protecting airspace in the event of a missed approach and maintaining radar separation have resulted in unreported operational errors at DTW."*

**Updated Response:** The corrective action plan did not sufficiently account for the common staffing at DTW where there is usually only one frontline manager (FLM) on duty during a given shift. A Controller-in-Charge (CIC) is utilized to relieve the FLM or provide coverage when the FLM is conducting other duties (operational currency, performance evaluations, training) etc. When a Traffic Management Coordinator (TMC) is available, they actively monitor operations and work in concert with the FLM to ensure safe, orderly and efficient operations are conducted. When staffing allows, a Cab Coordinator is also utilized to dynamically support the operations. The TMC or Cab Coordinator does allow someone to focus on one side (east or west-bank) of the DTW airport operations while the other may be focused on the other side (if appropriate). FLMs supervised the tower-cab operations throughout the corrective action period since Nov. 2011, and FLMs provided feedback to all controllers (local controllers (LC) and on-the-job-trainee (OJT) controllers) working simultaneous operations. The Central Service Area Quality Control Group (QCG) conducted tower observations of DTW's simultaneous operations since Dec. 2011, and the QCG observers provided periodic reports to facility management and the Central Terminal Service Area Director of Operations following their observations. The QCG has completed reviews of radar and voice data for instrument meteorological conditions (IMC) periods when they were unable to monitor operations from the tower-cab. Throughout the observed/audited period, no violations of air traffic policy were noted and no losses of separation have been associated with simultaneous operations at DTW. QCG commenced audits of DTW's simultaneous operations to coincide with the beginning of LC retraining on Mar. 11, 2012, and the QCG observation and audit records will become part of the final report provided to the Directors following the minimum 60-day audit period now underway.

We will provide your office with quarterly updates until the corrective actions stemming from your investigation are completed. If you desire additional information, please contact Joseph Teixeira, Vice President, ATO Safety & Technical Training, at (202) 267-3341.

Atch: Response to questions received from the OSC on Mar. 29, 2012  
Memo from AAE to OIG dated Feb. 28, 2012

cc: Vice President, Terminal Services  
Vice President, Safety & Technical Training  
Chief Operating Officer

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

In response to specific questions sent via a March 29, 2012, e-mail, the FAA provides the following responses:

### **OSC Question 1:**

*The report includes a Memorandum dated November 18, 2011, from H. Clayton Foushee, Director, Office of Audit and Evaluation, to Ronald Engler, Director of Special Investigations, Office of Inspector General, that appears to set forth FAA's corrective action plan in connection with the whistleblower's disclosures. Regarding Allegation 1 on page 1 of that Memorandum, FAA response states:*

*a.) FAA will review the published arrival and missed approach procedures at DTW to ensure the published procedures meet all appropriate criteria and consider the unique airspace, obstacles, and traffic patterns associated with DTW plus their satellite airports. Discrepancies, corrections, and improvements to the published arrival and missed approach procedures at DTW will be promptly submitted through the national flight procedures process to update the necessary publications.*

- ***Please provide an update on the status of this proposed corrective action.***

**FAA Response:** Our review of the published arrival and missed approach procedures at DTW is complete. Improvements were identified on 18 of the 21 approaches, and recommended changes that meet (or exceed) the criteria contained in FAAO JO 7110.65, paragraph 5-8-5 were submitted for review and approval of the Aeronautical Products office in March 2012. However, because the approval and publication process can take upwards of 60 days, FAA implemented all 18 changes on April 3, 2012, using Notices to Airmen (NOTAM). Using NOTAMs allowed DTW to commence implementation of the missed approach procedures in the interim period prior to the publication of updated formal publications. We expect the review and approval of the publication to occur by May 31, 2012. A list of the DTW Instrument Approach Procedures – redesigned Missed Approaches and Alternate Missed Approaches, as well as the new DTW Missed Approach NOTAMs, effective April 3, 2012, are included as **Attachments 1 & 2**. Note that the NOTAMs are not a one-for-one link to the missed approaches; therefore, one NOTAM might contain multiple missed approach procedures.

- ***Please also clarify how the published missed approach procedures relate to the conflict presented by simultaneous operations on parallel runways and the requirements of FAA Order 7110.65, paragraphs 5-8-3 and 5-8-5.***

**FAA Response:** The missed approach procedures changed on April 3, 2012, are all tied to the criteria contained in FAAO JO 7110.65, paragraph 5-8-5, and are not related to criteria in paragraph 5-8-3.

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

- ***Does the revision of the published missed approach procedures resolve the problem identified on page 5 of the [OIG] report, stating: “Given the airspace at DTW and the specific geometry of the instrument flight procedures established there, along with the speed and turning capabilities of the aircraft, it may not be possible to issue headings to departures that will allow for the required 30-degree divergence for the arrival’s missed approach course”?***

FAA Response: As of this updated status report, the 18 revisions to the missed approach procedures appear consistent with the DTW airspace limits, aircraft capabilities, and the criteria contained in paragraph 5-8-5. Missed approaches are not a “hands-free” operations during simultaneous operations; controller must actively review the evolving situation:

- Will missed approach aircraft affect last/next departure?
- Is the missed approach airspace occupied by any other aircraft?
- De-confliction required to comply with paragraph 5-8-5?

DTW routinely provides radar vectors to each missed approach aircraft, so the local controller (LC) is expected to take action.

### OSC Question 2:

*The November 18, 2011 Memorandum also states:*

*b.) The FAA will review the application of national air traffic policies (i.e., FAA Order 7110.65, paragraphs 5-8-3, 5-8-4, and 5-8-5) specifically at DTW and related to the complainant’s disclosure to ensure that FAA policies are understandable and do not conflict with other policies necessary for safe operations at DTW. Discrepancies, corrections, and improvements to the published national air traffic policies (i.e., paragraphs 5-8-3, 5-8-4, and 5-8-5) necessary for the safe conduct of simultaneous operations using two or more parallel runways at DTW will be submitted through the publications development group (PDG).*

- ***Please provide an update on the status of this proposed corrective action. Please identify who or what organization or unit at FAA will be responsible for the review of the application of national air traffic policies.***

FAA Response: The review of air traffic policies included in FAAO JO 7110.65 paragraphs 5-8-3, 5-8-4, and 5-8-5 is complete and we found no reason to change the text of these three paragraphs. The ATO organizations conducting the policy review were Central Service Area, Safety & Technical Training, and Terminal Services.

- ***Please also clarify whether the application of national air traffic policies will be applied differently at DTW, and/or whether discrepancies, corrections, and improvements to the policies will be applicable at other airports where simultaneous operations using two or more parallel runways are employed.***

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

FAA Response: Because our review did not result in any corrections or improvements to the three paragraphs to JO 7110.65, all current information indicates DTW will not be required to operate with unique restrictions or site-specific differences to the national policy. Our training briefings to the other airports in the NAS (excluding DTW) is on-going, and will help ensure common understanding of the policies found in paragraphs 5-8-3 and 5-8-5.

- ***Please also provide the specific discrepancies, corrections, and improvements identified in this review.***

FAA Response: DTW worked with the CSA QSG and Flight Procedures to develop new missed approach procedures that incorporated the 30-degree divergence contained in paragraph 5-8-5. These procedures were published via NOTAM on April 3, 2012.

### **OSC Question 3:**

*The November 18, 2011 Memorandum also states:*

*c) In addition, the FAA will review associated training materials related to simultaneous operations at DTW to ensure controller training materials are concise and understandable. Discrepancies, corrections, and improvements to the training materials associated with simultaneous operations at DTW will be promptly submitted through the technical training update process (AJL-x) for the necessary publications.*

- ***Please provide an update on the status of this proposed corrective action. Please also provide the specific discrepancies, corrections, and improvements identified in this review.***

FAA Response: Given the significant number of missed approach procedures changed because of the previously discussed review, the local controller (LC) training materials were revised at DTW. The training materials were completed on February 29, 2012, following a review by the ATO Central Service Area, Safety & Technical Training, and Terminal Services organizations, with changes incorporated by DTW.

The training materials included information not contained in previous training packages at DTW including: a) airport geometry, b) common airport configurations used for simultaneous operations, c) published missed approach procedures that meet paragraph 5-8-5 criteria, d) common questions raised by operational personnel and appropriate answers. Copies of the training memo, training briefing, and response to common questions are included as **Attachments 3, 4, and 5** respectively.



## Response to Questions from OSC – March 29, 2012, E-mail to FAA

### **OSC Question 4:**

*The November 18, 2011 Memorandum, in response to Allegation 2, identifies a series of corrective actions that appear to address training deficiencies/shortfalls that require the agency's immediate attention. These include the development of training scenarios, and specifically, "retraining of local controller qualified personnel [to commence] no later than ten working days following receipt of this memo at DTW." Additionally, the memo states that, "DTW will retrain [local controllers] responsible for simultaneous operations on the proper application of air traffic policy paragraphs 5-8-3, 5-8-4, and 5-8-5."*

- ***Please provide an update on the status of these corrective actions.***

FAA Response: DTW officials believed its newly acquired Tower Simulator System (TSS) would offer an opportunity to demonstrate simultaneous operations that could result in a missed approach scenario, in order for controllers to view and participate in the appropriate response(s) in order to correct any controller misunderstandings, and reinforce the application of the criteria contained paragraphs 5-8-3, 5-8-4, and 5-8-5. However, ongoing mold remediation at DTW has created temporary space constraints, preventing installation and use of the simulator. The TSS is estimated to be available for DTW controller training beginning in 2013.

In addition, once it became apparent that improvements were necessary on 18 of the 21 approaches, it was also apparent that updated training materials, needed to complete the corrective action plan, would be delayed until the missed approach procedure changes could be reviewed, approved and readied for publication.

