Federal Aviation Administration

Memorandum

Date: June 10, 2019

To: Terence W. Carlson, Assistant General Counsel for General Law, C-10

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

Subject: Response to OSC Request for Supplemental Information/Supporting Documentation DI-18-4555, Detroit Metropolitan Airport (DTW)

The Federal Aviation Administration (FAA) is providing this summary of supplemental information/supporting documentation in response to a request Jennifer Pennington, US Office of Special Counsel on May 2, 2019.

1. *The report states that on May 7, 2018, a formal Safety Risk Management Panel (SRMP) was convened to reevaluate the Y offset localizer, and that the panel determined that there were multiple redundant safeguards in place, any of which would prevent hazardous events. The agency report includes a two-page summary of the Safety Risk Management Document (SMRD), which reflects that the panel was convened to assess four concerns before using the ILS Y approaches. We request a complete copy of the SMRD that includes the names and titles of the panel members, summary of hazards and risks, risk and hazard analyses, and treatment of risks and mitigation of hazards.*

Agency Response:

The agency convened a two day Safety Risk Management Panel (SRMP) in 2018. The 19 files attached as ITEM 1 include the documents the panel members reviewed. After a review of the documents, the SRMP determined that no new hazards exist. Based on this conclusion, the panel did not have to complete a risk/hazard mitigation safety risk management decision. They relied on the previous document from 2015. The panel did update the previous two-page Safety Risk Management Document summary which was previously provided to OSC.

2. *We request information on the results and comments from FAA's flight inspections for the ILS Y approaches conducted in relation to the 2018 SRMP, including any inspections involving aircraft present in the Y offset localizer critical area during approaches.*

Agency Response:

Please see the attached eight pages identified as ITEM 2

3. The agency report includes a copy of a briefing on the ILS Y approach procedures issued to controllers in June 2018. Please provide any subsequent written briefings, modifications, and guidance issued to controllers on these procedures.

Agency Response:

Please see the attached two pages identified as ITEM 3

4. *The report references "several senior officials and technical experts at FAA Headquarters," who "all agreed that after years of analyses and testing, that comprehensive safeguards are in place sufficient to address all safety concerns." Please provide the names and titles of the senior officials and technical experts who provided this opinion.*

Agency Response:

Individuals involved in the review of materials related to ILS-Y at FAA Headquarters include [redacted], Chief Operating Officer, [redacted], Deputy Chief Operating Officer, [redacted], Vice President for Safety and Technical Training, [redacted], Vice President for Air Traffic Organization (ATO) Management Services, [redacted] Deputy Vice President for Air Traffic Services. Not at FAA Headquarters: [redacted], Director of Operations, Central Service Area.

5. *We request information on any Mandatory Occurrence Reports, pilot complaints, ASAP reports, and any other reported anomalies involving the Y offset localizer since August 2018.*

Agency Response:

Please see the attached four files identified as ITEM 5

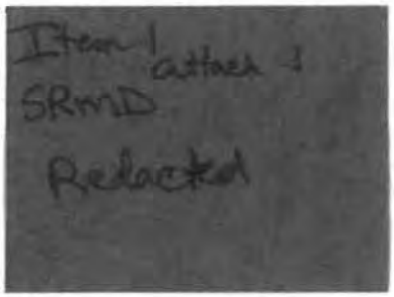
If you have any questions, or need further assistance, please contact Erika Vincent, Senior Technical Advisor, AAE at (202)267-8585

Redacted

FAA Response to request for Item 1

SRMD / supporting docs
Panel participants

19 attachments


Item 1 attach 1
SRMD
Redacted

Safety Risk Management Document
Safety Analysis SMTS2018051505134

Executive Summary

Administrative Information

Title
D21/DTW - Resuming Yankee Localizer RWY 22R/4L approaches

Change Proponent Organization
ATO : AJT : AJTC : AJTCN : AJTCNE : TCNED21 (D21 - DETROIT, MI TRACON)

Safety Analysis Type
Operations and Second-Level Engineering

Background Information/Current System/Existing Safety Issue
Detroit Metropolitan Wayne County (DTW) Air Traffic Control established "offset" approaches to Runways 22R and 4L (ILS, RNAV (GPS), ILS PRM, and RNAV (GPS) PRM identified as Yankee Localizer approaches. These approaches were used for a few months in the summer of 2015 and then stopped when it was discovered that aircraft exiting the runway and taxiing through the critical area on taxiway alpha were causing interference with the localizer signal.

Description of Change (NAS Change Only)
The Detroit TRACON (D21) Air Traffic Manager (ATM) requested a Safety Risk Management (SRM) panel to "re-visit" the use of the Yankee "offset" approaches in preparation for the upcoming Metroplex project implementation. There was a previous SRM panel conducted which identified one hazard of acceptable "Low Risk" in using the Yankee Localizer approaches. Although the 7110.65, 5-9-7 a.3.c allows for the use of triple independent approaches, the D21 ATM had concerns he wanted answered before utilizing the Yankee Localizer approaches: (1) Did D21/DTW ATC have enough controls in place to reduce or eliminate risk from Localizer interference, (2) Was the Localizer located in the correct location per rules and regulations, (3) How did the interference affect the pilots and their decisions, and (4) Are the Yankee Localizer "offset" approaches to Runways 22R/4L safe to use?

Risk Acceptance

Dissention

Dissention

Signatures

Concurrence

[redacted] - Concurred on May 18, 2018

Approvers

Assignee
[redacted] - Approved on May 18, 2018

Acceptors

Assignee
No Acceptors Assigned

CSE Review

No CSE Approval Required

Hazard Analysis Worksheet

National Airspace System (NAS) Change

System Description
Detroit Metropolitan Wayne County (DTW) Air Traffic Control established "offset" approaches to Runways 22R and 4L (ILS, RNAV (GPS), ILS PRM, and RNAV (GPS) PRM identified as Yankee Localizer approaches. These approaches were used for a few months in the summer of 2015 and then stopped when it was discovered that aircraft exiting the runway and taxiing through the critical area on taxiway alpha were causing interference with the localizer signal.

Change Description
The Detroit TRACON (D21) Air Traffic Manager (ATM) requested a Safety Risk Management (SRM) panel to "re-visit" the use of the Yankee "offset" approaches in preparation for the upcoming Metroplex project implementation. There was a previous SRM panel conducted which identified one hazard of acceptable "Low Risk" in using the Yankee Localizer approaches. Although the 7110.65, 5-9-7 a.3.c allows for the use of triple independent approaches, the D21 ATM had concerns he wanted answered before utilizing the Yankee Localizer approaches: (1) Did D21/DTW ATC have enough controls in place to reduce or eliminate risk from Localizer interference, (2) Was the Localizer located in the correct location per rules and regulations, (3) How did the interference affect the pilots and their decisions, and (4) Are the Yankee Localizer "offset" approaches to Runways 22R/4L safe to use?

Rationale for Not Requiring Further Safety Risk Management (SRM) Analysis

Rationale for Not Requiring Further SRM Analysis
An SRM panel made up of stakeholders and SMEs from D21, DTW, Delta airlines, and other interested parties, was held to discuss the safety concerns of utilizing the "offset" Yankee Localizer approaches to RWY 22R/4L. After a lengthy discussion, all stakeholders agreed that even though interference could occur, there were too many controls, such as applying the JO 7110.65X, paragraph 3-7-5, that would prevent a hazard from occurring.

SRMD Generated 30-Oct-2018
Safety Analysis ID 5645

Item 1
Attachment 1a
Analysis
(Redacted)

Analysis Details

	Project is Closed
Project	P-3805 - DTW - Yankee Localizer RWY 22R and 4L (https://aap.faa.gov/smts/index.cfm/project/detail/project_id/3805)
	Analysis is Closed
Analysis	A-05645 - SMTS2018051505134 - D21/DTW - Resuming Yankee Localizer RWY 22R/4L approaches (OPS) (https://aap.faa.gov/smts/index.cfm/analysis/detail/analysis_id/5645)
Analysis Type	OPS - Operations
Were Hazards Identified?	No

Hazards

--- None Identified ---

Safety Requirements

--- None Identified ---

Monitoring Plans

--- None Identified ---

Signatures	**Concurrence By** [redacted] (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1828) - **signed 18-May-2018** **Approved By** [redacted] (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/2132) - **signed 18-May-2018**
	All Signatures Obtained
	All Risks Accepted
CSE Signature Required?	No
Keywords	

Attachments

Attachment	Posted
File: Interp of FAA Order 7110.65 Para 3-7-5 fro DTW.pdf (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6194) 224.6 KB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
File: PHL - Yankee Localizer RWY 22R and 4L.doc (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6195) 26.5 KB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
File: 2016 Modeling Feedback from OESG.pdf (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6196) 969.9 KB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
File: April 7 2011 Study - draft.pdf (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6197) 3.4 MB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
File: August 26 2008 Study - Modeling.pdf (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6198) 5.3 MB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
File: CSA Safety Evaluation - Determinationo Request March 10 2017.pdf (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6199) 1.9 MB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
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File: March - April 2011 4L Offet Approach Study - Lees Report.pdf (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/6821) 3.3 MB	24-Sep-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)
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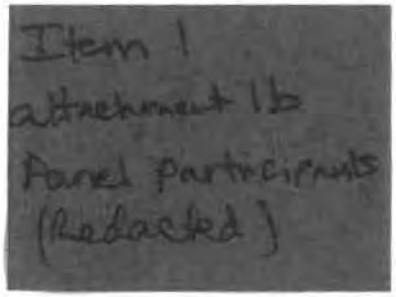
SRMD: SMTS20180515051345 SRM Document (https://aap.faa.gov/smts/index.cfm/analysis_attach/fileGet/file_id/13521) 62.8 KB	02-Nov-2018 by System (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/1)

Created	15-May-2018 by [redacted] (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/2472)
Closed	07-Jun-2018 by [redacted] (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/2472)
Analysis Last Update	07-Jun-2018 by [redacted] (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/2472)
Project Last Update	15-Apr-2019 by [redacted] (https://aap.faa.gov/smts/index.cfm/user/detail/user_id/2472)


Item 1
attachment 1b
Panel participants
(Redacted)

Participation sheet for SRMP at DTW
May 8-9, 2018

DAY

Name [redacted]	**Name** [redacted]
Title Traffic Management Coordinator	**Title** ATCS
Organization NATCA	**Organization** D21 NATCA SME
Specialty/Years of Experience 11	**Specialty/Years of Experience**
E-mail [redacted]	**E-mail** [redacted]
Phone 734-955-5000	**Phone** 734-955-5000
Name [redacted]	**Name** [redacted]
Title Operations Manager	**Title** SATCS
Organization ATO / D21	**Organization**
Specialty/Years of Experience Air Traffic 30 yrs.	**Specialty/Years of Experience**
E-mail [redacted]	**E-mail** [redacted]
	Phone [redacted]
Name [redacted]	**Name** [redacted]
Title INDUSTRY LEAD CLE/STW	**Title** Tech PILOT
Organization DELTA AIR LINES	**Organization** Delta Air Lines
Specialty/Years of Experience 30	**Specialty/Years of Experience** 21
E-mail [redacted]	**E-mail** [redacted]
Phone [redacted]	**Phone** [redacted]

Participation sheet for SRMP at DTW
May 8-9, 2018

Name [redacted] SRMP Facilitator **Organization** AJV-C11 **Specialty/Years of Experience** SRMP Facilitation/[redacted]ears **E-mail** [redacted]	**Name** [redacted] **Title** Technical Writer **Organization** AJV-C11 **Specialty/Years of Experience** Technical Writer **E-mail** [redacted]
Name [redacted] **Title** SRMP Facilitator **Organization** AJV-C11 **Specialty/Years of Experience** 20 **E-mail** [redacted] Phone [redacted]	**Name** [redacted] **Title** DTW OS **Organization** DTW ATCT **Specialty/Years of Experience** 25 **E-mail** [redacted]
Name [redacted] **Title** ATCS **Organization** FAA **Specialty/Years of Experience** ATCS / 27 **E-mail** [redacted] **Phone** [redacted]	**Name** [redacted] **Title** ATCS **Organization** FAA **Specialty/Years of Experience** ATCS / 11 **E-mail** [redacted] **Phone** [redacted]

SH

SH

SH

Participation sheet for SRMP at DTW
May 8-9, 2018

[redacted]

Title
METROPLEX NATL D+I LEAD
Organization
FAA - MISSION SUPPORT
Specialty/Years of Experience
31 - PBN - Air Traffic
E-mail
Ph

Name
[redacted]
Title
Principal Systems Engineer
Organization
Metroplex Team
Specialty/Years of Experience
E-mail

[redacted]

Na
Titl
Aviation System Engineer
Organization
MITRE
Specialty/Years of Experience
E-mail
Ph

ATCS
Organization
OSG
Specialty/Years of Experience
E-mail

[redacted]

Na
Title
ATCS
Organization
D21 NATCA SME
Specialty/Years of Experience
E-mail
Ph

Title
Terminal NAV Engineer
Organization
AJW-C24B
Specialty/Years of Experience
SME ON THE Phone
E-mail

[redacted]

Participation sheet for SRMP at DTW
May 8-9, 2018

DAY 1

Name [redacted]	**Name** [redacted]
Title SRMP Facilitator	**Title** Technical Writer
Organization AJV-C11	**Organization** AJV-C11
Specialty/Years of Experience SRMP Facilitation/8 Years	**Specialty/Years of Experience** Technical Writer
E-mail [redacted]	**E-mail** [redacted]
Title SRMP Facilitator	**Title** Support Manager (SH)
Organization AJV-C11	**Organization** D21 / DTW
Specialty/Years of Experience 20	**Specialty/Years of Experience** 30 FAA 3mo D21
E-mail [redacted]	**E-mail** [redacted]
Title OBSERVER	**Title** ATCS (SH)
Organization FAA / NATCA	**Organization** D21 NATCA
Specialty/Years of Experience ATC - 27 yrs.	**Specialty/Years of Experience**
E-mail	**E-mail**
[redacted]	[redacted]

Participation sheet for SRMP at DTW
May 8-9, 2018

[redacted]

Name [redacted]	**Name**
Title AST	**Title** ATCS, [redacted]
Organization AFS-410 Flt Ops Branch	**Organization** AJT-24
Specialty/Years of Experience Simuls + Gen Flt Ops / 30	**Specialty/Years of Experience** 37 yrs
E-mail	**E-mail**
Phone [redacted]	
Name [redacted]	
Title Simultaneous Approaches /ops	**Title**
Organization AFS-410 Flight Ops Branch	**Organization** Metroplex Co-lead
Specialty/Years of Experience Simo Ops	**Specialty/Years of Experience**
E-mail	**E-mail**
Ph [redacted]	
Na [redacted]	
Title CSPO Prog. Mgr @ AFS-450	**Title**
Organization AFS-450	**Organization** Metroplex Co-lead
Specialty/Years of Experience CSPO	**Specialty/Years of Experience**
E-mail	**E-mail**
Pl [redacted]	

DAY 2

5

OVER

[redacted]W

[redacted]

ATM

D21

[redacted]

[redacted]

Item 1
Attachment 2
DTW project
redacted

Project Details

	Project is Closed
Project	P-3805 - DTW - Yankee Localizer RWY 22R and 4
Project Type	Operations
Description	The Detroit TRACON (D21) Air Traffic Manager (ATM) requested a Safety Risk Management (SRM) panel to re-visit the use of the Yankee offset approaches in preparation for the upcoming Metroplex project implementation. There was a previous SRM panel conducted which identified one hazard of acceptable Low Risk in using the Yankee Localizer approaches. Although the 7110.65, 5-9-7 a.3.c allows for the use of triple independent approaches, the D21 ATM had concerns he wanted answered before utilizing the Yankee Localizer approaches: (1) Did D21/DTW ATC have enough controls in place to reduce or eliminate risk from Localizer interference, (2) Was the Localizer located in the correct location per rules and regulations, (3) How did the interference affect the pilots and their decisions, and (4) Are the Yankee Localizer offset approaches to Runways 22R/4L safe to use?
Initiating Organization	TCNED21 - D21 - DETROIT, MI TRACON (ATO : AJT : AJTC : AJTCN : AJTCNE : TCNED21)
National Change?	No
Affected Facilities	*No Affected Facilities Identified*

Safety Analyses

Analysis #	ID	Title	Type	Created	Phase	Last Update
A-05645	SMTS2018051505134	D21/DTW - Resuming Yankee Localizer RWY 22R/4L approaches	OPS	15-May-2018	CLOSED	07-Jun-2018

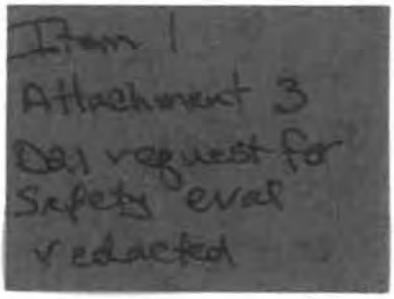
Identified Hazards
--- None Identified ---

Safety Requirements
--- None Identified ---

Monitoring Plans
--- None Identified ---

Keywords	Airfield, Native Project, Runway
Project Managers	[redacted]
Created	15-May-2018 by [redacted]

Closed	15-Apr-2019 by [redacted]
Last Update	15-Apr-2019 by [redacted]


Item 1
Attachment 3
DOJ request for
Safety eval
redacted

Federal Aviation Administration

Memorandum

Date: MAR 10 2017

To: [redacted] Director (A), Air Traffic Operations Headquarters, AJT-2

From: [redacted] Director (A), Air Traffic Operations, Central Service Area North, AJTCN

Subject: Detroit Terminal Radar Approach Control Request for Safety Evaluation and Determination Regarding Use of the PRM ILS Runway 4L and PRM ILS Runway 22R Approaches

Detroit Terminal Radar Approach Control (D21) is requesting your assistance for a safety evaluation and determination on risk acceptance for localizer signal interference during PRM ILS 4L and 22R approaches with an offset localizer.

To facilitate simultaneous triple instrument operations at Detroit Metro Airport (DTW), an ILS approach with offset localizer was required for Runways 4L and 22R, due to the close proximity of the parallel runway. With the offset localizer, the antenna arrays are positioned such that the critical areas encompass a significant portion of the adjacent and parallel taxiways. After exiting the runway, an aircraft will enter and remain within the critical area for a period of time. Thus, the opportunity for fluctuations of the localizer signal is increased as compared to a straight-in ILS where aircraft exit the critical area as they exit the runway.

DTW procedures associated with the CLE-DTW Metroplex Project have been developed for a triple instrument operation with no traffic flow limitations. Complete protection of the offset critical area may significantly impact the efficiency and capacity increases expected at DTW.

The request from D21 and their supporting documentation in five attachments are included with this memorandum. D21 collaborated with Technical Operations, Flight Standards, Flight Check, Engineering Services and Central Service Center. While these groups have been able to determine the equipment operates as designed, none have the authority for a final decision on risk acceptance of the current equipment state.

If you require additional information or have any questions, please contact [redacted] Support Specialist, Operations Support Group, Central Service Center, at 817-222-5864.

Attachments (6)

Federal Aviation Administration

Memorandum

Date: February 13, 2017

To: [redacted] Director of Operations (A), AJT-CN

From: [redacted] Air Traffic Manager, Detroit TRACON

Thru: [redacted] Terminal District Manager, Great Lakes District 2-23-17

Subject: Safety Evaluation/Determination – ILS PRM Y 04L/22R

Background:

In 2010, a waiver to conduct Simultaneous Triple ILS Approaches at Detroit Metro Airport (DTW) was approved. Runway configurations at DTW did not support triple simultaneous approaches under the rules in place at the time. Several issues delayed implementation, including: airline capability, discrepancies with the waiver verbiage requiring it to be rewritten, major runway construction projects and changes in personnel working on the project.

August 2008

FAA Technical Center Math Modeling Study was published. In this document it was noted that DC-9, MD-80, A320, B737, and B757 aircraft would present minimal RY 4L localizer impact in the vicinity of taxiway A8 nearest A. It was also noted that the RY 4L localizer would be, "significantly out of Flight Inspection tolerances for both course and alignment when group 1 and 2 aircraft (DC-9, MD-80, A320, B737, and B757) presents and location 2 through 5 (A10, A9, and A8 nearest the runway)."

March 2011

In preparation for a Safety Risk Management Panel meeting to review amended breakout procedures, Detroit TRACON (D21) became aware of previous documentation regarding effects to the offset localizer critical area. The math models indicated significant signal disruption under certain conditions.

Current accepted risk in the NAS and at DTW/D21 includes fluctuations in course alignment when arriving aircraft on a straight-in approach land into and taxi out of, or departing aircraft transition through, the localizer critical areas. However, the use of an offset localizer for Runway 22R/4L is required; thereby increasing exposure to the localizer critical area. The offset localizer antenna arrays are positioned in such a way as to result in localizer critical areas that do not encompass any portion of the runway, but rather, encompass significant portions of taxiways; portions not encompassed by the straight-in localizer critical areas. After exiting the landing runway, when the offset localizer is in use, aircraft may enter, taxi through, and exit these areas. They may also stop in them. In so doing, they invariably present themselves perpendicular to the localizer signal.

April 2011

FAA Engineering Services conducted analysis of the previous localizer critical area studies and provided additional math models. The data indicated that high profile aircraft provide the greatest risk and should not be allowed in the localizer critical area with aircraft on the offset approach.

May 2011

Flight Standards specialist reviewed the math models and provided feedback. He concurred with Engineering Services; i.e., large aircraft transiting the critical area are more likely to cause navigation signal deviations in all weather conditions when the offset localizer is in use because the localizer critical area encompasses part of the parallel taxiway as well as exiting taxiways. Smaller profile aircraft do not pose a significant risk based on a normal exit and subsequent taxi, providing they are not sitting in the critical area. Additional mitigation could be achieved by using a higher threshold to protect the critical area than what is required by regulation.

June – July 2011

Safety Risk Management Panel convened to assess breakout procedures, localizer critical area issues, and other hazards identified since the original waiver was approved. Based on the math models provided by Engineering Services, the panel determined that mitigation for the localizer critical area issues would be to assign one of the other runways for high profile aircraft. (Note: an environmental review was conducted and documented to permit this procedure.)

In 2015, a panel was convened to review all documents related to triple ILS approaches. At that time, it was noted that the 2011 SRMD was never completed. A new panel was convened. They completed a new SRMD to support the waiver request for triple ILS approaches. This waiver was never processed by headquarters due to a rule change no longer requiring a waiver. Ultimately, the LOC critical area was address via a CATEX.

Current

On August 5, 2015, D21 commenced the utilization of the offset localizer. Immediately upon its activation, DTW and D21 began receiving various anomaly reports from inbound aircraft. Initially, these anomalies were attributed to the lack of awareness of the new offset angle. Though "offset" was contained within the body of the approach plates, it did not standout to the pilots.

Those unfamiliar with the offset reported anomalies. However, after a robust awareness effort by DTW and D21, the anomalies continued.

On September 25, 2015, due to anomalies, D21 reported the offset localizers OTS. Per DTW Tech Ops, both offset localizers passed Flight Check inspection and were returned to service the same day.

Due to continued anomaly reports received by DTW and D21, further investigations were conducted. Upon comparing anomaly reports with ASDE-X data, questions arose regarding the impact of aircraft (other than the Heavy aircraft previously mitigated via the SRM panel) transitioning through the critical area.

Multiple meetings were held with DTW/D21 Tech Ops, DTW, D21, Flight Inspection, and Systems Engineering regarding potential causes for the reported unexplained anomalies. It was agreed by all parties that the equipment was working as intended. It was agreed by all parties, due to the feedback from Flight Inspection, there were no issues with the approach. However, Flight Inspection noted that Flight Check is conducted in a sterile environment; therefore, they were unable to comment regarding the potential impact of aircraft transitioning through the critical area. Tech Ops, Engineering, and Flight Standards agreed that there would always be a disruption to the localizer anytime ANY aircraft transitioned through the critical area.

At the conclusion of meetings with DTW Tech Ops, Flight Inspection, and Engineering Services on September 24, 2015 and February 16, 2016, no party was comfortable providing an opinion that the disruptions to the localizer (caused by other than Heavy aircraft) were within a safe tolerance.

Summary

Initially, it was D21's intent to utilize the newly published RNAV (GPS) PRM approaches to conduct triple instrument approach operations into Detroit Metro. The use of these approaches would have negated the need to pursue the use of the ILS PRM Y. However, upon implementation testing, it was discovered that approximately 80% of the current fleet mix are unable to fly RNAV (GPS) PRM approaches, despite initial industry feedback to the contrary.

Safety is our top priority. Due to numerous unexplained anomalies, and due to inconsistent and indecisive feedback from Flight Inspection and/or Engineering Services, D21 is requesting this issue be evaluated, and a safety decision be made by an office with the appropriate safety decision making authority.

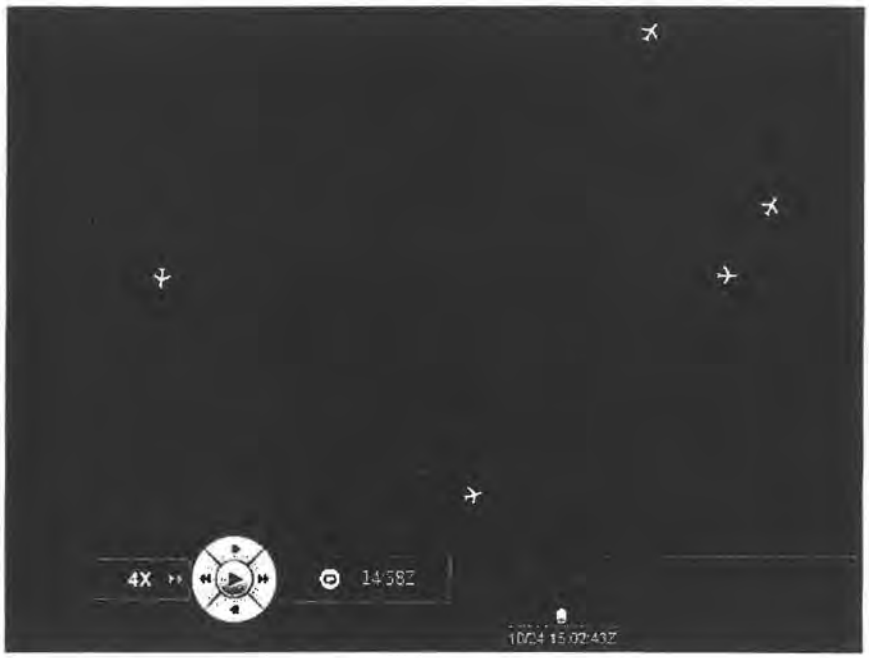
Attachments:

August 26, 2008 Technical Center Math Modeling Study
March/April 2011 Detroit 04L Offset Approach on ALA ILS Study
DTW SRMD 5-9-7a(3)
ILS PRM Y RWY 4L/22R Anomaly Report w/ ASDE data
D21/DTW PRM Reported Anomalies 9-25-2015 through 8-5-2015
CATEX DTW Triple Approaches

D21/DTW

ILS PRM "Y" RWY 04L/RWY 22R

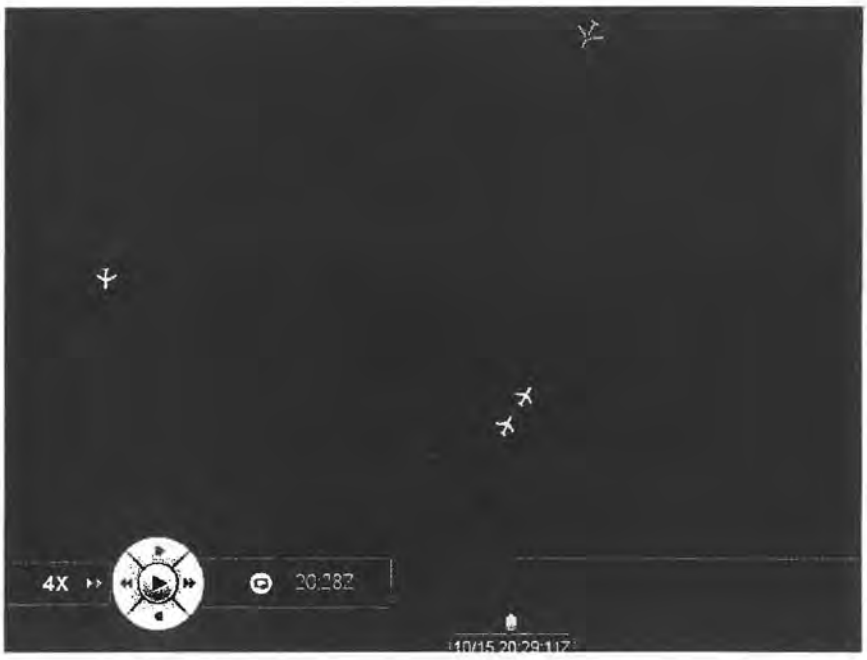
10/24/2015
GJS6251 WAS NOT ABLE TO PICK UP THE LOCALIZER (RWY 22R Y)
DURING PRM APPROACHES.
PULLED OFF FINAL AND RE-SEQUENCED TO RWY 22L



GJS6251 turning final, trying to pickup the RWY 22R Localizer, about 22-24 miles out (10/24/2015)

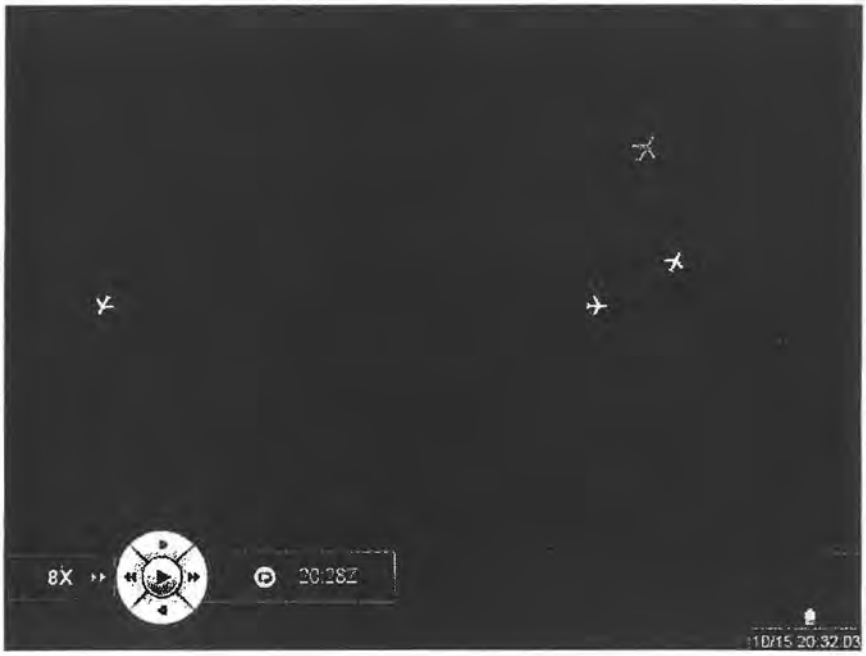
(DAL1242, A319 turning from TWY Alpha to TWY Quebec)

10/15/2015
ASQ5285 REPORTED THAT THEY HAD THE LOCALIZER DIALED UP
WAS NOT RECEIVING THE LOCALIZER. (RWY 22R Y)
ASQ5285 WAS ON A VISUAL APPROACH TO RWY 22R



ASQ5285, visual approach, turning about a 10 mile final RWY 22R (10/15/2015)

(DAL2508, B739 turning from TWY Alpha to TWY Quebec)

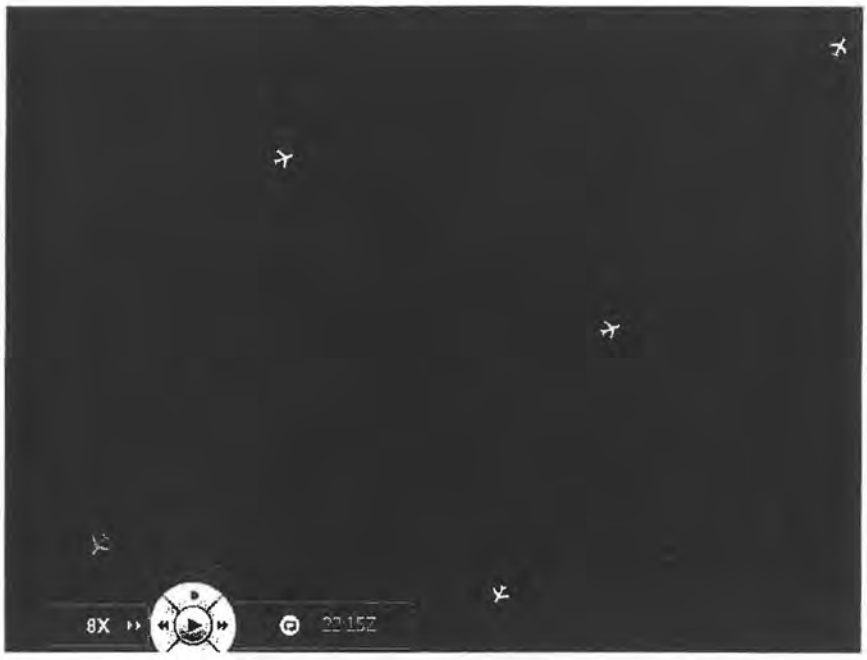


ASQ5285 on about a 5 mile final RWY 22R (10/15/2015)

(SKW4666, CRJ2 turning from TWY Alpha to TWY Quebec)

10/14/2015
FLG3661 REPORTED UNABLE TO PICK UP THE RWY 04L "Y"
LOCALIZER
PILOT WAS ASKED TO CALL THE FACILITY
PILOT STATED THAT THEY HAD 111.75 DIALED INTO BOTH RADIOS
AND NOTHING CAME UP
FLG3661 WAS ON A VISUAL APPROACH RWY 04L

FLG3661 joining RWY 04L Localizer about 17 mile final (10/14/2015)
(DAL53, B757 clearing RWY 04L and turning south on TWY Alpha from TWY A-8)



FLG3661 on about a 9 mile final RWY 04L (10/14/2015)

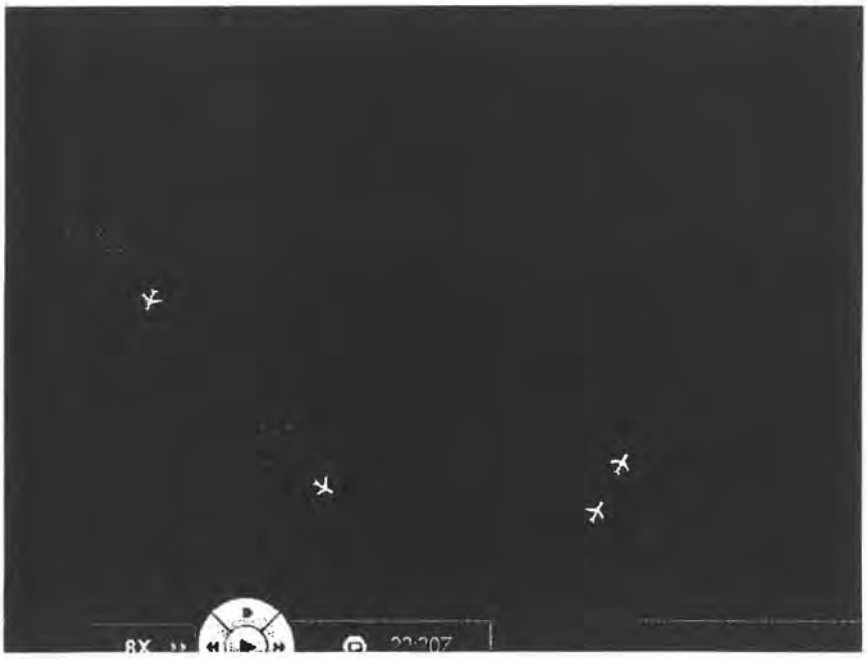
(DAL1645, A319 clearing RWY 04L and turning south on TWY Alpha from TWY A-8)

10/24/2015
GJS6187 RWY 22R ILS "Y" APPROACH
ADVISED DTW ATCT THAT THEY DID NOT
THINK THAT THEY WERE LINED UP RIGHT

GJS6187 on about a 21 mile final RWY 22R (10/13/2015)
(TCF3394, E145 turning from TWY Alpha to TWY Quebec)

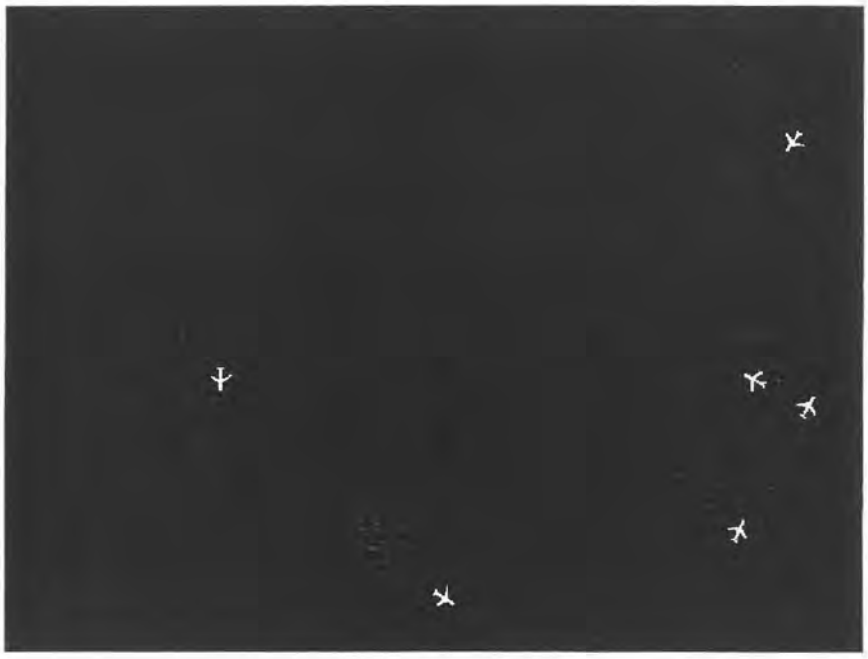
GJS6187 on about a 16 mile final RWY 22R (`10/13/2015)

(DAL1627, B712 turning from TWY Alpha to TWY Quebec)



GJS6187 on about a 12 mile final RWY 22R (10/13/2015)

(FLG3689, CRJ2 turning from TWY Alpha to TWY Quebec)

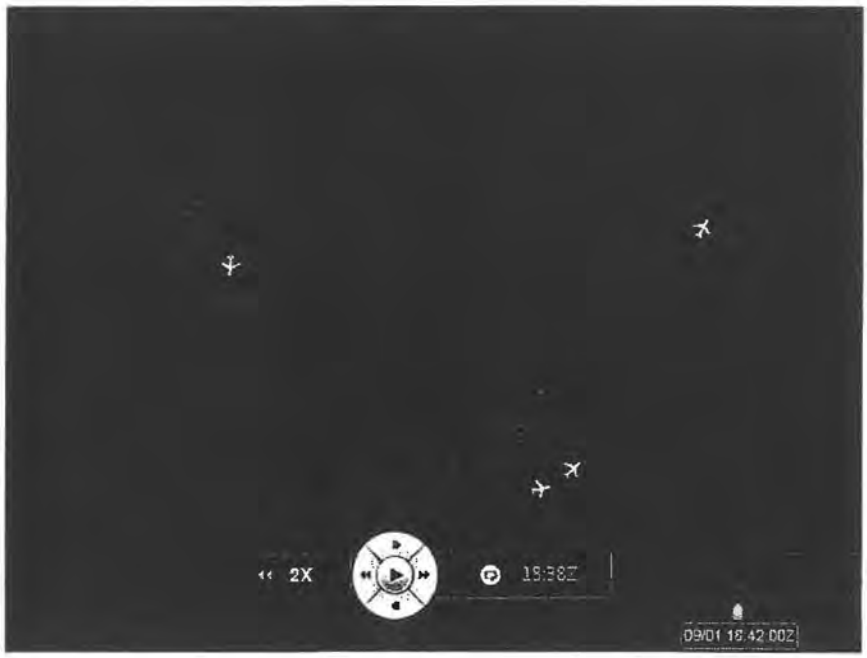


GJS6187 on about a 7 mile final RWY 22R (10/13/2015)

(ASQ5366 turning from TWY Alpha to TWY Quebec)

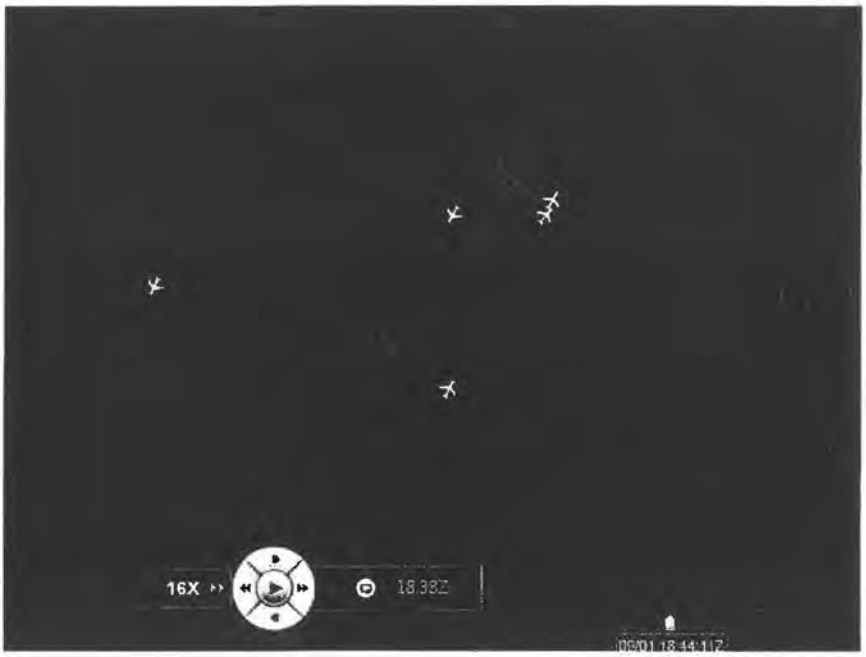
09/01/2015

SKW7402 REPORTED FLUCTUATIONS WITH THE RWY 22R ILS "Y" LOCALIZER



SKW7402 on about a 12-13 mile final RWY 22R (09/01/2015)

(FLG3870, CRJ9 turning form TWY Alpha to TWY Quebec)



SKW7402 on about a 6-7 mile final RWY 22R (09/01/2015)

(DAL2082, B712 turning from TWY Alpha to TWY Quebec)

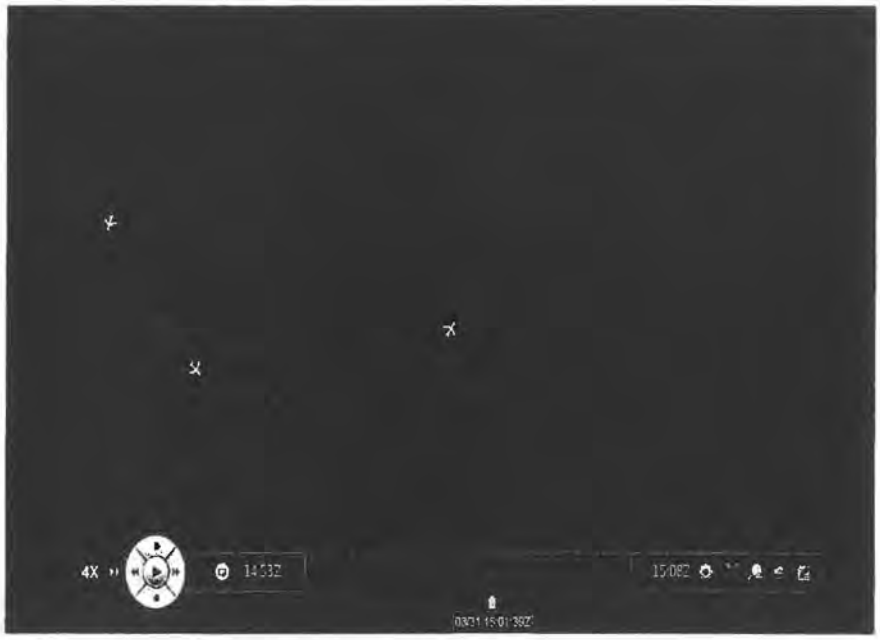
08/31/2015
TCF3313 REPORTED FLUCTUATIONS WITH THE RWY 22R ILS "Y"
DURING PRM APPROACHES.