The local controller (LC) training materials were revised at DTW. The training materials were completed on February 29, 2012, following a review by the Central Service Area, Safety & Technical Training, and Terminal Services and comment resolution by DTW. DTW personnel were trained from March 11-20, 2012. The 18 missed approach procedure changes were published on April 3, 2012, using NOTAMs so that DTW could begin to implement the missed approach procedures prior to the formal publications, which is anticipated to occur by May 31, 2012.

- ***Please also clarify the nature of the retraining, both that which was to occur within ten days of the receipt of the memo at DTW and that intended to address the proper application of the paragraphs at issue, in view of the fact that:***
  - 1) ***The report found that "it may not be possible to issue headings to departures that will allow for the required 30-degree divergence for the arrival's missed approach course,"***

FAA Response: DTW requested that the published missed approach procedures be reviewed and revised as appropriate, prior to the development and implementation of training materials. After an initial review of the published missed approaches at DTW revealed that some did not meet the criteria of paragraph 5-8-5 (30-degrees minimum divergence), it was confirmed that every

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

missed approach aircraft receives radar vectors and an altitude clearance away from the proximity of the simultaneous arrivals/departures. The only exception to radar vectors would be any aircraft commencing a missed approach that also experienced an air-ground radio communications failure), hence the importance that published missed approaches meet the criteria of paragraph 5-8-5.

Further discussions with DTW management revealed that the core misunderstanding of paragraphs 5-8-3 and 5-8-5 occurred when someone tried to apply one paragraph in the absence of the other paragraph. After talking to DTW management, FAA officials learned that DTW uses heading diversity for departures, and therefore the 30-degree requirement found in paragraph 5-8-5 can be applied correctly, but slightly differently in each missed approach situation.

Because the training could not begin within the ten-day period following delivery of the corrective action plan, DTW was instructed to provide radar vectors that met/exceeded the criteria of paragraph 5-8-5 for all missed approaches that might occur during the conduct of simultaneous operations and training preparation would be expedited.

- 2) *The discrepancies, corrections, and improvements to the published national air traffic policies at issue in this matter would likely not have been identified within the time frame noted.*

FAA Response: Although retraining of the LCs did not actively start as planned, the review of training materials and corrective actions to modify the training materials began within ten days following receipt of the corrective action plan on November 30, 2011. The DTW management team emphasized the correct application of FAA Order 7110.65 paragraphs 5-8-3 and 5-8-5 to the operational staff while the training materials were being prepared.

### OSC Question 5:

The November 18, 2011 Memorandum, in response to Allegation 2, also states that, “ATO Safety and Technical Training will ensure the training for simultaneous operations at all FAA facilities is consistent and reflects the latest policy changes; [to include] an inspection of training conducted at Mike Monroney Aeronautical Center (MMAC), and follow-on training at all major facilities conducting simultaneous operations.”

- *Please provide an update on the status of these corrective actions, and clarify the time frame for the completion of this corrective action.*

FAA Response: FAA initiated a review of simultaneous operations training following successful completion of retraining of operational personnel at DTW. The review of training materials currently in use at the Mike Monroney Aeronautical Center (FAA’s controller training academy) for paragraphs 5-8-3 and 5-8-5 was completed on April 5, 2012. Because we have other facilities that are authorized to conduct simultaneous operations, the ATO decided a proactive restatement of the correct application of air traffic policy was more efficient than completing an

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

inquiry to each facility. The restatement of the air traffic policy for paragraphs 5-8-3 and 5-8-5 will be transmitted to the field facilities, with confirmation that operational personnel at all of the appropriate facilities received the training briefing during May-June 2012. Our next update will include the corrective action status of this field training.

- ***Please also clarify whether the training was conducted prior to the determination on discrepancies, corrections, and improvements to the published national air traffic policies at issue in this matter.***

FAA Response: As reported above, no training of all operational personnel was conducted at DTW prior to a thorough review of the published missed approach procedures, environmental restrictions on departures, and preparation of improved training materials were reviewed and approved.

### **OSC Question 6:**

*The November 18, 2011 Memorandum states, in further response to Allegation 2, that the “complainant” will be offered an in-depth briefing regarding the event on December 25, 2009.*

- ***Please provide an update on the status of these corrective actions.***

FAA Response: Because the availability of training materials was considered crucial to improving the understanding of the operational personnel at DTW, the facility decided that the complainant would only be offered his in-depth briefing regarding the Dec. 25, 2009 events, after the revised training materials were completed and approved. The DTW Air Traffic Manager (ATM) offered the complainant an opportunity to review the Dec. 25, 2009 events on April 18-20, 2012; however, the complainant respectfully declined the opportunity to meet with DTW management, and countered with a request to meet with an ATO executive when the OSC can attend.

- ***Please clarify whether the complainant has been briefed, and if so, when, and identify how the findings of this investigation bear on the briefing.***

FAA Response: The complainant respectfully declined the opportunity to meet with DTW management. The review of missed approach procedures and development of training materials for DTW resulted in confirmation that operational personnel (not just the complainant) at DTW harbored misunderstandings of:

- proper divergence to use when successive or simultaneous departures are planned (FAAO JO 7110.65, paragraph 5-8-3);
- proper divergence to use when a simultaneous departure(s) on one runway and arrival(s) to another parallel or non-intersecting diverging runway are planned (FAAO JO 7110.65, paragraph 5-8-3 plus 5-8-5 and DTW local noise restrictions);

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

- applying only one divergent heading to either the departure (paragraph 5-8-3) or the arrival (paragraph 5-8-5) aircraft during simultaneous operations may not ensure adequate separation is maintained under all possible simultaneous outcomes.
- *Specifically, please clarify how the FAA explains the assignment of the error in view of the specific findings in the [OIG] report that:*
  - 1) *It may not be possible to issue headings to departures that will allow for the required 30-degree divergence;*

FAA Response: DTW typically assigns radar vectors and an altitude clearance to all aircraft that initiate a missed approach to keep that aircraft away from the proximity of the simultaneous arrivals/departures on adjacent runways, but the complainant vectored the missed approach aircraft into the same airspace as his simultaneous departure aircraft had already been vectored.

None of the changes identified in the DTW corrective action plan were necessary to prevent the operational error (OE) that occurred on December 25, 2009. While the revised missed approach procedures make it easier for controllers to comply with the rules, the retraining is the most proactive portion of the corrective action plan to help all local controllers (LC) avoid this situation in the future.

Included as **Attachment 6** is a diagram containing a visual depiction of the December 25, 2009, operational error.

### 2) *Guidance was inadequate; and*

FAA Response: It appears the OIG Report of Investigation (ROI) was the first concrete evidence that confusion regarding paragraphs 5-8-3 and 5-8-5 was present among the operational personnel at DTW. It was not until the corrective action plan was initiated that DTW acknowledged an improved training package was warranted to ensure the safe compliance during simultaneous operations to parallel or non-intersecting diverging runways.

### 3) *Operational errors have likely occurred and continued to occur but are unintentional and therefore the failure to report same is apparently justified.*

FAA Response: DTW realized their understanding of the criteria contained in paragraphs 5-8-3 and 5-8-5 was inadequate and that an improved training package was warranted to ensure the safe compliance during simultaneous operations to parallel or non-intersecting diverging runways. This recognition by the DTW management was only apparent once the corrective action plan was initiated, but is conclusive evidence that failure to comply with the national policies contained in paragraphs 5-8-3 and 5-8-5 is/was unacceptable and should be reported.

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

### OSC Question 7:

*The November 18, 2011 Memorandum, in response to Allegation 2, states that, “Once training materials are prepared and approved, the Central Terminal Service Area will review and approve the scheduled implementation for DTW prior to training commencement.”*

- ***Please provide an update on the status of these corrective actions, and clarify the time frame for completion of this corrective action, in view of the 10-day time frame noted previously in the corrective actions.***

FAA Response: Once it became apparent that DTW would be unable to use the simulator for training, and that improvements were necessary on 18 of the 21 approaches, the ATO reviewed and recommended changes that meet (or exceed) the criteria contained in paragraph 5-8-5. It was also clear that training materials required for successful completion of the corrective action plan would be delayed until the missed approach procedure changes could be reviewed, approved, and readied for publication. The DTW management team emphasized the correct application of FAA Order 7110.65 paragraphs 5-8-3 and 5-8-5 to the operational staff while the training materials were being prepared. The local controller (LC) training package was completed on February 29, 2012, following a review by the Central Service Area, Safety & Technical Training, and Terminal Services and comment resolution by DTW. Operational personnel training at DTW was completed March 11-20, 2012; and the 18 missed approach procedure changes were published on April 3, 2012, using NOTAMs so that DTW could begin to implement the missed approach procedures prior to the formal publications (anticipated May 31, 2012).

### OSC Question 8:

*The November 18, 2011 Memorandum, in response to Allegation 3, contains a series [serious – sic] of corrective actions designed to address the substantiated finding that misunderstandings and inconsistent application of national air traffic policies at DTW may have contributed to undiscovered and unreported losses of separation. With regard to paragraph a) in the FAA response to Allegation 3:*

- ***Please provide an update on the status of this corrective action.***

FAA Response: The corrective action plan did not sufficiently account for the common staffing at DTW where there is usually only one FLM on duty during a given shift. A Controller-In-Charge (CIC) is used to relieve the FLM or provide coverage when the FLM is conducting other duties (operational currency, performance evaluations, training.) When a Traffic Management Coordinator (TMC) is available, they operate from the tower-cab and actively monitor operations, working in concert with the FLM to ensure that safe, orderly and efficient operations are conducted. When staffing allows, the TMC or Cab Coordinator, work together with the FLM, allowing someone to focus on one side (east or west-bank) of the DTW airport operations while the other may be focused on the other side (if appropriate).

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

FLMs supervised the tower-cab operations throughout the corrective action period since November 2011, providing feedback to all controllers (local controllers (LC) and on-the-job-trainee (OJT) controllers) working simultaneous operations. The Central Service Area Quality Control Group (QCG) assigned tower observers to monitor DTW's simultaneous operations beginning on December 20, 2011. QCG provided reports of their observations to facility management and the Central Terminal Service Area Director of Operations, and completed reviews of radar and voice data for instrument meteorological conditions (IMC) periods when the QCG was unable to monitor operations from the tower-cab.

QCG commenced audits of DTW's simultaneous operations to coincide with the beginning of LC retraining on March 11, 2012; weekly feedback to the DTW management team summarizing the QCG audit findings are to begin shortly, and the following components of the corrective action plan are on-going:

- the QCG audits and feedback to DTW management will continue until the Central Service Area Director of Operations and the Director of Terminal Operations - Headquarters decide the reports warrant suspending the QCG audits;
- The QCG will prepare a written report and then brief the CSA Terminal Director of Operations and the Director of Terminal Operations - Headquarters on DTW's training and compliance progress following the minimum 60-day period.

QCG observation and audit records will become part of the final report provided to the Directors following the minimum 60-day audit period now underway.

- ***Please also clarify whether the front line manager(s) assigned to 1) oversee and visually supervise both arrivals and departures on the east-bank of runways during all peak-hour periods when simultaneous operations are conducted in instrument meteorological conditions, and***

FAA Response: The DTW tower-cab is normally staffed by one FLM during all peak traffic periods, including those periods when simultaneous operations are being conducted; simultaneous operations at DTW include several simultaneous arrival/departure configurations:

- only on the east-bank of runways (Runways 3L/3R or Runways 21L/21R)
- only on the west-bank of runways (Runways 4L/4R or Runways 22L/22R)
- only on the west-flow runways (Runways 27L/27R)
- mixed runway configuration (Runways 27L/27R and Runway 22R)
- mix of both the east and west-bank runways (two or three utilized for arrivals, or two or three utilized for departures depending on traffic conditions);

At DTW, there is usually only one FLM on duty during a given shift, and a CIC is used to relieve the FLM, or provide coverage when the FLM is conducting other duties (e.g., operational currency, performance evaluations, training). When a TMC is available, they operate from the tower-cab and actively monitor operations, working in concert with the FLM to ensure safe,

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

orderly and efficient operations are conducted. When staffing allows, the TMC or Cab Coordinator, work together with the FLM, allowing someone to focus on one side (east or west-bank) of the DTW airport operations while the other may be focused on the other side (if appropriate).

***2) oversee and visually supervise both arrivals and departures on the west-bank of runways during all peak-hour periods when simultaneous instrument meteorological conditions are conducted, has or have been given guidance regarding the proper application of the published national air traffic policies at issue in this matter, and if so, please identify that guidance.***

FAA Response: Once the team of personnel actively working the corrective action plan realized that revisions to the published missed approach procedures would delay the completion of a revised training package that could be provided to all operational personnel at DTW, Terminal Procedures met and discussed the proper application of FAA Order 7110.65 paragraphs 5-8-3 and 5-8-5 with the DTW management team. The DTW management team has emphasized the correct application of paragraphs 5-8-3 and 5-8-5 to the operational staff while the training materials were being prepared and approved.

- ***Please also clarify the time frame of this corrective action.***

FAA Response: The team working the corrective action plan has met whenever necessary, the first meeting was December 8, 2011, and the most recent meeting was April 6, 2012.

- ***With regard to paragraph c), please provide an update on the status of this corrective action.***

FAA Response: The QCG assigned tower observers to monitor DTW's simultaneous operations beginning December 20, 2011. This group has completed reviews of radar and voice data for IMC periods when the QCG was unable to monitor operations from the tower-cab. Regular periods of tower observations ended once training was delivered at DTW.

***With regard to paragraph d), please provide an update on the status of this corrective action.***

FAA Response: the QCG has provided reports of their observations to facility management and the CSA Terminal Director of Operations.

- ***With regard to paragraph e), please provide an update on the status of this corrective action.***

FAA Response: The QCG commenced audits of DTW's simultaneous operations to coincide with the beginning of LC retraining on March 12, 2012.

- ***Please also clarify the purpose of the audit, and state the results, including in your response a copy of any written report or audit prepared.***

## Response to Questions from OSC – March 29, 2012, E-mail to FAA

FAA Response: The purpose of the QCG audits are to verify that local controllers (LC) at DTW demonstrate a consistent understanding and application of simultaneous arrival/departure procedures found in FAAO JO 7110.65 paragraphs 5-8-3 and 5-8-5 in the event of a missed approach by the arrival aircraft, when visual separation is not being provided. The results of the audits are not yet available, but will become support for the planned reports to the CSA Terminal Director of Operations and the Director of Terminal Operations - Headquarters following the minimum 60-day period.

- *Please also clarify how the monitoring and/or results will be utilized, particularly in view of the fact that the discrepancies, corrections, and improvements to the published national air traffic polices at issue in this matter would likely not have been identified within the timeframe noted.*

FAA Response: The team working the corrective action plan has met whenever necessary. The first meeting was December 8, 2011, and the most recent meeting was April 6, 2012. Terminal Procedures has discussed the proper application of FAA Order 7110.65 paragraphs 5-8-3 and 5-8-5 with the DTW management team and whenever requested during these corrective action plan team meetings. The DTW management team has also emphasized the correct application of paragraphs 5-8-3 and 5-8-5 to the operational staff while the training materials were being prepared and approved, and no questions were raised in these regular meetings of the team working the corrective action plan that were not immediately addressed.

- *Please also state whether operational errors and/or deviations have been identified during this time frame, and how they were handled.*

FAA Response: No operational deviations or operational errors have been identified since November 2011 associated with simultaneous operations or the application of paragraphs 5-8-3 and 5-8-5.

- *With regard to paragraph f), please provide an update on the status of this corrective action, and clarify how this action relates to the findings in the report that:*

- 1) *“it may not be possible to issue headings to departures that will allow for the required 30-degree divergence for the arrival’s missed approach course;” and*

FAA Response: The corrective action plan included on-site tower observations during the early phase so that missed approach reviews, training reviews, and discussions of the proper application of paragraphs 5-8-3 and 5-8-5 could be conducted in a timely manner before retraining could begin. The latter phase of the corrective action plan includes audits of radar and voice data that should demonstrate compliance of air traffic operations by the retrained personnel. In discussions with DTW, it became apparent that every missed approach aircraft receives radar vectors and an altitude clearance away from the proximity of the simultaneous arrivals/departures – (the only exception would be any aircraft commencing a missed approach that also experienced an air-ground radio communications failure). Further discussions with



## Response to Questions from OSC – March 29, 2012, E-mail to FAA

DTW management revealed that the core misunderstanding of paragraphs 5-8-3 and 5-8-5 occurred when a controller tried to apply one paragraph in the absence of the other paragraph. The ATO learned through discussion with DTW, that the facility uses heading diversity for departures, and therefore the 30-degree requirement found in paragraph 5-8-5 can be applied correctly, but slightly differently, in each missed approach situation.

**2) *The as yet unidentified discrepancies, corrections, and improvements to the published national air traffic policies at issue in this matter.***

FAA Response: No discrepancies, corrections, and/or improvements to the national policy found in FAAO JO 7110.65 paragraphs 5-8-3, 5-8-4, or 5-8-5 have been identified thus far.

- ***With regard to paragraph g), please provide an update on the status of this corrective action, including a copy of any written report prepared in connection therewith.***

FAA Response: No report is yet available, and based on the projected completion of the minimum audit period of 60-days following commencement of retraining, the ATO does not expect to supply a formal report to the CSA Terminal Director of Operations and the Director of Terminal Operations - Headquarters until mid-May 2012.

***With regard to paragraph h), please provide an update on the status of this corrective action.***

FAA Response: A report has not yet been provided to the CSA Terminal Director of Operations and the Director of Terminal Operations - Headquarters that would provide a basis for suspending the last phase of the corrective action plan. The ATO does not expect to present a formal report to the Directors until mid-May 2012, the findings of which might result in a decision about terminating the audits.

### **OSC Question 9:**

*The November 18, 2011 Memorandum states that “we [AAE] will provide your office [OIG] with an update to this initial response no-later-than Jan. 31, 2012.”*

- ***Please provide a copy of this or any other updates provided.***

FAA Response: Included is the most recent update to OIG, dated February 28, 2012. (Attachment 7). Our planned status report mentioned in the November 2011 corrective action plan was delayed because of the volume of work and required staff coordination.