TCF3313 on about a 8-10 mile final RWY 22R (08/31/2015)
(SKW4493, CRJ2 turning from TWY Alpha to TWY Quebec)

08/31/2015
SKW4656 REPORTED FLUCTUATIONS WITH THE RWY 22R ILS "Y"
DURING PRM APPROACHES.

SKW4656 on about 8-10 mile final RWY 22R (08/31/2015)

(TCF3322, E145 turning from TWY Alpha To TWY Quebec)



SKW4656 on about 5 mile final RWY 22R (08/31/2015)

(DAL2851, A319 turning from TWY Alpha to TWY Quebec)

10/10/2015
AWI3778 PILOT STATED THAT THEY WERE NOT PICKING UP THE RWY 22R "Y" LOCALIZER SIGNAL; STATED THAT THEY TRIED ON BOTH RADIOS
DAL2798 BEHIND AWI3778 ON FINAL STATED THAT EVERYTHING APPEARS TO BE FINE
(ASDE-X DATA NO LONGER AVAILABLE)

10/08/2015
ASH3994 CALLED THE FACILITY-D21; REPORTED THAT UPON LINING UP ON RWY 22R "Y"
LOCALIZER; A 2 DOT DEFLECTION TO THE RIGHT, UPON REACHING 1000FT AGL
LOCALIZER JUMPED TO THE LEFT OF THE RUNWAY
(SEVERAL AIRCRAFT TAXIED THROUGH HE OFF SET CRITICAL AREA
ASDE-X DATA NO LONGER AVAILABLE)

Detroit 04L Offset Approach on ALA ILS

Effects of:

1. 747 rollout on runway 04L from threshold to -9800 feet – no measureable impacts

2. 747 taxiing down Taxiway Alpha – negligible impacts until aircraft enter the localizer critical area – maximum calculated alignment error is 6.7 microamps, equivalent to 15.6 feet at threshold or 53 feet four miles out from the threshold. These results differ from a normal straight in approach, due to the unique geometry that moves aircraft towards and through the localizer course signal, rather than away from it. **See Figure 1.**

3. 747 exiting on taxiway A7 and proceeding NE on taxiway Alpha to taxiway Victor – course swings a maximum of 8.6 uA to the right and a maximum of 11.0 uA to the left, for a total swing of 19.5 uA before restabalizing. The total swing is equivalent to 45.5 feet at threshold or 154 feet four miles out from the threshold. Based upon 20 knots of ground speed, the entire maneuver from a point on the runway 6086 feet from threshold to a point on taxiway Victor 950 feet from runway centerline is complete in approximately 69 seconds. These values represent up to 73 percent of the course alignment tolerance for a Category I localizer. The greatest effects occur when the aircraft is turning onto Victor and have duration of roughly 12 to 15 seconds. The magnitude of these signal errors is approximately twice that observed during a straight in approach using the same exit. **Additional modeling of a 757 airframe resulted in an 80% reduction in course oscillations. See Figure 2.**

4. 747 exiting on taxiway A7 and turning to the SW on taxiway Alpha to taxiway A5 – produces similar course swings as the case above while traveling along A7 and turning onto Alpha. Maximum course swings of 3.1 uA to the right and 4.5 uA to the left, for a total swing of 7.6 uA before restabalizing. The total swing is equivalent to 17.7 feet at threshold or 60 feet four miles out from the threshold. The entire maneuver from a point on the runway 6086 feet from threshold to a point on taxiway A5 950 feet from runway centerline is a relatively long taxi, taking over two minutes to complete at a ground speed of 20 knots. Fortunately, the course aberrations are constrained to approximately 800 feet of the ground path when the aircraft is on taxiway A5 and turning onto Alpha. That short path is complete in roughly 25 seconds. The maximum predicted course shift values represent no more than 30% of the course alignment tolerance for a Category I localizer. Predicted impacts are not significantly greater than those calculated for a 747 exiting at A7 following a straight in approach. **See Figure 3.**

5. 747 exiting on taxiway A8 and turning SW on taxiway Alpha to taxiway Victor – this maneuver presents a challenging case, in that an aircraft must execute two turns in a short distance while in the main body of the localizer signal. This path is predicted to produce course swings a maximum of 10.5 uA to the right and 13.6 uA to the left, for a total swing of 24.2 uA before restabalizing. The total swing is equivalent to 56.5 feet at threshold or 191 feet four miles out from the threshold. Based upon 10 knots of ground speed in tight turns, the critical portion of this maneuver would require approximately 45 seconds to complete. These values represent a maximum course swing of up to 90% of

the course alignment tolerance for a Category I localizer, but more significantly the signal would oscillate wildly for that whole time. **Additional modeling of a 757 airframe resulted in a 75% reduction in course oscillations. See Figure 4.**

6. 747 exiting on taxiway A8 and turning SW on taxiway Alpha to taxiway A5 – this maneuver was not modeled as a specific case, as each portion of the path has been considered in previous studies. The exit on taxiway A8 and the turn onto taxiway Alpha are depicted in Figure 4, which reveals the most significant impact. In this area, maximum course deflections are 8.8 uA to the right and 13.6 uA to the left, for a total swing of 22.4 uA. Once the aircraft is proceeding SW on taxiway Alpha its impact becomes negligible, and the later turn onto taxiway Victor is the same as that depicted in Figure 3, and those effects are also negligible. The significant effects are therefore limited to the transit through the localizer on-course signal while on taxiway A8, and the turn onto taxiway Alpha when the aircraft's tail swings through the localizer signal path. The total swing is equivalent to 52.3 feet at threshold or 177 feet four miles out from the threshold. Based upon 10 knots of ground speed in tight turns, the critical portion of this maneuver would require approximately 28 seconds to complete. These values represent a maximum course swing of up to 90% of the course alignment tolerance for a Category I localizer, with significant side to side oscillations during that time. **See Figures 3 and 4.**

7. 747 exiting on taxiway A9 and turning to the SW on taxiway Alpha – course swings a maximum of 38.4 uA to the right and 44.2 uA to the left, for a total swing of 81.6 uA before restabalizing. The total swing is equivalent to 190 feet at threshold or 644 feet four miles out from the threshold. Based upon 10 knots of ground speed in a tight turn, the roughly 400 feet during which unacceptable course shifts will occur will require approximately 24 seconds for the aircraft to move through that area. These values represent a maximum course swing of up to 295% of the course alignment tolerance for a Category I localizer. These predicted impacts are considerably greater (165% to 187%) than those calculated for a 747 exiting at A9 following a straight in approach. **Additional modeling of 737 and 757 airframes resulted in 80% and 70% reductions respectively in course oscillations. See Figure 5.**

8. 747 exiting on taxiway A10 and turning to the SW on taxiway Alpha – course swings a maximum of 155 uA to the right and 102 uA to the left, for a total swing of 257 uA before restabalizing. The total swing is equivalent to 600 feet at threshold or 2032 feet four miles out from the threshold. Based upon 10 knots of ground speed in a tight turn, the roughly 400 feet during which unacceptable course shifts will occur will require approximately 24 seconds for the aircraft to move through that area. These values represent a maximum course swing of slightly more than 1000% of the course alignment tolerance for a Category I localizer. These predicted impacts are considerably greater (175% to 680%) than those calculated for a 747 exiting at A10 following a straight in approach. **Additional modeling of 737 and 757 airframes resulted in significant reductions in the course oscillations, but those results remained well outside acceptable limits. See Figure 6.**

These results present a prediction of the impact of taxiing aircraft on the 04L offset ILS approach. The reader must note the alignment tolerance does not address course stability; rather

it addresses the alignment accuracy required at threshold. The magnitude, duration, and rate of oscillation may introduce excessive needle fluctuations in the cockpit and autopilot unlocks during coupled approaches. Graphic presentations of the results follow.

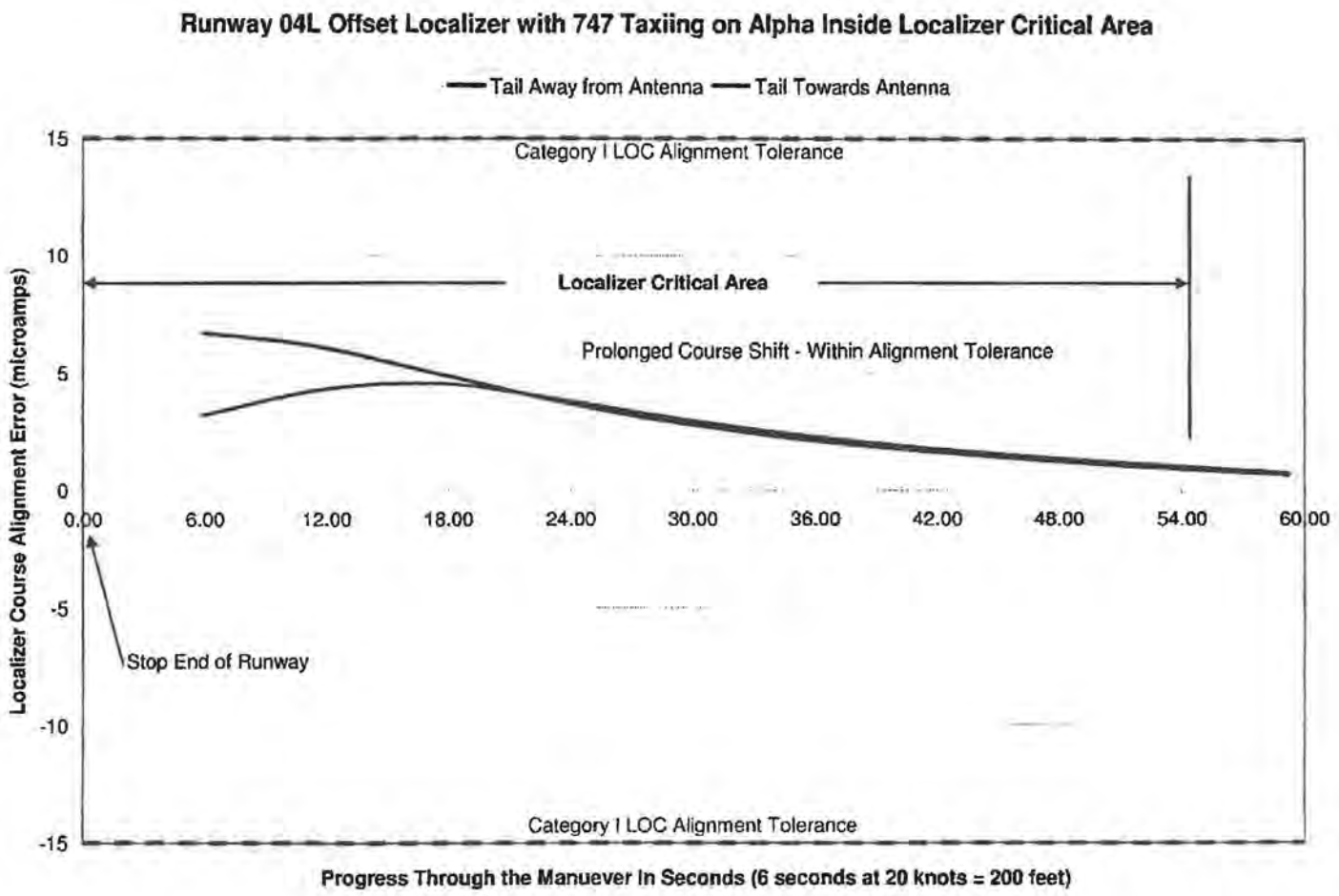

Runway 04L Offset Localizer with 747 Taxiing on Alpha Inside Localizer Critical Area
Tail Away from Antenna
Tail Towards Antenna
Category I LOC Alignment Tolerance
Localizer Critical Area
Prolonged Course Shift - Within Alignment Tolerance
Stop End of Runway
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
15
10
5
0
-5
-10
-15
0.00
6.00
12.00
18.00
24.00
30.00
36.00
42.00
48.00
54.00
60.00
Progress Through the Manuever In Seconds (6 seconds at 20 knots = 200 feet)

Figure 1

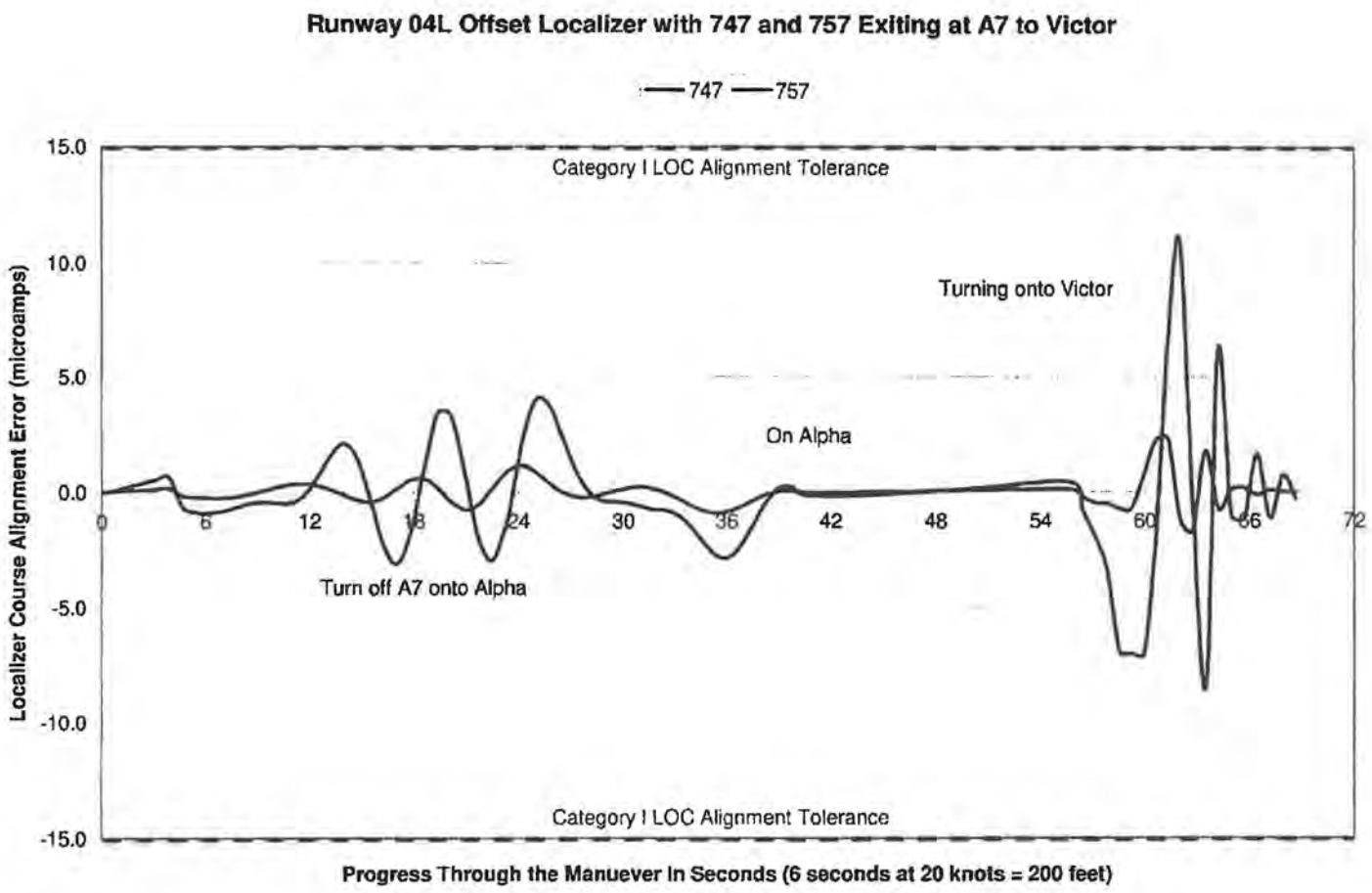

Runway 04L Offset Localizer with 747 and 757 Exiting at A7 to Victor
747
757
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
Category I LOC Alignment Tolerance
Turning onto Victor
On Alpha
Turn off A7 onto Alpha
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
0
6
12
18
24
30
36
42
48
54
60
66
72
Progress Through the Manuever In Seconds (6 seconds at 20 knots = 200 feet)

Figure 2

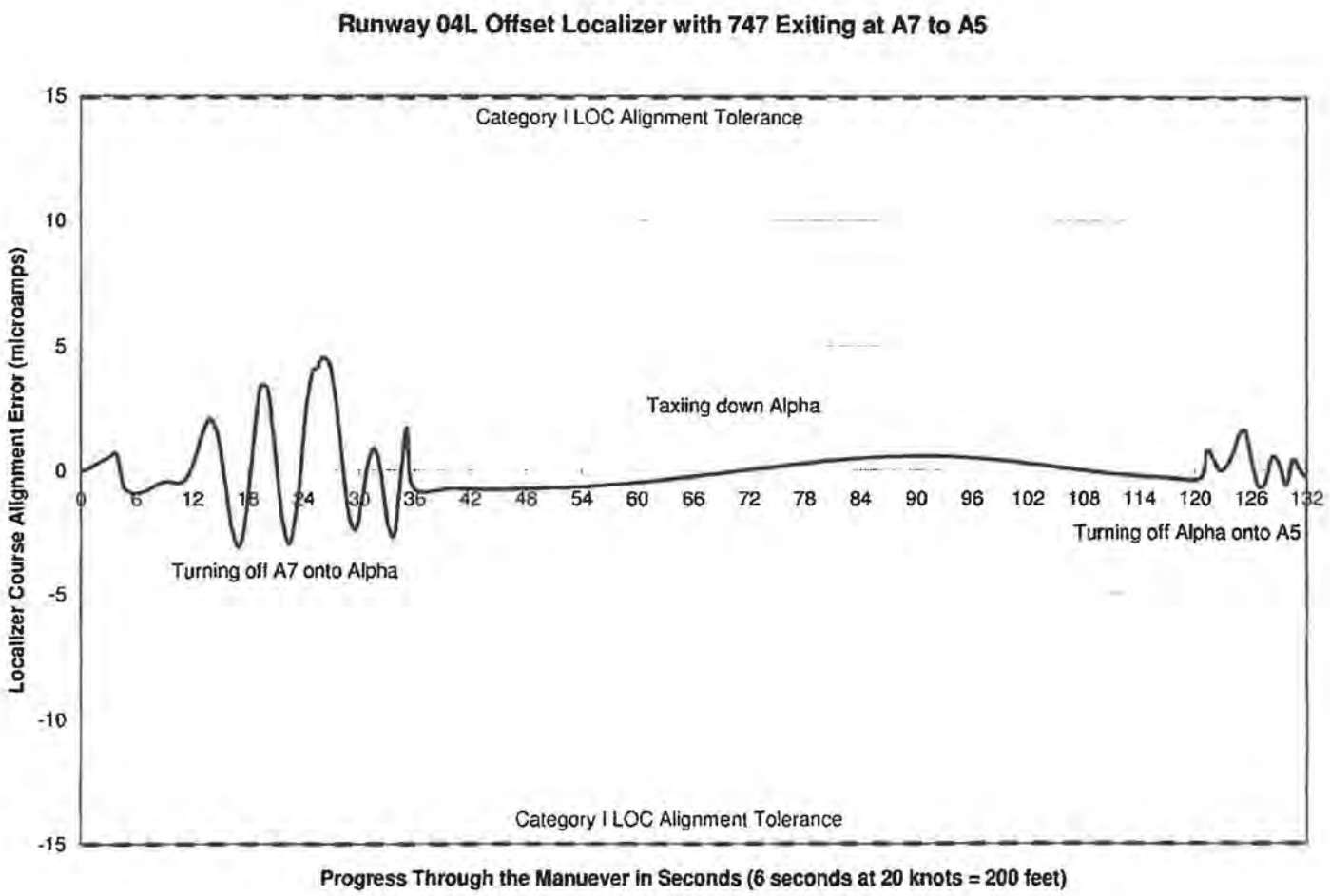

Runway 04L Offset Localizer with 747 Exiting at A7 to A5
Category I LOC Alignment Tolerance
Taxiing down Alpha
Turning off A7 onto Alpha
Turning off Alpha onto A5
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
15
10
5
0
-5
-10
-15
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
102
108
114
120
126
132
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 3

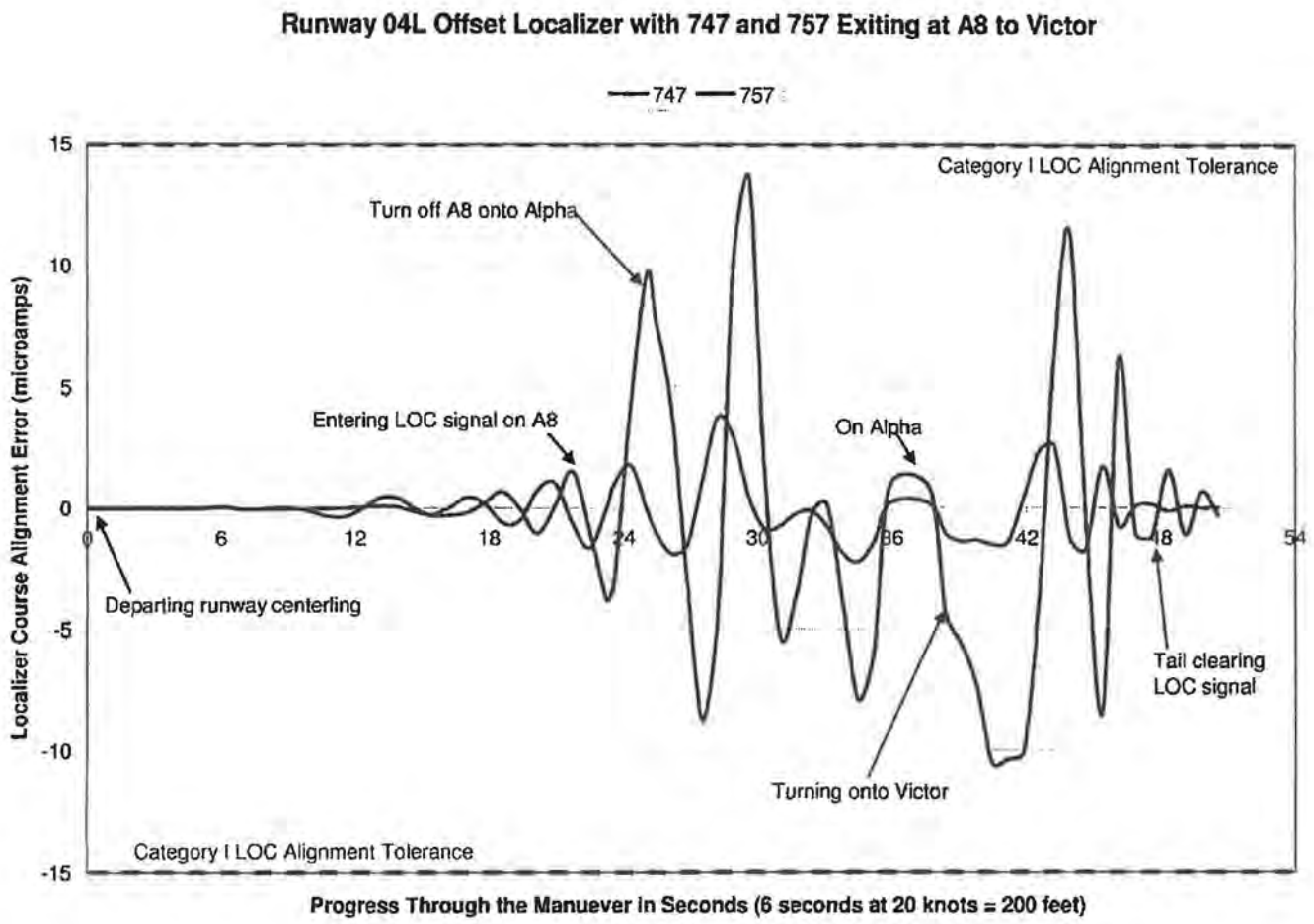

Runway 04L Offset Localizer with 747 and 757 Exiting at A8 to Victor
747
757
Category I LOC Alignment Tolerance
Turn off A8 onto Alpha
Entering LOC signal on A8
On Alpha
Departing runway centerling
Tail clearing LOC signal
Turning onto Victor
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
15
10
5
0
-5
-10
-15
0
6
12
18
24
30
36
42
48
54
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 4

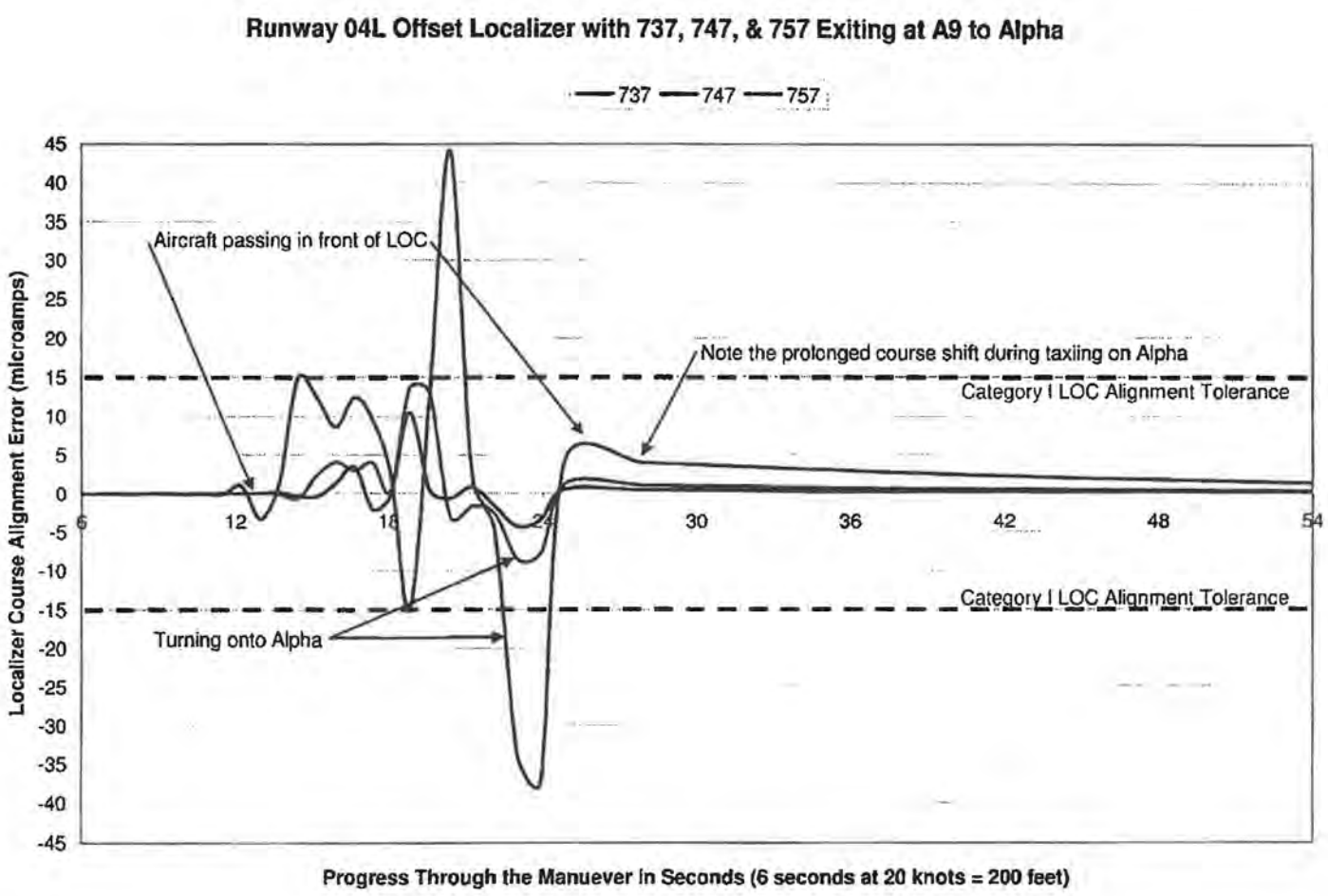

Runway 04L Offset Localizer with 737, 747, & 757 Exiting at A9 to Alpha
737
747
757
Localizer Course Alignment Error (microamps)
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Aircraft passing in front of LOC
Note the prolonged course shift during taxiing on Alpha
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
Turning onto Alpha
6
12
18
24
30
36
42
48
54
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 5

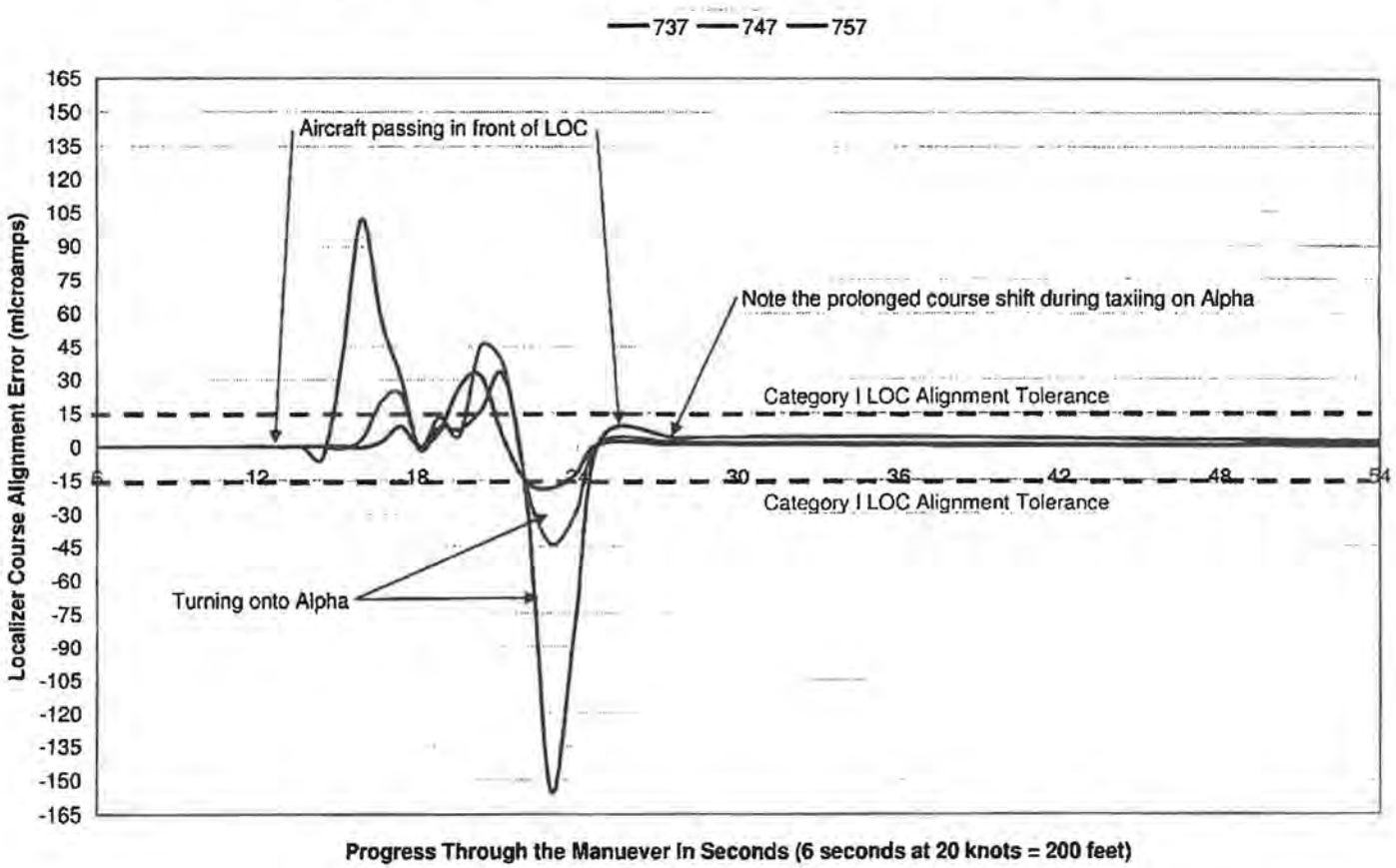

Runway 04L Offset Localizer with 737, 747, & 757 Exiting at A10 to Alpha
737
747
757
Localizer Course Alignment Error (microamps)
165
150
135
120
105
90
75
60
45
30
15
0
-15
-30
-45
-60
-75
-90
-105
-120
-135
-150
-165
Aircraft passing in front of LOC
Note the prolonged course shift during taxiing on Alpha
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
Turning onto Alpha
6
12
18
24
30
36
42
48
54
Progress Through the Manuever In Seconds (6 seconds at 20 knots = 200 feet)

Figure 6

Attachment 4

FEDERAL AVIATION ADMINISTRATION
MATH MODELING STUDY

Instrument Landing System (ILS)
Detroit Metropolitan Wayne County Airport (KDTW)
Detroit, MI

RWY 04L Localizer

August 26, 2008

FAA William J. Hughes Technical Center
ATO-P Navigation System Performance Team
Atlantic City Int'l Airport, NJ 08405

INTRODUCTION

Simon Ngai of AJW-C14A requested a modeling study of the effect of aircraft on taxiway A-8, A-9, and A-10 and in the critical area of the offset localizer for runway 04L at Detroit Metropolitan Wayne County Airport, in Detroit, MI. The requestor provided an AutoCAD drawing of the airport layout plan.

MODEL INPUT DATA

Facility Data

The runway 04L localizer is an offset located at a 10,180' setback from runway 04L threshold and 572' offset to the right of the approach (2.5 degree antenna offset angle). The localizer supports a CAT I precision approach with an associated glide path angle of 3-degrees and course width of 3.64 degrees. The assigned localizer frequency is 111.95 MHz.

Scatterers

The primary scatterers for this evaluation are aircraft selected from two groups positioned on taxiways A-8, A-9, and A-10 and in the critical area of the runway 04L localizer. The Boeing 737-300 was modeled as a replacement for the aircraft in group 1, Table 1. Figure 1 is a section of the airport diagram that shows runway 04L, and the subject taxiways.

Table 1. Aircraft group

Aircraft Group	Aircraft type
1	DC-9, MD-80, A320, B737
2	B757

Figure 2 shows the existing runway 04L localizer critical area in white and the offset 04L localizer critical area in red. Figure 2 also shows the aircraft locations as modeled. Table 2 shows the latitudes and longitudes of aircraft locations as modeled.

Table 2. Latitudes and longitudes of aircraft locations in modeled

Location	Latitude	Longitude
1	42 13 17.42 N	83 22 04.30 W
2	42 13 29.00 N	83 21 57.95 W
3	42 13 37.27 N	83 21 55.25 W
4	42 13 28.49 N	83 21 52.46 W
5	42 13 17.14 N	83 22 07.16 W

MATH MODELING

Model Used in this Analysis

The Ohio University Navaids Performance Prediction Model (OUNPPM) version 121506 was used to model the effect of aircraft on the performance of Runway 04L localizer. The model uses physical optics

to compute scattering effects from rectangular structures over a flat, level ground plane.

Analysis Performed

The taxiway location was evaluated for the offset localizer with respect to FAA Order 6750.16D, "Siting Criteria for Instrument Landing Systems." Simulation results were evaluated with respect to FAA Order 8200.1B, "United States Standard Flight Inspection Manual".

ILS 3.0-degree approaches were simulated for the localizer. Aircraft were simulated individually in positions listed in table 2 while another aircraft was on 3-degree approach.

Analysis Results

An analysis of FAA Order 6750.16D, "Siting Criteria for Instrument Landing Systems", shows that aircraft located on taxiways "A-10", "A-9" and "A-8" will penetrate the 2.5-degree offset localizer critical area. (Figure 2)

Table 3 shows simulation results for aircraft in group 1. Table 4 shows simulation results for aircraft in group 2.

Table 3 simulation results for aircraft in group 1

Location	Figure	Maximum Alignment	Maximum % Flight Inspection Tolerances
1	3	0.57	3.7%
2	4	72.98	482.5%
3	5	52.23	345.6%
4	6	60.04	397%
5	7	-88.43	584.9%

Table 4 simulation results for aircraft in group 2

Location	Figure	Maximum Alignment	Maximum % Flight Inspection Tolerances
1	8	1.26	8.3%
2	9	-45.87	303.9%
3	10	63.79	422.2%
4	11	-65.97	436.4%
5	12	-207.15	1370.2%

The results show that the runway 04L offset localizer will have minimal impact from group 1 and 2 aircraft presents at location 1.

The results show that the runway 04L offset localizer will be significantly out of Flight Inspection tolerances for both course and alignment when group 1 and 2 aircraft presents at location 2 through 5.

Note that a negative alignment is to the right of the approach. A positive alignment is to the left of the approach.

CONCLUSIONS

The 2.5-degree offset localizer critical area will be penetrated by aircraft on taxiways "A-8", "A-9" and "A-10".

Simulation results show that there are significant effects from aircraft at location 2 through 5 on the performance of the runway 04L localizer. The results also show that group 1 and 2 aircraft located at position 1 will have minimal impact on the performance of the offset 04L localizer.