Attachments

## **Response to Questions from OSC – March 29, 2012, E-mail to FAA**

1. List DTW Instrument Approach Procedures – redesigned Missed Approaches
2. DTW NOTAMs effective April 3, 2012
3. DTW Training Memo
4. DTW ATCT Training Briefing
5. DTW Common Questions
6. Diagram with visual depiction of the December 25, 2009 operational error
7. Update from FAA to OIG, February 28, 2012

# Attachment 1

DTW Instrument Approach Procedures (IAP) – Redesigned Missed Approaches (MA) & Alternate Missed Approaches

IAP	Current MA	Revised MA	Alternate MA	Revised Alternate MA
<b>Northflow</b>				
ILS OR LOC RWY 03R	Climb 1300 ft., RT climb to 3000 ft. then SPENC	Climb 1100 ft., RT to 090 HDG, climb to 3000 ft. and SPENC BRG 106 then SPENC	None	
ILS RWY 03R(CAT II)	Climb 1300 ft., RT climb to 3000 ft. then SPENC	Climb 1100 ft., RT to 090 HDG, climb to 3000 ft. and SPENC BRG 106 then SPENC	None	
ILS RWY 03R(CAT III)	Climb 1300 ft., RT climb to 3000 ft. then SPENC	Climb 1100 ft., RT to 090 HDG, climb to 3000 ft. and SPENC BRG 106 then SPENC	None	
ILS PRM RWY 03R (sim-close-parallel)	Climb 1300 ft., RT climb to 3000 ft. then SPENC	Climb 1100 ft., RT to 090 HDG, climb to 3000 ft. and SPENC BRG 106 then SPENC	None	
ILS PRM RWY 03R (CAT II) (sim-close-parallel)	Climb 1300 ft., RT climb to 3000 ft. then SPENC	Climb 1100 ft., RT to 090 HDG, climb to 3000 ft. and SPENC BRG 106 then SPENC	None	
ILS PRM RWY 03R (CAT III) (sim-close-parallel)	Climb 1300 ft., RT climb to 3000 ft. then SPENC	Climb 1100 ft., RT to 090 HDG, climb to 3000 ft. and SPENC BRG 106 then SPENC	None	
ILS Y RWY 04L	Climb LT to 3000 ft. then SVM	Climb 1100 ft., LT to 320 HDG, climb to 3000 ft. and SVM R-130 then SVM	None	
ILS Z OR LOC RWY 04L	Climb 1300 ft., LT to 3000 ft. then SVM	Climb 1100 ft., LT to 320 HDG, climb to 3000 ft. and SVM R-130 then SVM	None	
ILS Z RWY 04L(CAT II)	Climb 1300 ft., LT to 3000 ft. then SVM	Climb 1100 ft., LT to 320 HDG, climb to 3000 ft. and SVM R-130 then SVM	None	
ILS Z RWY 04L(CAT III)	Climb 1300 ft., LT to 3000 ft. then SVM	Climb 1100 ft., LT to 320 HDG, climb to 3000 ft. and SVM R-130 then SVM	None	
ILS Y PRM RWY 04L (sim-close-parallel)	Climb LT to 3000 ft. then SVM	Climb 1100 ft., LT to 320 HDG, climb to 3000 ft. and SVM R-130 then SVM	None	
ILS OR LOC RWY 04R	Climb RT to 3000 ft. then MADDSS	N/C	None	N/C

DTW Instrument Approach Procedures (IAP) – Redesigned Missed Approaches (MA) & Alternate Missed Approaches

IAP	Current MA	Revised MA	Alternate MA	Revised Alternate MA
ILS RWY 04R(CAT II)	Climb RT to 3000 ft. then MADDS	N/C	None	N/C
ILS RWY 04R(CAT III)	Climb RT to 3000 ft. then MADDS	N/C	None	N/C
ILS PRM RWY 04R (sim-close-parallel)	Climb RT to 3000 ft. then MADDS	N/C	None	
ILS PRM RWY 04R (CAT II) (sim-close-parallel)	Climb RT to 3000 ft. then MADDS	N/C	None	
ILS PRM RWY 04R (CAT III) (sim-close-parallel)	Climb RT to 3000 ft. then MADDS	N/C	None	
<b>Southflow</b>				
ILS OR LOC RWY 21L	Climb 1100 ft., LT climb to 3000 ft. then RYS	Climb 1100 ft., LT to 129 HDG, climb to 3000 ft. and RYS BRG 120 then RYS	None	
ILS PRM RWY 21L (sim-close-parallel)	Climb 1100 ft., LT climb to 3000 ft. then RYS	Climb 1100 ft., LT to 129 HDG, climb to 3000 ft. and RYS BRG 120 then RYS	None	
ILS OR LOC RWY 22L	Climb 3000 ft. then CRL	N/C	None	N/C
ILS PRM RWY 22L (sim-close-parallel)	Climb 3000 ft. then CRL	N/C	None	
ILS Z OR LOC RWY 22R	Climb 1300 ft., RT to 225 HDG, climb to 3000 ft. then SVM	Climb 1100 ft., RT to 331 HDG, climb to 3000 ft. and SVM R-155 then SVM	None	Climb 1100 ft., RT to 355 HDG, climb to 3000 ft. and PSI R-176 then PSI
ILS Y RWY 22R	Climb 1300 ft., RT to 225 HDG, climb to 3000 ft. then SVM	Climb 1100 ft., RT to 331 HDG, climb to 3000 ft. and SVM R-155 then SVM	None	Climb 1100 ft., RT to 355 HDG, climb to 3000 ft. and PSI R-176 then PSI
ILS Y PRM RWY 22R (sim-close-parallel)	Climb 1300 ft., RT to 225 HDG, climb to 3000 ft. then SVM	Climb 1100 ft., RT to 331 HDG, climb to 3000 ft. and SVM R-155 then SVM	None	Climb 1100 ft., RT to 355 HDG, climb to 3000 ft. and PSI R-176 then PSI

DTW Instrument Approach Procedures (IAP) – Redesigned Missed Approaches (MA) & Alternate Missed Approaches

IAP	Current MA	Revised MA	Alternate MA	Revised Alternate MA
<b>Westflow</b>				
ILS OR LOC RWY 27L	Climb 1100 ft., LT to 3000 ft. then CRL	Climb 1100 ft., LT to 180 HDG, climb to 3000 ft. and CRL R-041 then CRL	None	
ILS OR LOC RWY 27R	Climb 2900 ft., RT climb to 3000 ft. then SVM	Climb 1100 ft., RT to 360 HDG, climb to 3000 ft. and PSI R-165 then PSI	None	

## Attachment 2

## Missed Approach NOTAMs – DTW – Effective Apr. 3, 2012

!FDC 2/1196 DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI.  
ILS Z OR LOC RWY 22R, AMDT 2B...

ILS Y RWY 22R, ORIG-A...

ILS Y PRM RWY 22R (SIMULTANEOUS CLOSE PARALLEL), ORIG-B...

MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING RIGHT TURN TO 3000  
ON HEADING 331 AND SVM VORTAC R-155 TO SVM VORTAC AND HOLD.

ALTERNATE MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING RIGHT  
TURN TO 3000 ON HEADING 355 AND PSI VORTAC R-176 TO PSI VORTAC  
AND HOLD NW, RT, 124.00 INBOUND.

!FDC 2/1197 DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI.

ILS OR LOC RWY 3R, AMDT 15B...

ILS RWY 3R (CAT II), AMDT 15B...

ILS RWY 3R (CAT III), AMDT 15B...

ILS PRM RWY 3R (SIMULTANEOUS CLOSE PARALLEL), ORIG-A...

ILS PRM RWY 3R (CAT II) (SIMULTANEOUS CLOSE PARALLEL), ORIG-A...

ILS PRM RWY 3R (CAT III) (SIMULTANEOUS CLOSE PARALLEL), ORIG-A...

MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING RIGHT TURN TO 3000  
ON HEADING 090 AND BEARING 106 TO SPENC LOM AND HOLD, CONTINUE  
CLIMB-IN-HOLD TO 3000.

!FDC 2/0255 DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI.

ILS Z OR LOC RWY 4L, AMDT 3A...

ILS Z RWY 4L (CAT II), AMDT 3A...

ILS Z RWY 4L (CAT III), AMDT 3A...

ILS Y RWY 4L, ORIG...

ILS Y PRM RWY 4L (SIMULTANEOUS CLOSE PARALLEL), ORIG-B...

MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 3000  
ON HEADING 320 AND SVM VORTAC R-130 TO SVM VORTAC AND HOLD.

!FDC 2/0258 DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI.

ILS OR LOC RWY 21L, AMDT 10A...

ILS PRM RWY 21L (SIMULTANEOUS CLOSE PARALLEL), ORIG-A...

MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 3000  
ON HEADING 129 AND BEARING 120 TO RYS NDB AND HOLD.

!FDC 2/0259 DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI.

ILS OR LOC RWY 27R, AMDT 12...

MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING RIGHT TURN TO 3000  
ON HEADING 360 AND PSI VORTAC R-165 TO PSI VORTAC AND HOLD.

!FDC 2/0260 DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI.

ILS OR LOC RWY 27L, AMDT 3...

MISSED APPROACH: CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 3000  
ON HEADING 180 AND CRL VORTAC R-041 TO CRL VORTAC AND HOLD.



## Attachment 3



# Federal Aviation Administration

---

---

## Memorandum

Date: March 11, 2012

To: DTW ATCT Personnel

A handwritten signature in cursive script that reads "John Whitehurst".

From: John Whitehurst, Air Traffic Manager, DTW ATCT

Prepared by: Daniel Ricks, FLM/SUPCOM Chair, DTW ATCT

Subject: Corrective Action Plan Training

---

---

**Background:** As a result of an investigation into an air traffic event from December 25, 2009, it was discovered that DTW ATCT did not have in place proper local procedures and training to adhere to portions of FAAO 7110.65. Specifically there was not adequate assurance of FAAO 7110.65 par 5-8-5 when not using another form of separation.

**Action:** In order to comply with FAAO 7110.65 par 5-8-5, and in consideration of the Runway configurations in use at DTW, there has been a change to the published missed approach procedures for the following approaches to DTW: RWY 22R, RWY 21L, RWY 4L, RWY 3R, RWY 27R, and RWY 27L (see attachments). These changes all call for a climb to 1100' and then a climbing turn to 3000' on a heading that will allow for at least 30 degrees of divergence from the published missed approach procedure and a departure assigned a heading within the confines of the "jet departure airspace" as defined in the DTW/D21 LOA. These changes to the published missed approach procedures and this subsequent training have been reviewed and approved by several entities of the FAA including DTW management, DTW NATCA, CSA Terminal Operations, ATO Terminal Safety and Operations Support, and ATO Safety and Technical Training.

**Application:** A controller must always have established one form of separation to all aircraft under their jurisdiction. In order to comply with FAAO 7110.65 and allow operations on multiple parallel runways at DTW, a combination of either one, two or all three of 7110.65 pars 5-8-3, 5-8-4 and 5-8-5 may be applied to arrivals and departures at DTW. When the provisions of FAAO 7110.65 par 7-2-1 (visual separation) are not being applied, you should initially assign all departures a heading within the confines of the "jet departure airspace", including departures to satellite airspace until you can provide another form of separation i.e. standard radar

separation. By following this guideline and the changes to the published missed approaches, you should always be able to comply with FAAO 7110.65 pars 5-8-3, 5-8-4 and 5-8-5 as required under the specific requirements of the current operation and configuration in use at DTW.

**Note:** It is recognized that DTW, like many other major airports across the NAS, is a complex airport. DTW has four parallel and two crosswind runways with varied distances between runways and differing amounts of stagger to runway thresholds, as such, depending upon configurations for arrival and departures, there are several paragraphs from FAAO 7110.65 that either apply together or separately for separation minima applied to arrivals and departures including pars 5-8-3, 5-8-4 and 5-8-5. Although the changes above in the action and application sections will ensure the ability to have established one form of separation at all times, it is incumbent that, as it says in FAAO 7110.65 par 1-1-1 in part, *“controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations that are not covered by it.”* For example, a missed approach to Rwy 4L that goes around beyond the missed approach point, part way down the runway due to wind shear, and an aircraft departing Rwy 4R on a 360 heading. Even though FAAO 7110.65 par 5-8-5b.1. would allow the simultaneous operation, it is imperative that controllers remain cognitive to the situation at hand and act in accordance with FAAO 7110.65 par 2-1-1 which states, in part, *“The primary purpose of the ATC system is to prevent a collision between aircraft operating in the system.”* Additionally act in accordance with FAAO 7110.65 par 2-1-2, Duty Priority, which states, *“Because there are many variables involved, it is virtually impossible to develop a standard list of duty priorities that would apply uniformly to every conceivable situation. Each set of circumstances must be evaluated on its own merit, and when more than one action is required, controllers shall exercise their best judgment based on the facts and circumstances known to them. That action which is most critical from a safety standpoint is performed first.”* When an aircraft executes a missed approach/go-around, as in the above example, controllers must exercise their best judgment to maintain the safety of the NAS and apply prescribed requirements from FAAO 7110.65 including par 2-1-21, Traffic Advisories, which states, in part, *“Issue traffic advisories to all aircraft (IFR or VFR) on your frequency when, in your judgment, their proximity may diminish to less than the applicable separation minima.”* Issuing these advisories alerts the pilots to traffic which may warrant their attention and assist in avoiding other aircraft.

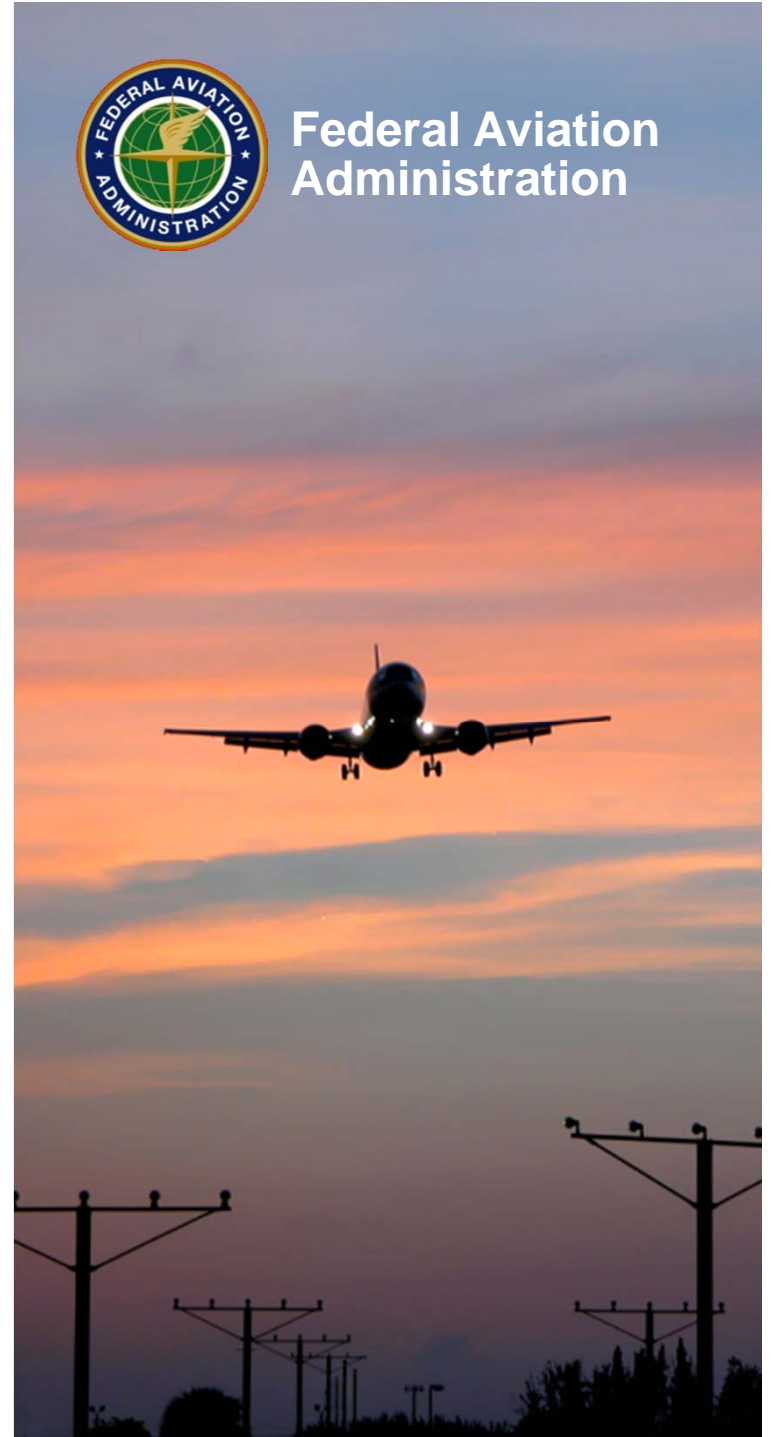
# Attachment 4

# DTW ATCT Training for Corrective Action Plan

Presented to: DTW ATCT Personnel  
By: Daniel Ricks DTW FLM  
Matt Bird DTW NATCA  
Date: March 11, 2012



Federal Aviation  
Administration



# Briefing for all DTW ATCT personnel currently certified or training on Local Control

- Purpose is to clarify and strengthen understanding of 7110.65, Radar Departures
  - a) 5-8-3
  - b) 5-8-4
  - c) 5-8-5
- Assumes that weather includes reduced visibility/ceiling that precludes the use of 7110.65 7-2-1 Visual Separation
- DTW SOP 7110.9 applies
- Note: 7110.65 5-8-4 (2 increasing to 3) applies to every single runway or pair of runways and may be considered a valid form of separation for any two aircraft involving one arrival and one departure



# PMA's

- The published missed approach has been changed to all outboard arrival Runways at DTW as follows: “climb to 1100 then climbing left/right turn to 3000 on heading”, insert specific heading from below