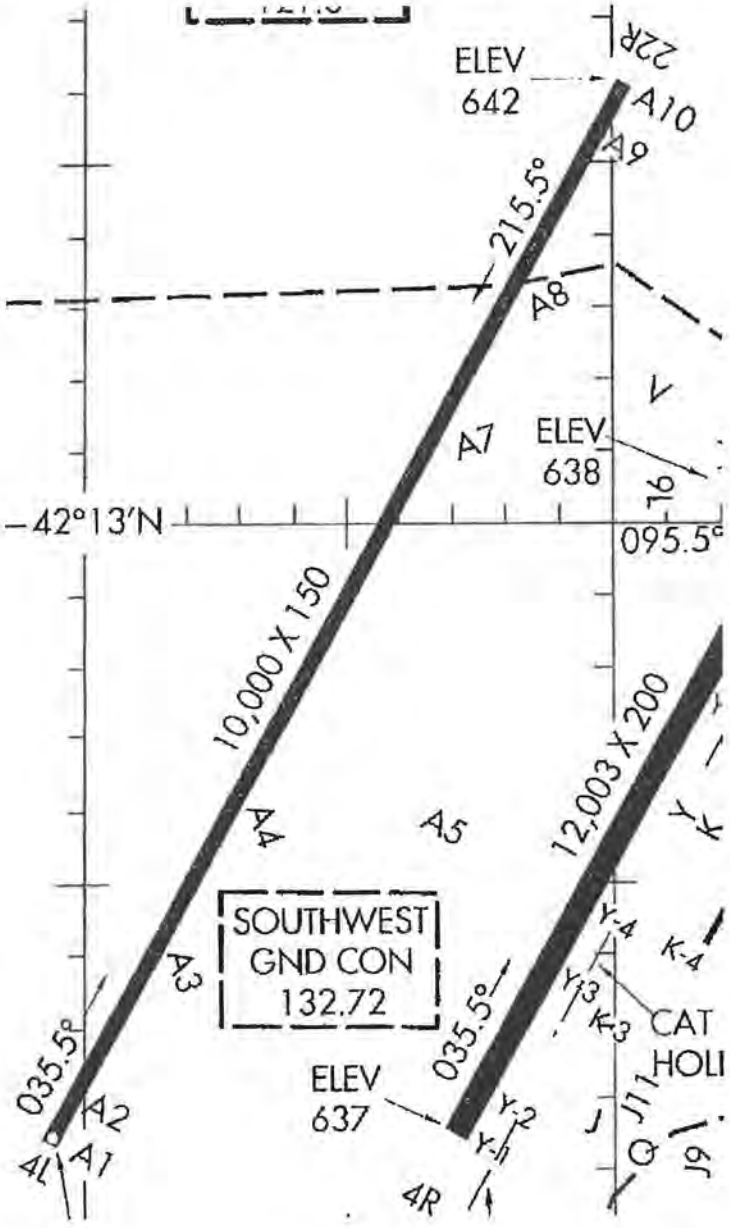


Figure 1. DTW Airport Diagram showing RWY 4L high-speed taxiway exit A8, taxiways A10 and A-9.

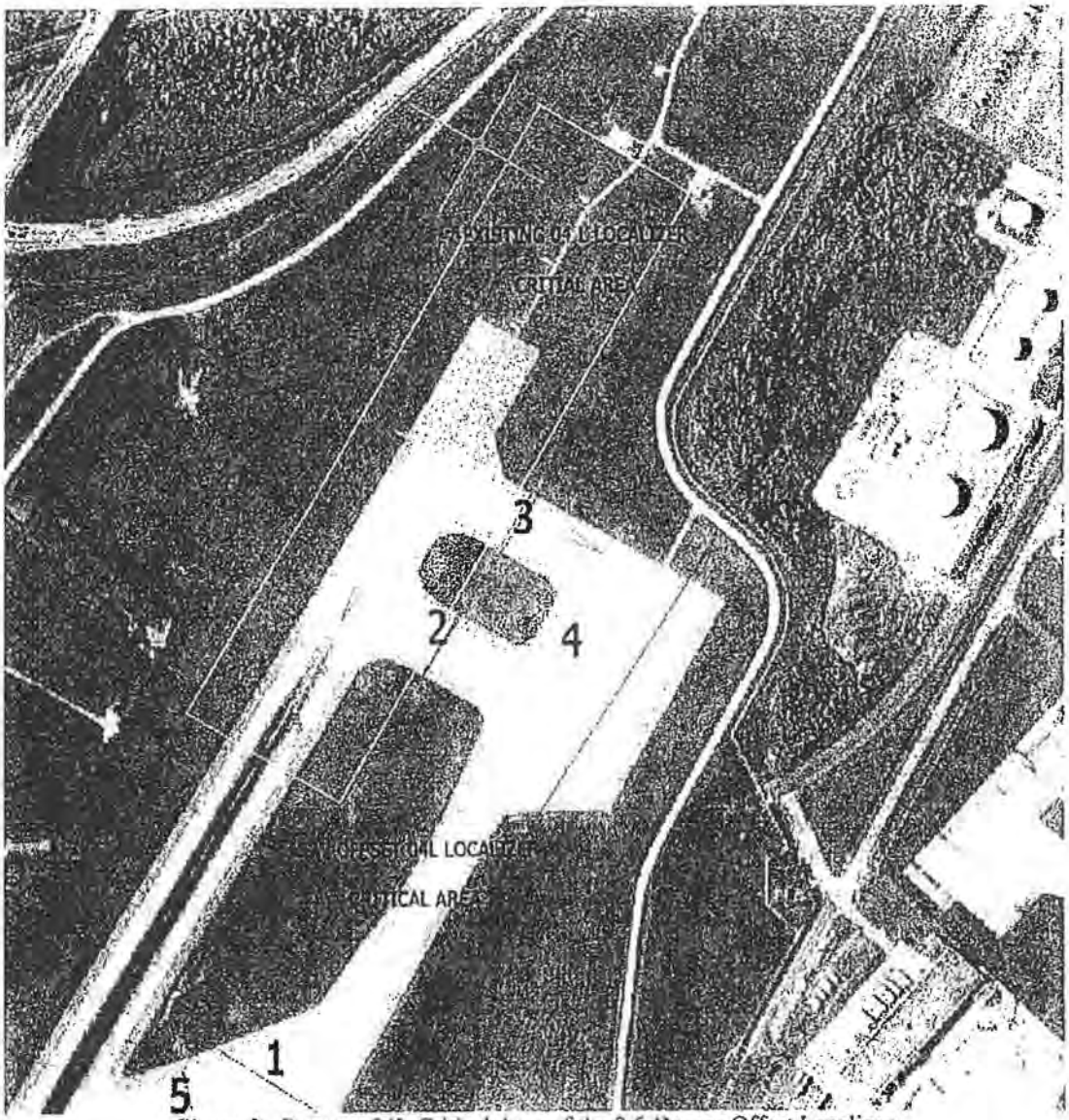


Figure 2. Runway 04L Critical Area of the 2.5-Degree Offset Localizer

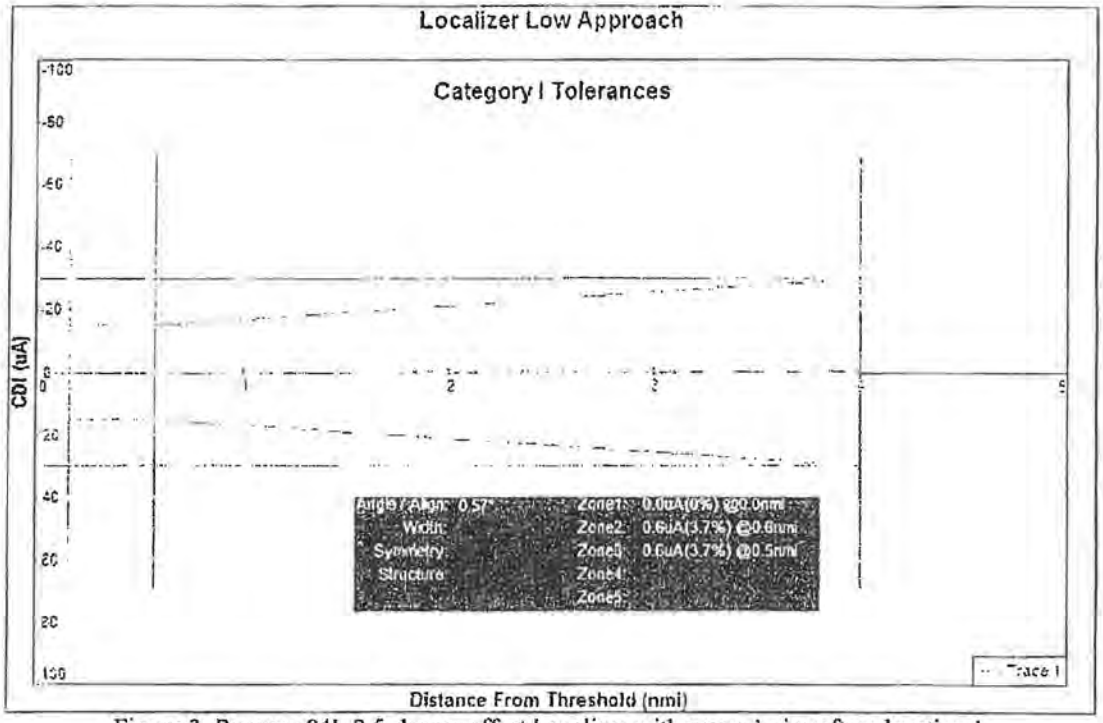


Figure 3. Runway 04L 2.5-degree offset Localizer with group 1 aircraft on location 1

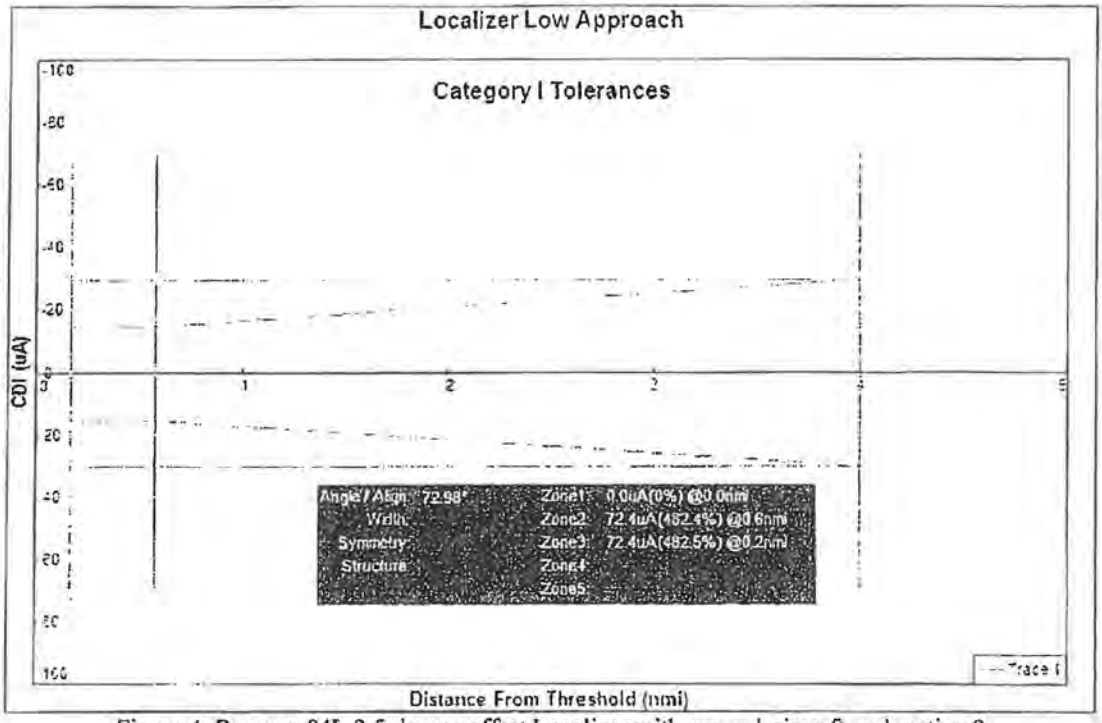


Figure 4. Runway 04L 2.5-degree offset Localizer with group 1 aircraft on location 2

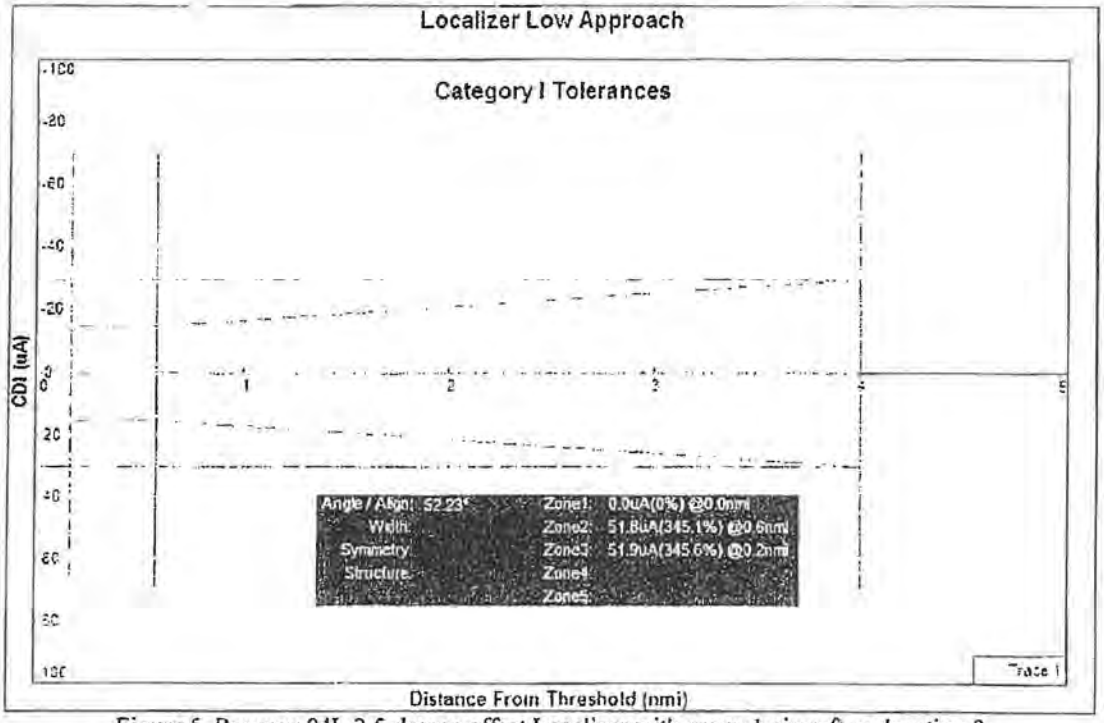


Figure 5. Runway 04L 2.5-degree offset Localizer with group 1 aircraft on location 3

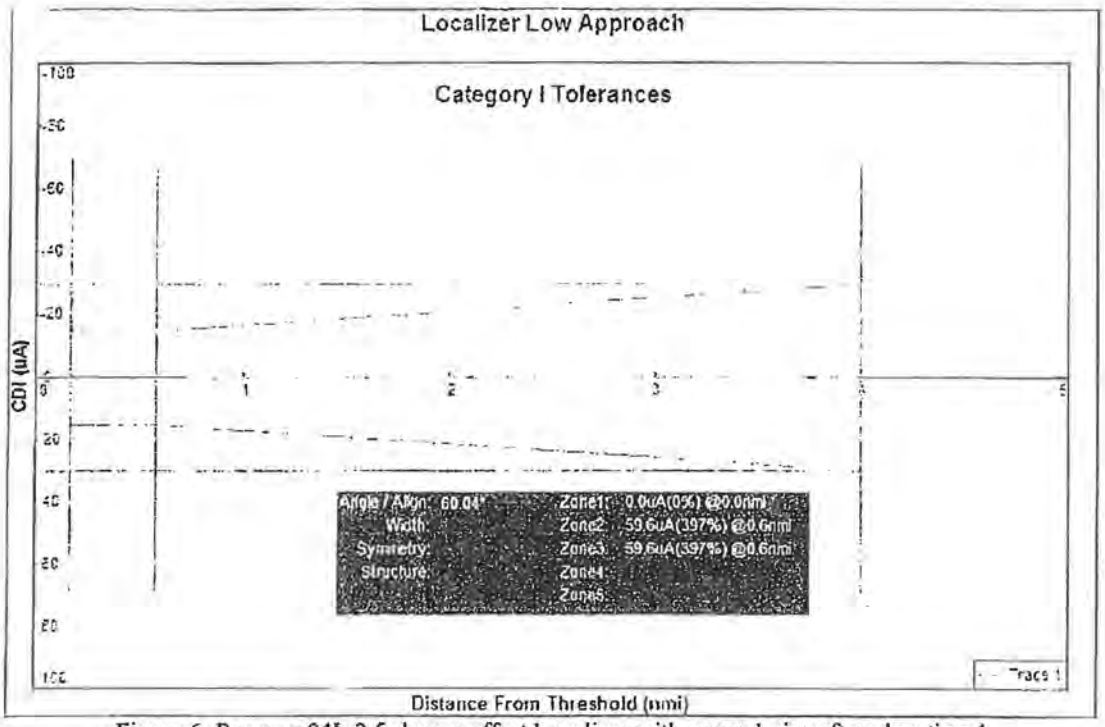


Figure 6. Runway 04L 2.5-degree offset Localizer with group I aircraft on location 4

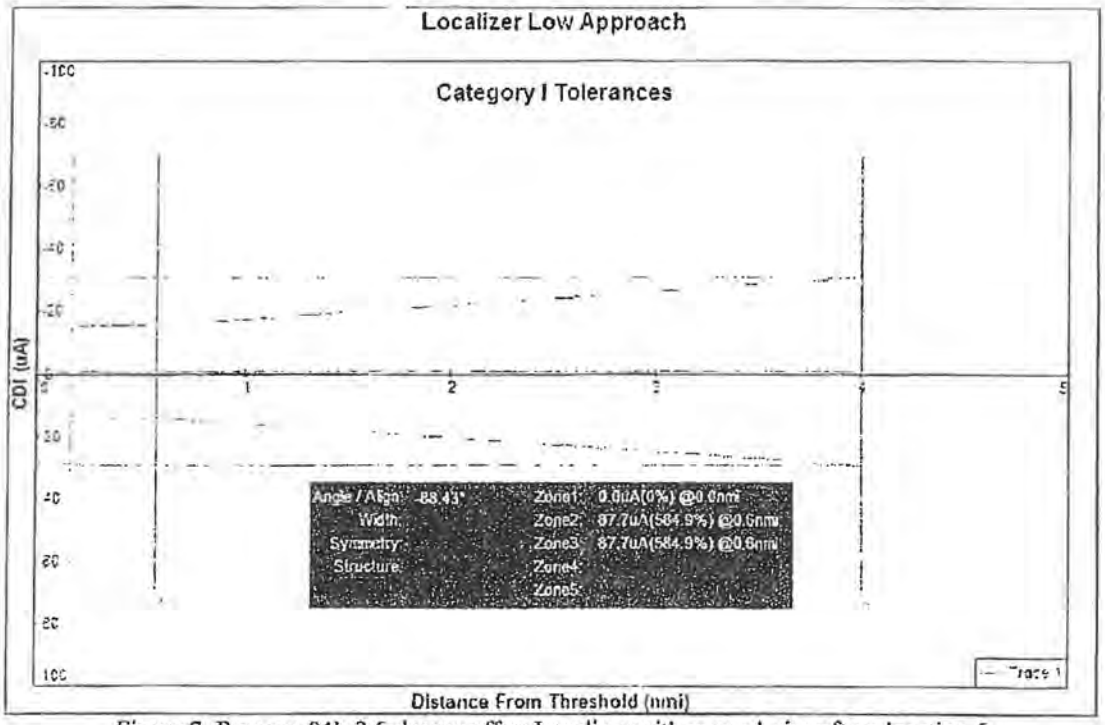


Figure 7. Runway 04L 2.5-degree offset Localizer with group 1 aircraft on location 5

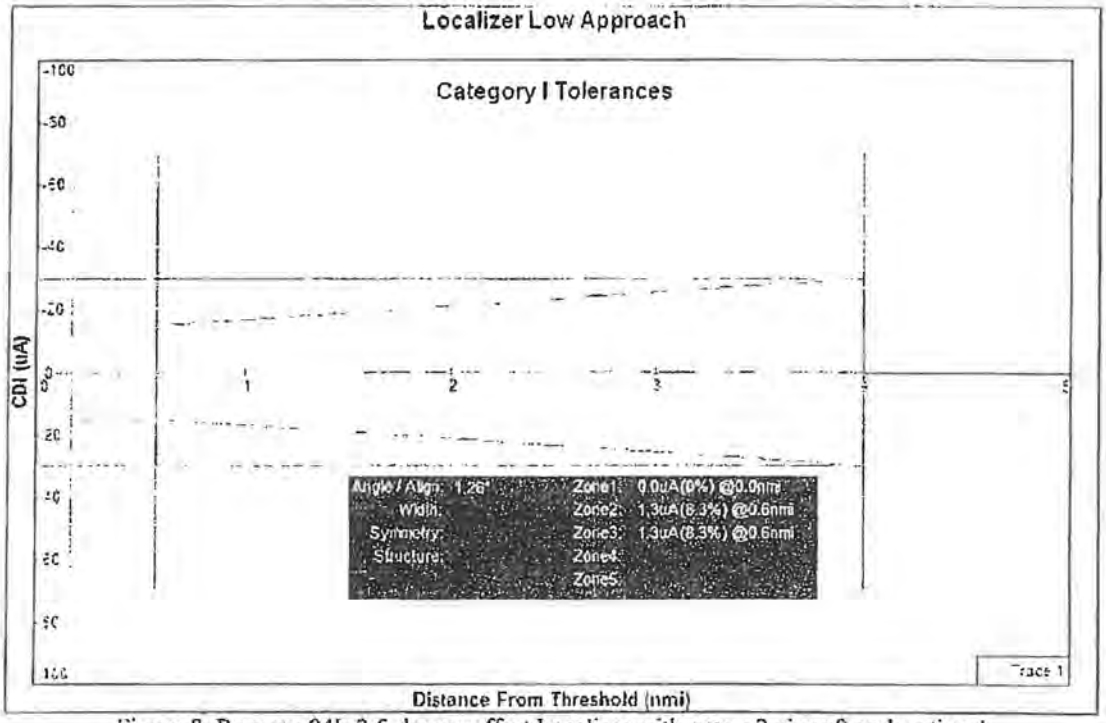


Figure 8. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 1

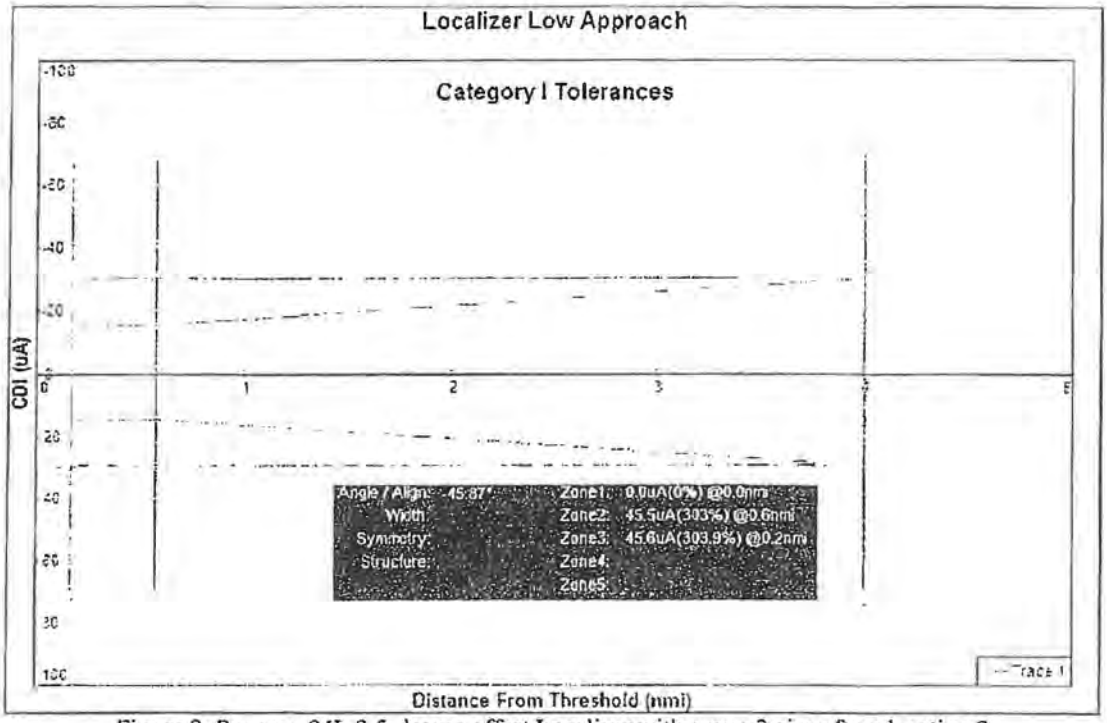


Figure 9. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 2

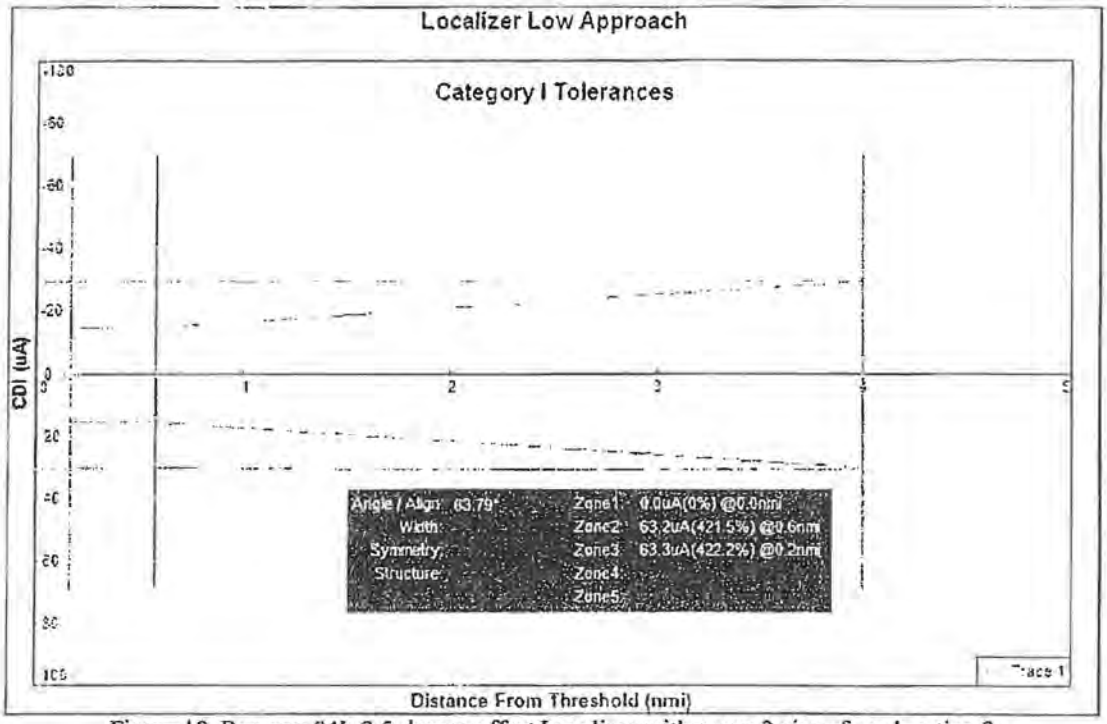


Figure 10. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 3

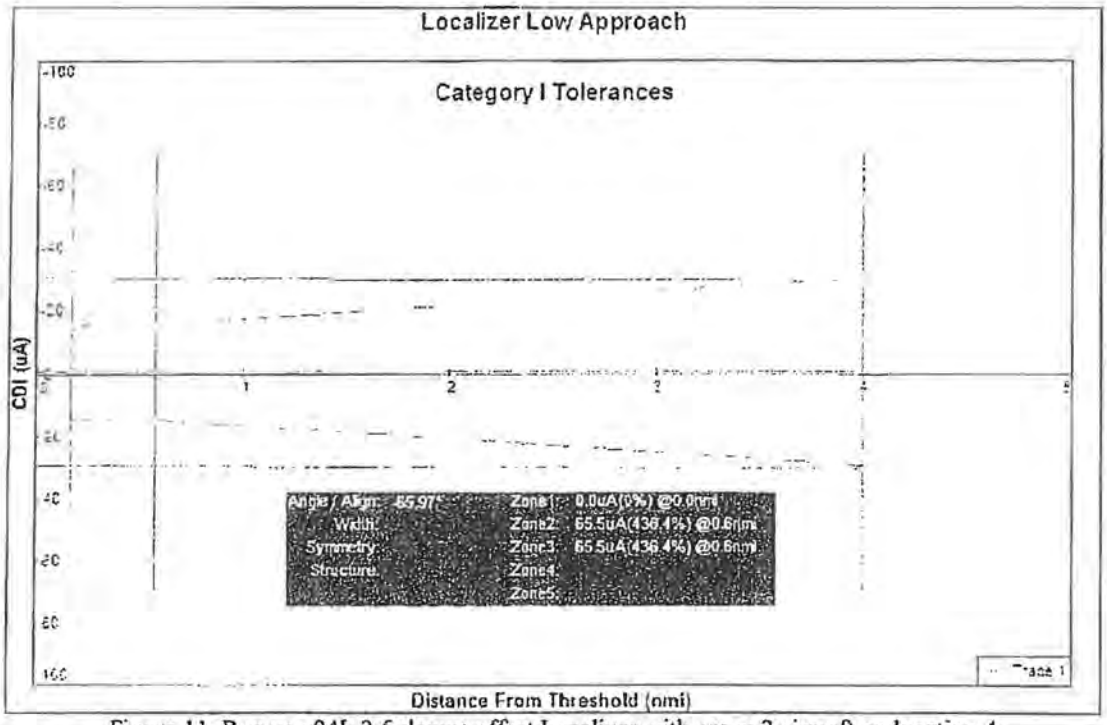


Figure 11. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 4

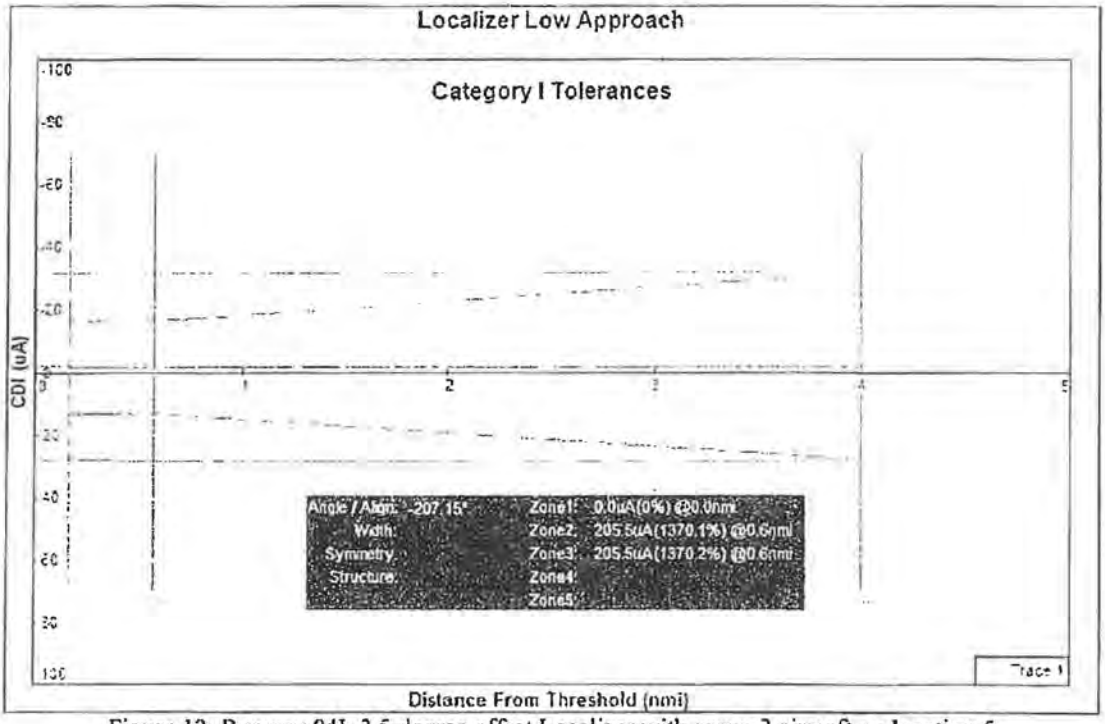


Figure 12. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 5

Detroit Metropolitan Wayne County Airport

Waiver Request to FAA ORDER 7110.65, Paragraph 5-9-7 a. 3. Triple Simultaneous Instrument Approaches With Runway Centerlines Separated by Less Than 5000 Feet

Safety Risk Management Document (SRMD)

Version 2.0
April 13, 2015

SRMD Change Page

Action/Change made to the SRMD	Date	Version Number
Initial Draft	February 18, 2015	0.1
Final SRMD	April 13, 2015	2.0

Signature Page

Title: Detroit Wayne County International Airport, Waiver Request to FAA ORDER 7110.65, Paragraph 5-9-7 a. 3. Triple Simultaneous Instrument Approaches With Runway Centerlines Separated by Less Than 5000 feet

Initiator: Tracy Gillen, Support Manager Airspace and Procedures, D21/DTW
Initiator's Organization: Detroit Airport Traffic Control Tower
Initiator's Phone Number: (734) 955-5007
Submission Date: April 13, 2015
SRMD #: Version 2.0

SRMD Approval Signature:

Tracy D. Gillen
Support Manager, Airspace and Procedures, DTW/D21

4/14/15
Date

Risk Acceptance Signature:

Stephen Ritchey
DTW Air Traffic Manager

4/14/15
Date

Anthony R. Wells
D21 Air Traffic Manager

4.14.15
Date

Executive Summary

Detroit Metropolitan Wayne County Airport Air Traffic Control Facility consisting of Detroit TRACON (D21) and Detroit Tower (DTW) are requesting a waiver to the requirement set forth in Federal Aviation Administration (FAA) JO 7110.65, paragraph 5-9-7 a. 3. which requires runway centerlines to be separated by a minimum of 5000 feet for conducting triple simultaneous instrument approaches. The proposal includes a pair of runway centerlines that are separated by 3000 feet, with an offset approach course. The other runway centerlines are separated by more than 5000 feet.

A Safety Risk Management Panel (SRMP), comprised of DTW and D21 personnel (see Table 3), met on January 20 and 21, 2015, to assess the potential hazards of allowing triple simultaneous approaches at DTW. The SRMP applied the Safety Risk Management (SRM) process completing a Hazard Analysis Worksheet (HAW) which has been entered into the Safety Management Tracking System (SMTS). This document is being prepared as the waiver process is not able to utilize SMTS to garner all of the information needed to approve a waiver.

The SRMP identified one (1) hazard, along with the causes, system states, existing controls, possible effects, severity, liklihood, initial and residual risks. Special provisions were also documented as set forth by the SRMP. The SRMP assessed the risk identified in this SRMD. Once this assessment was completed and the hazard identified, it was captured in the HAW and in Table 1 – Summary of Hazards and Risk. The results of the safety assessment were documented in the Detroit Risk Matrix (see Table 4).

Hazard	Hazard Description	Risk Assessment
DTW-001	Runway centerlines less than 5000 feet apart, aircraft receiving RADAR separation blunders into the Non-Transgression Zone with another aircraft within 3 NM	5E / Low Risk

Table 1: Summary of Hazards and Risk

The SRMP recognized the need for the following conditions to support the proposed waiver request as summarized:

- High update multi-lateration RADAR (PRM-A)
- Triple NTZ displays utilizing Final Monitor Aid (FMA) with 4-1 aspect ratio
- D21/DTW LOA and SOPs
- Three Terminal Display Workstations (TDW) utilized for vectoring
- Each closely spaced final has dual frequencies
- Inclusion of this waiver information in the Airport Facility Directory and advertised in a Letter to Airmen
- Inclusion of PRM procedures in the Attention All Users Page (AAUP) in U.S. Terminal Procedures (TERPS) for DTW
- Offset Approach Course

Table 2. This table tabulates the initial risk findings with existing controls considered and the predicted residual risk upon implementation.

Seq #	Hazard	Intial Risk	Residual Risk
1	High Risk (Red)		
2	Medium Risk (Yellow)	0	0
3	Low Risk (Green)		
4	Total	1	1

Table 2: Initial and Residual Risk

The SRMP concluded that the requested waiver introduced one low risk hazard into the National Airspace System (NAS). Based on the existing controls, the SRMP concluded the waiver request could be safely implemented into the NAS.

Table of Contents

List of Tables

Introduction

The Detroit Metropolitan Air Traffic Control Facility is requesting a waiver to the requirement set forth in Federal Aviation Administration (FAA) JO 7110.65, paragraph 5-9-7 a.3. Paragraph 5-9-7 a.3. requires triple parallel runway centerlines to be at least 5000 feet apart. The runway sets the facility is proposing to land are runways 3R, 4R, 4L and runways 21L, 22L, 22R. Runways 3R/21L and 4R/22L centerlines are separated by 5800 feet. Runways 4R/22L and 4L/22R centerlines are separated by 3000 feet.

A Safety Risk Management Panel (SRMP), comprised of DTW and D21 personnel (see Table 3), met on January 20 and 21, 2015, to assess the potential hazards of allowing triple simultaneous instrument approach arrivals with one runway pair not meeting the 5000 foot spacing requirement.

The SRMP applied the Safety Risk Management (SRM) process completing a Hazard Analysis worksheet (HAW) which has been entered into the Safety Management Tracking System (SMTS). In conducting the safety assessment described in this document, the SRM process has been applied as defined by the SMS Manual, Version 4.0.

This document is being prepared as the waiver process is not able to utilize SMTS to garner all of the information needed to approve a waiver.

Section 1 – Current System (System Baseline)

Currently the facilities are conducting dual simultaneous instrument approaches to runways 3R/4L, 3R/4R, 21L/22R, 21L/22L, and 27L/27R depending on the traffic flow.

Section 2 – Proposed Change

The facilities are proposing triple simultaneous instrument approaches to runways 3R/4R/4L and 21L/22L/22R. Runways 3R/21L and 4R/22L centerlines are spaced 5800 feet apart while runways 4R/22L and 4L/22R centerlines are separated by 3000 feet (see Appendix C).

Section 3 – Safety Risk Management Planning and Impacted Organizations

A SRMP of Subject Matter Experts was formed to conduct a safety assessment of the proposed waiver to FAA ORDER 7110.65, paragraph 5-9-7a.3. The SRMP met to discuss hazards, effects, risks, mitigation strategies and other related issues on January 20 and 21, 2015. The SRMP consisted of subject matter experts from the DTW and D21 (See Table 3).

SRM Panel Member	Organization	Role
Brandon Carpenter	D21 TRACON	Subject Matter Expert
Lewis Bird	DTW NATCA	Subject Matter Expert
Vincent Sugent	DTW ATCT	Subject Matter Expert
Tom Kuhn	Detroit TMO	Subject Matter Expert
Paul Mueller	DTW ATCT FLM	Subject Matter Expert
David Vosters	D21 NATCA	Subject Matter Expert
Tracy Gillen	Support Manger	Subject Matter Expert
Bill Ibbotson	AJV-C11 (Quality Control Group)	Facilitator
Annette Kovac	NISC support to AJV-C11	Technical Writer

Table 3: SRM Panel

The panel identified one hazard and associated risks which were worked using the SRM Preliminary Hazard Assessment (PHA) worksheets. (See Appendix A)

Section 4 – Assumptions

The SRMP identified the following assumptions. All mitigation strategies developed and documented in this SRMD will remain in place for the life cycle of this waiver; these are:

- High update multi-lateration RADAR (PRM-A)
- Triple NTZ displays utilizing Final Monitor Aid (FMA) with 4-1 aspect ratio
- D21/DTW LOA and SOPs
- Three Terminal Display Workstations (TDW) utilized for vectoring
- Each closely spaced final has dual frequencies
- Inclusion of this waiver information in the Airport Facility Directory and advertised in a Letter to Airmen
- Inclusion of PRM procedures in the Attention All Users Page (AAUP) in U.S. Terminal Procedures (TERPS) for DTW
- Offset Approach Course

Section 5 – Phase 1: System Description

Mission:

Detroit Terminal Air Traffic Control (ATC) facility provides traffic advisories, spacing, sequencing, and separation services to visual flight rules (VFR) and instrument flight rules (IFR) aircraft operating within the Class B. The air traffic controllers at DTW/D21, using a combination of terminal surveillance radar and observation, direct traffic so that it flows safely, smoothly and efficiently. Controllers authorize pilots to operate on the airport movement areas and within the Class B airspace via air traffic clearances based on observations and information received from the radar systems, pilots, and other sources. They provide separation services between landing and departing aircraft, transfer control of aircraft when they leave their airspace and receive control of aircraft coming into their airspace from controllers at adjacent facilities.