- RWY 22R = 331
- RWY 4L = 320
- RWY 27R = 360

- RWY 21L = 129
- RWY 3R = 090
- RWY 27L = 180



# DTW Runway Geometry

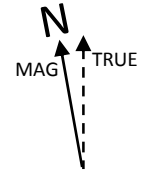
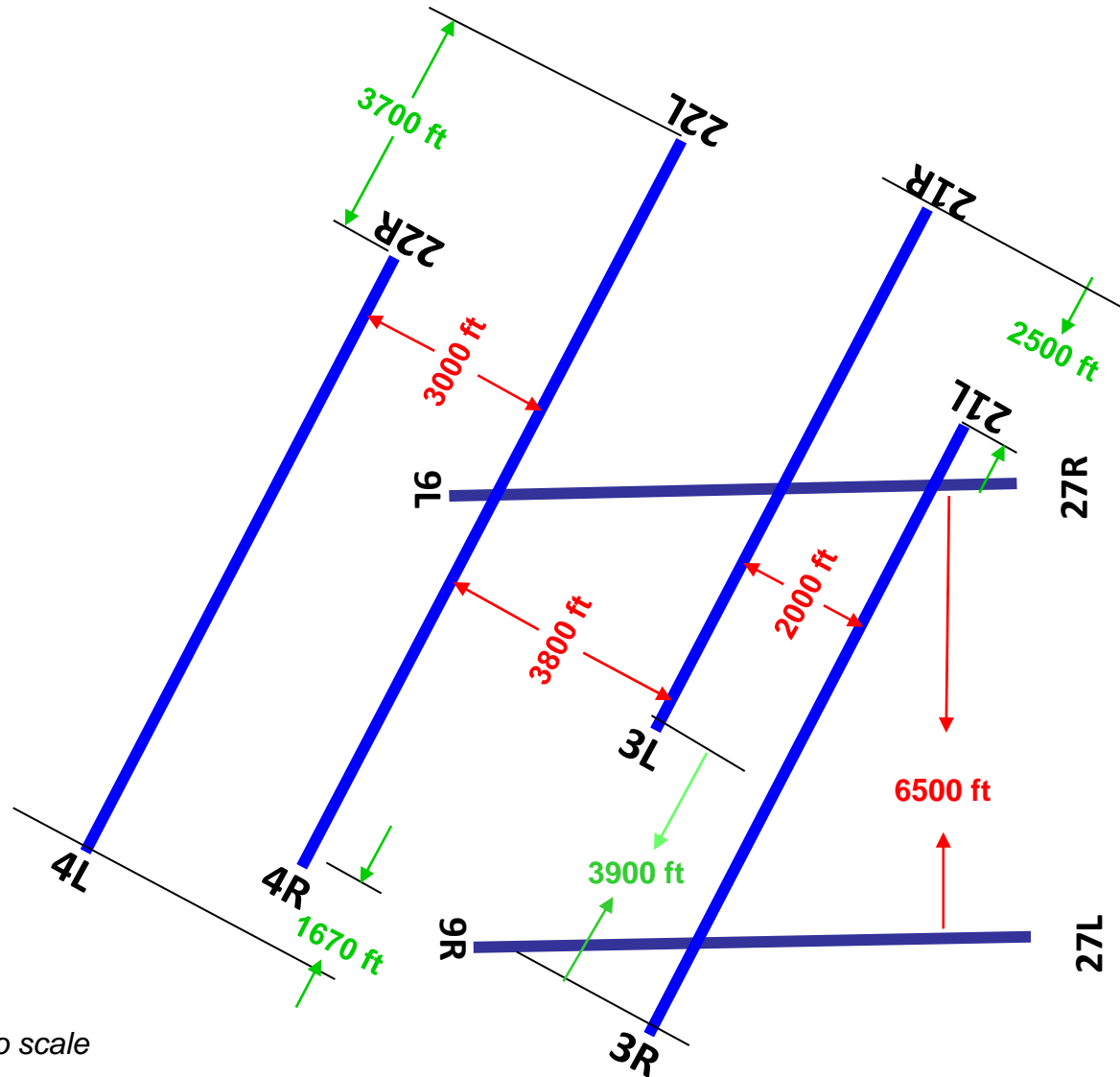


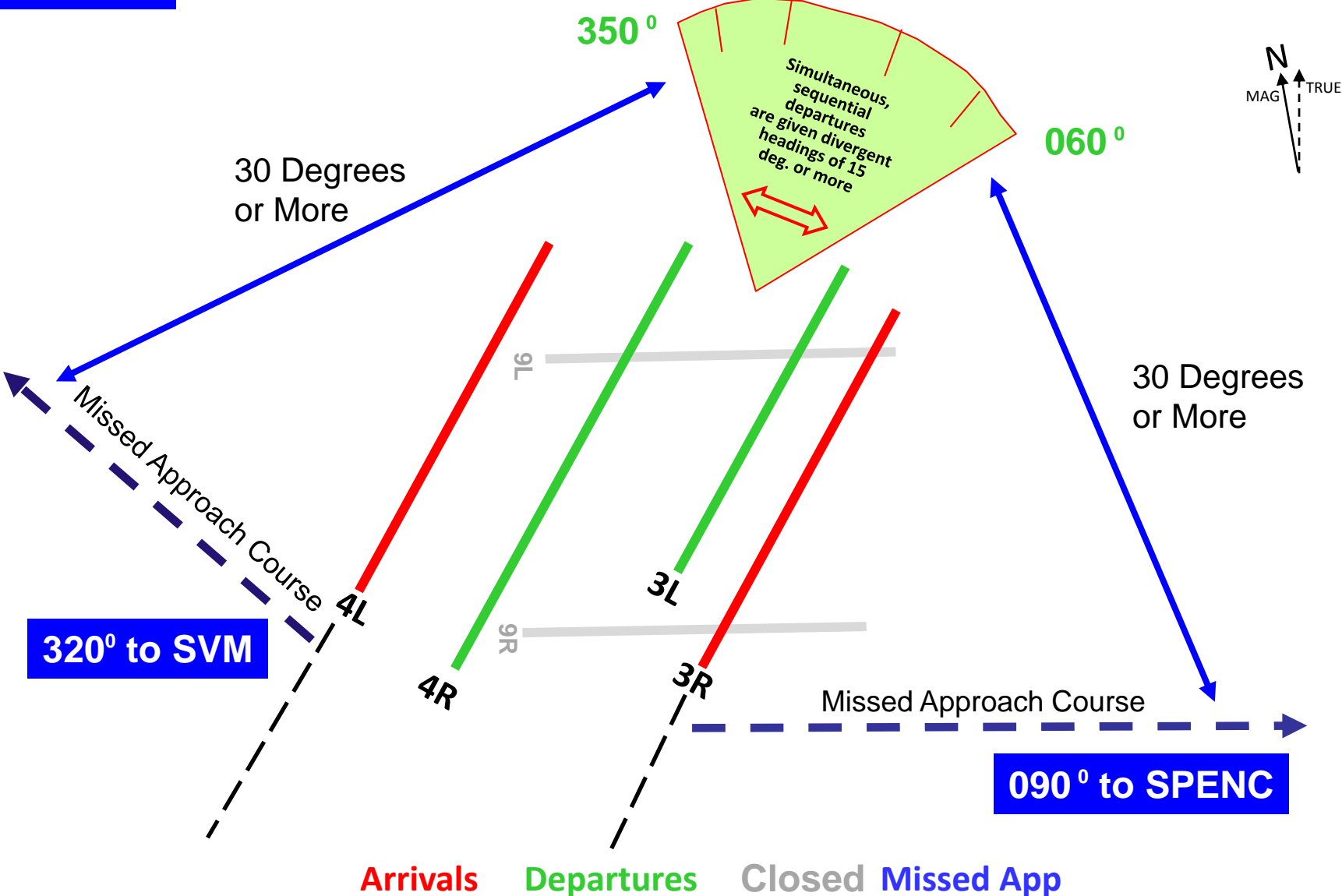
Diagram is not to scale





**NEW PMA**

# NORTH FLOW



**Arrivals**   **Departures**   **Closed**   **Missed App**

# NORTH FLOW

- Landing RWY 4L and departing RWY 4R covered by 7110.65 5-8-5b1. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)
- **NOTE: An aircraft that is executing the published missed approach by climbing to 1100 then commencing a turn will satisfy the requirement of immediate course divergence of 7110.65 5-8-5**



# NORTH FLOW

- **Landing RWY 3R and departing RWY 3L covered by 7110.65 5-8-5b1. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)**
- **Landing RWY 3R and departing RWY 4L or 4R covered by 7110.65 5-8-5. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)**
- **Note: Multiple departures must be deconflicted from the same or other runways (East complex or West complex handled by another LC), so that each departure meets the requirements of 7110.65 5-8-3**



# NORTH FLOW

- **Landing RWY 4L and departing RWY 3L or 3R covered by 7110.65 5-8-5b1. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)**
- **Landing RWY 4R and departing RWY 3L or 3R covered by 7110.65 5-8-4. (Separate a departing aircraft from an arriving aircraft on final approach by a minimum of 2 miles if separation will increase to a minimum of 3 miles within 1 minute after takeoff)**



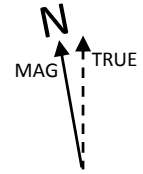
# NORTH FLOW

- **Departures between RWY 4L or 4R and RWY 3L or 3R covered by 7110.65 5-8-3. (Simultaneous ops if courses diverge by 15 degrees or more immediately after departure)**
- **Simultaneous departures from parallel runways must meet the requirements of both 7110.65 5-8-3 and diverse headings required for DTW noise abatement; 5-8-3a applies to Rwy 3L/3R; 5-8-3c applies to Rwy 4L/4R**



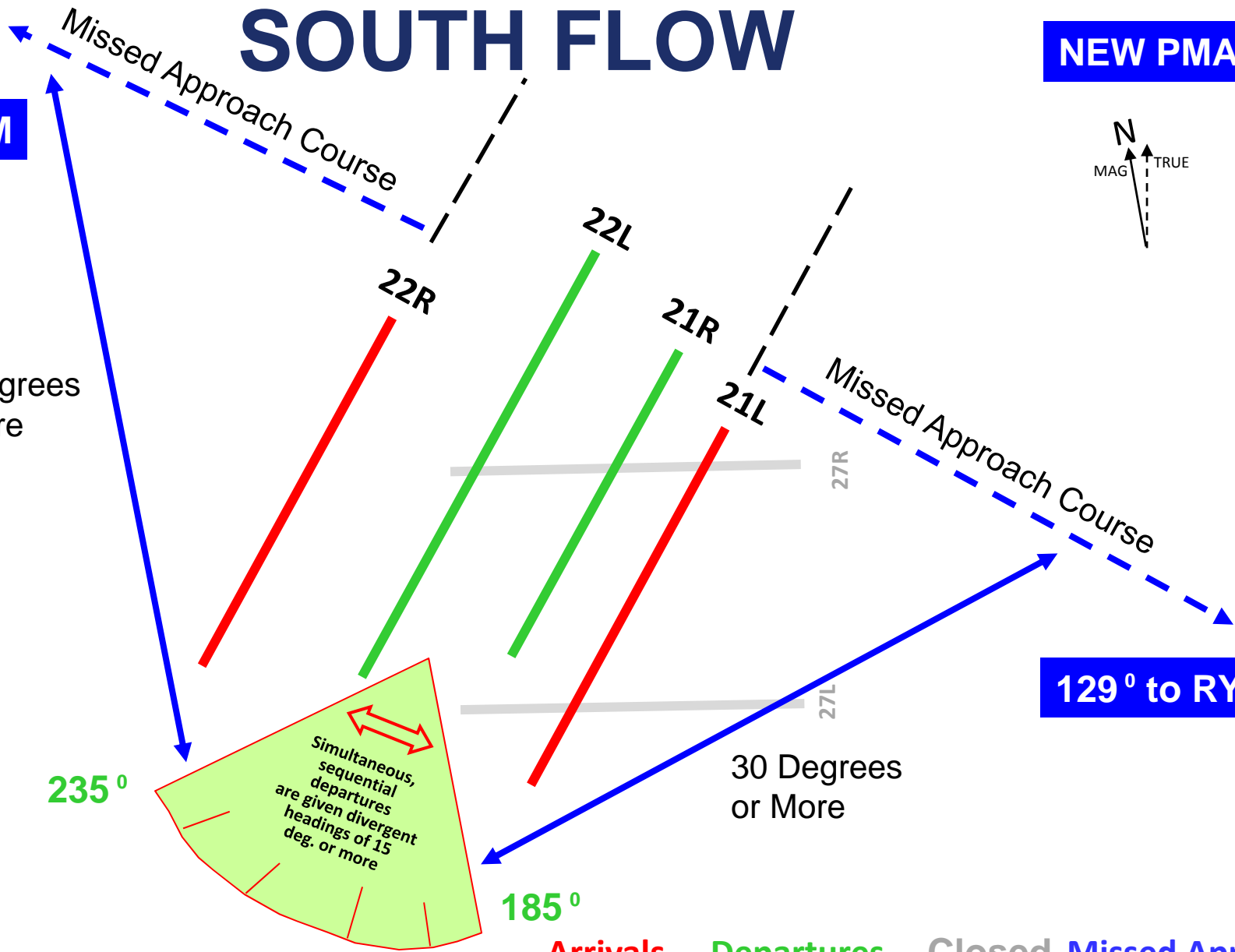
# SOUTH FLOW

**NEW PMA**



**331° to SVM**

30 Degrees or More



**129° to RYS**

30 Degrees or More

235°

185°

Arrivals Departures Closed Missed App

# SOUTH FLOW

- **Landing RWY 22R and departing RWY 22L covered by 7110.65 5-8-4. (Separate a departing aircraft from an arriving aircraft on final approach by a minimum of 2 miles if separation will increase to a minimum of 3 miles within 1 minute after takeoff)**
- **Landing RWY 21L and departing RWY 21R covered by 7110.65 5-8-4. (Separate a departing aircraft from an arriving aircraft on final approach by a minimum of 2 miles if separation will increase to a minimum of 3 miles within 1 minute after takeoff)**



# SOUTH FLOW

- Landing RWY 21L and departing RWY 22R or 22L covered by 7110.65 5-8-5b (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)
- **NOTE: An aircraft that is executing the published missed approach by climbing to 1100 then commencing a turn will satisfy the requirement of immediate course divergence of 7110.65 5-8-5**





# SOUTH FLOW

- **Landing RWY 22R and departing RWY 21R or 21L covered by 7110.65 5-8-5b2. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)**
- **Landing RWY 22L and departing RWY 21R or 21L covered by 7110.65 5-8-4. (Separate a departing aircraft from an arriving aircraft on final approach by a minimum of 2 miles if separation will increase to a minimum of 3 miles within 1 minute after takeoff)**



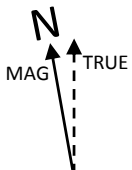
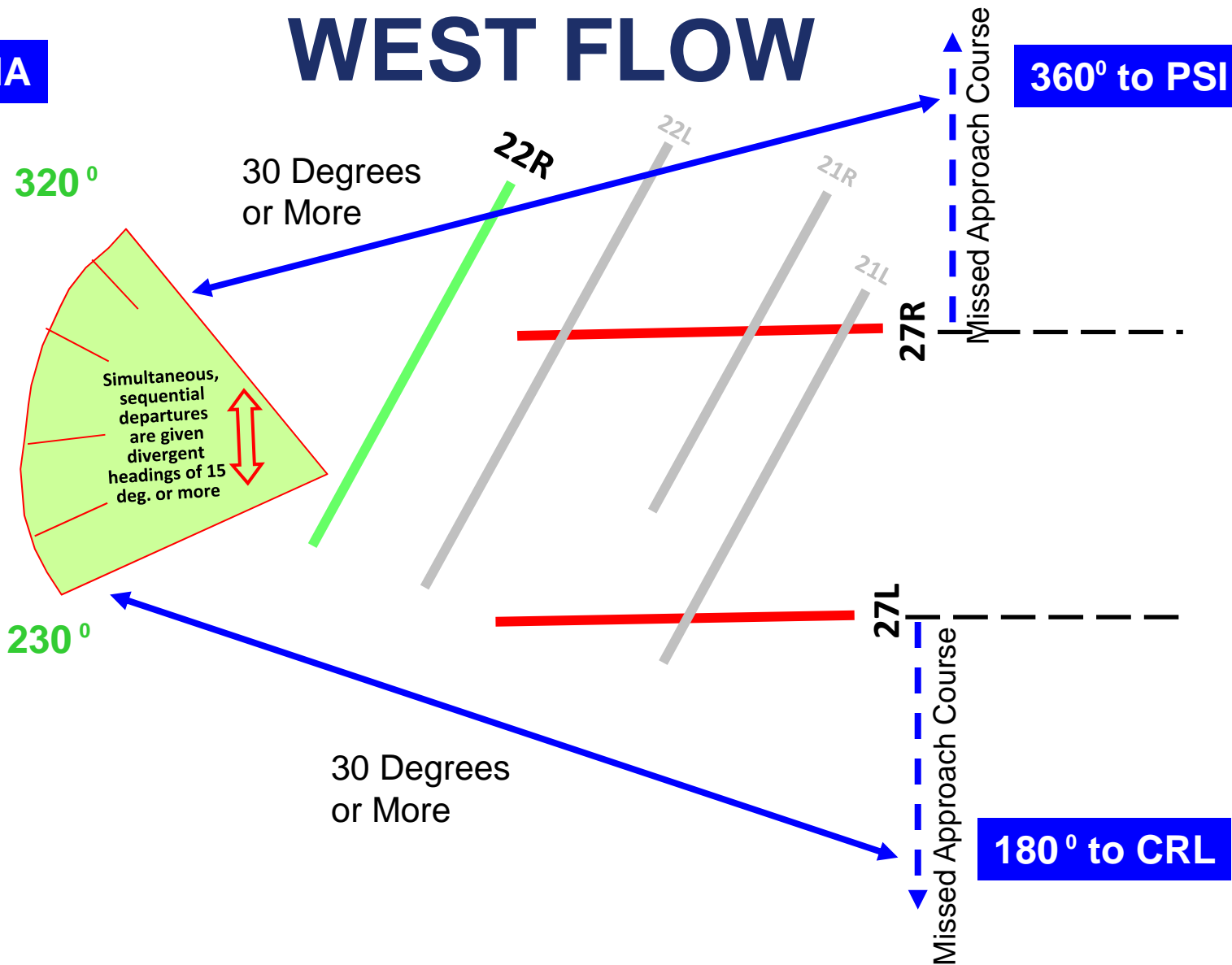
# SOUTH FLOW

- **Departures between RWY 22L or 22R and RWY 21L or 21R covered by 7110.65 5-8-3. (Simultaneous ops if courses diverge by 15 degrees or more immediately after departure)**
- **Simultaneous departures from parallel runways must meet the requirements of: 7110.65 5-8-3a applies to Rwy 21L/21R; 5-8-3c applies to Rwy 22L/22R**



**NEW PMA**

# WEST FLOW



**Arrivals/Departures** **Departures** **Closed** **Missed App**



# WEST FLOW

- **Landing RWY 27R and departing RWY 27R covered by 7110.65 5-8-4. (Separate a departing aircraft from an arriving aircraft on final approach by a minimum of 2 miles if separation will increase to a minimum of 3 miles within 1 minute after takeoff)**
- **Landing RWY 27L and departing RWY 27L covered by 7110.65 5-8-4. (Separate a departing aircraft from an arriving aircraft on final approach by a minimum of 2 miles if separation will increase to a minimum of 3 miles within 1 minute after takeoff)**



# WEST FLOW

- Landing RWY 27R and departing RWY 27L covered by 7110.65 5-8-5a. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)
- **NOTE: An aircraft that is executing the published missed approach by climbing to 1100 then commencing a turn will satisfy the requirement of immediate course divergence of 7110.65 5-8-5**



# WEST FLOW

- **Landing RWY 27L and departing RWY 27R covered by 7110.65 5-8-5a. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)**
- **Landing RWY 27L or RWY 27R and departing RWY 22R covered by 7110.65 5-8-5c. (Simultaneous ops if departure course diverges immediately by at least 30 degrees from the missed approach course until another form of separation is applied)**