(Hu)Man/Person:
Operations Managers
Operations Supervisors
Certified Professional Controllers
Traffic Management Coordinators
Air Traffic Management/Support Personnel

Machine:
TCWs, TRDs and TDWs
ASDE-X
ETVS
PRM-A (High update multi-lateration RADAR)
Triple NTZ displays utilizing Final Monitor Aid (FMA) with 4-1 aspect ratio

Management:
FAA ORDER 7110.65
FAA ORDER 7210.3
DTW SOP 7110.9
D21 SOP 7110.9
DTW/D21 LOA
Letters to Airmen
NOTAMS
IAPs
AFD
AAUP

Media/Environment:
Tower Cab
TRACON

Section 6 – Phase 2: Identified Potential Hazards

As shown in Table 4 – Detroit Risk Matrix, the panel identified a single hazard associated with authorizing Detroit to conduct triple simultaneous instrument approaches.

The panel created a preliminary hazard list which considered the following to be potential hazard:

1. Aircraft receiving RADAR separation blunders into the Non-Transgression Zone with another aircraft within 3 NM.

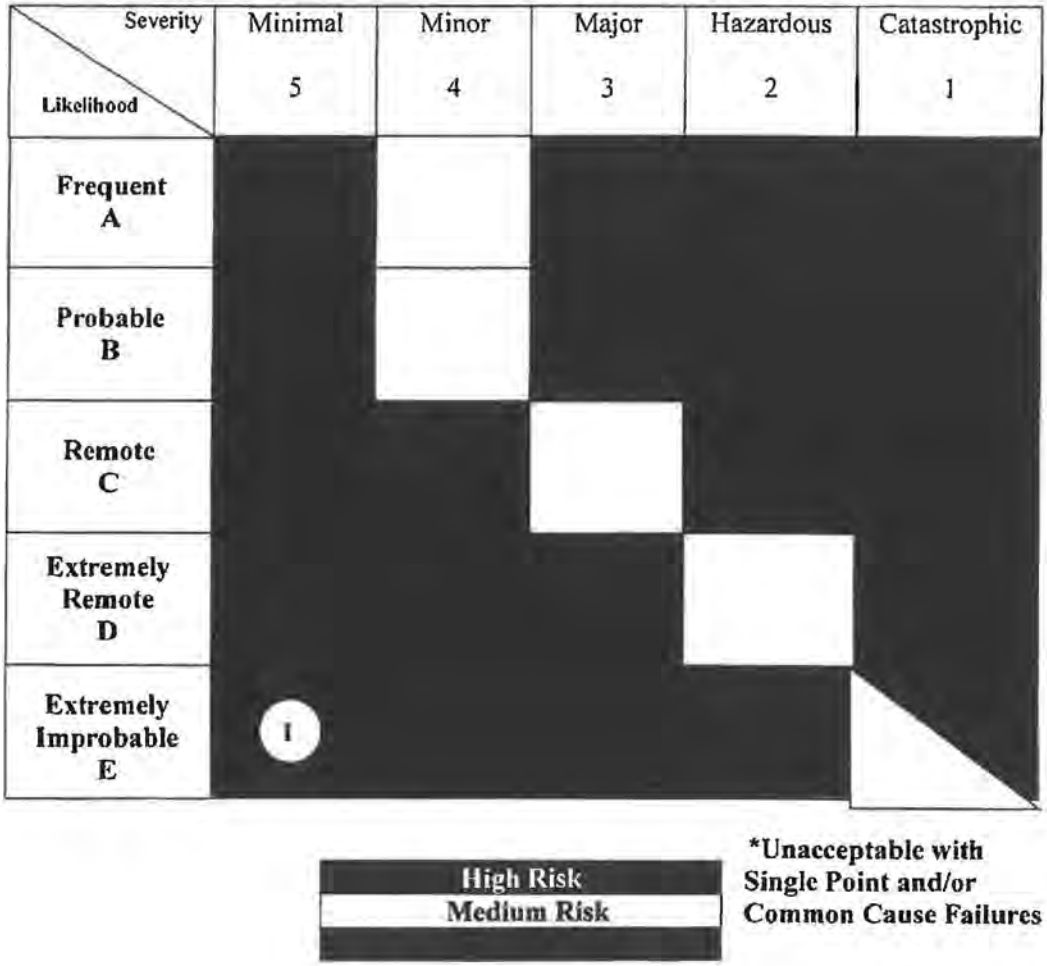


Table 4: Detroit Risk Matrix

Section 7 – Phases 3 & 4 Risks Analysis & Risks Assessed

The SRMP methodology for risk analysis is based on the approach outline in the FAA's System Safety Management Program and on the five phase process detailed in the SMS Manual: Describe the System, Identify the Hazards, Analyze the Risks, Assess the Risks, and Treat the Risks. Using this approach, one hazard was identified.

DTW-001 Runway centerlines less than 5000 feet apart, aircraft receiving RADAR separation blunders into the Non-Transgression Zone with another aircraft within 3 NM 5E/ Low Risk

The initial state risk assessment placed this item in the low risk category, with a minimal severity and extremely improbable likelihood. The SRMP based that determination on knowledge and experience of the subject matter experts, and the fact that there have been no Losses of Standard Separation (LoSS) at DTW/D21 associated with NTZ violations in the last four years. The residual risk does not change, maintaining minor severity and extremely improbable likelihood. The existing controls identified all tools available in the event of this condition. These include:

- High update multi-lateration RADAR (PRM-A)
- Triple NTZ displays utilizing Final Monitor Aid (FMA) with 4-1 aspect ratio
- D21/DTW LOA and SOPs
- Three Terminal Display Workstations (TDW) utilized for vectoring
- Each closely spaced final has dual frequencies
- Inclusion of this waiver information in the Airport Facility Directory and advertised in a Letter to Airmen
- Inclusion of PRM procedures in the Attention All Users Page (AAUP) in U.S. Terminal Procedures (TERPS) for DTW
- Offset Approach Course

Section 8 – Phase 5: Treatment of Risks / Mitigation of Hazards

The SRM panel completed the hazard assessment by determining if any additional safety requirements needed to be implemented to lower or manage the current risks. As the SRM panel assessed the hazard, it was determined that there were numerous controls in place that helped to mitigate the risks and to minimize the impact to the NAS. The mitigations employed to reduce the level of risk while operating under this waiver are included under Special Provisions, Conditions and Limitations listed below.

SPECIAL PROVISIONS, CONDITIONS, AND LIMITATIONS:

The SRM panel completed the hazard assessment by determining if any additional safety requirements needed to be implemented to lower or manage the current risks. As the SRM panel assessed the hazard, it was determined that there were numerous controls in place that helped to mitigate the risk and to minimize the impact to the NAS. The mitigations employed to reduce the level of risk while operating under this waiver are listed below and include controller training and experience, pilot notification through posting in the Airport Facility Directory and Letter to Airmen. Consequently, the panel deemed that the requested waiver could be utilized at DTW/D21 without impacting the safety and integrity of the National Airspace System (NAS).

The mitigations are:

- High update multi-lateration RADAR (PRM-A)
- Triple NTZ displays utilizing Final Monitor Aid (FMA) with 4-1 aspect ratio
- D21/DTW LOA and SOPs
- Three Terminal Display Workstations (TDW) utilized for vectoring
- Each closely spaced final has dual frequencies
- Inclusion of this waiver information in the Airport Facility Directory and advertised in a Letter to Airmen
- Inclusion of PRM procedures in the Attention All Users Page (AAUP) in U.S. Terminal Procedures (TERPS) for DTW
- Offset Approach Course

Section 9 – Tracking and Monitoring of Hazards

The safety and effectiveness of this waiver will be continuously monitored by Air Traffic Control personnel and safety concerns will be immediately addressed by FAA Management. Tracy Gillen, D21/DTW Support Manager, telephone number, 734-955-5007, is responsible for entering hazards and controls into the Hazard Tracking System. The Quality Control staff will continue to monitor all hazards identified by this SRMP during their routine review of Mandatory Occurrence Reports (MORs) and Quality Assurance Reviews (QARs) related to the use of this waiver.

Appendices

Appendix A –Hazard Analysis Worksheet (HAW)

SEE SMTS

Appendix B – FAA Documents Related to Triple Simultaneous Instrument Approaches With Runway Centerlines Separated by Less Than 5000 feet Waiver at Detroit Metropolitan Wayne County Airport SRMD

The following list of documents (orders, directives, regulations, handbooks, and manuals) addresses NAS safety management relating to DTW/D21 have been consulted in the SRM Process. In some cases the document listed below may have been updated since this list was compiled. Please refer to the office of primary interest for the most recent version of the document.

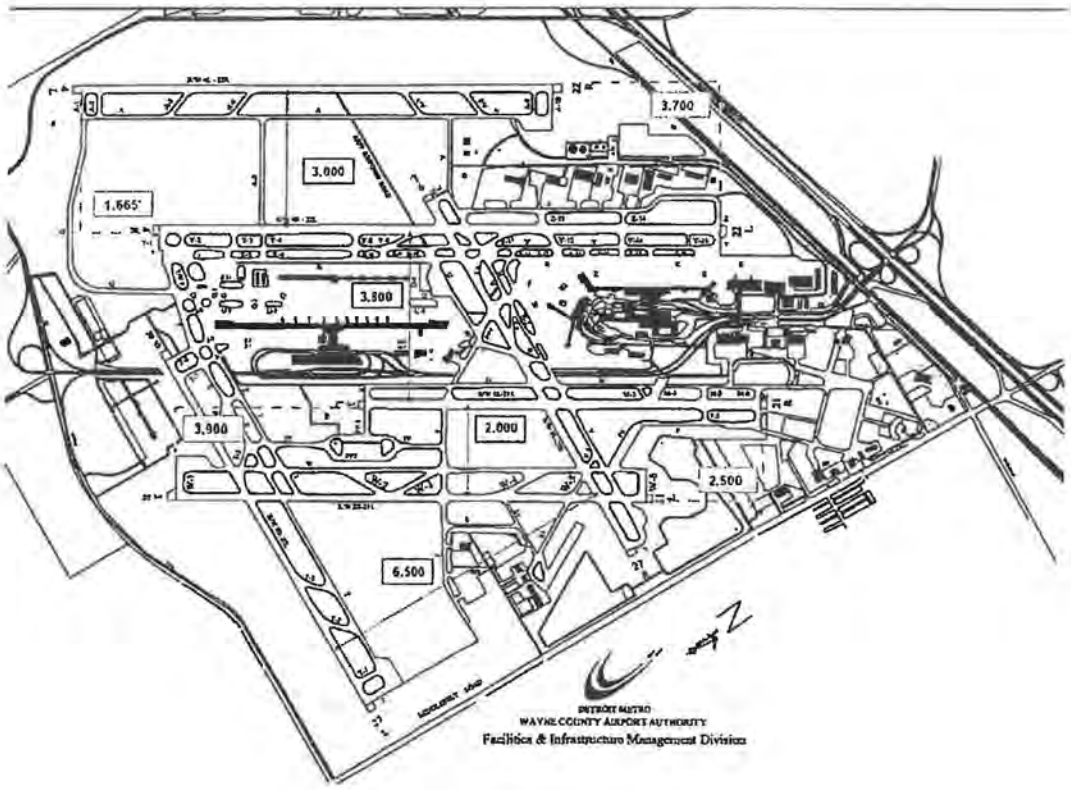
Air Traffic Control

- FAA ORDER 7110.65, Air Traffic Control
- FAA ORDER 7210.56, Air Traffic Quality Assurance
- FAA ORDER 7210.3, Facility Operations and Administration
- DTW 7110.9, Standard Operating Procedures
- D21 7110.9, Standard Operating Procedures
- DTW/D21 LOA
- D21/DTW 3120.10, Training Manual

Safety Risk Management

- FAA SMS Manual – Version 4.0
- ORDER 8040.4, Safety Risk Management
- ORDER 1100.161, Air Traffic Safety Oversight
- ORDER 7000.7, ATO Terminal Service Safety Management Program

Appendix C – Airport Diagram



Glossary

AAUP	Attention All Users Page
ACFT	Aircraft
AFD	Airport/Facility Directory
ASDE-X	Airport Surface Detection Equipment (Type-X)
ASR	Airport Surveillance Radar
AT	Air Traffic
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
D21	Detroit TRACON
DTW	Detroit ATCT
FAA	Federal Aviation Administration
FAAO	Federal Aviation Administration ORDER
FMA	Final Monitor Aid
IMC	Instrument Meteorological Condition
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
LOA	Letter of Authorization
LoSS	Loss of Standard Separation
MOR	Mandatory Occurrence Report
NAS	National Airspace System
DTW	Detroit Metro Tower
PHA	Preliminary Hazard Analysis
QAR	Quality Assurance Review
RADAR	Radio Detection and Ranging
RWY	Runway
SMS	Safety Management System
SOP	Standard Operating Procedure
SRM	Safety Risk Management
SRMD	Safety Risk Management Document
SRMP	Safety Risk Management Panel
TRACON	Terminal Radar Approach Control
VFR	Visual Flight Rules
VMC	Visual Meteorological Condition

Federal Aviation Administration

Categorical Exclusion Declaration

The Implementation of Simultaneous Triple IFR Landing Procedures and The movement of Heavy Aircraft to the Center or East Parallel runways, at Detroit Metropolitan International Airport, Detroit Michigan

Description of Procedures:

The proposed project seeks to implement simultaneous IFR landing procedures into Runways 21L, 22L, and 22R for South Flow (SF) and Runways 03R, 04L, and 04R for North Flow (NF). Start landing on three runways at a time during lower weather conditions using simultaneous independent instrument approaches. During this operation, the following runway utilization would apply. The south flow aircraft would land on runways 22R, 22L, and 21L, and they would depart runway's 21R with occasional 22L departures mixed with the 22L arrivals. The north flow traffic would land on runways 04L, 04R, and 03R, and depart runway 03L with an occasional 04R departure mixed with the 04R arrivals. The operations above would mimic the visual approaches on the system baseline EXCEPT, the heavy aircraft mix that would normally land on the west parallel (04L / 22R) would be landing on either the center of the three landing runways (04R/22L) or the east parallel (03R/21L). There would be no change in the actual number of aircraft landing, but the heavy aircraft normally assigned 04L/22R would now go to either 04R/22L or 03R/21L.

Declaration of Exclusion.

The FAA has reviewed the above referenced proposed action and it has been determined, by the undersigned, to be categorically excluded from further environmental documentation according to Order 1050.1E, "Environmental Impacts: Policies and Procedures". The implementation of this action will not result in any extraordinary circumstances in accordance with Order 1050.1E.

Basis for this Determination.

This review was conducted in accordance with policies and procedures in FAA Order 1050.1E.

311i. Establishment of new or revised air traffic control procedures conducted at 3,000 feet or more above ground level (AGL); instrument procedures conducted below 3,000

feet (AGL) that do not cause traffic to be routinely routed over noise sensitive areas, modifications to currently approved instrument procedures conducted below 3,000 feet (AGL) that do not significantly increase noise over noise sensitive areas; and increases in minimum altitudes and landing minima. For Air Traffic modifications to procedures at or above 3,000 feet (AGL), the Air Traffic Noise Screening Procedure (ATNS) should be applied. (ATO. AFS. AVN).

Recommended by:

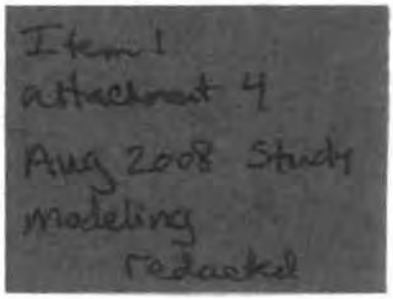
[redacted] Date: 2/24/15

[redacted]pport Manager Airspace & Procedures, Detroit TRACON & Tower.

Concurrence/Reviewed by:

[redacted] Date: 3/3/2015

[redacted] Director, Air Traffic Services North, AJTCN


Item 1
attachment 4
Aug 2008 Study
modeling
redacted

FEDERAL AVIATION ADMINISTRATION
MATH MODELING STUDY

Instrument Landing System (ILS)
Detroit Metropolitan Wayne County Airport (KDTW)
Detroit, MI

RWY 04L Localizer

August 26, 2008

FAA William J. Hughes Technical Center
ATO-P Navigation System Performance Team
Atlantic City Int'l Airport, NJ 08405

INTRODUCTION

Simon Ngai of AJW-C14A requested a modeling study of the effect of aircraft on taxiway A-8, A-9, and A-10 and in the critical area of the offset localizer for runway 04L at Detroit Metropolitan Wayne County Airport, in Detroit, MI. The requestor provided an AutoCAD drawing of the airport layout plan.

MODEL INPUT DATA

Facility Data

The runway 04L localizer is an offset located at a 10,180' setback from runway 04L threshold and 572' offset to the right of the approach (2.5 degree antenna offset angle). The localizer supports a CAT I precision approach with an associated glide path angle of 3-degrees and course width of 3.64 degrees. The assigned localizer frequency is 111.95 MHz.

Scatterers

The primary scatterers for this evaluation are aircraft selected from two groups positioned on taxiways A-8, A-9, and A-10 and in the critical area of the runway 04L localizer. The Boeing 737-300 was modeled as a replacement for the aircraft in group 1, Table 1. Figure 1 is a section of the airport diagram that shows runway 04L, and the subject taxiways.

Table 1. Aircraft group

Aircraft Group	Aircraft type
1	DC-9, MD-80, A320, B737
2	B757

Figure 2 shows the existing runway 04L localizer critical area in white and the offset 04L localizer critical area in red. Figure 2 also shows the aircraft locations as modeled. Table 2 shows the latitudes and longitudes of aircraft locations as modeled.

Table 2. Latitudes and longitudes of aircraft locations in modeled

Location	Latitude	Longitude
1	42 13 17.42 N	83 22 04.30 W
2	42 13 29.00 N	83 21 57.95 W
3	42 13 37.27 N	83 21 55.25 W
4	42 13 28.49 N	83 21 52.46 W
5	42 13 17.14 N	83 22 07.16 W

MATH MODELING

Model Used in this Analysis

The Ohio University Navaids Performance Prediction Model (OUNPPM) version 121506 was used to model the effect of aircraft on the performance of Runway 04L localizer. The model uses physical optics

to compute scattering effects from rectangular structures over a flat, level ground plane.

Analysis Performed

The taxiway location was evaluated for the offset localizer with respect to FAA Order 6750.16D, "Siting Criteria for Instrument Landing Systems." Simulation results were evaluated with respect to FAA Order 8200.1B, "United States Standard Flight Inspection Manual".

ILS 3.0-degree approaches were simulated for the localizer. Aircraft were simulated individually in positions listed in table 2 while another aircraft was on 3-degree approach.

Analysis Results

An analysis of FAA Order 6750.16D, "Siting Criteria for Instrument Landing Systems", shows that aircraft located on taxiways "A-10", "A-9" and "A-8" will penetrate the 2.5-degree offset localizer critical area. (Figure 2)

Table 3 shows simulation results for aircraft in group 1. Table 4 shows simulation results for aircraft in group 2.

Table 3 simulation results for aircraft in group 1

Location	Figure	Maximum Alignment	Maximum % Flight Inspection Tolerances
1	3	0.57	3.7%
2	4	72.98	482.5%
3	5	52.23	345.6%
4	6	60.04	397%
5	7	-88.43	584.9%

Table 4 simulation results for aircraft in group 2

Location	Figure	Maximum Alignment	Maximum % Flight Inspection Tolerances
1	8	1.26	8.3%
2	9	-45.87	303.9%
3	10	63.79	422.2%
4	11	-65.97	436.4%
5	12	-207.15	1370.2%

The results show that the runway 04L offset localizer will have minimal impact from group 1 and 2 aircraft presents at location 1.

The results show that the runway 04L offset localizer will be significantly out of Flight Inspection tolerances for both course and alignment when group 1 and 2 aircraft presents at location 2 through 5.

Note that a negative alignment is to the right of the approach. A positive alignment is to the left of the approach.

CONCLUSIONS

The 2.5-degree offset localizer critical area will be penetrated by aircraft on taxiways "A-8", "A-9" and "A-10".

Simulation results show that there are significant effects from aircraft at location 2 through 5 on the performance of the runway 04L localizer. The results also show that group 1 and 2 aircraft located at position 1 will have minimal impact on the performance of the offset 04L localizer.

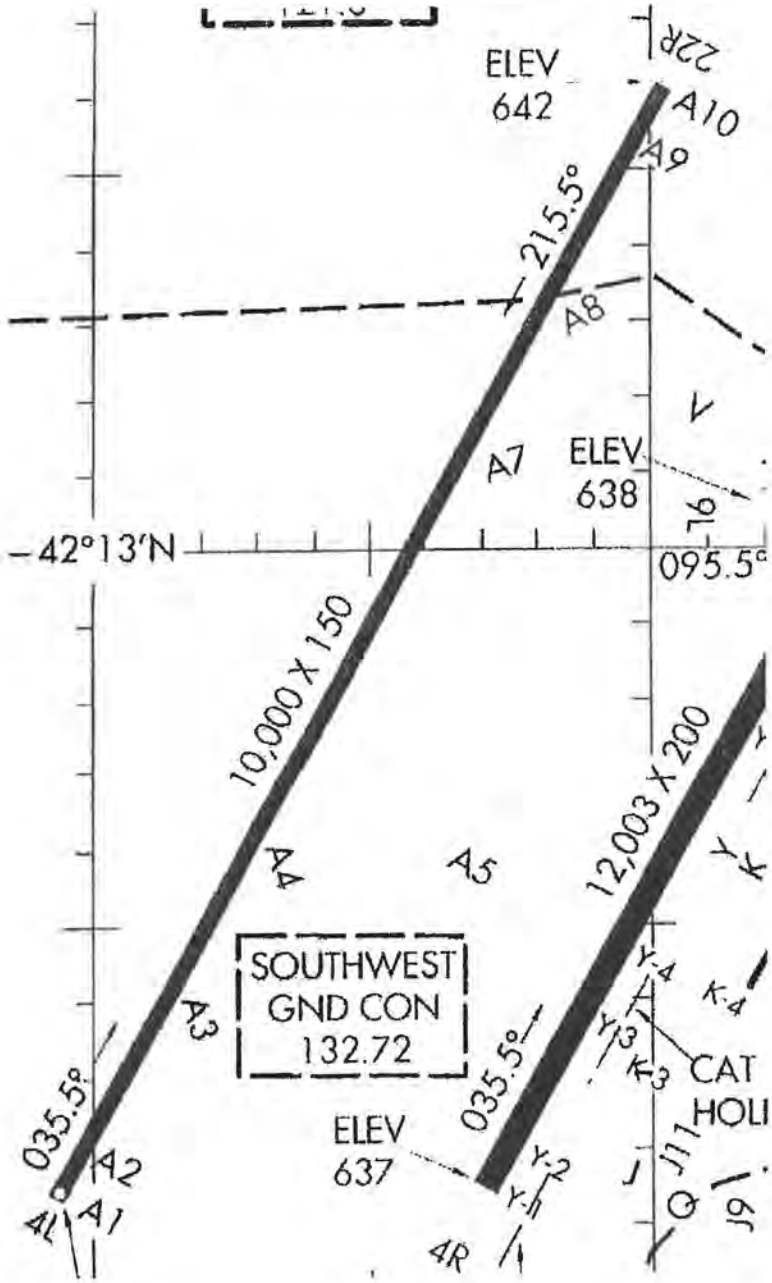


Figure 1. DTW Airport Diagram showing RWY 4L high-speed taxiway exit A8, taxiways A10 and A-9.

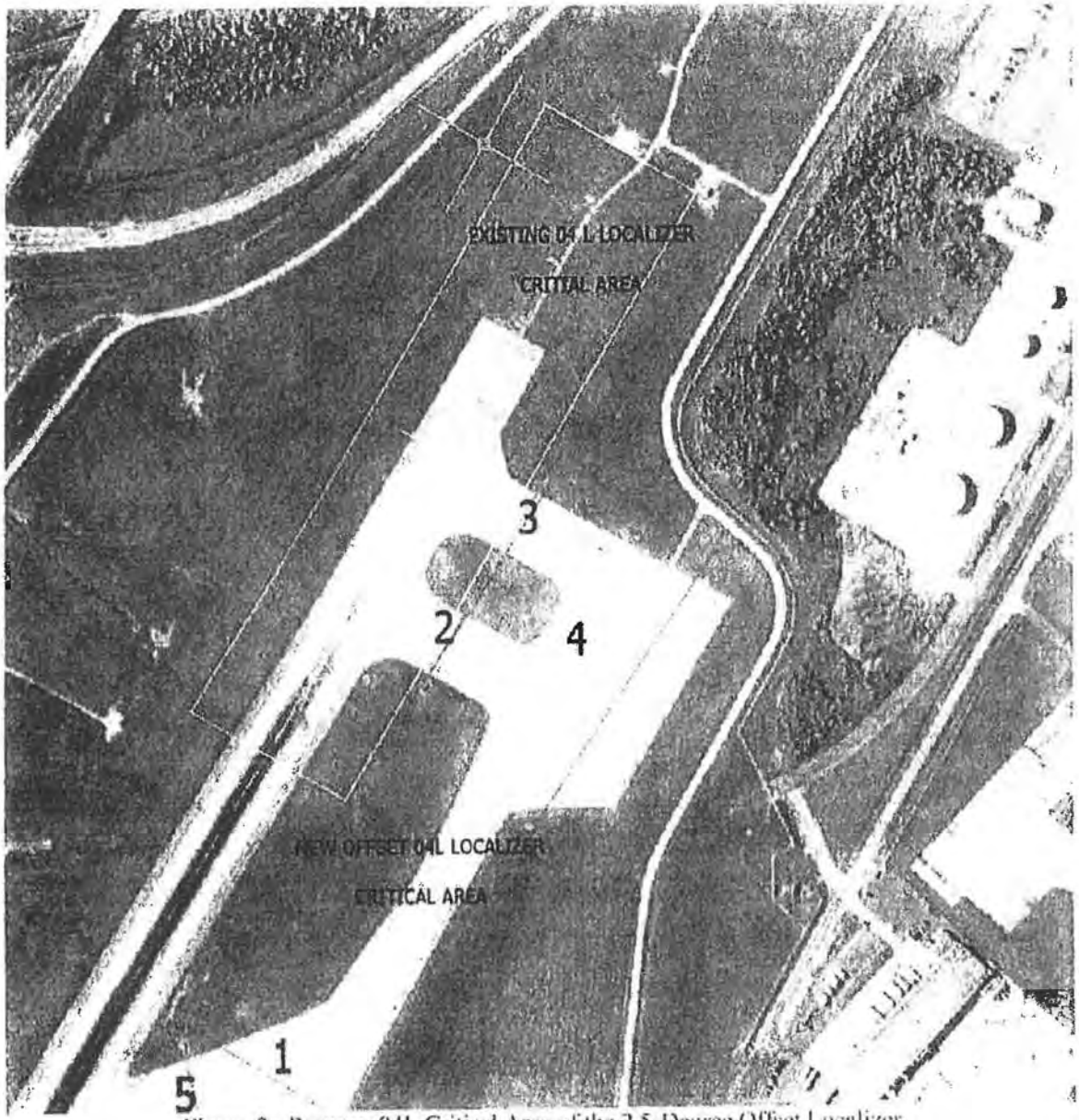


Figure 2. Runway 04L Critical Area of the 2.5-Degree Offset Localizer

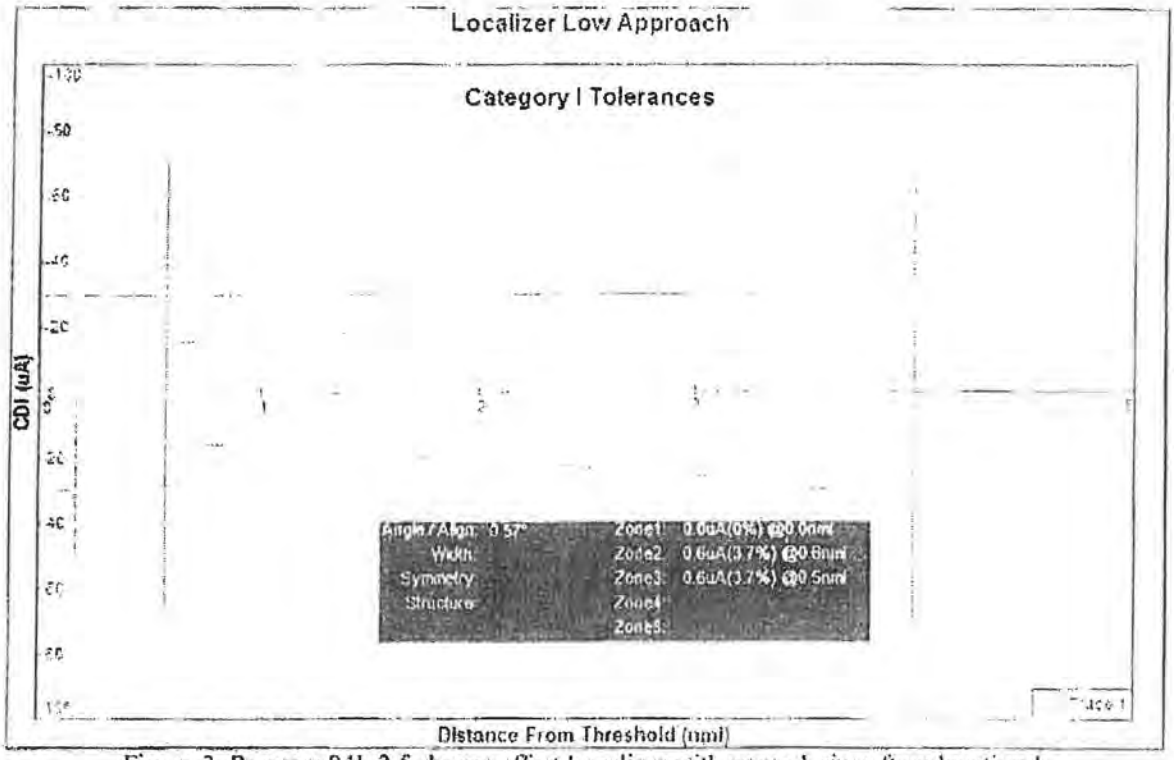


Figure 3. Runway 04L 2.5-degree offset Localizer with group I aircraft on location 1

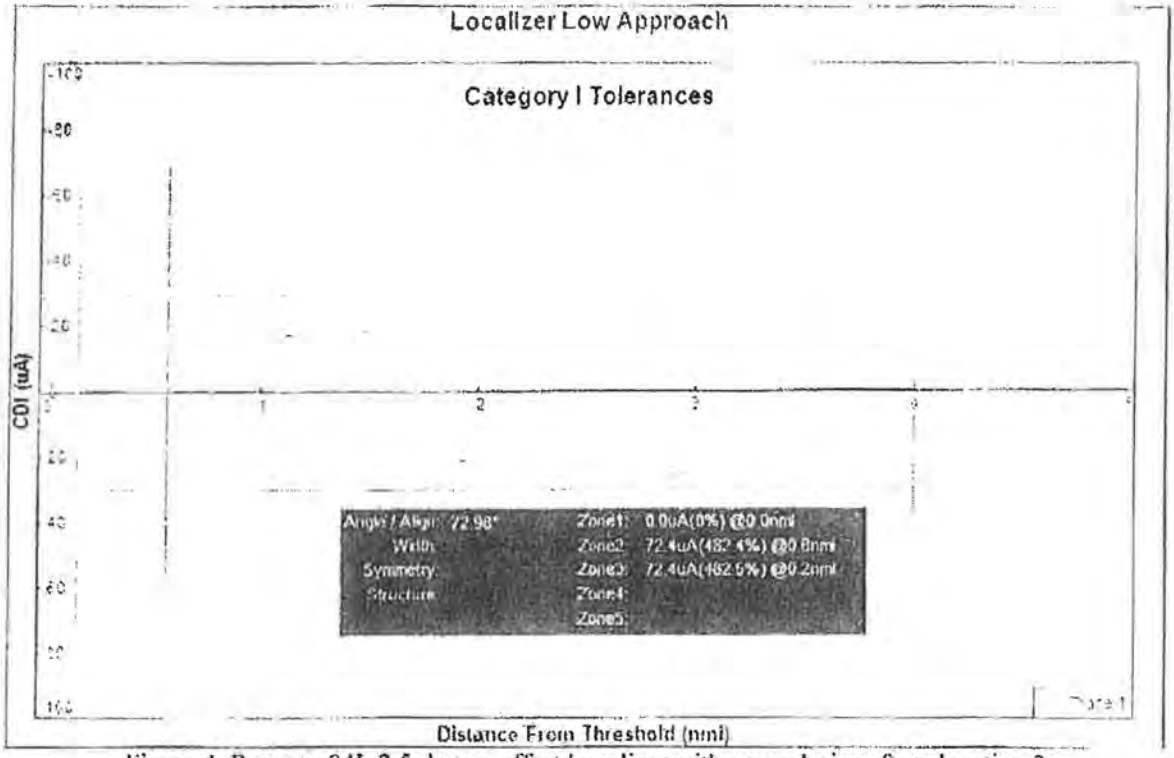


Figure 4. Runway 04L 2.5-degree offset Localizer with group I aircraft on location 2

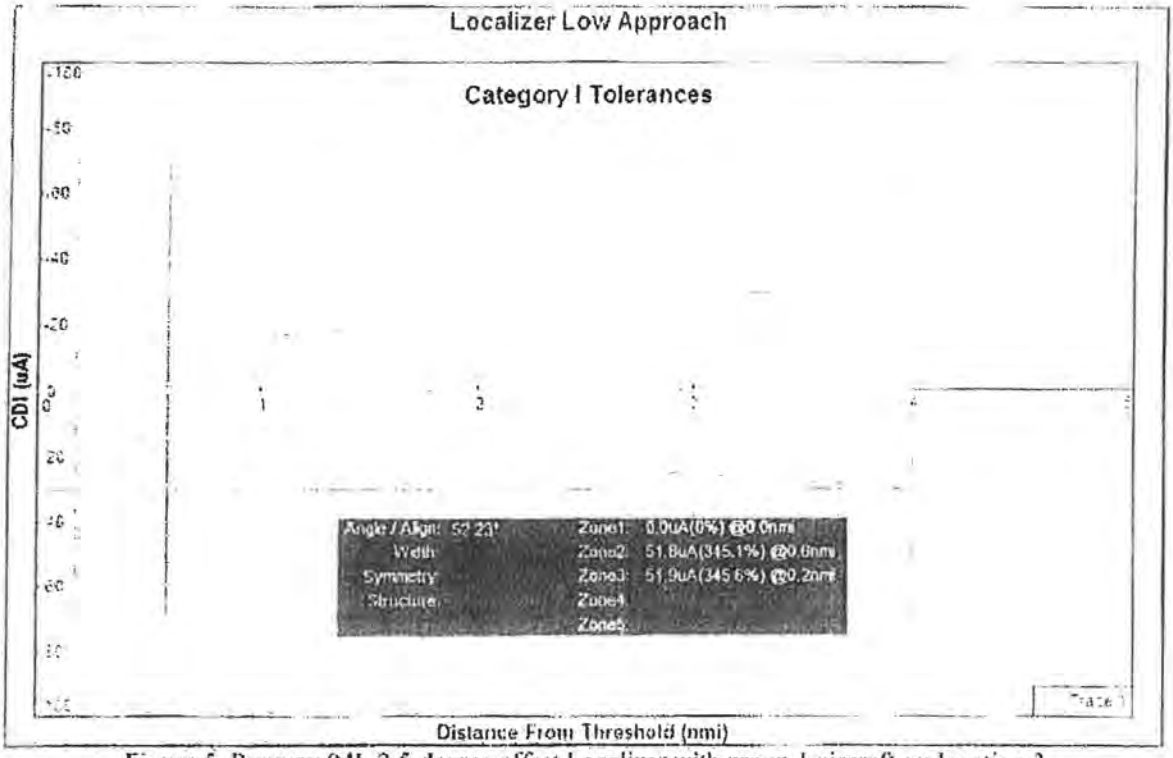


Figure 5. Runway 04L 2.5-degree offset Localizer with group I aircraft on location 3

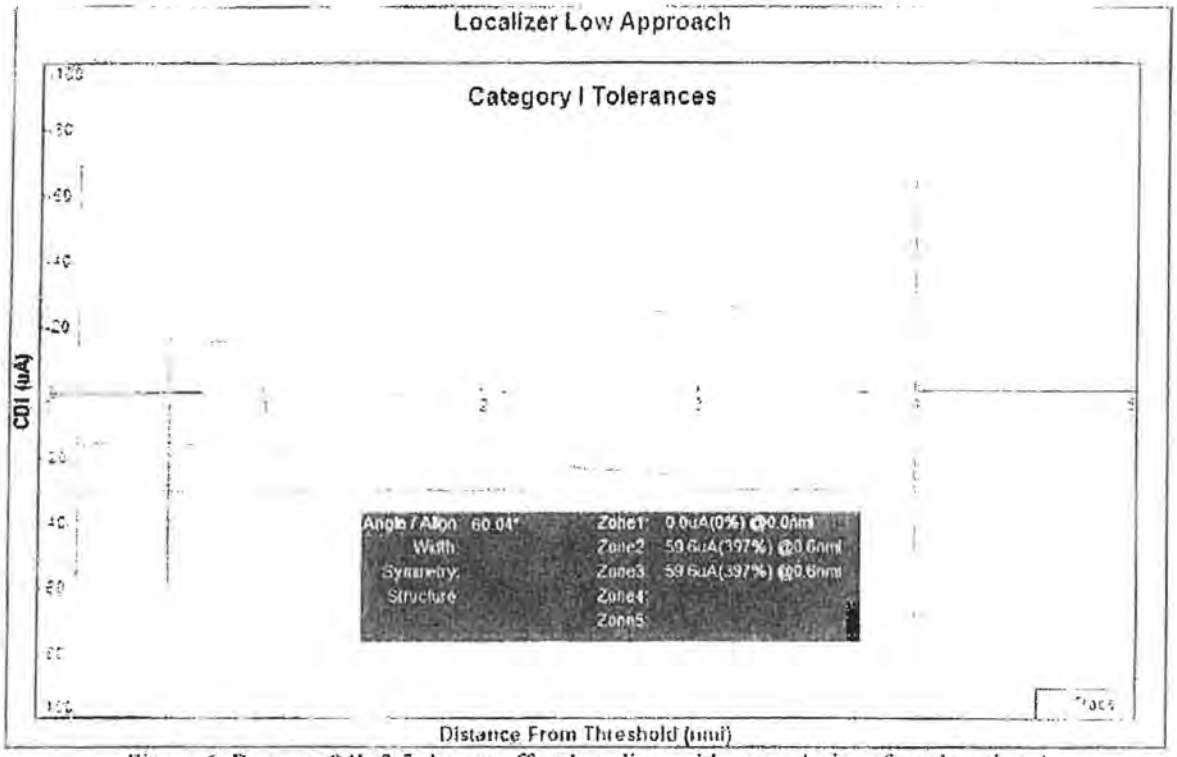


Figure 6. Runway 04L 2.5-degree offset Localizer with group I aircraft on location 4

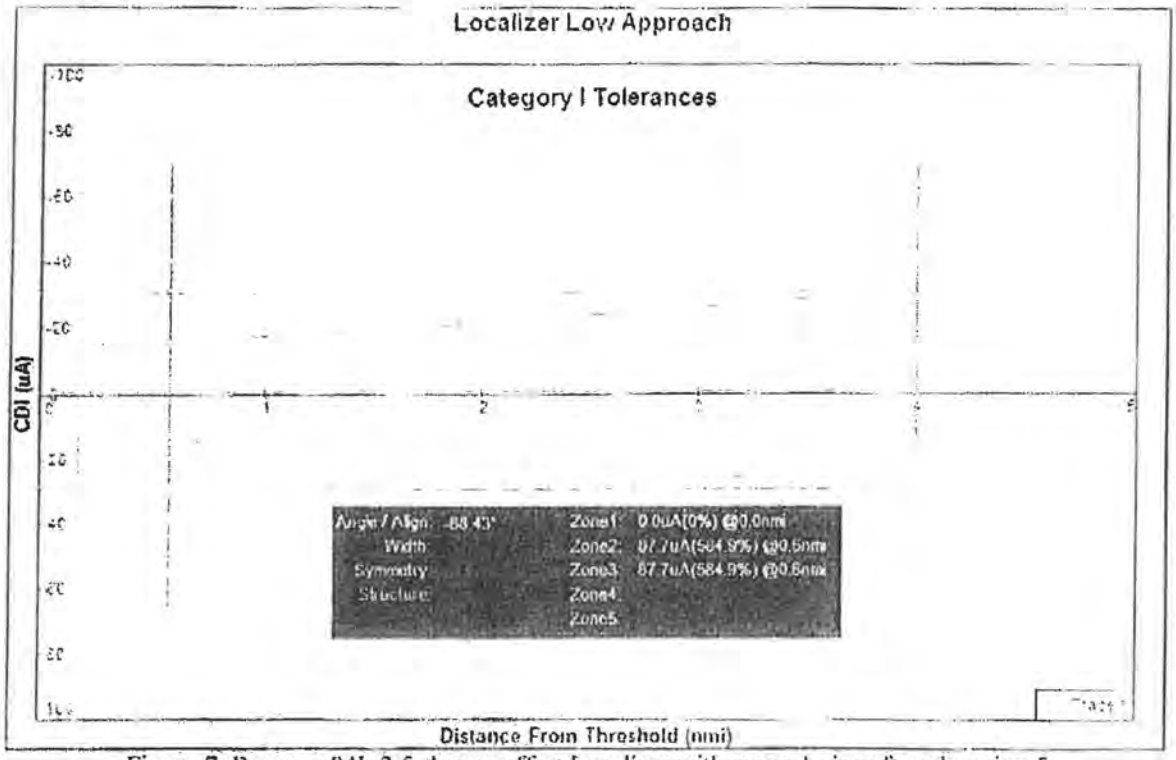


Figure 7. Runway 04L 2.5-degree offset Localizer with group I aircraft on location 5

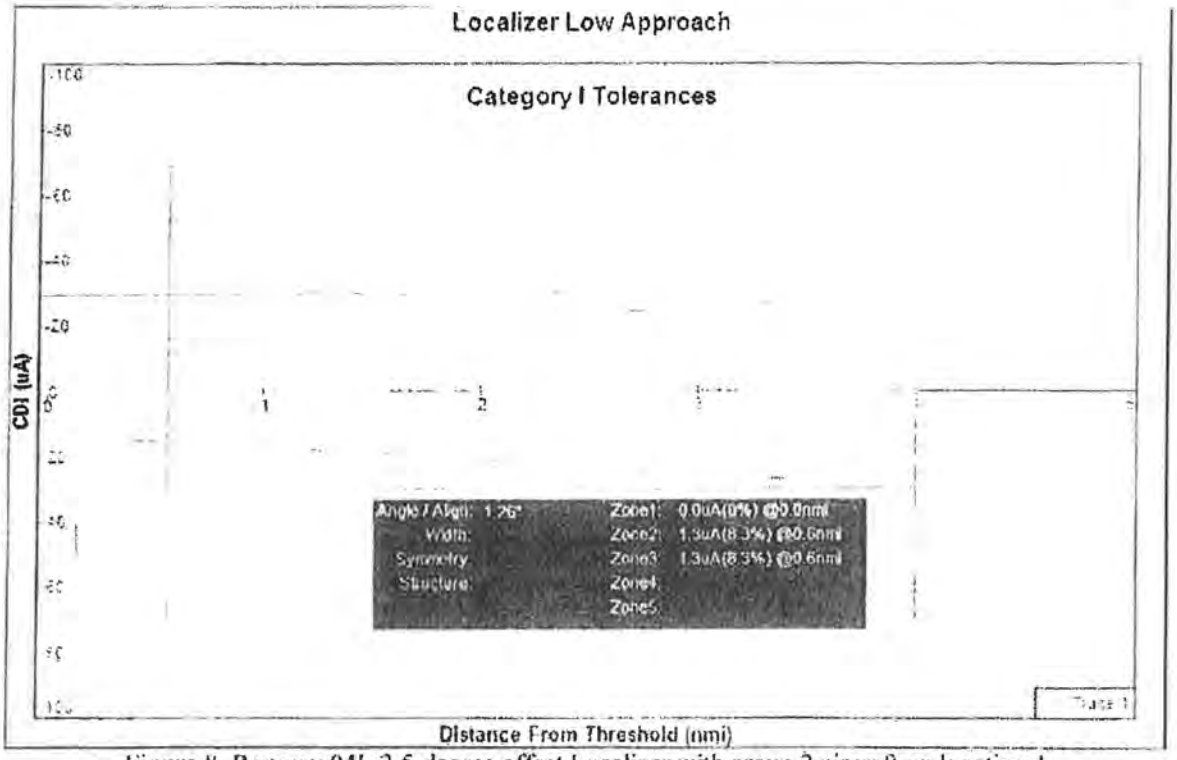


Figure 8. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 1

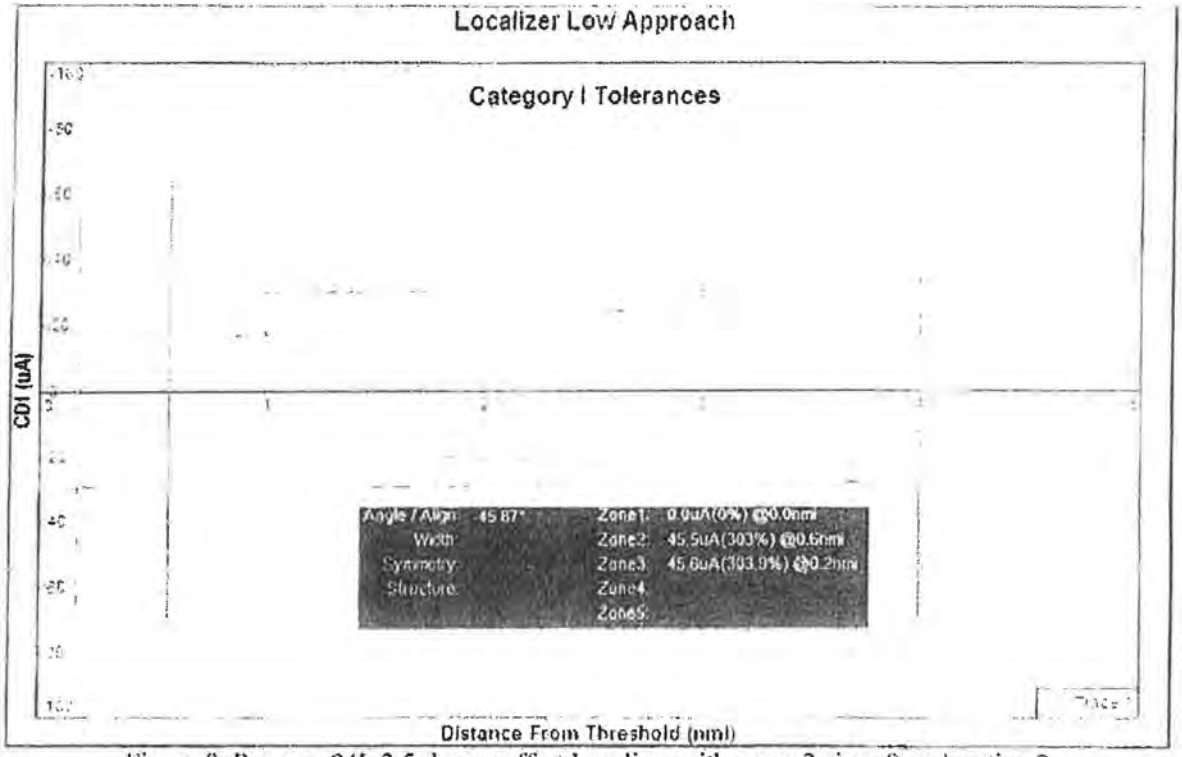


Figure 9. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 2

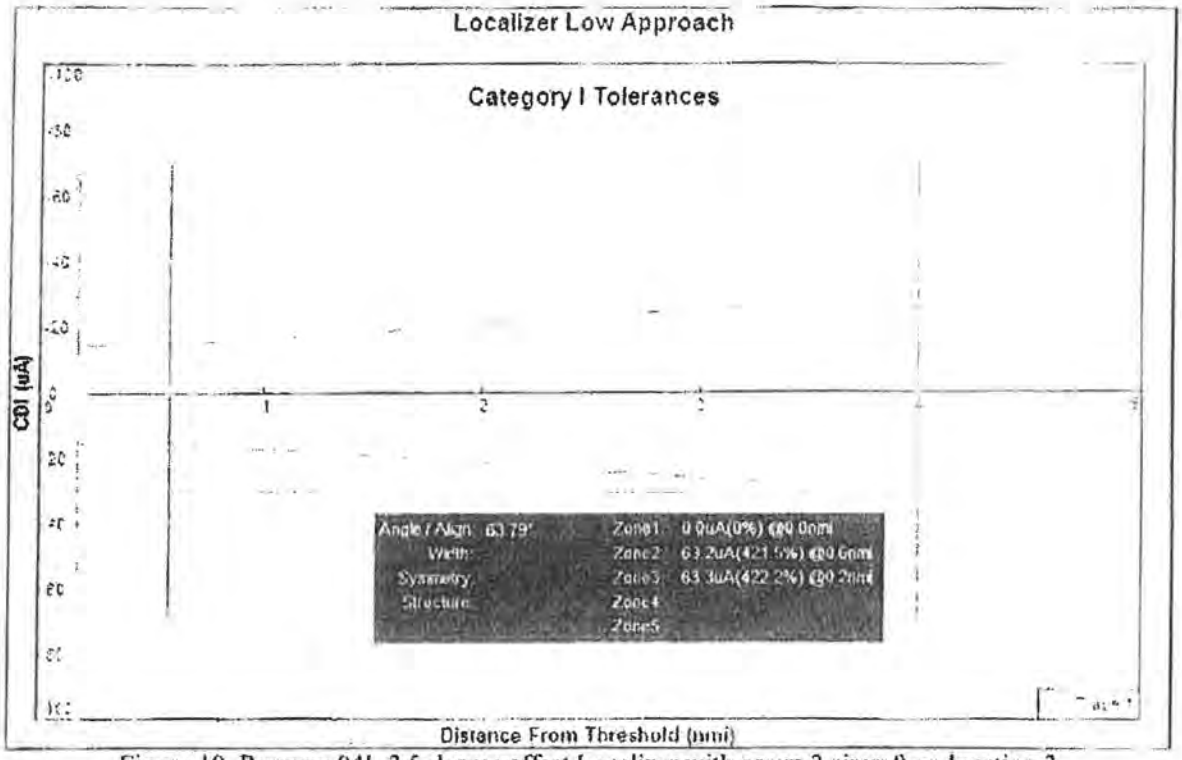


Figure 10. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 3

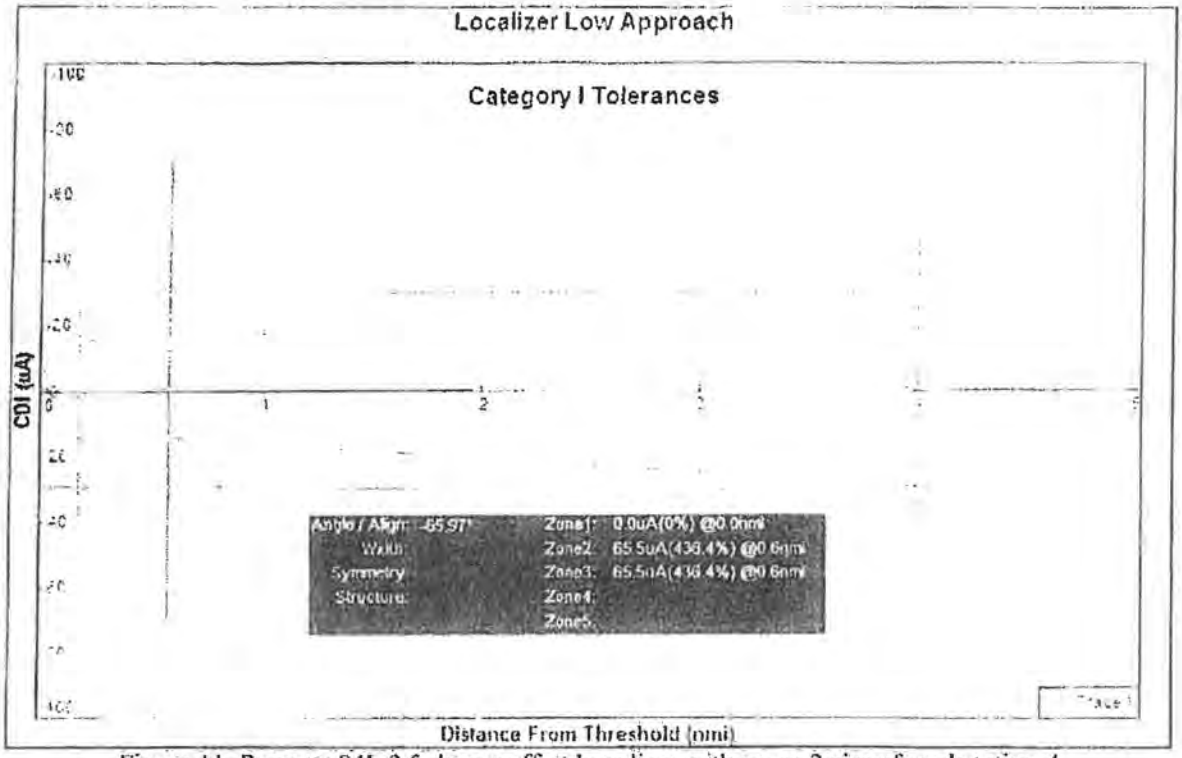


Figure 11. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 4

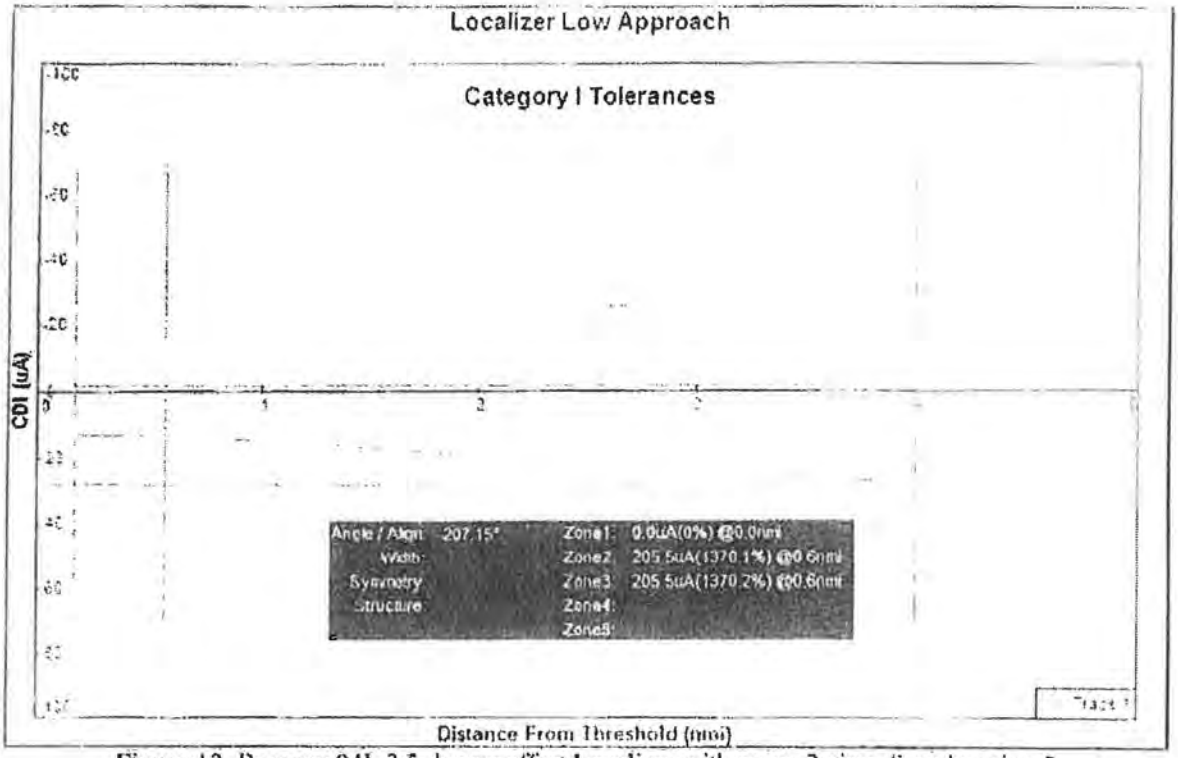
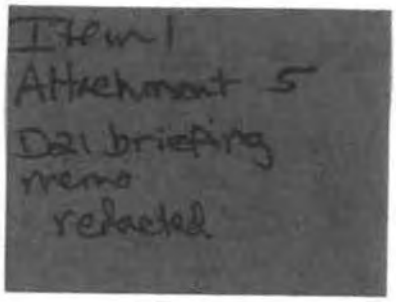


Figure 12. Runway 04L 2.5-degree offset Localizer with group 2 aircraft on location 5


Item 1
Attachment 5
D21 briefing
memo
redacted

Federal Aviation Administration

Memorandum

Date: September 25, 2015

To: [redacted], Terminal District Manager, Great Lakes District

[redacted], Terminal Assistant District Manager, Great Lakes District

[redacted]

From: [redacted], Air Traffic Manager, Detroit TRACON

Subject: Offset Localizer (Y LOC)

History

The anomalies associated with the Runway 22R/4L offset localizer began August 5, 2015, when the operation began using the system. Both D21 and DTW were instructed to log all issues relating to the offset localizer in the daily events log.

Due to various internal shift critiques and anomalies reported since activation of PRM, a meeting was held with Tech Ops on 9/23/2015 to discuss the issues. Management from the GLK district office, DTW ATCT, and D21 TRACON were present (either in person or via Telcon). DTW and D21 NATCA were present, as well as PASS. During this meeting, 5 or less reportable issues were noted by the DTW/D21 QC SM. It was agreed that Tech Ops would look into their equipment to verify everything was functioning properly.

On 9/24/2015, the D21 ATM instructed D21 OM to do a follow-up review of all available material to ensure all anomalies were being accounted for. On 9/25/2015, a report was presented to the D21 ATM identifying 25 reported anomalies, either via FAA Form 7230-4 or the Mandatory Occurrence Reporting (MOR) process. Upon receipt of this information, a meeting was held with the D21 ATM, DTW ATM, Airspace & Procedures SM, TMO, D21 FACREP, and 1 D21 OM. Also, the MTO called into the meeting. During this

meeting, the updated findings were discussed with all involved. At this time the D21 ATM decided, pending a conversation with Tech Ops, that the Y LOC would be called out of service to verify all components were operating within tolerance; and, that there were no safety risks associated with this equipment.

Actions

- On 9/23/2015, a joint collaborative meeting was held as noted above.
- On 9/25/2015, additional anomaly information was provided which led to the Y LOC being called OTS.
- D21 Tech Ops conducted a ground validation of the system on 9/24/2015, and are conducting another validation on 9/25/2015.
- Flight Check is scheduled to perform a review of the procedure on 9/24/2015. In addition, Flight Check will be reviewing the JEPPSON approach plates to ensure accuracy. After discussion with the D21 TMO, Flight Check suspects there may be an issue with the JEPPSON plate.

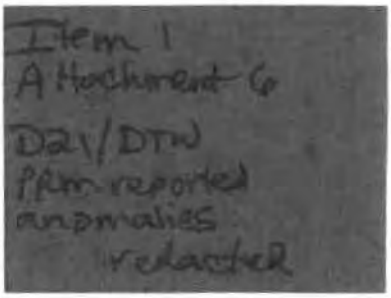
Arrival Rate Impact

During Dependent ILS Approaches: 56 - 60
Visual Approach: 72 - 76

Restoration

Baring in unforeseen technical issues, the Offset 4LY IALA and 22RY IBZB is estimated to RTS on 9/25/2015.

Please feel free to address any questions to D21 ATM [redacted]


Item 1
Attachment 6
D21/DTN
P&M-reported
anomalies
redacted

Sep. 25, 2015

DTW Front-Line Manager	05:29	AAL430 QUESTIONED IF RUNWAY 4L LIGHTS WERE ON APPARENTLY UNAWARE THAT IT WAS AN OFFSET ILS. -- DR
DTW Front-Line Manager	09:43	UPS1482 LANDED AND REPORTED THAT HE HAS FLOWN THE Y LOCALIZER ALL WEEK AND THAT IT HAS CONSITENTLEY SHOWN HIM OFF COURSE. -- AR

SEP.24, 2015

Front-Line Manager	02:41	GGN7309 DIFFICULTIES CAPTURING THE 04L Y LOCALIZER. WIND 080/08. -- OY

Sep 23, 2015
1125 PRM APPROACHES IN USE. – TG

Sep 21, 2015
E 1229 RY04L Y OFFSET ILS OTS, LOCAL TECH OPS NOTIFIED. – FS
E 1601 RY04L Y OFFSET ILS RTS. – FS

SEP. 20, 2015

DTW-M-2015/09219-0001
PILOT INNITIATED GO AROUND SHORT FINAL RWY 04L Y APPROACH. PILOT STATED HE WAS WELL LEFT OF RUNWAY AND WOULD HAVE NEEDED TO MAKE A LARGE CORRECTION.

Sep 19, 2015
1430 ILS Z RWY22R IN USE DUE TO CEILING AND TCP CONCERNS. – MG
E 1559 HJT DME (RWY22R/04L STRAIGHT IN- Z)SHOWING IN ALARM. PILOTS AND TECH OPS
CONFIRM IT IS WORKING. MOCC /KS. – MG
1642 NKS899 STATED COMPLANY POLICY PROHIBITS THEM FROM FLYING ILS Y APPROACH.
1715Z: PILOT CALLED, STATED IT WAS HIS MISTAKE. HE DID NOT GET THE MEMO. -- MG
2219 SIMULTANEOUS DUAL PRM APPROACHES BEGAN -- JE
2241 PRM APPROACHES COMPLETE – JE

Sep 18, 2015
1456 PRM APPROACHES BEGIN -- JL
1512 PRM APPROACHES TERMINATED – JL
1638 PRM APPROACHES IN USE. -- TB
1706 PRM APPROACHES ENDED. – TB
1804 PRM APPROACHES INITIATED. – CH

1832 PRM APPROACHES ENDED. – TB
2210 PRM APPROACHES INITIATED. – FS
2253 PRM APPROACHES COMPLETED. – FS

Sep 13, 2015
E 2015 RY4L Y ILS OTS -- TM
E 2043 RY4L Y ILS RTS – TM

Sep 12, 2015
1758 PRM APPROACHES INITIATED. -- CH
1840 PRM APPROACHES TERMINATED. – CH

Sep 11, 2015
1436 PRMs INITIATED. -- TB
1446 PRM NON-PARTICIPANT N973SC B350, ADVISED FINAL CONTROLLER, EXPECT 30MINUTTE DELAY. – TB
1520 PRMs ENDED. – TB
1800 PRM APPROACHES INITIATED – JK
2157 PRM APPROACHES INITIATED. – CH

Sep 9, 2015
1124 PRM APPROACH IN USE. -- TM
1143 PRM APPROACH TERMINATED. – TM
1755 PRM APPROACHES INITIATED. – MG
1830 PRM APPROACHES CONCLUDED. – MG
1841 PRM ANOMOLY: TCF5832 WAS TRANSMITTING ON PRM FREQ. D21 IS UNABLE TO RECEIVE ON THOSE FREQS. – MG

Sep 8, 2015

2211 PRM APPROACHES INITIATED. -- TM
2300 PRM APPROACHES CONCLUDED – HK

Sep 7, 2015
1815 PRM APPROACHES INITIATED. -- MG
1832 PRM APPROACHES CONCLUDED. – MG
2205 PRM APPROACHES INITIATED. -- MG
2310 PRM APPROACHES CONCLUDED. – MG

Sep 4, 2015
1456 PRM APPROACHES IN USE. -- TB
1517 PRM APPROACHES ENDED. -- TB
1620 TOWER ADVISES UNABLE PRM'S DUE TO TCP. – MG
1804 PRM APPROACHES INITIATED. -- OH

1850 PRM APPROACHES ENDED. – OH
2217 PRM APPROACHES INITIATED. – CH
2255 PRM APPROACHES TERMINATED. -- CH

Sep 3, 2015
1255 PRM APPROACHES INITIATED. -- AG
1325 PRM APPROACHES CONCLUDED. – MG
2023 PRM APPROACHES STARTED. – TB
2041 PRM APPROACHES ENDED. NORTH FLOW IN USE. – TB

Sep 2, 2015
1244 PRM APPROACHES INITIATED -- TM
1315 PRM APPROACHES TERMINATED – TM
1503 PRM APPROACHED INITIATED. – TM
1515 PRM APPROACHES CONCLUDED. – MG
1808 PRM APPROACHES INITIATED. – TZ
DTW-M-2015/09/01-0004 - N930PT
PILOT [redacted] CONTACTED THE TOWER REFERENCE NOT BEING ABLE TO SEE THE RWY 22R APPROACH LIGHTS ON THE 22R(Y) APPROACH. MR. [redacted] SAYS THAT THE APPROACH LIGHT WERE DIFFICULT/CONFUSING TO SEE WHILE ON THE 22R(Y) APPROACH. HE ADVISED THAT HE WAS SECONDS FROM GOING AROUND ALSO STATED THAT THE AIRCRAFT IN FRONT OF HIM WENT AROUND. WOULD LIKE A FOLLOW UP CALL FROM SOMEONE IN THE QUALITY ASSURANCE OR PLANS AND PROCEDURES DEPARTMENT. [redacted] BE REACHED AT [redacted]
Called and talked to the pilot, [redacted] on September 2, 2015. We had a discussion about offset approaches and the fact that aircraft will not be lined up with the runway while on final. He said that he and the First Officer briefed the approach but didn't realize that it was three degrees off from the straight-in ILS approach until after they landed and had time to compare the approaches. I asked him if he had any recommendations to make and he said he would like to see the word "OFFSET" somewhere on the approach plate to help the pilot realize that it is not a straight-in approach.

Sep 1, 2015
1250 PRM APPROACHES INITIATED -- AA
1312 PRM APPROACHES TERMINATED – AA
1448 PRM APPROACHES INITIATED. – TG
1517 PRM APPROACHES TERMINATED. – TG
1815 PRM APPROACHES INITIATED. -- TM
1843 DURING PRM APPROACHES SKW4702 DID NOT CAPTURE THE RY22R Y LOCALIZER. --TM
1855 PRM APPROACHES TERMINATED – TM
2206 PRM APPROACHES INITIATED. -- AP
2217 DAL1493 PRM NON-PARTICIPANT. -- AP
2251 PRM APPROACHES TERMINATED. – AP

Aug 31, 2015
1448 PRM APPROACHES INITIATED. -- FS
1458 TCF3313 REPORTING NOT RECEIVING LOC PRM Y RY22R, SKW 4656 ALSO REPORTING THE SAME, HOWEVER, FLG3564 REPORTED NO ISSUES. -- FS
1513 PRM APPROACHES CONCLUDED. – FS
1641 PRM APPROACHES INITIATED. – TG
1702 PRM APPROACHES TERMINATED. – TG
1808 PRM APPROACHES INITIATED. -- TG
1839 PRM APPROACHES TERMINATED. – TG
2020 PRM APPROACHES INITIATED – TG
2040 PRM APPROACHES TERMINATED – TM
2216 PRM APPROACHES INITIATED. – TG
2302 PRM ARCHS TERMINATED. – GS

Aug 30, 2015
1438 PRM APPROACHES INITIATED. -- CH
1511 PRM APPROACHES TERMINATED. – CH
1802 PRM APPROACHES INITIATED. – TG
1919 PRM APPROACHES CONCLUDED – TM
2014 PRM APPROACHES INITIATED. – FS
2047 PRM APPROACHES CONCLUDED. – FS
2200 PRM APPROACHES INITIATED. – FS
2300 PRM APPROACHES TERMINATED – TM

Aug 29, 2015
1813 PRM APPROACHES INITIATED. – HB
1844 PRM APPROACHES COMPLETE. – FS

Aug 28, 2015
1245 PRM APPROACHES INITIATED. -- MG
1307 PRM APPROACHES CONCLUDED. – MG
1453 PRM APPROACHES INITIATED. -- AG
1521 PRM APPROACHES TERMINATED. – AG
1805 PRM APPROACHES INITIATED – AG
1845 PRM APPRAOCHES TERMINATED – AG
DTW-M-2015/08/28-0001 FDX1579
PILOT HAD ISSUES WITH THE LOC, QUESTION THE LOC AND THE ALIGNMENT OF IT.

Aug 27, 2015
1655 SKW5528 ADVISED THEY WERE UNABLE TO ACCEPT THE Y APPROACH. – MG
2034 PRM APPROACHES INITIATED. -- AG
2050 PRM APPROACHES TERMINATED – AG
2207 PRM APPROACHES INITIATED – AG
2309 PRM APPRAOCHES CONCLUDED – AG

D21-M-2015/08/27-0004
PILOT CALLED UPON LANDING. SAYS THAT HE WAS PUT IN A POTENTIALLY HAZARDOUS SITUATION (DUE TO EXPECTING A PRM APPROACH/BEING VECTORED TO 22R THEN BEING SWITCHED TO 22L AT THE LAST MINUTE/EXTREME VECTORS TO THE LEFT AND RIGHT IN AN ATTEMPT TO FIGHT FOR A VISUAL APPROACH). PILOT WOULD LIKE A RETURN PHONE CALL IN AN ATTEMPT TO UNDERSTAND WHY THIS HAPPENED.

Aug 26, 2015
1248 PRM APPROACHES INITIATED. -- OH
1313 PRM APPROACHES TERMINATED. – OH
1452 PRM APPROACHES INITIATED -- TM
1640 PRM APPROACHES INITIATED – TM
2216 PRM approaches initiated. -- TZ
D21-M-2015/08/26-0002
DAL2274 WAS ESTABLISHED ON THE RWY22L ILS. ENV3344 WAS TURNED LATE TO FINAL AND OVERSHOT. DAL2274 DESCENDED PER THE APPROACH AND SEPARATION WAS LOST.
QA reviewed. ENY3344 was vectored to the runway 22R localizer, however, the controller did not clear ENY3344 for the ILS approach prior to losing IFR separation with DAL2274 resulting in a non-RAE LoSS.
2303 PRM APPROACHES CONCLUDED. – TZ

Aug 25, 2015
1240 GIJ6225 ADVISED D21 10 MILES FROM DTW ON DOWNWIND THAT THEY COULD NOT ACCEPT THE ILS Y RY22R APPROACH DUE TO "EQUIPMENT" -- TM
1254 PRM APPROACHES INITIATED -- TM
1320 PRM APPROACHES TERMINATED -- TM
1454 PRM APPROACHES INITIATED AT 1445Z -- TM
1521 PRM APPROACHES TERMINATED. – TM
1807 PRM APPROACHES INITIATED. -- AG
1837 PRM APPROACHES TERMINATED. – AG
2018 PRM APPROACHES INITIATED. -- AG
2034 N405SA, AN SW3 WAS A NON PARTICIPANT IN PRM APPROACHES. -- AG
2035 PRM APPROACHES TERMINATED. – AG
2211 JZA23 NON-PARTICIPANT. GJS6291 NO APPROACH PLATES FOR Y ILS RWY22R.
2213 PRM APPROACHES INITIATED. -- MG

2255 PRM APPROACHES CONCLUDED. NOTE: ASQ AIRCRAFT SOMETIME DURING THE ARRIVAL BANK ADVISED THEY WERE NOT RECEIVING 111.75. ANOTHER A/C ADVISED THEM TO "GO TO GREEN NEEDLES". ASQ SAID THAT WORKED. – MG
0123 JBU1590 (A320) REPORTED THAT THEY DID NOT HAVE THE ILS 22Y LOCALIZER IN THEIR DATABASE. -- AG

Aug 24, 2015
2205 GJS6291 ADVISED ZOB (GEMNI) THAT THEY COULD NOT ACCEPT THE APPROACH TO RWY 22R SINCE WE WERE USING THE Y LOCALIZER, EVEN THOUGH WE ARE USING VISUAL APPROACHES. -- AG

Aug 23, 2015
2225 PRM APPROACHES INITIATED. -- MG
2243 FLG3844 BROKEN OFF FINAL FOR INSUFFICIENT SPACING. -- MG
2310 PRM APPROACHES CONCLUDED. -- MG
0042 DTW ADVISES UNABLE TO CONDUCT PRM APPROACHES DUE TO STAFFING. -- MG
0132 NO RECEIVE CAPABILITY ON PRM FREQS. MOCC STATED D21 IS NOT CONFIGURED TO RECEIVE ON THOSE FREQS. – MG

Aug 22, 2015
1351 GJS3695 REPORTED NOT BEING ABLE TO PICK UP THE ILS 22R Y LOCALIZER – AG
1551 D21 ATM ADVISED THAT IF ANY OTHER AIRCRAFT REPORT THAT THEY ARE NOT RECEIVING THE RY22R Y OFFSET LOCALIZER TO LOG IT OUT OF SERVICE AND RETURN TO THE RY22R Z LOCALIZER. -- FS

Aug 20, 2015
1125 PRM APPROACHES INITIATED. -- HB
1141 PRM APPROACHES CONCLUDED. – HB
1245 PRM APPROACHES INITIATED -- AG
1327 PRM APPROACHES CONCLUDED. – HB
1435 AAL1280 UNABLE TO ACCEPT ILS Y 22R. -- MG
1450 PRM APPROACHES INITIATED. -- MG
1508 PRM APPROACHES CONCLUDED. – MG
1650 PRM APPROACHES INITIATED. – MG
1709 PRM APPROACHES ENDED. – TB
1825 UAL1246 AND TCF3420 BOTH REPORTED NOT RECEIVING THE ILS Y 22R. -- AG

1830 SKW4678 REPORTED THAT THE ZULU LOCALIZER IS BEING TRANSMITTED AND THAT THEY WERE NOT RECEIVING THE Y LOCALIZER. ILS PANEL SHOWS ILS 22RY UP. -- AG
E 0115 RY04L(Y) ILS OTM. – RE
E 0242 RY04L(Y) ILS RTS. – JK

Aug 19, 2015
1449 PRM APPROACHES INITIATED. -- HB
1518 PRM APPROACHES CONCLUDED. – HB
D21-M-2015/08/19-0001
PILOT CHECKED IN WITH CONTROLLER AND ADVISED THEY COULD NOT ACCEPT THE "Y" APPROACH, BUT WAS ABLE THE PRM APCH. PILOT CALLED ON RECORDED LINE 5032. WE DISCUSSED VARIOUS ASPECTS OF PRM'S AND THE OFFSET LOCALIZER.
1808 PRM APPROACHES INITIATED. -- HB
1835 PRM APPROACHES CONCLUDED. – HB
D21-M-2015/08/19-0003 RAE:
PILOT OF ENY3344 CALLED TO ASK IF THERE WAS AN ISSUE WITH HIM OVERSHOOTING THE 22R Y FINAL. HE DID NOT THINK THERE WAS. THE CONTROLLER CONFIRMED THAT THERE WAS NO LOSS OF SEPARATION OR OTHER ISSUES.
2013 PRM APPROACHES IN USE. – TB
2037 PRM APPROACHES ENDED. – TB
0116 PRM /Y CONCERN: DTW ADVISES THAT LAST 6 ARRIVALS HAD AN ISSUE WITH THE Y LOCALIZER. D21 FINAL CONTROLLER ADVISES THAT ALL WERE ON A VISUAL APPROACH. D21 SWITCHING TO Z LOCALIZER. – TB

DTW Front Line Manager	01:08	REVIEW THE LOCAL CONTROL NORTHWEST POSITION FROM 0055Z-0120Z: NUMEROUS PILOTS REPORTED ISSUES WITH THE OFFSET LOC. GTI8762 DOIND AN AUTOLAND AT A 1MILE FINAL, THEN OVERSHOT THE LOC AND PILOT HAD TO TAKE OVER CONTROLS. -- PJ

Aug 18, 2015
1137 PRM APPROACHES INITIATED. -- TG
1150 PRM APPROACHES TERMINATED. – TG
1255 PRM APPROACHES INITIATED. -- TG
1315 PRMS APPROACHES TERMINATED. -- TG
1456 PRM APPROACHES INITIATED. -- HB
1516 PRM APPROACHES CONCLUDED. – HB
1822 PRM APPROACHES INITIATED. -- HB
1838 PRM APPROACHES CONCLUDED. – HB

D21-M-2015/08/18-0002
NKS192 CHECKED IN AND ADVISED THAT HIS COMPANY IS NOT ABLE TO DO PRM APPROACHES NOR COULD THEY USE THE YANKEE LOCALIZER. WE ASKED THE PILOT TO CALL UPON LANDING. HE CALLED AROUND 1853Z. HE ADVISED THAT UPON LANDING HE WAS TOLD THAT HE WAS ABLE TO DUE THE PRM APPROACH AS WELL AS THE YANKEE LOCALIZER. THE PILOT ADVISED THAT WHILE IN THE AIR, HE WAS NOT SURE ABOUT THIS AND DID NOT WANT TO TAKE THE RISK OF FLYING THE APPROACH IF HE WASN'T SUPPOSED TO. WE ARE ALL ON THE SAME PAGE NOW.
2021 PRM APPROACHES INITIATED. -- AG
2029 PRM APPROACHES CONCLUDED. – AG
2215 PRM APPROACHES INITIATED. – HB
2252 PRM APPROACHES TERMINATED. – TJ

Aug 17, 2015
2216 PRM APPROACHES INITIATED. – HB
2248 PRM APPROACHES CONCLUDED. -- HB

Aug 14, 2015
1450 PRM APPROACHES INITIATED. -- AG
1520 PRM APPROACHES TERMINATED – AG
1639 PRM APPROACHES INITIATED. – HB
2021 PRM APPROACHES INITIATED. – FS
2035 PRM APPROACHES CONCLUDED. – FS
2207 PRM APPROACHES INITIATED. -- FS
2219 ASQ5212 CRJ7 PRM NONPARTICIPANT. – FS
2257 PRM APPROACHES CONCLUDED. – FS

Aug 12, 2015
1442 PRM APPROACHES INITIATED -- TM
1513 PRM APPROACHES CONCLUDED – TM

Aug 10, 2015
E 1428 ILSY OFFSET 22R (BZB) OTS WOULD NOT ENERGIZE WHEN GOING FROM 22RZ. MOCC
NJ NOTIFIED. – KJ
2050 PRM APPROACHES INITIATED. -- HB
2100 PRM APPROACHES CONCLUDED AT 2100Z. -- HB
2225 PRM APPROACHES INITIATED – TM
2320 PRM APPROACHES CONCLUDED – TM

Aug 9, 2015
1242 GJS6225 (MIZAR) PRM NON-PARTICIPANT. -- CH
1251 PRM APPROACHES INITIATED. -- CH
1258 PRM APPROACHES NOT ADVERTISED ON ATIS P. – KJ
1311 PRM APPROACHES CONCLUDED. – FS
1452 PRM APPROACHES INTITIATED. -- FS
1506 PRM APPROACHES CONCLUDED. – FS
1636 PRM APPROACHES INITIATED. -- FS
1652 PRM APPROACHES CONCLUDED. – FS
1755 PRM APPROACHES INITIATED. -- TG
1812 GJS6201 NEEDED NO MORE THAN 18 MILE FINAL DUE TO FMS ISSUE. ASSIGNED 22L. -- CH
1832 PRM APPROACHES CONCLUDED WITH SKW4666/TCF3328. -- TG
2023 PRM APPROACHES INITIATED. -- TM
2038 PRM APPROACHES CONCLUDED. – TM
2215 PRM APPROACHES INITIATED – TM
2225 LOF3358 NON-PARTCIPANT DUE TO COMPANY POLICY -- TM
2256 PULL-OUT ENY3344 – TM
M 2300 D21-M-2015/08/09-0003 -- ENY3344/DAL1809 -- TM
ENV3344 WAS CLEARED FOR ILS PRM Y RY22R APPROACH FOLLOWING DAL1809. THE FINAL MONITOR ATTEMPTED TO SLOW ENV3344 DUE TO WAKE TURBULENCE REQUIREMENTS AND GOT NO RESPONSE. IT TURNS OUT ENV3344 WAS ON THE WRONG TOWER FREQUENCY AND SEPARATION WAS LOST WITH THE PRECEEDING B757 BY THE TIME WE GOT HIM ON THE RIGHT FREQUENCY. QA Reviewed. Concur with facility above event is a non-RAE LoSS. ENY3344 checked on frequency 127.05, the ILS PRM Y RWY 22R published tower frequency, but ATC instructed the pilot to use frequency 128.12. The tower promptly switched ENY3344 to the appropriate frequency at the same time final monitor tried to contact ENY3344. ENY3344's approach was canceled shortly after.
2304 PRM APPROACHES CONCLUDED. -- TM

Aug 8, 2015
1110 DTW ADVISES D21 THE PRM IS UNAVAILABLE DUE TO ATC ALERT. – TJ
1930 DTW ADVISED PRM APPROACHES AVAILABLE DUE TO DTW BEING OFF OF ATC ALERT. SCAFFOLDING REMOVED FROM EFFECTED AREA. DTW/BY. – CH
2216 PRM APPROACHES INITIATED. -- FS
2250 PULLOUT GJS6238 RY22R. -- FS
2252 PRM APPROACHES CONCLUDED. – FS
D21-M-2015/08/08-0002 RAE:
GJS6238, A GEMINI ARRIVAL, WAS INITIALLY ASSIGNED 22R. [redacted], THE PILOT OF GJS6238, STATED HE WAS THEN REASSIGNED 22L AND WHEN HE WAS CLEARED FOR THE APPROACH, ILS Y 22R, HE WENT THROUGH AND ADVISED THE ALPHA CONTROLLER HE WAS ASSIGNED 22L. AT THE TIME OF THE INITIAL RUNWAY ASSIGNMENT THERE WAS A SIMILIAR SOUNDING GJS ON FREQUENCY FROM SPICA WHO WAS ASSIGNED 22L. [redacted] MAIN CONCERN IS WHETHER IT WAS A

MISCOMMUNICATION ON HIS BEHALF OR THE CONTROLLER. [redacted] WOULD LIKE A CALLBACK WITH THE RESULTS AND HE WAS ALSO INQUIRING IF HE COULD HAVE A COPY OF THE AUDIO.
A replay indicates that when company traffic GJS6268 checks on and is given ILS RY22L, that GJS6238 may have also answered that transmission. It is hard to determine as several aircraft are checking in at the same time on several frequencies that the Sierra(S) controller is working. The initial phone call from the pilot was not recorded. A return phone call to the pilot will be made with an invitation to stop by the facility for the pilot to review the replay. No copy will be provided to the pilot.