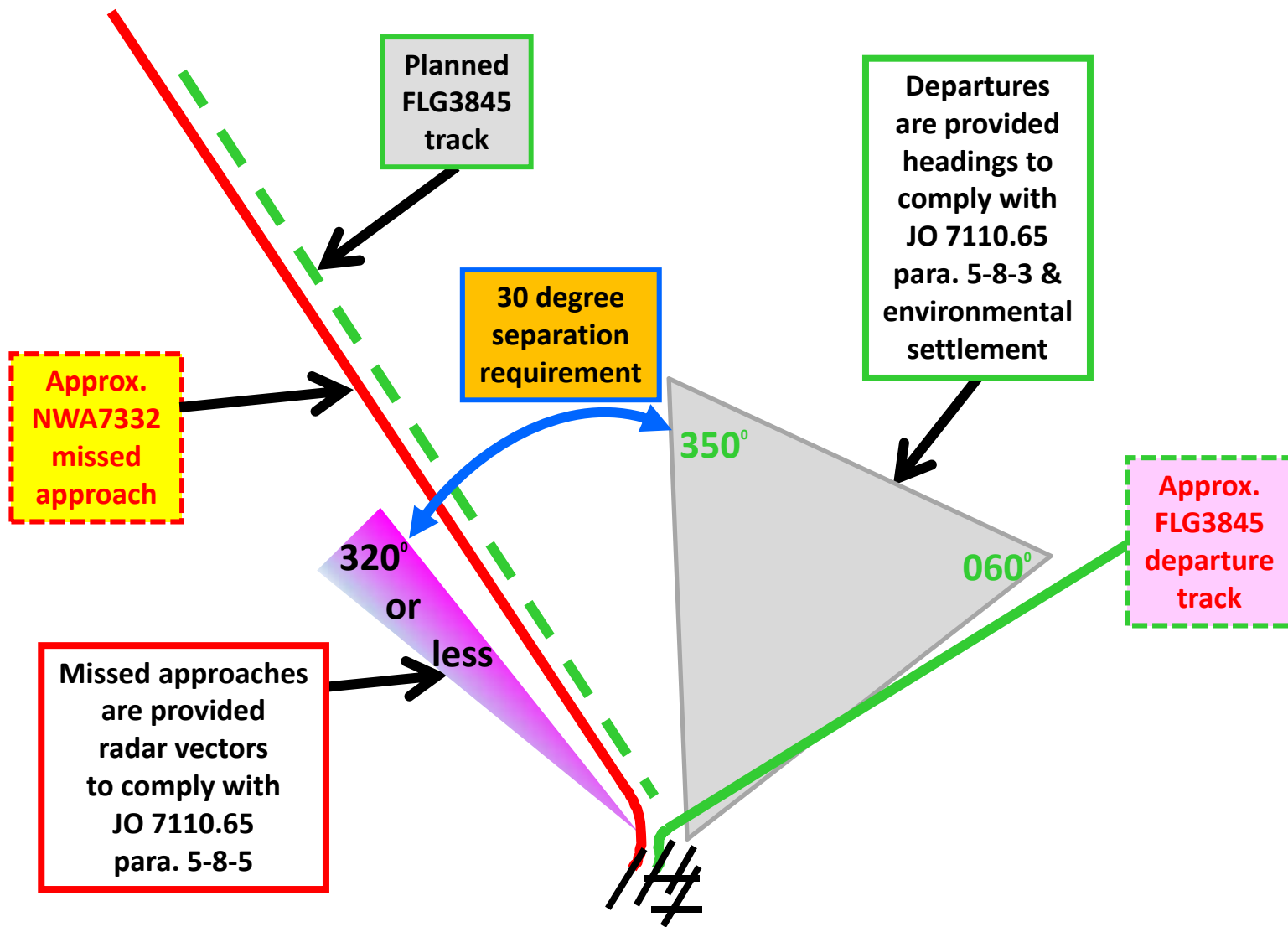
# WEST FLOW

- **Departures between RWY 27L and RWY 27R covered by 7110.65 5-8-3c. (Simultaneous ops if courses diverge by 15 degrees or more immediately after departure)**



## Attachment 6





<u>Time</u>	<u>Activity</u>
	Three departures off Rwy4R are give headings 055, 055 and 030 prior to FLG3845
14:22:30	- NWA7332 reports 5NM final
14:23:07	- LC tells FLG3845, position and hold Rwy4R
14:23:44	- LC tells "MES3845" (FLG3845), LT 330, Rwy4R, cleared for takeoff
14:24:30	- LC tells FLG3803, heading 030, Rwy4R, cleared for takeoff
14:24:30	- NWA7332 stops descent, begins to accelerate
14:24:40	- LC tells FLG3845 to maintain runway heading, do not turn
14:24:53	- FLG3845 appears on radar (1300 feet, 160K)
14:24:58	- NWA7332 reports "Going around"
14:25:00	- LC tells NWA7332 to turn left 330
14:25:02	- NWA7332 acknowledges heading 330
14:25:12	- Closest proximity (200 feet, 0.3NM)
14:25:16	- LC tells FLG3845 to make a right turn (twice in quick succession)
14:25:21	- LC tells FLG 3845 to fly heading 050
14:25:26	- FLG3845 reports heading 070
14:25:30	- LC approves FLG3845 to continue heading 070
14:25:39	- FLG3845 acknowledges heading 070
14:25:35	- LC tells FLG3803 to maintain runway heading
14:25:44	- LC confirms that NWA7332 is cleared to 4000 feet, heading 330
14:25:54	- LC tells FLG3803 to fly heading 030
14:26:02	- LC tells FLG3845 to turn further right to 090



# Federal Aviation Administration

---

## Memorandum

Date: FEB 28 2012

To: Ronald Engler, Director of Special Investigations, Office of Inspector General

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

Subject: Follow-up Status Report, Divergent Headings at Detroit Metropolitan Wayne County Airport (DTW); ref: Office of Inspector General (OIG) Investigation No. I11A003SINV; Our memo dated November 18, 2011

---

This memo provides our status update for the allegations described in your OIG report of investigation (ROI) dated November 15, 2011, following the Office of Special Counsel (OSC) referral of File Nos. DI-11-1675 and DI-11-1677. This update addresses the corrective action progress and ongoing activities to support closure.

**Allegation 1:** *“During simultaneous arrivals and departures on parallel runways at DTW, the air traffic control rule for protecting airspace in the event of a missed approach conflicts with the rule for maintaining radar separation between aircraft.”*

**Updated Response:** The FAA has analyzed 18 different published instrument approach procedures (IAP) at DTW to ensure the missed approach instructions on each IAP complemented the air traffic policies. This review was essential to verify that arriving aircraft that found it necessary to abort the landing sequence and go missed approach would have adequate separation between aircraft departing on parallel runways under instrument meteorological conditions (IMC). Our review of the IAPs concluded that increased separation between the aircraft on a missed approach and the departing aircraft was necessary.

With the increased separation that will be part of the published IAP missed approaches in the future, it was determined the policy interpretation requested during 2011 by DTW will no longer be necessary for simultaneous Runway 4L and 4R operations – (see attached memo). Prior to IAP implementation, training at DTW must include the IAP changes. Once we can project the training completion date for all operational personnel, notices-to-airmen (NOTAM) will be issued so that the operational changes are not delayed.

Discussions between Terminal Procedures, the Central Service Area (CSA) Operations Support Group (OSG), the Central Terminal Service Area Director of Operations, the District Manager, and DTW have helped permit collaboration and transparency on improvements to training materials regarding simultaneous operations. DTW is preparing the revised training, and we expect to begin a thorough review of the materials by February 29, 2012. Because training revisions have taken so long, the DTW management team has emphasized the application of

FAA Order 7110.65, paragraphs 5-8-3, 5-8-4 and 5-8-5 to the operational staff since December 2011.

**Allegation 2:** *“DTW controllers have received inadequate guidance concerning the application of rules for protecting airspace in the event of a missed approach and maintaining radar separation during simultaneous arrivals and departures on parallel runways.”*

**Updated Response:** The FAA reviewed all runway configurations used at DTW to determine the diversity and frequency of the runway configurations changes. The most often used configurations at DTW are northflow (landing and departing to the north) and southflow (landing and departing to the south) with arrivals on the outboard runways and departures on the inboards. During the winter season, it is common for one of the four main runways to be closed (30-60 minutes) for snow removal. During heavy snow removal, DTW will attempt to operate on three of the four main runways when traffic is heavy.

Since DTW will not have access to the tower simulator system (TSS) until 2013, all training is planned for classroom and on-the-job demonstrations. DTW is preparing the revised training, and we expect to begin a thorough review of the materials by February 29, 2012. Once the training is reviewed and approved, DTW will commence to train all operational personnel. Due to the delay in finishing training revisions, DTW management team has emphasized the application of FAA Order 7110.65, paragraphs 5-8-3, 5-8-4, and 5-8-5 to the operational staff since December 2011. Once training is completed, DTW will offer to complete an in-depth briefing to the complainant regarding the event on December 25, 2009.

**Allegation 3:** *“The conflicting rules for protecting airspace in the event of a missed approach and maintaining radar separation have resulted in unreported operational errors at DTW.”*

**Updated Response:** Discussions between Terminal Procedures, the CSA OSG, the Central Terminal Service Area Director of Operations and the District Manager have helped the DTW management team understand the distinct application criteria of FAA Order 7110.65 paragraphs 5-8-3, 5-8-4, and 5-8-5. Due to the delay in completing training revisions, the DTW management team has emphasized the application of the three paragraphs to their operational staff since December 2011. To ensure that safety was not compromised during the extended period necessary to develop and approve the new training materials, the CSA QCG started on-site observations at DTW on December 20, 2011. The QCG has provided reports of their observations to facility management and the Central Terminal Service Area Director of Operations for the period December 20, 2011, through January 31, 2012. The QCG completed audits of radar and voice data for IMC periods when the QCG was unable to monitor operations from the tower-cab. QCG observation and audit records will become part of the final report provided to the Directors once all other corrective actions are completed and we feel that no further training or audits are required. Throughout the observed/audited period, no violations of air traffic policy were noted, and no losses of separation have been associated with simultaneous operations at DTW.

We will provide your office with quarterly updates until the corrective actions stemming from your investigation are completed. If you desire additional information, please contact Joseph Teixeira, Vice President, ATO Safety & Technical Training, at (202) 267-3341.

Atch: Memo from Terminal Service Unit to Central Terminal Service Area Director of Operations, dated Jan. 25, 2012

cc: Vice President, Terminal Services  
Vice President, Safety & Technical Training  
Chief Operating Officer