Aug 7, 2015
1238 FIRST PRMS FLG3618/TCF4277. -- TG
1311 LAST TWO PRMS DAL1531/DAL2005. – TG
1444 PRM APPROACHES INITIATED. -- MG
1447 FAIL TO CAPTURE: DAL1904 SAID THEY WERE NOT RECEIVING LOCALIZER AT 20 MILE FINAL. THE A/C IN FRONT OF THEM SAID THE SAME. A/C BEHIND (RPA4590) SAID THEY RECEIVED IT FINE. -- MG 1515 PRM APPROACHES CONCLUDED. – MG
1748 PRM APPROACHES INITIATED. – CH
1758 DAL262 PULLED OUT OF 04L, SAID HE DIDN'T CAPTURE LOC. FLEW APPROACH AGAIN W/O INCIDENT. – CH
1845 PRM APPROACHES CONCLUDED. – CH
2155 FLG3499 SAID HE WAS PICKING UP THE "Z" LOCALIZER AND NOT THE "Y". SUBSEQUENT A/C WERE NOT COMPLAINING OF ANY ISSUE. – CH
2209 PRM APPROACHES INITIATED. – CH
2251 PRM APPROACHES CONCLUDED. – CH

Aug 6, 2015
1243 PRM APPROACHES INITIATED. – MG
1306 PRM APPROACHES CONCLUDED. – MG
1307 GJS6225 DID NOT CAPTURE Y LOCALIZER. – MG
1445 PRM APPROACHES INITIATED -- TM 1520 PRM APPROACHES TERMINATED – TM
1520 PRM APPROACHES TERMINATED – TM
1755 PRM APPROACHES STARTED. – TB
1835 PRM APPROACHES ENDED. -- TB
1836 PRM: DAL237/B764 UNABLE TO ACCEPT PRM APPROACH (F SECTOR). – TB
2211 PRM APPROACHES STARTED. – TB
E 2214 TCW-12 (MON W) ETVS FREQ 128.12 REMAINS HOT WHEN SELECTED, FOOT PEDAL NOT DEPRESSED. MOCC/MC -- TB
2300 PRM APPROACHES ENDED DAL1809/DAL2418 -- TB

E 2324 TCW-12 (MON W) RTS. TECH OPS. -- TB 2352 PRM: SKY4532 REPORTED TO DTW THAT HE LOST THE 4L-Y SIGNAL WHILE ON FINAL. – TB
E 0100 RY 04R ILS (DTW) OFM 01-05Z. MOCC -- CH
E 0121 RY 04L ILS "Y" OTS UFA (ALA). NUMEROUS A/C SAYING THEY WOULD GO AROUND IF WEATHER WAS IFR DUE TO BEING SEVERAL DEGREES LEFT OF COURSE IN LOCALIZER. RY 04L ILS "Z" LOCALIZER NOW ACTIVE. -- CH
E 0149 RY 04L ILS "Y" (ALA) RTS. TECH OPS/NATE. – CH

Aug 5, 2015
1245 PRM INITIATED DAL831. -- KJ
1315 PRM CONCLUDED ASQ4898. – KJ
1448 FIRST TWO PRMS DAL1610/ASQ5174. -- TG
1522 LAST TWO PRMS ASH3786/FLG4119. – TG
1756 PRM APPROACHES INITIATED. -- MG
1802 DID NOT CAPTURE LOC: ASQ4936 – MG
1821 DID NOT CAPTURE LOC: SKW338W. -- MG
1837 PRM APPROACHES CONCLUDED. – KJ
2205 PRM APPROACHES INITIATED. -- TB
2255 PRM APPROACHES ENDED. – TB

DTW Front-Line Manager	00:24	MULTIPLE ISSUES W/RY 04L LOC. ILS RY 04L Y APCH IN USE/VFR WEATHER. PILOTS REPORTED GS WORKING, BUT GETTING FULL DEFLECTION ON THE LOC AND REPORTS OF BEING 2.5 DEGREES OFF SET, BUT LOC APPEARED FURTHER LEFT OF CENTER. ISSUE WAS ONGOING FOR MOST OF THE ARRIVAL BANK. -- PJ

Sep. 25, 2015

DTW Front Line Manager	05:29	AAL430 QUESTIONED IF RUNWAY 4L LIGHTS WERE ON. APPARENTLY UNAWARE THAT IT WAS AN OFFSET ILS. -- DR
DTW Front-Line Manager	09:43	UPS1482 LANDED AND REPORTED THAT HE HAS FLOWN THE Y LOCALIZER ALL WEEK AND THAT IT HAS CONSITENTLEY SHOWN HIM OFF COURSE – AR

SEP.24, 2015

Front-Line Manager	02:41	GGN7309 DIFFICULTIES CAPTURING THE 04L Y LOCALIZER. WIND 080/08 -- OY

Sep 23, 2015
1125 PRM APPROACHES IN USE. – TG

Sep 21, 2015
E 1229 RY04L Y OFFSET ILS OTS, LOCAL TECH OPS NOTIFIED. – FS
E 1601 RY04L Y OFFSET ILS RTS. – FS

SEP. 20, 2015

DTW-M-2015/09/19-0001
PILOT INNITIATED GO AROUND SHORT FINAL RWY 04L Y APPROACH. PILOT STATED HE WAS WELL LEFT OF RUNWAY AND WOULD HAVE NEEDED TO MAKE A LARGE CORRECTION.

Sep 19, 2015
1430 ILS Z RWY22R IN USE DUE TO CEILING AND TCP CONCERNS. – MG
E 1559 HJT DME (RWY22R/04L STRAIGHT IN- Z)SHOWING IN ALARM. PILOTS AND TECH OPS
CONFIRM IT IS WORKING. MOCC /KS. – MG
1642 NKS899 STATED COMPLANY POLICY PROHIBITS THEM FROM FLYING ILS Y APPROACH.
1715Z: PILOT CALLED, STATED IT WAS HIS MISTAKE. HE DID NOT GET THE MEMO. -- MG
2219 SIMULTANEOUS DUAL PRM APPROACHES BEGAN -- JE
2241 PRM APPROACHES COMPLETE – JE

Sep 18, 2015
1456 PRM APPROACHES BEGIN -- JL
1512 PRM APPROACHES TERMINATED – JL
1638 PRM APPROACHES IN USE. -- TB
1706 PRM APPROACHES ENDED. – TB
1804 PRM APPROACHES INITIATED. – CH

1832 PRM APPROACHES ENDED. – TB
2210 PRM APPROACHES INITIATED. – FS
2253 PRM APPROACHES COMPLETED. – FS

Sep 13, 2015
E 2015 RY4L Y ILS OTS -- TM
E 2043 RY4L Y ILS RTS – TM

Sep 12, 2015
1758 PRM APPROACHES INITIATED. -- CH
1840 PRM APPROACHES TERMINATED. – CH

Sep 11, 2015
1436 PRMs INITIATED. -- TB
1446 PRM NON-PARTICIPANT N973SC B350, ADVISED FINAL CONTROLLER, EXPECT 30MINUTTE DELAY. – TB
1520 PRMs ENDED. – TB
1800 PRM APPROACHES INITIATED – JK
2157 PRM APPROACHES INITIATED. – CH

Sep 9, 2015
1124 PRM APPROACH IN USE. -- TM
1143 PRM APPROACH TERMINATED. – TM
1755 PRM APPROACHES INITIATED. – MG
1830 PRM APPROACHES CONCLUDED. – MG
1841 PRM ANOMOLY: TCF5832 WAS TRANSMITTING ON PRM FREQ. D21 IS UNABLE TO RECEIVE ON THOSE FREQS. – MG

Sep 8, 2015

2211 PRM APPROACHES INITIATED. -- TM
2300 PRM APPROACHES CONCLUDED – HK

Sep 7, 2015
1815 PRM APPROACHES INITIATED. -- MG
1832 PRM APPROACHES CONCLUDED. – MG
2205 PRM APPROACHES INITIATED. -- MG
2310 PRM APPROACHES CONCLUDED. – MG

Sep 4, 2015
1456 PRM APPROACHES IN USE. -- TB
1517 PRM APPROACHES ENDED. -- TB
1620 TOWER ADVISES UNABLE PRM'S DUE TO TCP. – MG
1804 PRM APPROACHES INITIATED. -- OH

1850 PRM APPROACHES ENDED. – OH
2217 PRM APPROACHES INITIATED. – CH
2255 PRM APPROACHES TERMINATED. -- CH

Sep 3, 2015
1255 PRM APPROACHES INITIATED. -- AG
1325 PRM APPROACHES CONCLUDED. – MG
2023 PRM APPROACHES STARTED. – TB
2041 PRM APPROACHES ENDED. NORTH FLOW IN USE. – TB

Sep 2, 2015
1244 PRM APPROACHES INITIATED -- TM
1315 PRM APPROACHES TERMINATED – TM
1503 PRM APPROACHED INITIATED. – TM
1515 PRM APPROACHES CONCLUDED. – MG
1808 PRM APPROACHES INITIATED. – TZ
DTW-M-2015/09/01-0004 : N930PT
PILOT [redacted] CONTACTED THE TOWER REFERENCE NOT BLING ABLE TO SEE THE RWY 22R APPROACH LIGHTS ON THE 22R(Y) APPROACH. MR. [redacted] SAYS THAT THE APPROACH LIGHT WERE DIFFICULT/CONFUSING TO SEE WHILE ON THE 22R(Y) APPROACH. HE ADVISED THAT HE WAS SECONDS FROM GOING AROUND ALSO STATED THAT THE AIRCRAFT IN FRONT OF HIM WENT AROUND. WOULD LIKE A FOLLOW UP CALL FROM SOMEONE IN THE QUALITY ASSURANCE OR PLANS AND PROCEDURES DEPARTMENT. [redacted] BE REACHED AT [redacted]
Called and talked to the pilot, [redacted] on September 2, 2015. We had a discussion about offset approaches and the fact that aircraft will not be lined up with the runway while on final. He said that he and the First Officer briefed the approach but didn't realize that it was three degrees off from the straight-in ILS approach until after they landed and had time to compare the approaches. I asked him if he had any recommendations to make and he said he would like to see the word "OFFSET" somewhere on the approach plate to help the pilot realize that it is not a straight-in approach.

Sep 1, 2015
1250 PRM APPROACHES INITIATED -- AA
1312 PRM APPROACHES TERMINATED – AA
1448 PRM APPROACHES INITIATED. – TG
1517 PRM APPROACHES TERMINATED. – TG
1815 PRM APPROACHES INITIATED. -- TM
1843 DURING PRM APPROACHES SKW4702 DID NOT CAPTURE THE RY22R Y LOCALIZER. --TM
1855 PRM APPROACHES TERMINATED – TM
2206 PRM APPROACHES INITIATED. -- AP
2217 DAL1493 PRM NON-PARTICIPANT. -- AP
2251 PRM APPROACHES TERMINATED. – AP

Aug 31, 2015
1448 PRM APPROACHES INITIATED. -- FS
1458 TCF3313 REPORTING NOT RECEIVING LOC PRM Y RY22R, SKW 4656 ALSO REPORTING THE SAME, HOWEVER, FLG3564 REPORTED NO ISSUES. -- FS
1513 PRM APPROACHES CONCLUDED. – FS
1641 PRM APPROACHES INITIATED. – TG
1702 PRM APPROACHES TERMINATED. – TG
1808 PRM APPROACHES INITIATED. -- TG
1839 PRM APPROACHES TERMINATED. – TG
2020 PRM APPROACHES INITIATED – TG
2040 PRM APPROACHES TERMINATED – TM
2216 PRM APPROACHES INITIATED. – TG
2302 PRM ARCHS TERMINATED. – GS

Aug 30, 2015
1438 PRM APPROACHES INITIATED. -- CH
1511 PRM APPROACHES TERMINATED. – CH
1802 PRM APPROACHES INITIATED. – TG
1919 PRM APPROACHES CONCLUDED – TM
2014 PRM APPROACHES INITIATED. – FS
2047 PRM APPROACHES CONCLUDED. – FS
2200 PRM APPROACHES INITIATED. – FS
2300 PRM APPROACHES TERMINATED – TM

Aug 29, 2015
1813 PRM APPROACHES INITIATED. – HB
1844 PRM APPROACHES COMPLETE. – FS

Aug 28, 2015
1245 PRM APPROACHES INITIATED. -- MG
1307 PRM APPROACHES CONCLUDED. – MG
1453 PRM APPROACHES INITIATED. -- AG
1521 PRM APPROACHES TERMINATED. – AG
1805 PRM APPROACHES INITIATED – AG
1845 PRM APPRAOCHES TERMINATED – AG
DTW-M-2015/08/28-0001 FDX1579
PILOT HAD ISSUES WITH THE LOC, QUESTION THE LOC AND THE ALIGNMENT OF IT.

Aug 27, 2015
1655 SKW5528 ADVISED THEY WERE UNABLE TO ACCEPT THE Y APPROACH. – MG
2034 PRM APPROACHES INITIATED. -- AG
2050 PRM APPROACHES TERMINATED – AG
2207 PRM APPROACHES INITIATED – AG
2309 PRM APPRAOCHES CONCLUDED – AG

D21-M-2015/08/27-0004
PILOT CALLED UPON LANDING. SAYS THAT HE WAS PUT IN A POTENTIALLY HAZARDOUS SITUATION (DUE TO EXPECTING A PRM APPROACH/BEING VECTORED TO 22R THEN BEING SWITCHED TO 22L AT THE LAST MINUTE/EXTREME VECTORS TO THE LEFT AND RIGHT IN AN ATTEMPT TO FIGHT FOR A VISUAL APPROACH). PILOT WOULD LIKE A RETURN PHONE CALL IN AN ATTEMPT TO UNDERSTAND WHY THIS HAPPENED.

Aug 26, 2015
1248 PRM APPROACHES INITIATED. -- OH
1313 PRM APPROACHES TERMINATED. – OH
1452 PRM APPROACHES INITIATED -- TM
1640 PRM APPROACHES INITIATED – TM
2216 PRM approaches initiated. -- TZ
D21-M-2015/08/26-0002
DAL2274 WAS ESTABLISHED ON THE RWY22L ILS. ENV3344 WAS TURNED LATE TO FINAL AND OVERSHOT. DAL2274 DESCENDED PER THE APPROACH AND SEPARATION WAS LOST.
QA reviewed. ENY3344 was vectored to the runway 22R localizer, however, the controller did not clear ENY3344 for the ILS approach prior to losing IFR separation with DAL2274 resulting in a non-RAE LoSS.
2303 PRM APPROACHES CONCLUDED. – TZ

Aug 25, 2015
1240 GIJ6225 ADVISED D21 10 MILES FROM DTW ON DOWNWIND THAT THEY COULD NOT ACCEPT THE ILS Y RY22R APPROACH DUE TO "EQUIPMENT" -- TM
1254 PRM APPROACHES INITIATED -- TM
1320 PRM APPROACHES TERMINATED -- TM
1454 PRM APPROACHES INITIATED AT 1445Z -- TM
1521 PRM APPROACHES TERMINATED. – TM
1807 PRM APPROACHES INITIATED. -- AG
1837 PRM APPROACHES TERMINATED. – AG
2018 PRM APPROACHES INITIATED. -- AG
2034 N405SA, AN SW3 WAS A NON PARTICIPANT IN PRM APPROACHES. -- AG
2035 PRM APPROACHES TERMINATED. – AG
2211 JZA23 NON-PARTICIPANT. GJS6291 NO APPROACH PLATES FOR Y ILS RWY22R.
2213 PRM APPROACHES INITIATED. -- MG

2255 PRM APPROACHES CONCLUDED. NOTE: ASQ AIRCRAFT SOMETIME DURING THE ARRIVAL BANK ADVISED THEY WERE NOT RECEIVING 111.75. ANOTHER A/C ADVISED THEM TO "GO TO GREEN NEEDLES". ASQ SAID THAT WORKED. – MG
0123 JBU1590 (A320) REPORTED THAT THEY DID NOT HAVE THE ILS 22Y LOCALIZER IN THEIR DATABASE. -- AG

Aug 24, 2015
2205 GJS6291 ADVISED ZOB (GEMNI) THAT THEY COULD NOT ACCEPT THE APPROACH TO RWY 22R SINCE WE WERE USING THE Y LOCALIZER, EVEN THOUGH WE ARE USING VISUAL APPROACHES. -- AG

Aug 23, 2015
2225 PRM APPROACHES INITIATED. -- MG
2243 FLG3844 BROKEN OFF FINAL FOR INSUFFICIENT SPACING. -- MG
2310 PRM APPROACHES CONCLUDED. -- MG
0042 DTW ADVISES UNABLE TO CONDUCT PRM APPROACHES DUE TO STAFFING. -- MG
0132 NO RECEIVE CAPABILITY ON PRM FREQS. MOCC STATED D21 IS NOT CONFIGURED TO RECEIVE ON THOSE FREQS. – MG

Aug 22, 2015
1351 GJS3695 REPORTED NOT BEING ABLE TO PICK UP THE ILS 22R Y LOCALIZER – AG
1551 D21 ATM ADVISED THAT IF ANY OTHER AIRCRAFT REPORT THAT THEY ARE NOT RECEIVING THE RY22R Y OFFSET LOCALIZER TO LOG IT OUT OF SERVICE AND RETURN TO THE RY22R Z LOCALIZER. -- FS

Aug 20, 2015
1125 PRM APPROACHES INITIATED. -- HB
1141 PRM APPROACHES CONCLUDED. – HB
1245 PRM APPROACHES INITIATED -- AG
1327 PRM APPROACHES CONCLUDED. – HB
1435 AAL1280 UNABLE TO ACCEPT ILS Y 22R. -- MG
1450 PRM APPROACHES INITIATED. -- MG
1508 PRM APPROACHES CONCLUDED. – MG
1650 PRM APPROACHES INITIATED. – MG
1709 PRM APPROACHES ENDED. – TB
1825 UAL1246 AND TCF3420 BOTH REPORTED NOT RECEIVING THE ILS Y 22R. -- AG

1830 SKW4678 REPORTED THAT THE ZULU LOCALIZER IS BEING TRANSMITTED AND THAT THEY WERE NOT RECEIVING THE Y LOCALIZER. ILS PANEL SHOWS ILS 22RY UP. -- AG
E 0115 RY04L(Y) ILS OTM. – RE
E 0242 RY04L(Y) ILS RTS. – JK

Aug 19, 2015
1449 PRM APPROACHES INITIATED. -- HB
1518 PRM APPROACHES CONCLUDED. – HB
D21-M-2015/08/19-0001
PILOT CHECKED IN WITH CONTROLLER AND ADVISED THEY COULD NOT ACCEPT THE "Y" APPROACH, BUT WAS ABLE THE PRM APCH. PILOT CALLED ON RECORDED LINE 5032. WE DISCUSSED VARIOUS ASPECTS OF PRM'S AND THE OFFSET LOCALIZER.
1808 PRM APPROACHES INITIATED. -- HB
1835 PRM APPROACHES CONCLUDED. – HB
D21-M-2015/08/19-0003 RAE:
PILOT OF ENY3344 CALLED TO ASK IF THERE WAS AN ISSUE WITH HIM OVERSHOOTING THE 22R Y FINAL. HE DID NOT THINK THERE WAS. THE CONTROLLER CONFIRMED THAT THERE WAS NO LOSS OF SEPARATION OR OTHER ISSUES.
2013 PRM APPROACHES IN USE. – TB
2037 PRM APPROACHES ENDED. – TB
0116 PRM /Y CONCERN: DTW ADVISES THAT LAST 6 ARRIVALS HAD AN ISSUE WITH THE Y LOCALIZER. D21 FINAL CONTROLLER ADVISES THAT ALL WERE ON A VISUAL APPROACH. D21 SWITCHING TO Z LOCALIZER. – TB

DTW Front-Line Manager	01:08	REVIEW THE LOCAL CONTROL NORTHWEST POSITION FROM 0055Z-0120Z; NUMEROUS PILOTS REPORTED ISSUES WITH THE OFFSET LOC. GTI8762 DOIND AN AUTOLAND.AT A 1MILE FINAL. THEN OVERSHOT THE LOC AND PILOT HAD TO TAKE OVER CONTROLS -- PJ

Aug 18, 2015
1137 PRM APPROACHES INITIATED. -- TG
1150 PRM APPROACHES TERMINATED. – TG
1255 PRM APPROACHES INITIATED. -- TG
1315 PRMS APPROACHES TERMINATED. -- TG
1456 PRM APPROACHES INITIATED. -- HB
1516 PRM APPROACHES CONCLUDED. – HB
1822 PRM APPROACHES INITIATED. -- HB
1838 PRM APPROACHES CONCLUDED. – HB

D21-M-2015/08/18-0002
NKS192 CHECKED IN AND ADVISED THAT HIS COMPANY IS NOT ABLE TO DO PRM APPROACHES NOR COULD THEY USE THE YANKEE LOCALIZER. WE ASKED THE PILOT TO CALL UPON LANDING. HE CALLED AROUND 1853Z. HE ADVISED THAT UPON LANDING HE WAS TOLD THAT HE WAS ABLE TO DUE THE PRM APPROACH AS WELL AS THE YANKEE LOCALIZER. THE PILOT ADVISED THAT WHILE IN THE AIR, HE WAS NOT SURE ABOUT THIS AND DID NOT WANT TO TAKE THE RISK OF FLYING THE APPROACH IF HE WASN'T SUPPOSED TO. WE ARE ALL ON THE SAME PAGE NOW.
2021 PRM APPROACHES INITIATED. -- AG
2029 PRM APPROACHES CONCLUDED. – AG
2215 PRM APPROACHES INITIATED. – HB
2252 PRM APPROACHES TERMINATED. – TJ

Aug 17, 2015
2216 PRM APPROACHES INITIATED. – HB
2248 PRM APPROACHES CONCLUDED. -- HB

Aug 14, 2015
1450 PRM APPROACHES INITIATED. -- AG
1520 PRM APPROACHES TERMINATED – AG
1639 PRM APPROACHES INITIATED. – HB
2021 PRM APPROACHES INITIATED. – FS
2035 PRM APPROACHES CONCLUDED. – FS
2207 PRM APPROACHES INITIATED. -- FS
2219 ASQ5212 CRJ7 PRM NONPARTICIPANT. – FS
2257 PRM APPROACHES CONCLUDED. – FS

Aug 12, 2015
1442 PRM APPROACHES INITIATED -- TM
1513 PRM APPROACHES CONCLUDED – TM

Aug 10, 2015
E 1428 ILSY OFFSET 22R (BZB) OTS WOULD NOT ENERGIZE WHEN GOING FROM 22RZ. MOCC
NJ NOTIFIED. – KJ
2050 PRM APPROACHES INITIATED. -- HB
2100 PRM APPROACHES CONCLUDED AT 2100Z. -- HB
2225 PRM APPROACHES INITIATED – TM
2320 PRM APPROACHES CONCLUDED – TM

Aug 9, 2015
1242 GJS6225 (MIZAR) PRM NON-PARTICIPANT. -- CH
1251 PRM APPROACHES INITIATED. -- CH
1258 PRM APPROACHES NOT ADVERTISED ON ATIS P. – KJ
1311 PRM APPROACHES CONCLUDED. – FS
1452 PRM APPROACHES INTITIATED. -- FS
1506 PRM APPROACHES CONCLUDED. – FS
1636 PRM APPROACHES INITIATED. -- FS
1652 PRM APPROACHES CONCLUDED. – FS
1755 PRM APPROACHES INITIATED. -- TG
1812 GJS6201 NEEDED NO MORE THAN 18 MILE FINAL DUE TO FMS ISSUE. ASSIGNED 22L. -- CH
1832 PRM APPROACHES CONCLUDED WITH SKW4666/TCF3328. -- TG
2023 PRM APPROACHES INITIATED. -- TM
2038 PRM APPROACHES CONCLUDED. – TM
2215 PRM APPROACHES INITIATED – TM
2225 LOF3358 NON-PARTCIPANT DUE TO COMPANY POLICY -- TM
2256 PULL-OUT ENY3344 – TM
M 2300 D21-M-2015/08/09-0003 -- ENY3344/DAL1809 -- TM
ENV3344 WAS CLEARED FOR ILS PRM Y RY22R APPROACH FOLLOWING DAL1809. THE FINAL MONITOR ATTEMPTED TO SLOW ENV3344 DUE TO WAKE TURBULENCE REQUIREMENTS AND GOT NO RESPONSE. IT TURNS OUT ENV3344 WAS ON THE WRONG TOWER FREQUENCY AND SEPARATION WAS LOST WITH THE PRECEEDING B757 BY THE TIME WE GOT HIM ON THE RIGHT FREQUENCY. QA Reviewed. Concur with facility above event is a non-RAE LoSS. ENY3344 checked on frequency 127.05, the ILS PRM Y RWY 22R published tower frequency, but ATC instructed the pilot to use frequency 128.12. The tower promptly switched ENY3344 to the appropriate frequency at the same time final monitor tried to contact ENY3344. ENY3344's approach was canceled shortly after.
2304 PRM APPROACHES CONCLUDED. -- TM

Aug 8, 2015
1110 DTW ADVISES D21 THE PRM IS UNAVAILABLE DUE TO ATC ALERT. – TJ
1930 DTW ADVISED PRM APPROACHES AVAILABLE DUE TO DTW BEING OFF OF ATC ALERT. SCAFFOLDING REMOVED FROM EFFECTED AREA. DTW/BY. – CH
2216 PRM APPROACHES INITIATED. -- FS
2250 PULLOUT GJS6238 RY22R. -- FS
2252 PRM APPROACHES CONCLUDED. – FS
D21-M-2015/08/08-0002 RAE:
GJS6238, A GEMINI ARRIVAL, WAS INITIALLY ASSIGNED 22R. [redacted], THE PILOT OF GJS6238, STATED HE WAS THEN REASSIGNED 22L AND WHEN HE WAS CLEARED FOR THE APPROACH, ILS Y 22R, HE WENT THROUGH AND ADVISED THE ALPHA CONTROLLER HE WAS ASSIGNED 22L. AT THE TIME OF THE INITIAL RUNWAY ASSIGNMENT THERE WAS A SIMILIAR SOUNDING GJS ON FREQUENCY FROM SPICA WHO WAS ASSIGNED 22L. [redacted] MAIN CONCERN IS WHETHER IT WAS A

MISCOMMUNICATION ON HIS BEHALF OR THE CONTROLLER. [redacted] WOULD LIKE A CALLBACK WITH THE RESULTS AND HE WAS ALSO INQUIRING IF HE COULD HAVE A COPY OF THE AUDIO.
A replay indicates that when company traffic GJS6268 checks on and is given ILS RY22L, that GJS6238 may have also answered that transmission. It is hard to determine as several aircraft are checking in at the same time on several frequencies that the Sierra(S) controller is working. The initial phone call from the pilot was not recorded. A return phone call to the pilot will be made with an invitation to stop by the facility for the pilot to review the replay. No copy will be provided to the pilot.

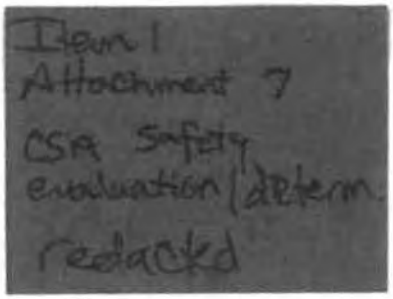
Aug 7, 2015
1238 FIRST PRMS FLG3618/TCF4277. -- TG
1311 LAST TWO PRMS DAL1531/DAL2005. – TG
1444 PRM APPROACHES INITIATED. -- MG
1447 FAIL TO CAPTURE: DAL1904 SAID THEY WERE NOT RECEIVING LOCALIZER AT 20 MILE FINAL. THE A/C IN FRONT OF THEM SAID THE SAME. A/C BEHIND (RPA4590) SAID THEY RECEIVED IT FINE. -- MG 1515 PRM APPROACHES CONCLUDED. -- MG
1748 PRM APPROACHES INITIATED. – CH
1758 DAL262 PULLED OUT OF 04L, SAID HE DIDN'T CAPTURE LOC. FLEW APPROACH AGAIN W/O INCIDENT. – CH
1845 PRM APPROACHES CONCLUDED. – CH
2155 FLG3499 SAID HE WAS PICKING UP THE "Z" LOCALIZER AND NOT THE "Y". SUBSEQUENT A/C WERE NOT COMPLAINING OF ANY ISSUE. – CH
2209 PRM APPROACHES INITIATED. – CH
2251 PRM APPROACHES CONCLUDED. – CH

Aug 6, 2015
1243 PRM APPROACHES INITIATED. – MG
1306 PRM APPROACHES CONCLUDED. – MG
1307 GJS6225 DID NOT CAPTURE Y LOCALIZER. – MG
1445 PRM APPROACHES INITIATED -- TM 1520 PRM APPROACHES TERMINATED – TM
1520 PRM APPROACHES TERMINATED – TM
1755 PRM APPROACHES STARTED. – TB
1835 PRM APPROACHES ENDED. -- TB
1836 PRM: DAL237/B764 UNABLE TO ACCEPT PRM APPROACH (F SECTOR). – TB
2211 PRM APPROACHES STARTED. – TB
E 2214 TCW-12 (MON W) ETVS FREQ 128.12 REMAINS HOT WHEN SELECTED, FOOT PEDAL NOT DEPRESSED. MOCC/MC -- TB
2300 PRM APPROACHES ENDED DAL1809/DAL2418 -- TB

E 2324 TCW-12 (MON W) RTS. TECH OPS. -- TB 2352 PRM: SKY4532 REPORTED TO DTW THAT HE LOST THE 4L-Y SIGNAL WHILE ON FINAL. – TB
E 0100 RY 04R ILS (DTW) OFM 01-05Z. MOCC -- CH
E 0121 RY 04L ILS "Y" OTS UFA (ALA). NUMEROUS A/C SAYING THEY WOULD GO AROUND IF WEATHER WAS IFR DUE TO BEING SEVERAL DEGREES LEFT OF COURSE IN LOCALIZER. RY 04L ILS "Z" LOCALIZER NOW ACTIVE. -- CH
E 0149 RY 04L ILS "Y" (ALA) RTS. TECH OPS/NATE. – CH

Aug 5, 2015
1245 PRM INITIATED DAL831. -- KJ
1315 PRM CONCLUDED ASQ4898. – KJ
1448 FIRST TWO PRMS DAL1610/ASQ5174. -- TG
1522 LAST TWO PRMS ASH3786/FLG4119. – TG
1756 PRM APPROACHES INITIATED. -- MG
1802 DID NOT CAPTURE LOC: ASQ4936 – MG
1821 DID NOT CAPTURE LOC: SKW338W. -- MG
1837 PRM APPROACHES CONCLUDED. – KJ
2205 PRM APPROACHES INITIATED. -- TB
2255 PRM APPROACHES ENDED. – TB

DTW Front-Line Manager	00:24	MULTIPLE ISSUES W/RY 04L LOC. ILS RY 04L Y APCH IN USE/VFR WEATHER. PILOTS REPORTED GS WORKING, BUT GETTING FULL DEFLECTION ON THE LOC AND REPORTS OF BEING 2.5 DEGREES OFF SET, BUT LOC APPEARED FURTHER LEFT OF CENTER. ISSUE WAS ONGOING FOR MOST OF THE ARRIVAL BANK. -- PJ


Item I
Attachment 7
CSA safety
evaluation/determ.
redacted

Federal Aviation Administration

Memorandum

Date: February 13, 2017

To: [redacted] Director of Operations (A), AJT-CN

From: [redacted] Air Traffic Manager, Detroit TRACON

Thru: [redacted], Terminal District Manager, Great Lakes District

Subject: Safety Evaluation/Determination – ILS PRM Y 04L/22R

Background:

In 2010, a waiver to conduct Simultaneous Triple ILS Approaches at Detroit Metro Airport (DTW) was approved. Runway configurations at DTW did not support triple simultaneous approaches under the rules in place at the time. Several issues delayed implementation, including: airline capability, discrepancies with the waiver verbiage requiring it to be rewritten, major runway construction projects and changes in personnel working on the project.

August 2008

FAA Technical Center Math Modeling Study was published. In this document it was noted that DC-9, MD-80, A320, B737, and B757 aircraft would present minimal RY 4L localizer impact in the vicinity of taxiway A8 nearest A. It was also noted that the RY 4L localizer would be, "significantly out of Flight Inspection tolerances for both course and alignment when group 1 and 2 aircraft (DC-9, MD-80, A320, B737, and B757) presents and location 2 through 5 (A10, A9, and A8 nearest the runway)."

March 2011

In preparation for a Safety Risk Management Panel meeting to review amended breakout procedures, Detroit TRACON (D21) became aware of previous documentation regarding effects to the offset localizer critical area. The math models indicated significant signal disruption under certain conditions.

Current accepted risk in the NAS and at DTW/D21 includes fluctuations in course alignment when arriving aircraft on a straight-in approach land into and taxi out of, or departing aircraft transition through, the localizer critical areas. However, the use of an offset localizer for Runway 22R/4L is required; thereby increasing exposure to the localizer critical area. The offset localizer antenna arrays are positioned in such a way as to result in localizer critical areas that do not encompass any portion of the runway, but rather, encompass significant portions of taxiways; portions not encompassed by the straight-in localizer critical areas. After exiting the landing runway, when the offset localizer is in use, aircraft may enter, taxi through, and exit these areas. They may also stop in them. In so doing, they invariably present themselves perpendicular to the localizer signal.

April 2011

FAA Engineering Services conducted analysis of the previous localizer critical area studies and provided additional math models. The data indicated that high profile aircraft provide the greatest risk and should not be allowed in the localizer critical area with aircraft on the offset approach.

May 2011

Flight Standards specialist reviewed the math models and provided feedback. He concurred with Engineering Services; i.e., large aircraft transiting the critical area are more likely to cause navigation signal deviations in all weather conditions when the offset localizer is in use because the localizer critical area encompasses part of the parallel taxiway as well as exiting taxiways. Smaller profile aircraft do not pose a significant risk based on a normal exit and subsequent taxi, providing they are not sitting in the critical area. Additional mitigation could be achieved by using a higher threshold to protect the critical area than what is required by regulation.

June – July 2011

Safety Risk Management Panel convened to assess breakout procedures, localizer critical area issues, and other hazards identified since the original waiver was approved. Based on the math models provided by Engineering Services, the panel determined that mitigation for the localizer critical area issues would be to assign one of the other runways for high profile aircraft. (Note: an environmental review was conducted and documented to permit this procedure.)

In 2015, a panel was convened to review all documents related to triple ILS approaches. At that time, it was noted that the 2011 SRMD was never completed. A new panel was convened. They completed a new SRMD to support the waiver request for triple ILS approaches. This waiver was never processed by headquarters due to a rule change no longer requiring a waiver. Ultimately, the LOC critical area was address via a CATEX.

Current

On August 5, 2015, D21 commenced the utilization of the offset localizer. Immediately upon its activation, DTW and D21 began receiving various anomaly reports from inbound aircraft. Initially, these anomalies were attributed to the lack of awareness of the new offset angle. Though "offset" was contained within the body of the approach plates, it did not standout to the pilots.

Those unfamiliar with the offset reported anomalies. However, after a robust awareness effort by DTW and D21, the anomalies continued.

On September 25, 2015, due to anomalies, D21 reported the offset localizers OTS. Per DTW Tech Ops, both offset localizers passed Flight Check inspection and were returned to service the same day.

Due to continued anomaly reports received by DTW and D21, further investigations were conducted. Upon comparing anomaly reports with ASDE-X data, questions arose regarding the impact of aircraft (other than the Heavy aircraft previously mitigated via the SRM panel) transitioning through the critical area.

Multiple meetings were held with DTW/D21 Tech Ops, DTW, D21, Flight Inspection, and Systems Engineering regarding potential causes for the reported unexplained anomalies. It was agreed by all parties that the equipment was working as intended. It was agreed by all parties, due to the feedback from Flight Inspection, there were no issues with the approach. However, Flight Inspection noted that Flight Check is conducted in a sterile environment; therefore, they were unable to comment regarding the potential impact of aircraft transitioning through the critical area. Tech Ops, Engineering, and Flight Standards agreed that there would always be a disruption to the localizer anytime ANY aircraft transitioned through the critical area.

At the conclusion of meetings with DTW Tech Ops, Flight Inspection, and Engineering Services on September 24, 2015 and February 16, 2016, no party was comfortable providing an opinion that the disruptions to the localizer (caused by other than Heavy aircraft) were within a safe tolerance.

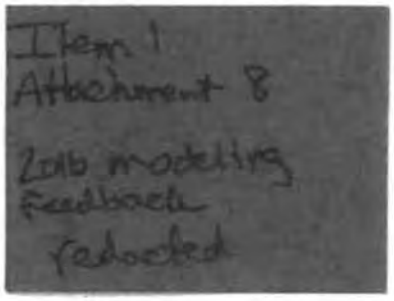
Summary

Initially, it was D21's intent to utilize the newly published RNAV (GPS) PRM approaches to conduct triple instrument approach operations into Detroit Metro. The use of these approaches would have negated the need to pursue the use of the ILS PRM Y. However, upon implementation testing, it was discovered that approximately 80% of the current fleet mix are unable to fly RNAV (GPS) PRM approaches, despite initial industry feedback to the contrary.

Safety is our top priority. Due to numerous unexplained anomalies, and due to inconsistent and indecisive feedback from Flight Inspection and/or Engineering Services, D21 is requesting this issue be evaluated, and a safety decision be made by an office with the appropriate safety decision making authority.

Attachments:

August 26, 2008 Technical Center Math Modeling Study
March/April 2011 Detroit 04L Offset Approach on ALA ILS Study
DTW SRMD 5-9-7a(3)
ILS PRM Y RWY 4L/22R Anomaly Report w/ ASDE data
D21/DTW PRM Reported Anomalies 9-25-2015 through 8-5-2015
CATEX DTW Triple Approaches


Item 1
Attachment 8
2016 modeling
feedback
redacted

[redacted] (FAA)

From: [redacted] (FAA)
Sent: Tuesday, February 07, 2017 4:04 PM
To: [redacted] (FAA)
Subject: FW: DTW Y ILS telecon and 2008 math modeling

From: [redacted] (FAA)
Sent: Thursday, September 15, 2016 6:47 PM
To: [redacted] AA)
Cc: [redacted] (FAA)
Subject: RE: DTW Y ILS telecon and 2008 math modeling

[redacted]

I modeled the BZB 22R Y LOC with an A320 on TWY A1 with the nose facing TWY Q . The center of the aircraft was 726 feet from runway centerline. For all of the "No Signal" reports and the "fluctuations" reported on 8/31/15 and 9/1/15 the aircraft were 6 to 22 NM out. This is zone 1 and the modeling indicated no impact to this zone.

The only report that showed a similarity to the modeling was on 10/8/15, ASH3994. The aircraft was 1000 feet AGL, which puts it approximately 2.97 NM from threshold, which is zone 2. The pilot reported a "2 dot deflection to the right of centerline then it jumped to the left of centerline". He doesn't state how much it moved to the left. I'm not able to correlate a 2 dot deflection to a micro-amps value, but the modeling indicated a course alignment of 3.7 micro-amps (zero micro-amps being true centerline). 3.7 micro-amps is well within the CAT I operating tolerance of 15 micro-amps.

If you need clarification or have further questions, please let me know.

Regards,

[redacted]
Terminal NAV Engineer, AJW-C24B
Operations Engineering Support Group (OESG) – Chicago
Office: 847-294-8550
Mobile: 224-639-0996
Fax: 847-294-7417

From: [redacted] (FAA)
Sent: Thursday, September 08, 2016 10:02 AM
To: [redacted] (FAA)
Cc: [redacted] (FAA)
Subject: Re: DTW Y ILS telecon and 2008 math modeling

[redacted]

Has there been any update on the modeling assistance?

Regards,

[redacted]
Air Traffic Manager
Detroit TRACON
734-955-5002

Sent from my iPhone

On Jul 15, 2016, at 10:55 A[redacted] wrote:

[redacted]

Attached is the 2008 modeling info. I will send the later version momentarily.

Regards,

[cid:image001.png@01D1D852.27D01DD0]
[redacted]
Air Traffic Manager
Detroit TRACON (D21)
734-955-5002

From: [redacted] (FAA)
Sent: Tuesday, November 17, 2015 11:47 AM
To: [redacted]
(FA[redacted]

Subject: DTW Y ILS telecon and 2008 math modeling

Everyone,
Attached is the other Math Modeling, 2008, FAA William J Hughes Tech Center.

I will send out the info for our 1pm EST, noon CST, telecom on Thursday, Nov 19.

ES and FI will come up with questions for AT to ask the pilots and what conditions to best document so data collected could be analyzed.

[redacted], Do you have the SRM? I know we sent [redacted] questions, which were discussed today.
I will send out the info for the follow-up telecom on Thursday.

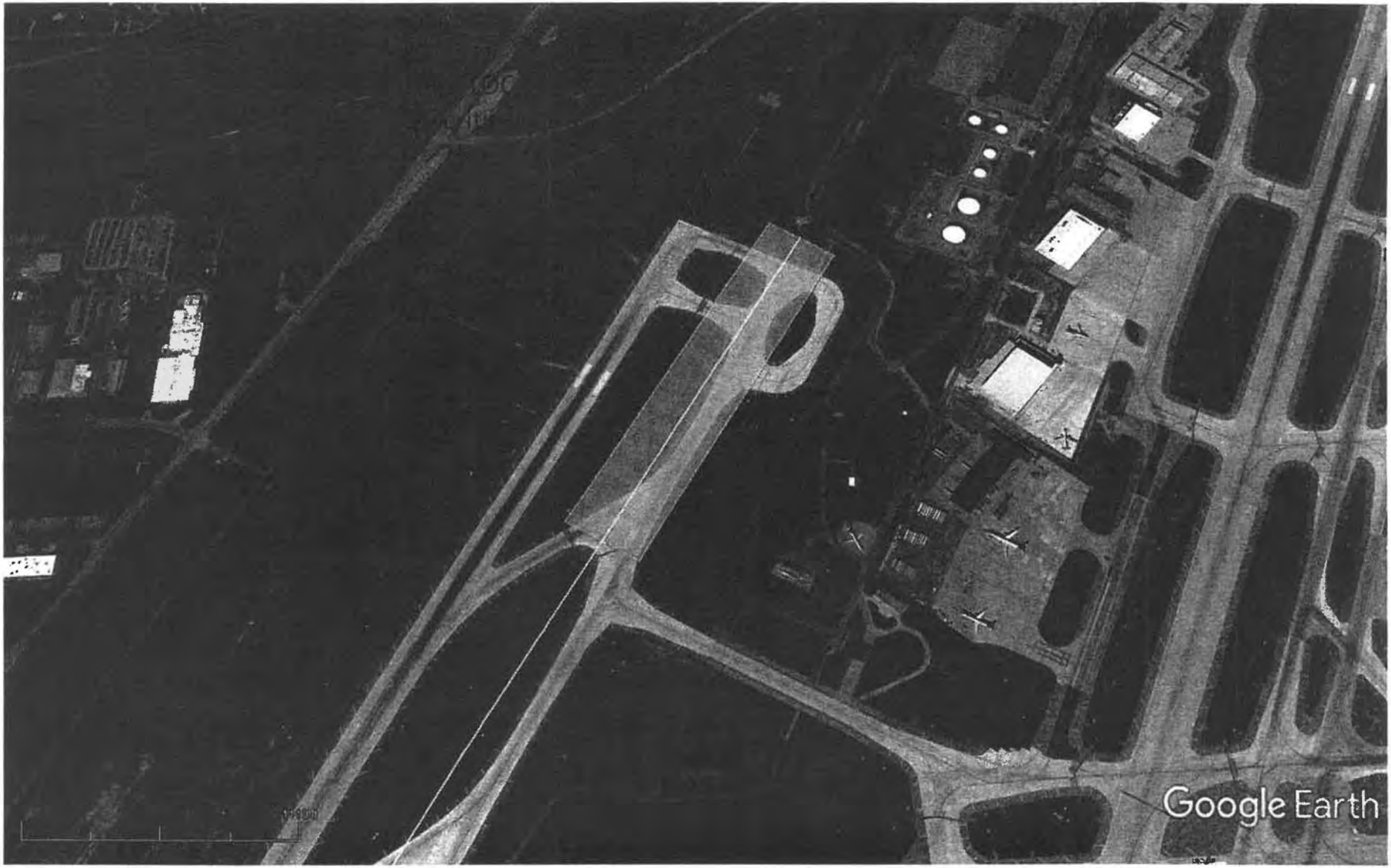
Respectfully,
[redacted]
DTW NAV/COMM SSC Manager
734-955-5130 (o)

Item 1
Attachment 9
DTN antenna
LOC relocation

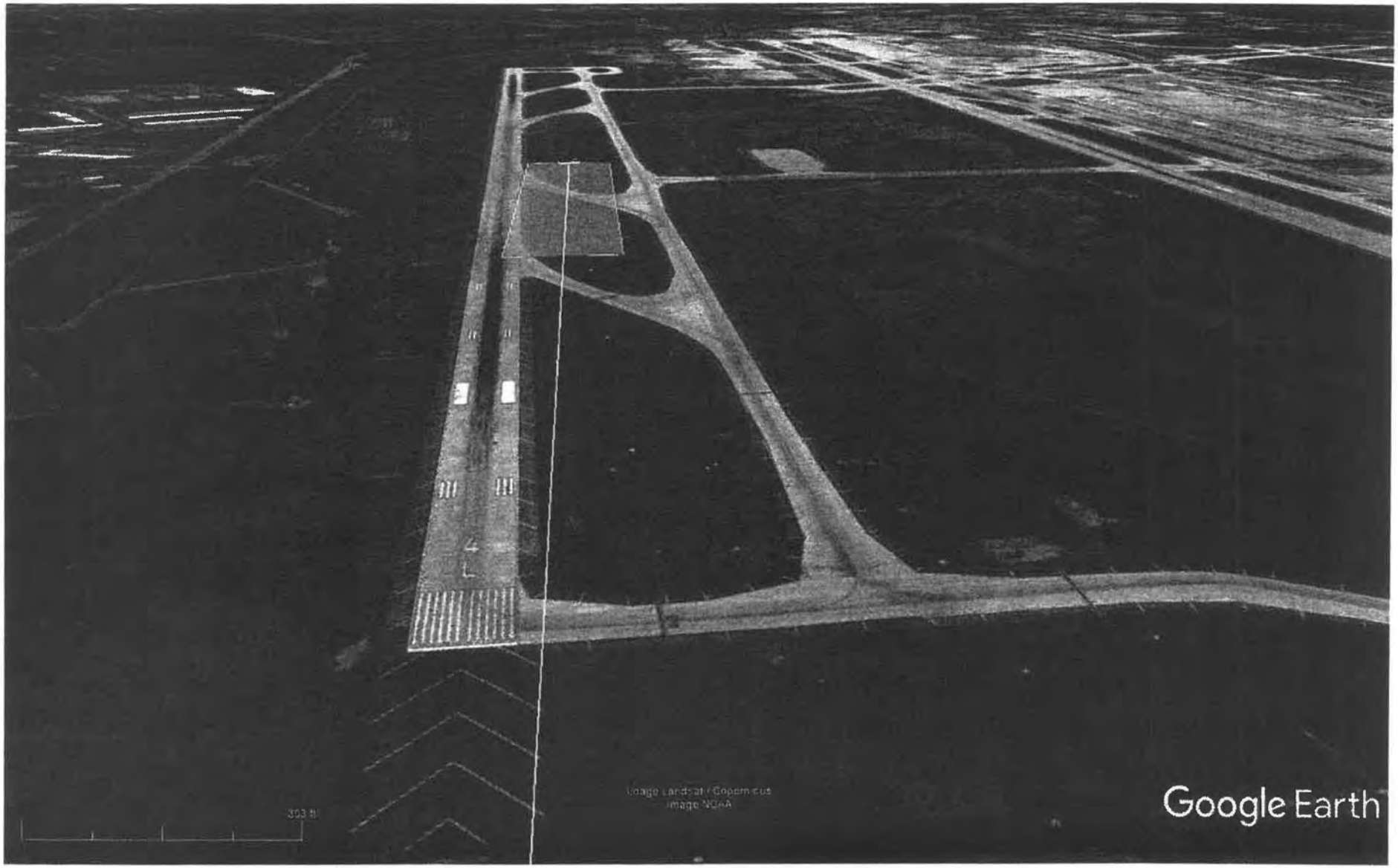

Google Earth

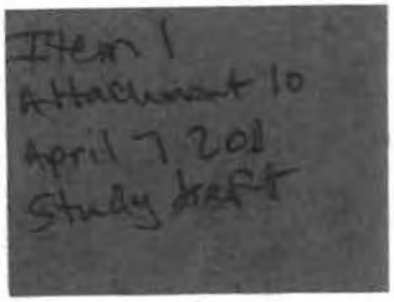

Google Earth


Image Landsat / Copernicus
Image NOAA
Google Earth


Google Earth


Google Earth


4
L
Image Landsat / Copernicus
Image NOAA
Google Earth


Item 1
Attachment 10
April 7 2021
Study DRAFT

Preliminary Data
Detroit Metropolitan Airport
Runway 22R Offset Localizer Math Modeling

Background:

The BZB localizer (LOC) on runway 22R at Detroit Metropolitan Airport is offset from runway centerline at 2.5 degrees to enhance aircraft separation during arrivals to closely spaced parallel runways. The centerline of the LOC signal passes across taxiways A1, A2, A3, A4, A7, A8, A9, and A10,and close to the centerline of taxiway Alpha. Taxiways A1 and A2, along with a portion of taxiway Alpha are in the LOC critical area, while taxiways A3 through A10 are outside of the critical area. Several studies have been performed in the past in an effort to characterize the impact of aircraft at various locations. This study expands on previous efforts by evaluating numerous closely spaced locations to approximate a continuous path.

The largest aircraft using runway 22R is the Boeing 747-400, which presents a demanding operational environment. The presence of Mark 20A LOC equipment mitigates, but does not eliminate the effects of aircraft taxiing near the LOC antenna array.

Aircraft on Runway 22R and Taxiway Alpha:

The first efforts were to quantify the effects of a B747 landing on runway 22R for a full rollout and a B747 taxiing the full length of taxiway Alpha.

- A B747 travelling along runway centerline from a point 200 feet past the threshold to a point 200 feet from the stop end of the runway was modeled at an interval of 200 feet. There were no significant effects to LOC alignment or course structure at any of the 49 locations modeled.

- A B747 travelling from a point 200 feet past the threshold to a point 200 feet from the stop end of the runway along taxiway Alpha was also modeled at an interval of 200 feet. There were no significant effects to LOC alignment of course structure at any of the 45 locations outside the LOC critical area. Small course alignment errors were induced at distances between 2000 and 1000 feet from the antenna array; however, the largest predicted alignment shift was only 2.4 microamps or 16% of the alignment tolerance for a Category I LOC. No significant impact is predicted for aircraft traveling down taxiway Alpha on the taxiway heading.

Aircraft turning off of runway 22R onto taxiways A1 and A2 present a variety of different geometries, and their effects bear examination. The results from modeling a 90 degree turn at these two locations, which are outside the designated LOC critical area, produced the expected and desired results. LOC alignment was minimally effected, with all predicted aberrations less than one microamp, for aircraft exiting runway 22R at A1 and A2.

DRAFT

Aircraft on Taxiways A1 and A2:

The next effort was to model a B747 aircraft moving along taxiway A1 from the stop end of runway 22R to taxiway Quebec. This path crosses directly through the LOC critical area at a distance of 1060 feet from the antenna array. The results were predictable, with LOC alignment values far exceeding the available tolerances. It was noted that both Boeing 737 and 757 class airframes are not predicted to produce out of tolerance conditions, despite the fact they would cause significant needle deflections that would be unwelcome in a cockpit. The results of this effort produced one point where the LOC alignment exceeded three times the available tolerance. They are attached as Figure One.

A model of a B747 aircraft moving from runway 22R to taxiway Alpha via taxiway A2 was also performed. Again the path traversed the LOC critical area with undesirable results. Those findings include one value at 1.3 times the available tolerance, and they are included as Figure Two.

Aircraft on Taxiways A3 and A4:

Taxiways A3 and A4 are located outside the LOC critical area, but they slice through the LOC signal relatively closely and at an oblique angle. The effect of an aircraft traversing these taxiways is complex, due to the varying distances, azimuths, and angles they present to the LOC signal. None-the-less, the Mark 20A antenna array tolerated those effects well. Surprisingly, the greatest LOC signal variation occurred when modeling an aircraft on taxiway A4, further from the array, yet even then the maximum error produced by a B747 was only 23% of the Category I alignment tolerance. The combined results of modeling taxiways A3 and A4 is presented in Figure Three.

Based upon these findings, no effort was expended to model the effects of aircraft on taxiways A7 through A10 at distances much further from the antenna array. In addition, it was assumed taxiways A7 and A8 would be rarely if ever used when the runway is operating in south flow.

Aircraft Turning From Taxiway A2 onto Taxiway Alpha and From Taxiway Alpha onto Taxiway Quebec:

The final analyses for runway 22R are for aircraft turning off taxiway A2 and onto taxiway Alpha, and the later turn off taxiway Alpha and onto taxiway Quebec. Both of these maneuvers occur within the LOC critical area, and they both result in the aircraft presenting different aspects at different locations relative to the LOC signal pattern. Counter-intuitively, the greatest impact to the LOC signal occurs at the location further from the array, though the signal excursions at both locations would result in rapid and unacceptable course swings. The results for transition from taxiway A2 onto Alpha predict a course shift of 22 microamps, which is roughly 150% of the Category I tolerance. For comparison, additional modeling of B757 aircraft in these locations was added. These results may be viewed in Figures Four and Five.

Analysis: The unique geometry of an offset LOC presents frequent aircraft penetrations of the LOC critical area. More significantly, the position of the aircraft relative the LOC signal is often one that results in greater adverse effects to the LOC signal than at a typical straight-in LOC installation. The impact of large aircraft in the LOC critical area is a wavering of the LOC signal-in-space as an aircraft passes through the critical area. The wavering will typically be characterized by a swing to first one side and then to the other side before returning to center. Swings with a range of movement of as little as 10 microamps may be observable in the cockpit, and present an unwanted distraction to pilots during a critical phase of flight. In addition, slow swings may be tracked by an autopilot and as the aircraft maneuvers to chase the LOC centerline signal, lateral separation will be altered.

Recommendations: This study has been limited to the effects of a single aircraft and does not address the presence of multiple aircraft. With that in mind and in consideration of the results from the modeling effort the following recommendations are offered:

- The 22R offset LOC critical area should be protected at all times for large aircraft, to include Boeing 757 and similar sized and larger airframes.
- Operational experience may result in broadening this recommendation to include additional aircraft if pilot reports of LOC signal fluctuations are received.

Lee Traweek
Senior Operations Engineer
AJW-C24B
817-222-4560

April 7, 2011

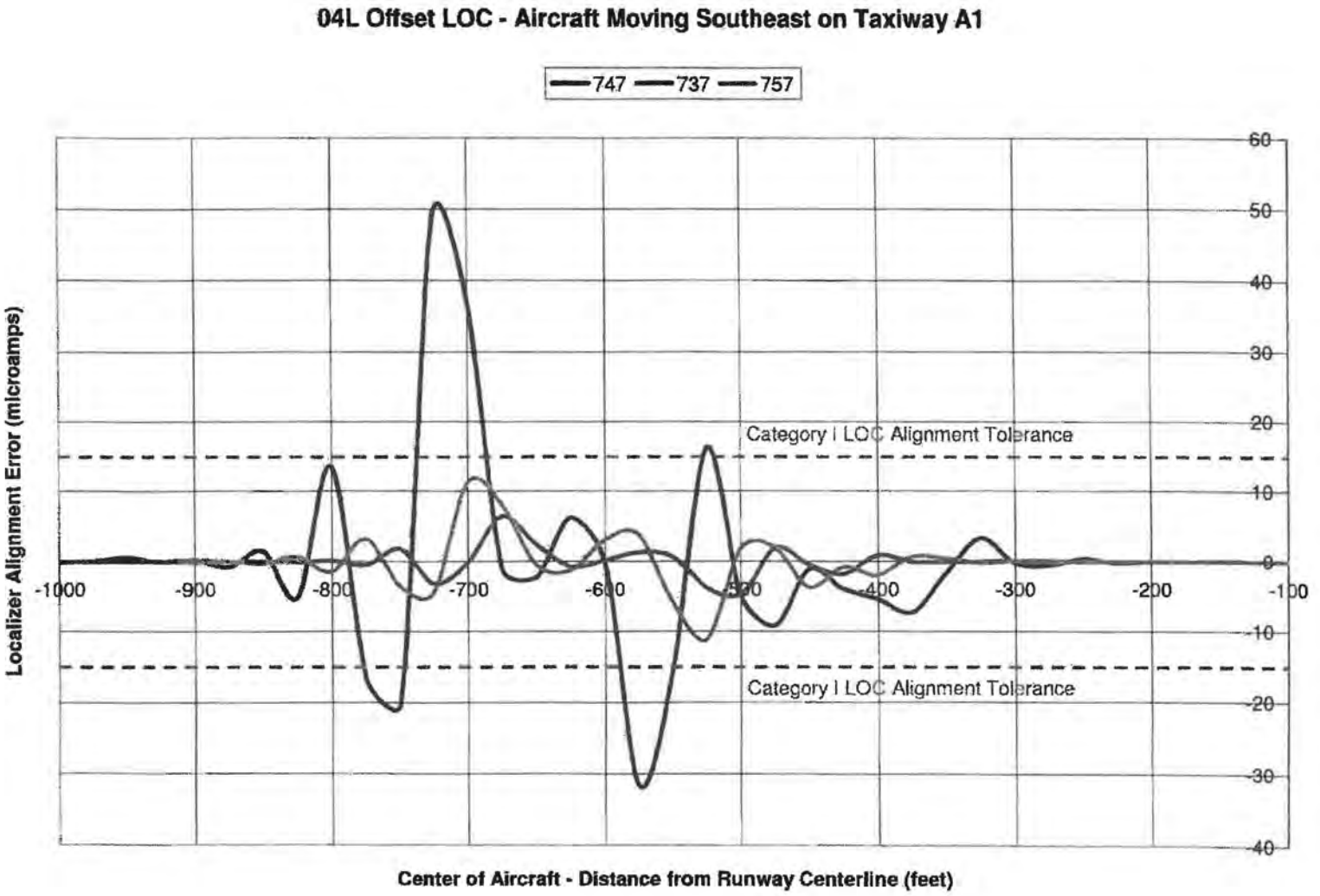

04L Offset LOC - Aircraft Moving Southeast on Taxiway A1
747
737
757
Localizer Alignment Error (microamps)
60
50
40
30
20
10
0
-10
-20
-30
-40
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
Center of Aircraft - Distance from Runway Centerline (feet)

Figure One

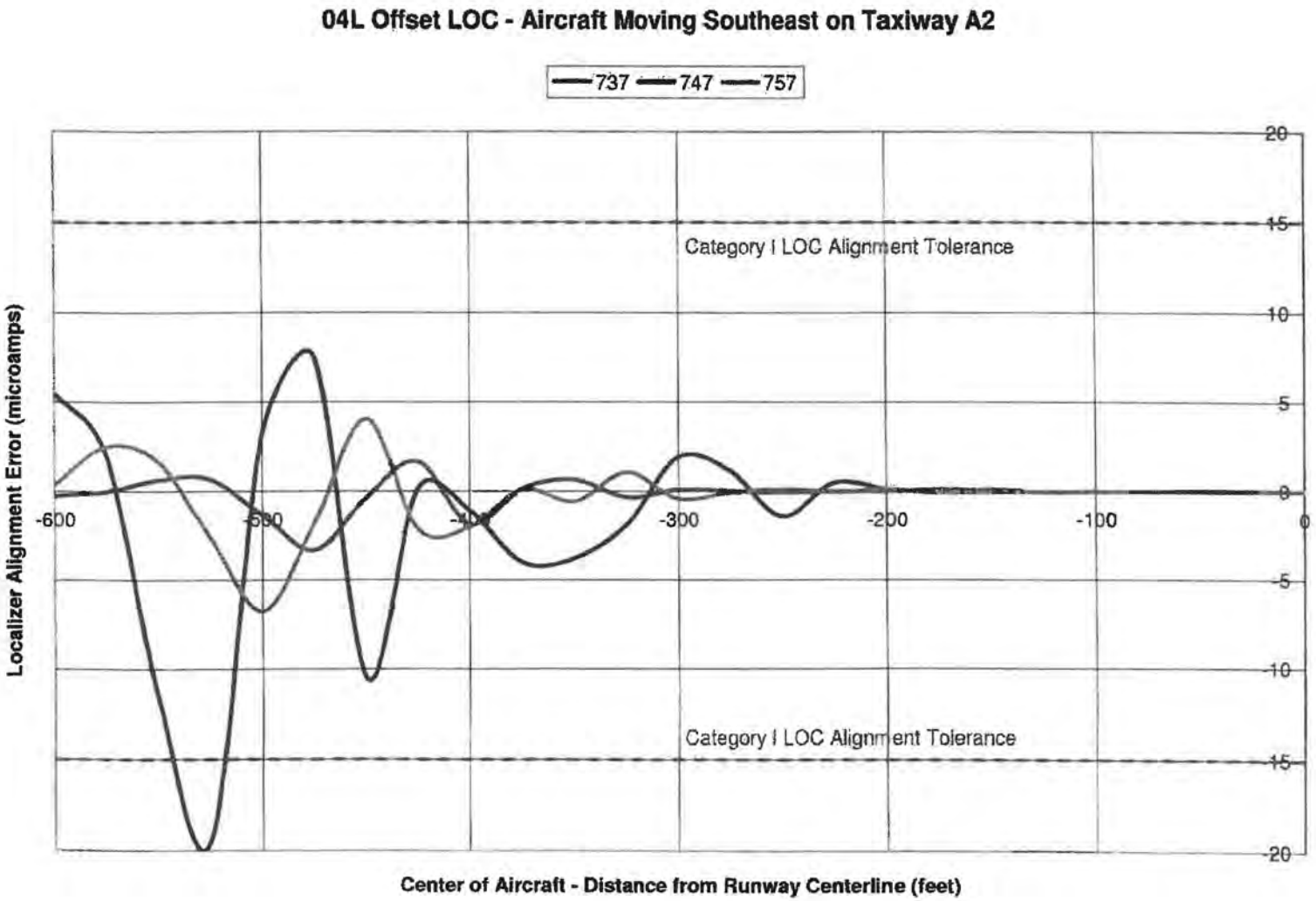

04L Offset LOC - Aircraft Moving Southeast on Taxiway A2
737
747
757
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
Localizer Alignment Error (microamps)
Center of Aircraft - Distance from Runway Centerline (feet)
20
15
10
5
0
-5
-10
-15
-20
-600
-300
-200
-100
0

Figure Two

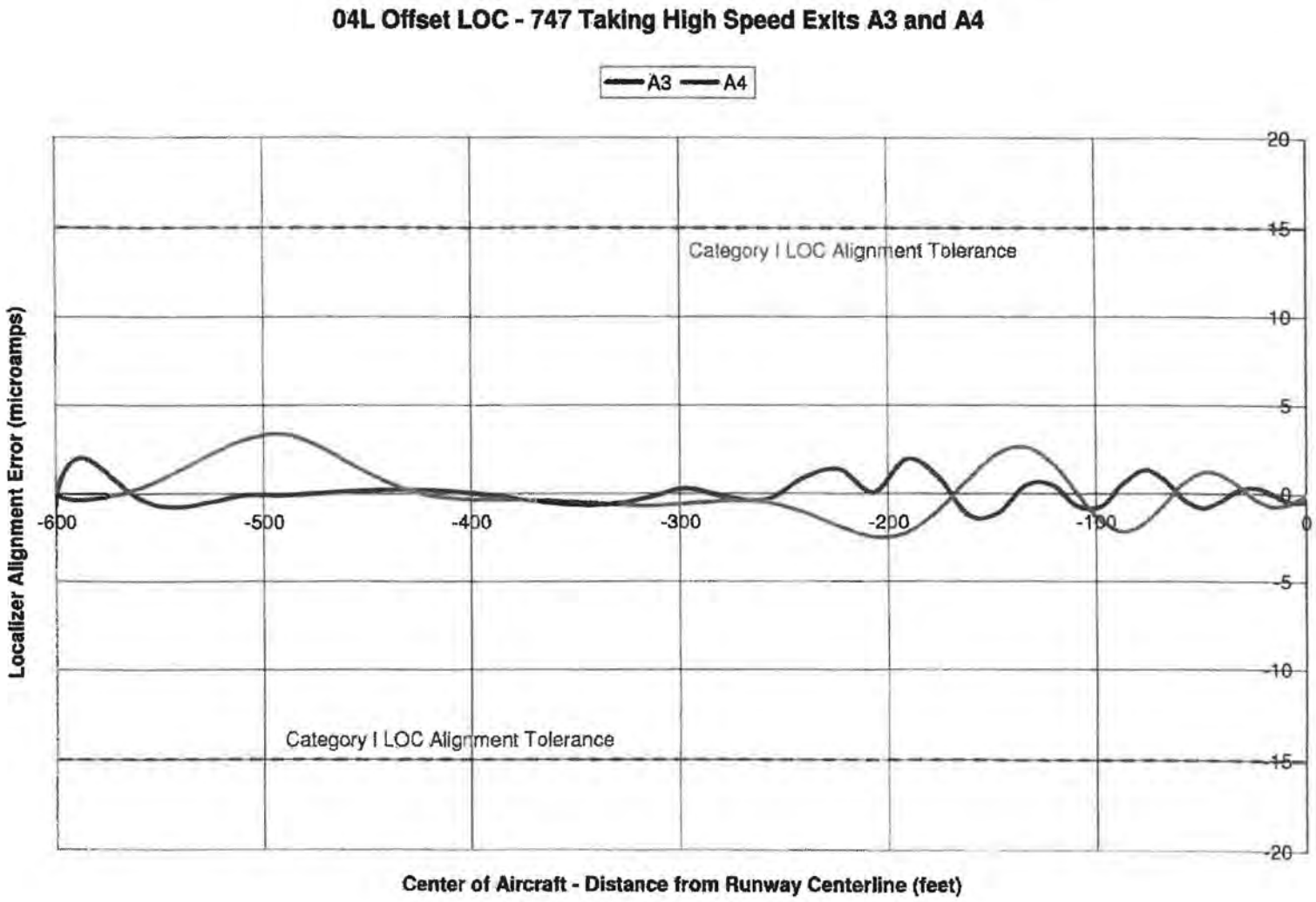


Figure Three

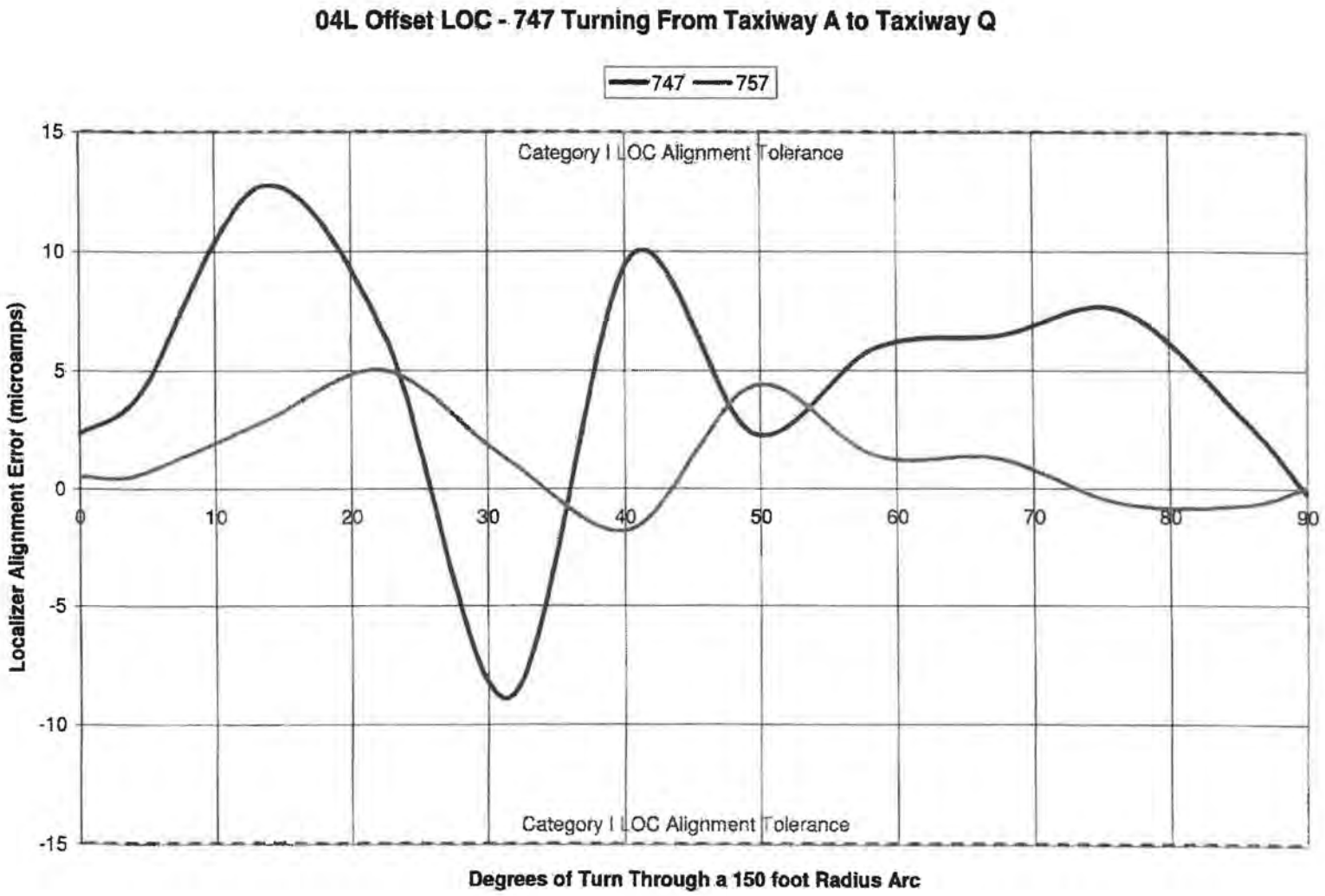

04L Offset LOC - 747 Turning From Taxiway A to Taxiway Q
747
757
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
Localizer Alignment Error (microamps)
15
10
5
0
-5
-10
-15
0
10
20
30
40
50
60
70
80
90
Degrees of Turn Through a 150 foot Radius Arc

Figure Four

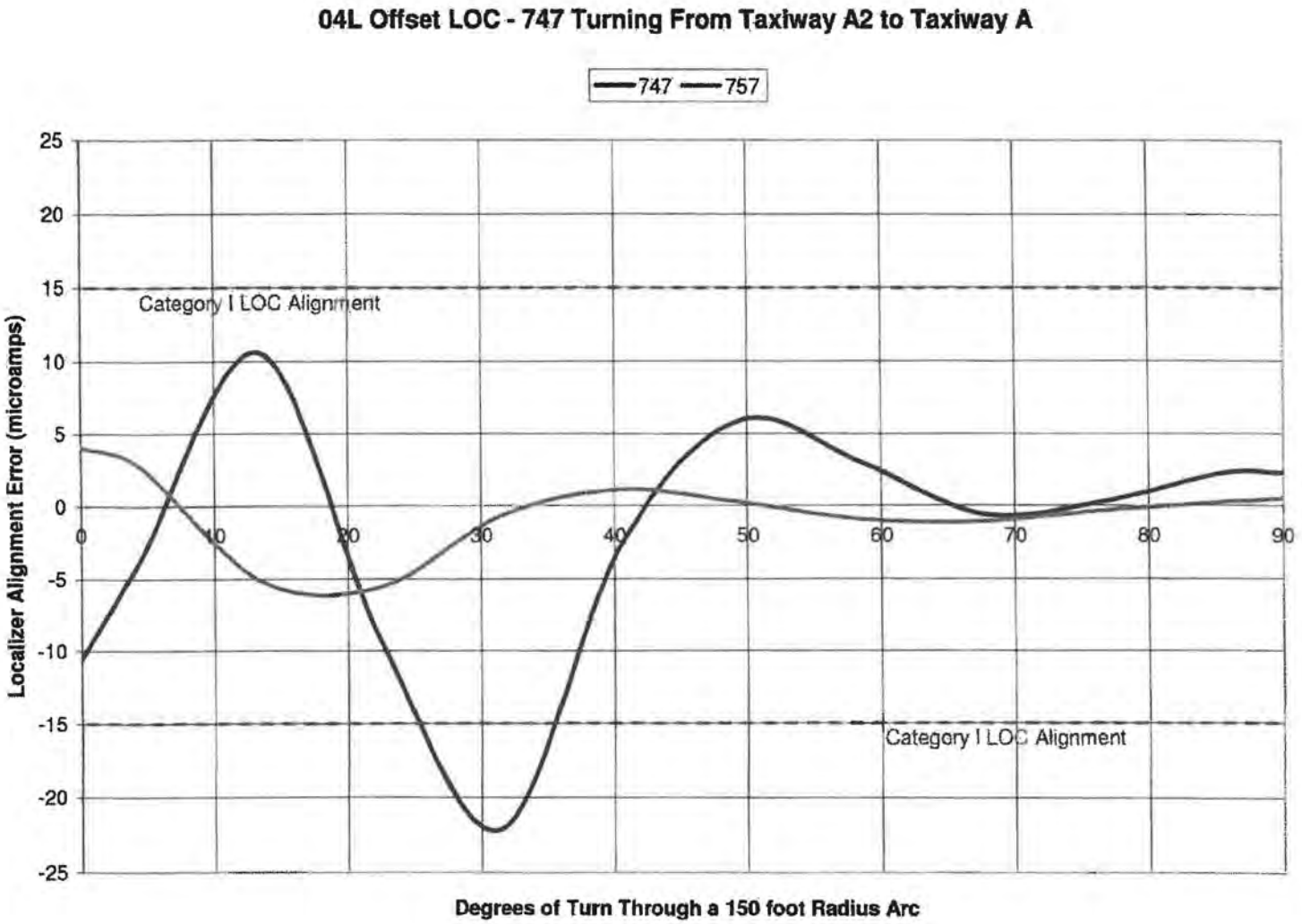
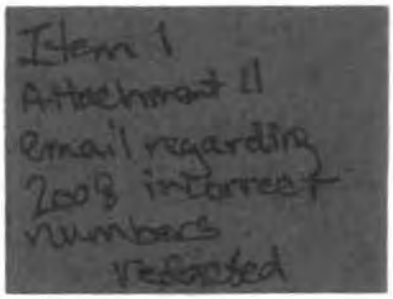

04L Offset LOC - 747 Turning From Taxiway A2 to Taxiway A
747
757
Localizer Alignment Error (microamps)
25
20
15
10
5
0
-5
-10
-15
-20
-25
Category I LOC Alignment
Category I LOC Alignment
0
10
20
30
40
50
60
70
80
90
Degrees of Turn Through a 150 foot Radius Arc

Figure Five


Item 1
Attachment 11
email regarding
2008 interest
numbers
redacted

To:
Cc:
Bcc:
Subject: Re: 22R
From: [redacted]/AGL/FAA - Friday 04/15/2011 12:03 PM

[redacted]

First, thanks, again, for the help. As far as receiving complaints, we have not been radiating the offset approach, so we have no significant anecdotal data in that regard.

Otherwise, we'll chew over the data you provided, as well as anticipate the results for 4L.

Additionally, as I alluded to in past conversations [redacted] at the tech center, re-ran the models for the August 25 & 26 2008 studies, correcting what he asserts was the error of showing the aircraft remaining on the offset final longer than should have been applied since the aircraft will have to move to align with the runway before the threshold. I include them here as attachments. I believe they are more or less showing no significant deviations at any of the points examined.

I can see the benefit of organizing a TELCON with us all aboard to discuss where we are at, and where we need to go so as to completely understand the issue (or lack thereof).

April 8, 2011 KDTW_04L.pdf April 14, 2011 KDTW_22R.pdf

[redacted]
Support Manager (Acting)
TCL-D21, Detroit Approach Control
o 734-784-2166
c 734-674-0072
f 734-784-2200
[redacted]

[redacted] After an evening to ponder my findings for... 04/15/2011 11:13:29 AM

From: [redacted]/ASW/FAA
AJW-C24B, Operations Eng Support Ctr B
To: [redacted]/AGL/FAA@FAA
Cc: [redacted]/ASW/FAA@FAA
Date: 04/15/2011 11:13 AM
Subject: 22R

[redacted]

After an evening to ponder my findings for 22R, I have some thoughts to share.

Lets start off with the baseline - all calculations have been done for the worst case airframe, a B-747.

Add some assumptions:

- The vast majority of aircraft landing on 22R exit at A4 or A3, proceed down Alpha and turn onto Quebec
- Aircraft that execute a long rollout have to make relatively sharp turns onto A2 or A1 - probably undesirable to both the pilot and ATC

Item 1
attachment 12
flight inspection
comments
redacted

[redacted] FAA)

From: [redacted] FAA)
Sent: Tuesday, April 17, 2018 1:42 PM
To: [redacted] (FAA)
Subject: FW: Detroit Metro PRM Reported Issues
Attachments: image001.png

More for the record.

[redacted]

From: [redacted] (FAA)
Sent: Thursday, November 19, 2015 8:12 PM
To: [redacted]
Subject: Re: Detroit Metro PRM Reported Issues

Thanks [redacted]

[redacted]
Air Traffic Manager
Detroit TRACON
734-955-5002

Sent from my iPhone

On Nov 19, 2015, at 3:06 PM, [redacted] (FAA) <[redacted]> wrote:

Sir.

FYSA...

[redacted]

From: [redacted] (FAA)
Sent: Thursday, November 19, 2015 2:05 PM
To: [redacted]
Subject: FW: Detroit Metro PRM Reported Issues

Here are more comments from Flight Inspection on the Offset Approaches at Detroit Metro.

[redacted]
Senior Operations Engineer
Operations Engineering Support Group – Chicago
AJW-C24B
O 847-294-8447
C 847-404-4221

From: [redacted] (FAA)
Sent: Tuesday, November 10, 2015 1:36 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Detroit Metro PRM Reported Issues

We discussed this issue here in OKC, and we don't think the equipment is the issue. The discussion included [redacted], which is a pilot in the Tech Services Office.

As you stated it is probably more procedural issues than anything else. I see pilot confusion with the ability to pull the procedure from the FMS or tuning to the wrong frequency.

The Yankee procedure use an ILS with a localizer frequency of 111.75 and the Zulu procedures use 111.95. I think the pilots may be confused of which procedure is in use; therefore, tuning the wrong facility because they are looking at the wrong procedure. Are the ILS's supporting the Yankee procedures off when the Zulu procedures are being used, and vise versa?

Also, aircraft in the critical area will not block the signal, but may disrupt the signal. The aircraft on final will still have a signal, it just may not be the correct DDM value for the location on the procedure.

One of the most concerning points are the logs that say the approach lights were not seen. The Yankee procedures are 2.5° offset, and the pilots should be able to see the approach lights. Were the lights off during those approaches?

[redacted] flew ALA (used for 4L Yankee ILS procedure) and BZB (used for 22R Yankee ILS procedure) on Sept 25, 2015. A comment Scott has on the DFL is "This is pure speculation -- I believe the users for the offset ILS' at Detroit may be using FMS vice ILS displays in their aircraft, causing their confusion with the offset ILS approach display on their avionics and their sight picture when they break out. Basically, they are not anticipating the offset."

That is my inputs.

Let me know if you have any other questions.

[redacted]

From: [redacted] (FAA)
Sent: Tuesday, November 10, 2015 9:01 AM
To [redacted] (FAA)
Subject: Detroit Metro PRM Reported Issues

[redacted]

DTW Air Traffic have got a whole litany of user complaints from air carriers on their 4L/22R offset approaches at Detroit Metro. Based on the attachments they seem to be both procedure and instrument related. Battle Creek has found nothing wrong with these approaches as designed. However they were flown with a clean environment (no aircraft on the runways or taxi-ways). Air Traffic want's to invoke the current ILS critical area requirements for VFR conditions which may not work in this cace. In other words I believe they will have to protect the respective critical areas no matter what. In fact I do not know at this time if the existing hold lines are adequate to prevent what their describing. This was all math modeled by [redacted] however [redacted] only considered what was happening close in near the final segment of the approach

The Detroit SSC would like to have a Telcon next week with Air Traffic to go over these complaints and come up with possible remedies to this situation. This is probably more of a procedural issues but I am not sure what they mean when they say they can't pick up the localizer. I don't know if this is a loss of signal or reflection issue. In one of the write ups, there is reference to a Front Line Manager that can better describe what they are seeing. Would a Flight Inspection pilot like [redacted] be able to interpret what they are describing?

Thanks,

[redacted]

Senior Operations Engineer
Operations Engineering Support Group – Chicago
AJW-C248
O 847-294-8447
C 847-404-4221

From: [redacted] (FAA)
Sent: Monday, November 09, 2015 10:04 AM
To: [redacted]
Cc: [redacted]
Subject: FW: PRM Reported Issues

[redacted]

As you can tell from the many emails, Air Traffic is looking for some answers.
I know I requested the math modeling from you, but I am not sure if you remodel the ILSs or just interpret the math modeling in place.

I would like to set up a telecom with AT so you, I, TSU, can answer some of AT's questions and concerns.
When will be a good time for you on Nov 17? Or will another day be better?
I will wait for your answer before I set up telecom.
Thank you,

[redacted]

[redacted]
Manager, DTW NAV/COMM SSC
734-955-5130 ofc
734-502-3602 mobile

From: [redacted] (FAA)
Sent: Monday, November 09, 2015 10:32 AM
To: [redacted]
Cc: [redacted] (FAA)
Subject: FW: PRM Reported Issues

All,

I had QC look at the various reports to determine if there was any correlation between unexplainable anomalies and taxing aircraft. As we are not the experts, the findings are attached. The second attachment has the various log entries with commentary highlighted below each entry.

Hopefully AF or engineering will find this information useful.

Regards,

<image001.png>

[redacted]
Air Traffic Manager
Detroit TRACON (D21)
734-955-5002

From: [redacted] (FAA)
Sent: Monday, November 09, 2015 10:14 AM
To: [redacted]
Cc: [redacted] (FAA)
Subject: PRM Reported Issues

[redacted]

Here is the reported issues from 08/19-10/30/2015, and if there was any traffic in the critical areas.

Need anything else just ask [redacted] or myself.

[redacted]
DTW/D21 QC Support Specialist
(734) 955 5017

Item 1
Attachment 13
FMS Selection
Sheet

- The INIT/REF display is correct due to the customizing of ILS22R Y approach.

• When ILS04 is active, the frequency and CRS for ILS04L Z will appear on the INIT/REF page.

- The INIT/REF display is correct due to the customizing of ILS04L Y approach.

Rwy 4L/22R ILS FMS Approach Selection

• Approaches contain Y, Z, and PRM designations to the same runway end.

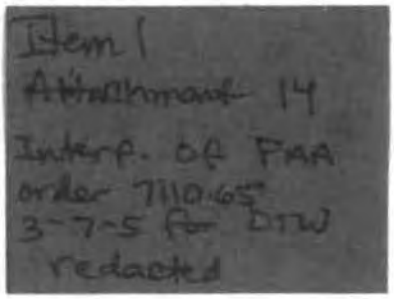
• Use caution when planning, briefing and selecting the approach.

• If cleared for the ILS 4L/22R "Y" approach and the "Y" procedure is not in the FMS database, select the ILS04/22 procedure (with no L/R designation).

• The ILS PRM 4L/22R approaches are the same as the "Y" procedures, but include the monitor frequency requirement.

AIRCRAFT	APPROACH	FMS SELECT
A319/320/321, A330, B717, B737, B757, B767, B777	ILS Z 4L	ILSZ04L
	ILS PRM Y 4L	ILSY04L
	ILS Z 22R	ILSZ22R
	ILS PRM Y 22R	ILSY22R
B747, MD88/MD90	ILS Z 4L	ILS04L
	ILS PRM Y 4L	ILS04
	ILS Y 22R	ILS22
	ILS PRM Y 22R	ILS22R

Autoland Rwys 4L/22R ILS PRM or ILS Y: Not authorized due to offset localizer.


Item 1
Attachment 14
Interp. of PAA
order 7110.65
3-7-5 for DTW
redacted

Federal Aviation Administration

Memorandum

Date: FEB 25 2010

To: [redacted]
Director, Central Terminal Operations

From: [redacted]
Director, Terminal Safety and Operations Support

Subject: Request for Interpretation of FAA Order 7110.65S, Paragraph 3-7-5 for Detroit Metro Wayne County (DTW) Airport Traffic Control Tower (ATCT); Your Memo Dated January 9, 2009

We have reviewed your request for an interpretation of FAA Order 7110.65, Air Traffic Control, Paragraph, 3-7-5, Precision Approach Critical Area, as it relates to an offset localizer and associated critical area, and have determined the following:

The ILS critical area for an offset localizer must be protected in the same manner as a traditional, centerline-oriented localizer.

The intent of 3-7-5a.1(a)(1) is that an aircraft on landing rollout will be clearing the critical area as it exits the runway. In the configuration at DTW ATCT, the aircraft will be in the localizer critical area for an extended period of time, as it is taxiing on taxiway "A." Thus, the arriving aircraft must be clear of the **critical area**, not just the runway, before a succeeding aircraft is inside the ILS OM or the fix used in lieu of the OM when conditions are less than reported ceiling 800 feet or visibility less than 2 miles.

Summary

SKW3775 REPORTED "ANOMALOUS LOCALIZER THAT WAS INTERMITTANT". D21 ASKED TO TALK TO THE PILOT, PILOT WAS GIVEN CONTACT INFO FOR D21 AND ASKED TO MAKE CALL. NO PROBLEMS NOTEI
JIA5408 DID NOT INTERCEPT THE LOC FOR RWY 22R ILS-Y AS EXPECTED. THE CONTROLLER REPORTED TO THE PILOT THEY WERE LEFT OF COURSE, THE PILOT SAID THEY WERE CORRECTING. AFTER LA
TWO PILOT REPORTS OF THE RWY22L ILS (Y) IS ONE DOT LOWER THAN THE PAPIS. (MOCC-DN)
SKW4647 STATED THAT THE ILS (Y) WAS ERRATIC
CKS592 DID NOT HAVE THE FREQUENCY FOR THE Y LOCALIZER. Y LOCALIZER WAS ADVERTISED ON THE ATIS.
DAL1658 CHECKED WITHOUT THE Y LOCALIZER FREQUENCY. THE Y LOCALLIZER WAS ADVERTISED ON THE ATIS.
EDV3294 STATED THAT HE HAD A DISCREPANCY WITH THE LOCALIZER. THE PILOT STATED THAT WHEN THEY WERE ON THE (Y) LOACLIZER THEY WERE MORE THAN 3 DEGREES OFF OF THE APPROACH.
AFTER LANDING RWY 22R, THE PILOT OF FEDEX EXPRESSED CONCERN THAT THEY WERE UNAWARE THAT THE LOC WAS OFFSET. THE WARNING ABOUT THE LOC BEING OFFSET WAS ON THE ATIS AT THI
SKW3650 WENT AROUND ON A TWO MILE FINAL DUE TO A "NEAR FULL SCALE DEFLECTION ON THE LOC" ILS-Y IN USE AT THE TIME.

QC Summa	QA Finding
ɔ WITH FLI(	QA Reviewed.
∖NDING, TH	QA reviewed, No loss of separation
	QA REVIEWED.
	QA REVIEWED.
	QA REVIEWED.
THEY SWIT	QA REVIEWED.
Ξ TIME.	QA reviewed.
	QA reviewed. Localizer critical area was clear. Forwarded for tracking.

Item 1
Attachment 15
offset approach
study

Detroit 04L Offset Approach on ALA ILS

Effects of:

1. 747 rollout on runway 04L from threshold to -9800 feet – no measureable impacts

2. 747 taxiing down Taxiway Alpha – negligible impacts until aircraft enter the localizer critical area – maximum calculated alignment error is 6.7 microamps, equivalent to 15.6 feet at threshold or 53 feet four miles out from the threshold. These results differ from a normal straight in approach, due to the unique geometry that moves aircraft towards and through the localizer course signal, rather than away from it. **See Figure 1.**

3. 747 exiting on taxiway A7 and proceeding NE on taxiway Alpha to taxiway Victor – course swings a maximum of 8.6 uA to the right and a maximum of 11.0 uA to the left, for a total swing of 19.5 uA before restabalizing. The total swing is equivalent to 45.5 feet at threshold or 154 feet four miles out from the threshold. Based upon 20 knots of ground speed, the entire maneuver from a point on the runway 6086 feet from threshold to a point on taxiway Victor 950 feet from runway centerline is complete in approximately 69 seconds. These values represent up to 73 percent of the course alignment tolerance for a Category I localizer. The greatest effects occur when the aircraft is turning onto Victor and have duration of roughly 12 to 15 seconds. The magnitude of these signal errors is approximately twice that observed during a straight in approach using the same exit. **Additional modeling of a 757 airframe resulted in an 80% reduction in course oscillations. See Figure 2.**

4. 747 exiting on taxiway A7 and turning to the SW on taxiway Alpha to taxiway A5 – produces similar course swings as the case above while traveling along A7 and turning onto Alpha. Maximum course swings of 3.1 uA to the right and 4.5 uA to the left, for a total swing of 7.6 uA before restabalizing. The total swing is equivalent to 17.7 feet at threshold or 60 feet four miles out from the threshold. The entire maneuver from a point on the runway 6086 feet from threshold to a point on taxiway A5 950 feet from runway centerline is a relatively long taxi, taking over two minutes to complete at a ground speed of 20 knots. Fortunately, the course aberrations are constrained to approximately 800 feet of the ground path when the aircraft is on taxiway A5 and turning onto Alpha. That short path is complete in roughly 25 seconds. The maximum predicted course shift values represent no more than 30% of the course alignment tolerance for a Category I localizer. Predicted impacts are not significantly greater than those calculated for a 747 exiting at A7 following a straight in approach. **See Figure 3.**

5. 747 exiting on taxiway A8 and turning SW on taxiway Alpha to taxiway Victor – this maneuver presents a challenging case, in that an aircraft must execute two turns in a short distance while in the main body of the localizer signal. This path is predicted to produce course swings a maximum of 10.5 uA to the right and 13.6 uA to the left, for a total swing of 24.2 uA before restabalizing. The total swing is equivalent to 56.5 feet at threshold or 191 feet four miles out from the threshold. Based upon 10 knots of ground speed in tight turns, the critical portion of this maneuver would require approximately 45 seconds to complete. These values represent a maximum course swing of up to 90% of

the course alignment tolerance for a Category I localizer, but more significantly the signal would oscillate wildly for that whole time. **Additional modeling of a 757 airframe resulted in a 75% reduction in course oscillations. See Figure 4.**

6. 747 exiting on taxiway A8 and turning SW on taxiway Alpha to taxiway A5 – this maneuver was not modeled as a specific case, as each portion of the path has been considered in previous studies. The exit on taxiway A8 and the turn onto taxiway Alpha are depicted in Figure 4, which reveals the most significant impact. In this area, maximum course deflections are 8.8 uA to the right and 13.6 uA to the left, for a total swing of 22.4 uA. Once the aircraft is proceeding SW on taxiway Alpha its impact becomes negligible, and the later turn onto taxiway Victor is the same as that depicted in Figure 3, and those effects are also negligible. The significant effects are therefore limited to the transit through the localizer on-course signal while on taxiway A8, and the turn onto taxiway Alpha when the aircraft's tail swings through the localizer signal path. The total swing is equivalent to 52.3 feet at threshold or 177 feet four miles out from the threshold. Based upon 10 knots of ground speed in tight turns, the critical portion of this maneuver would require approximately 28 seconds to complete. These values represent a maximum course swing of up to 90% of the course alignment tolerance for a Category I localizer, with significant side to side oscillations during that time. **See Figures 3 and 4.**

7. 747 exiting on taxiway A9 and turning to the SW on taxiway Alpha – course swings a maximum of 38.4 uA to the right and 44.2 uA to the left, for a total swing of 81.6 uA before restabalizing. The total swing is equivalent to 190 feet at threshold or 644 feet four miles out from the threshold. Based upon 10 knots of ground speed in a tight turn, the roughly 400 feet during which unacceptable course shifts will occur will require approximately 24 seconds for the aircraft to move through that area. These values represent a maximum course swing of up to 295% of the course alignment tolerance for a Category I localizer. These predicted impacts are considerably greater (165% to 187%) than those calculated for a 747 exiting at A9 following a straight in approach. **Additional modeling of 737 and 757 airframes resulted in 80% and 70% reductions respectively in course oscillations. See Figure 5.**

8. 747 exiting on taxiway A10 and turning to the SW on taxiway Alpha – course swings a maximum of 155 uA to the right and 102 uA to the left, for a total swing of 257 uA before restabalizing. The total swing is equivalent to 600 feet at threshold or 2032 feet four miles out from the threshold. Based upon 10 knots of ground speed in a tight turn, the roughly 400 feet during which unacceptable course shifts will occur will require approximately 24 seconds for the aircraft to move through that area. These values represent a maximum course swing of slightly more than 1000% of the course alignment tolerance for a Category I localizer. These predicted impacts are considerably greater (175% to 680%) than those calculated for a 747 exiting at A10 following a straight in approach. **Additional modeling of 737 and 757 airframes resulted in significant reductions in the course oscillations, but those results remained well outside acceptable limits. See Figure 6.**

These results present a prediction of the impact of taxiing aircraft on the 04L offset ILS approach. The reader must note the alignment tolerance does not address course stability; rather

it addresses the alignment accuracy required at threshold. The magnitude, duration, and rate of oscillation may introduce excessive needle fluctuations in the cockpit and autopilot unlocks during coupled approaches. Graphic presentations of the results follow.

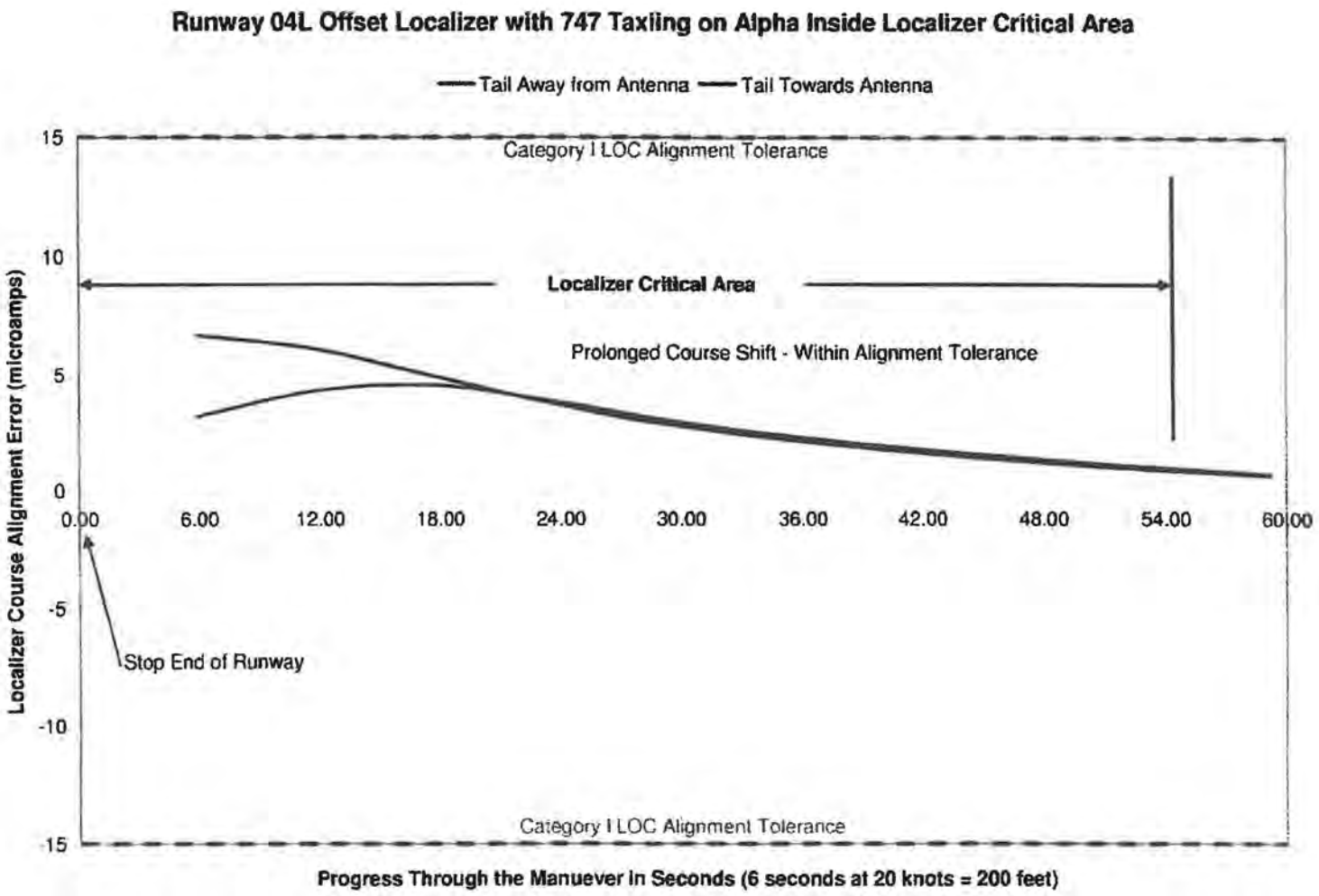

Runway 04L Offset Localizer with 747 Taxiing on Alpha Inside Localizer Critical Area
Tail Away from Antenna
Tail Towards Antenna
Category I LOC Alignment Tolerance
Localizer Critical Area
Prolonged Course Shift - Within Alignment Tolerance
Stop End of Runway
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
15
10
5
0
-5
-10
-15
0.00
6.00
12.00
18.00
24.00
30.00
36.00
42.00
48.00
54.00
60.00
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 1

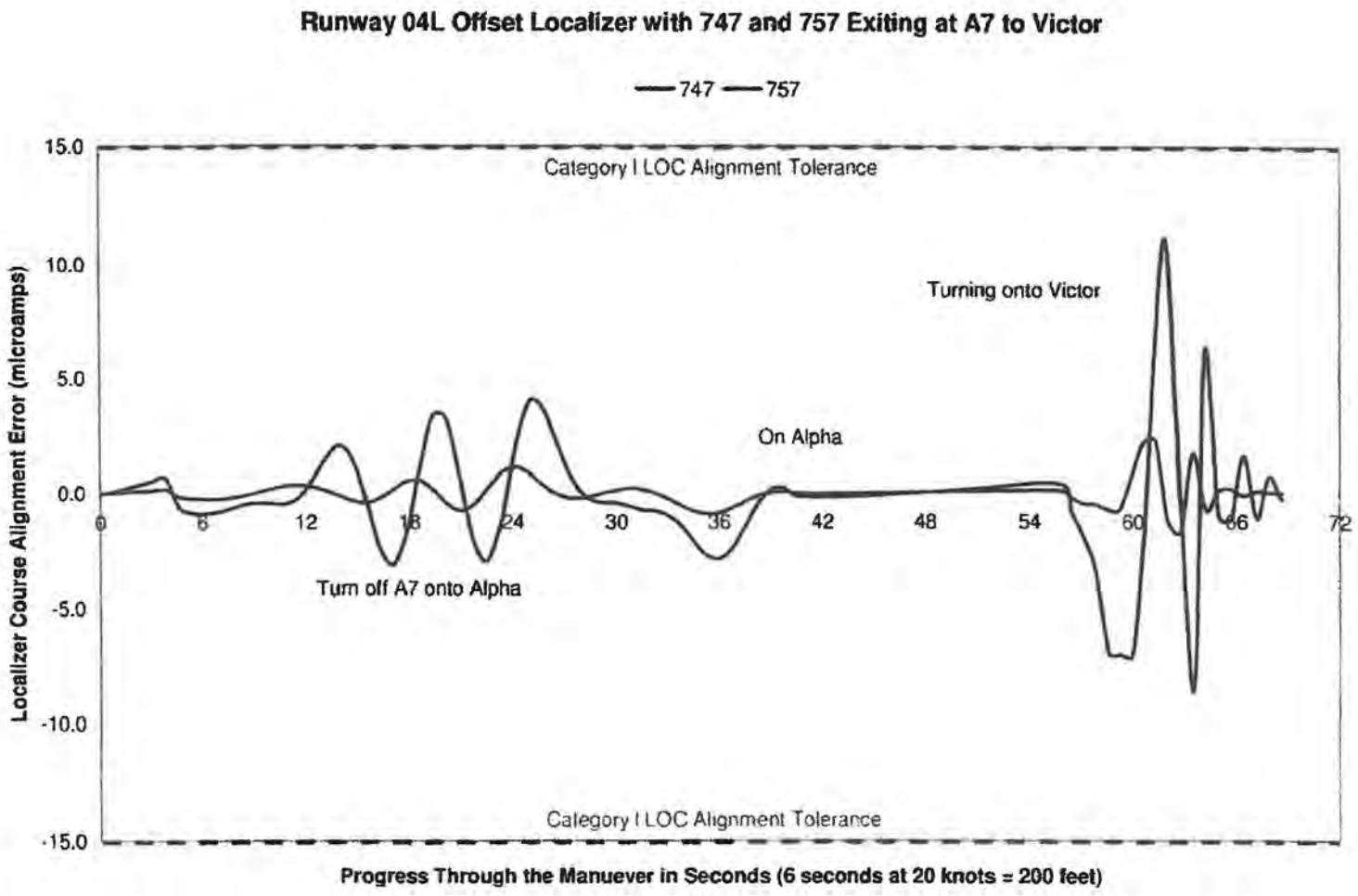

Runway 04L Offset Localizer with 747 and 757 Exiting at A7 to Victor
747
757
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
Category I LOC Alignment Tolerance
Turning onto Victor
On Alpha
Turn off A7 onto Alpha
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
0
6
12
18
24
30
36
42
48
54
60
66
72
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 2

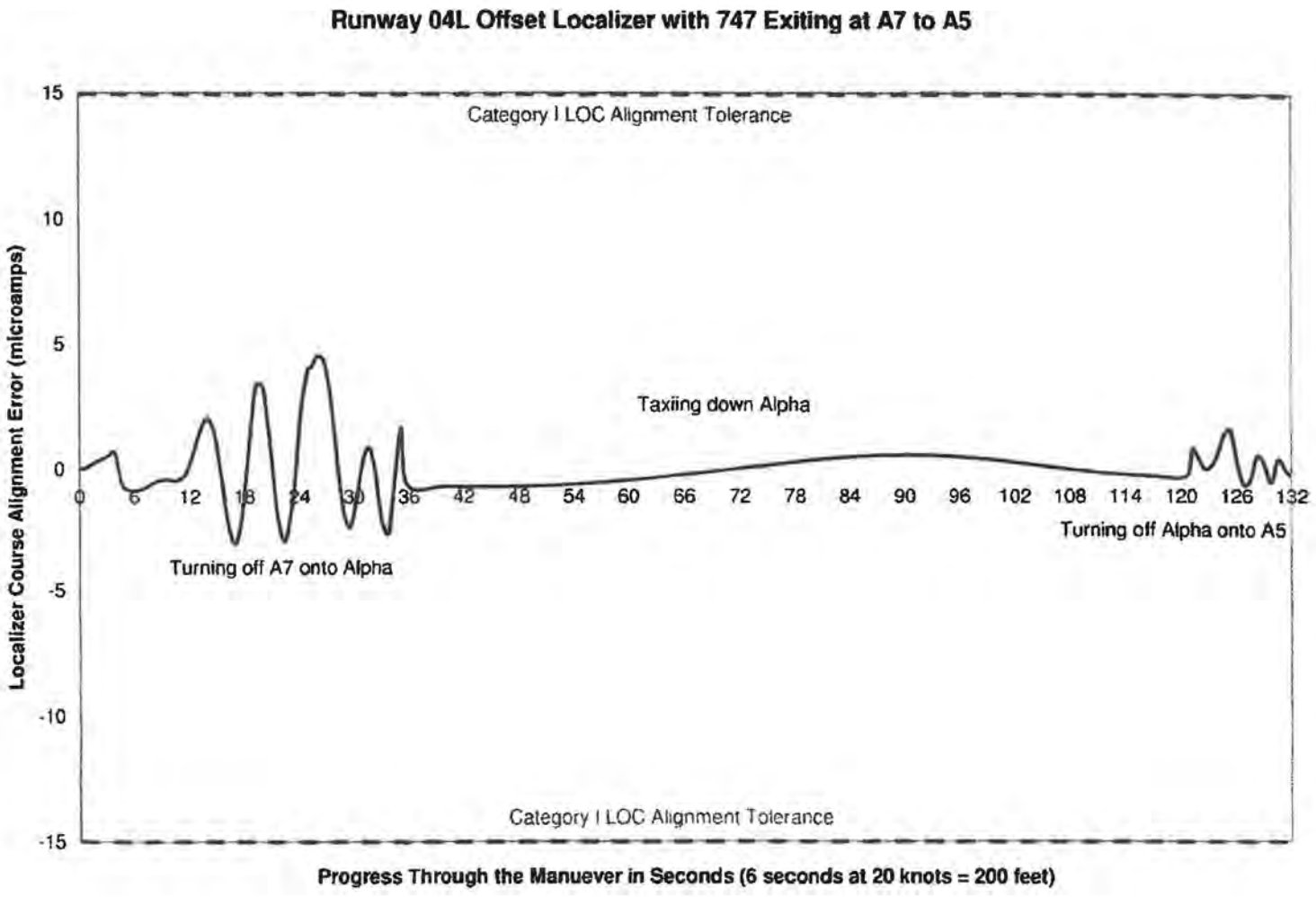

Runway 04L Offset Localizer with 747 Exiting at A7 to A5
Category I LOC Alignment Tolerance
Taxiing down Alpha
Turning off A7 onto Alpha
Turning off Alpha onto A5
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)
15
10
5
0
-5
-10
-15
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
102
108
114
120
126
132

Figure 3

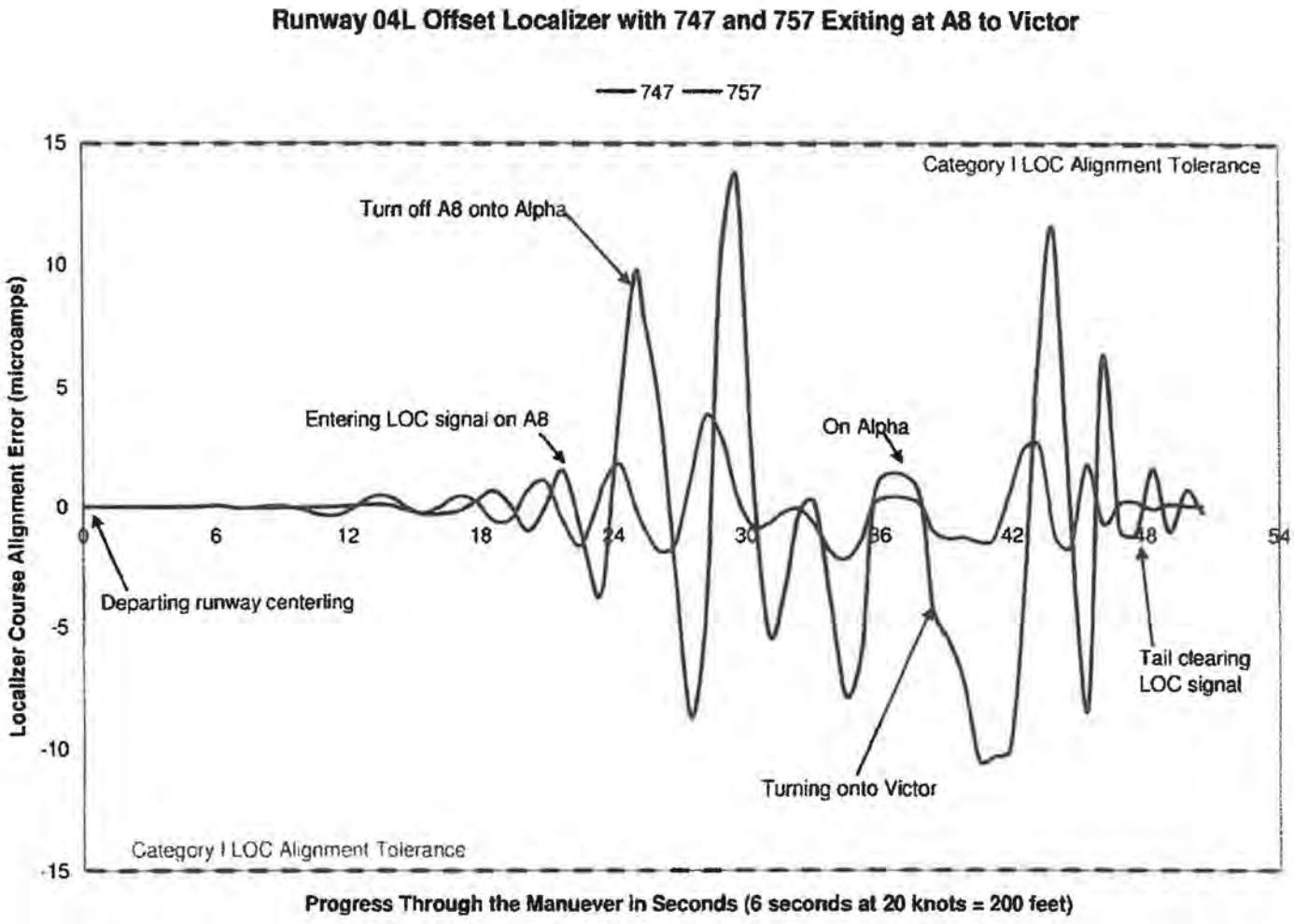

Runway 04L Offset Localizer with 747 and 757 Exiting at A8 to Victor
747
757
Category I LOC Alignment Tolerance
Turn off A8 onto Alpha
Entering LOC signal on A8
On Alpha
Departing runway centerling
Tail clearing LOC signal
Turning onto Victor
Category I LOC Alignment Tolerance
Localizer Course Alignment Error (microamps)
15
10
5
0
-5
-10
-15
0
6
12
18
24
30
36
42
48
54
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 4

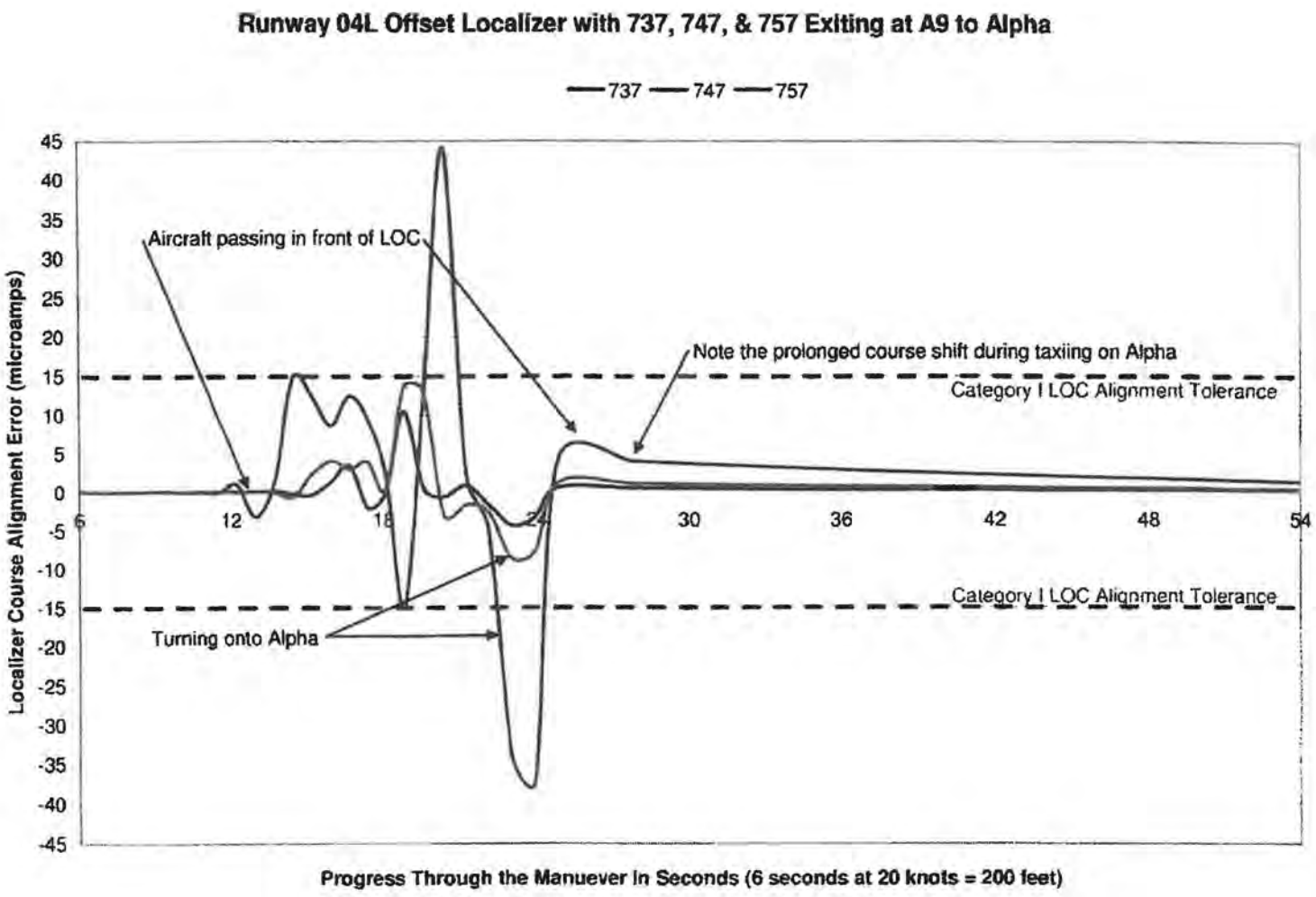

Runway 04L Offset Localizer with 737, 747, & 757 Exiting at A9 to Alpha
737
747
757
Localizer Course Alignment Error (microamps)
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
6
12
18
24
30
36
42
48
54
Aircraft passing in front of LOC
Note the prolonged course shift during taxiing on Alpha
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
Turning onto Alpha
Progress Through the Manuever In Seconds (6 seconds at 20 knots = 200 feet)

Figure 5

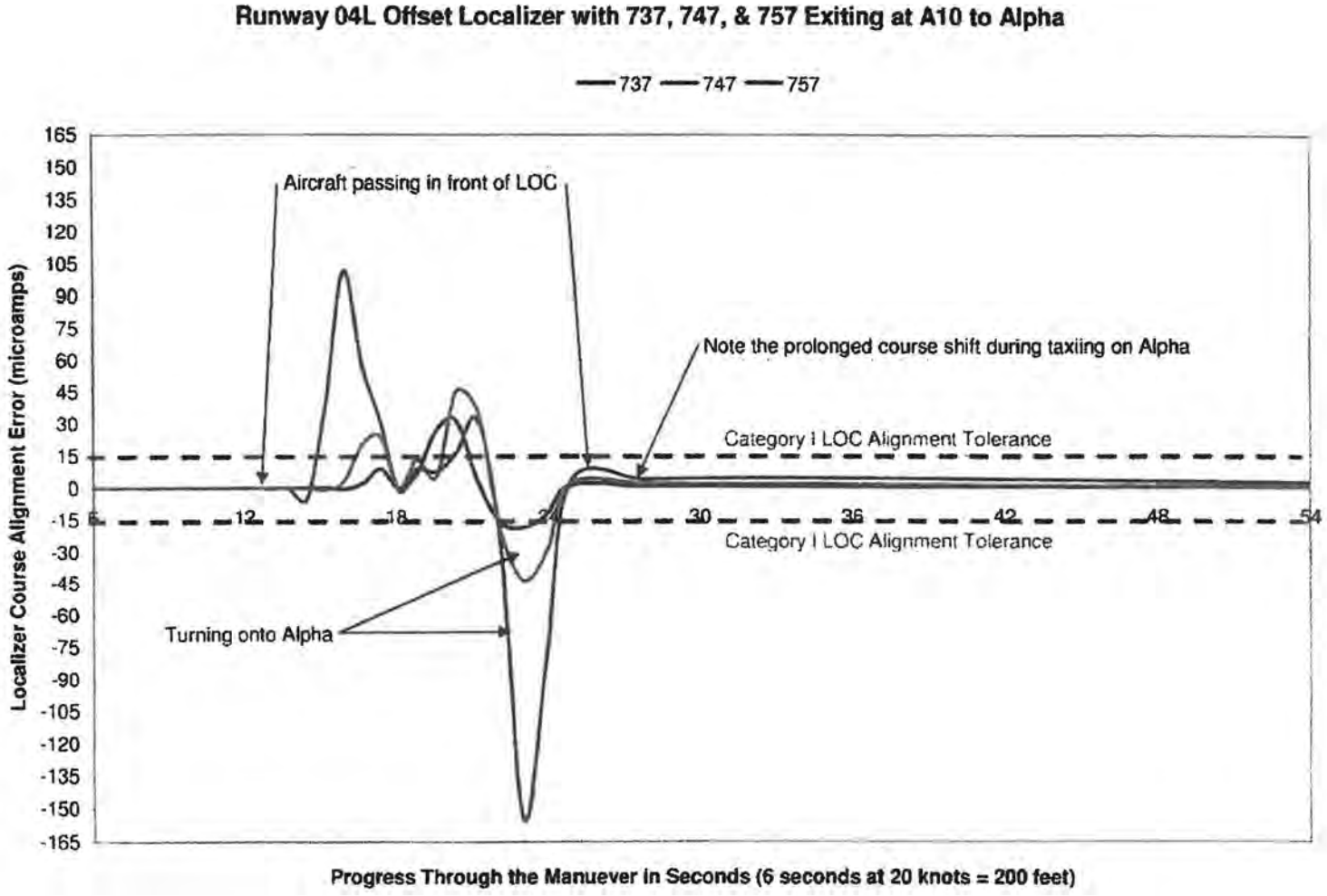
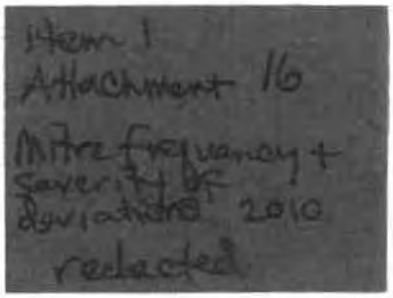

Runway 04L Offset Localizer with 737, 747, & 757 Exiting at A10 to Alpha
737
747
757
Localizer Course Alignment Error (microamps)
165
150
135
120
105
90
75
60
45
30
15
0
-15
-30
-45
-60
-75
-90
-105
-120
-135
-150
-165
Aircraft passing in front of LOC
Note the prolonged course shift during taxiing on Alpha
Category I LOC Alignment Tolerance
Category I LOC Alignment Tolerance
Turning onto Alpha
6
12
18
24
30
36
42
48
54
Progress Through the Manuever in Seconds (6 seconds at 20 knots = 200 feet)

Figure 6


Item 1
Attachment 16
Mitre frequency +
severity of
deviations 2010
redacted

MP100221

MITRE PRODUCT

MITRE

Frequency and Severity of Deviations during Simultaneous Independent Approaches to Parallel Runways – A 2010 Update

July 2010

CAASD

The contents of this material reflect the views of the author and/or the Director of the Center for Advanced Aviation System Development (CAASD), and do not necessarily reflect the views of the Federal Aviation Administration (FAA) or the Department of Transportation (DOT). Neither the FAA nor the DOT makes any warranty or guarantee, or promise, expressed or implied, concerning the content or accuracy of the views expressed herein.

Table 1. Severity and Rate of NTZ Penetrations during FY08 – FY10 (June 2010)

Severity (degrees deviation)	FY08 Penetrations	FY09 Penetrations	FY10 (6/30/2010) Penetrations	Total Penetrations	Penetration Rate per Approach	Approaches/ Penetration
<10 degrees	12	9	3	24	2.34E-05	42,734
10-19 degrees	2	6	4	12	1.17E-05	85,467
20-29 degrees	0	4	1	5	4.88E-06	205,121
Total	**14**	**19**	**8**	**41**	**4.00E-05**	**25,015**
Approaches	405,035	305,217	315,354	1,025,606		

Table of Contents

List of Tables

1 Introduction

The Federal Aviation Administration (FAA) has successfully accommodated simultaneous independent approaches ("simultaneous approaches") to parallel runways for over 40 years using Instrument Landing System (ILS) navigation and terminal radar monitoring. Recent advances in navigation and surveillance have sparked interest in reviewing the current standards for these approaches. Additional advances in the availability and collection of radar data have made it possible to identify and screen simultaneous approaches for deviations from the final approach path.

At the request of the FAA, The MITRE Corporation's Center for Advanced Aviation System Development (CAASD) is gathering data to validate or revise assumptions made during the development of simultaneous approach standards, principally the rate and severity of deviations from one approach course towards another, and to make recommendations on future testing that might lead to revision of the existing standards. This data collection began in Fiscal Year (FY) 2008, and initial results were reported in [Massimini et al., 2008] and updated in [Massimini et al., 2009]. This report is an update to the original report and contains consolidated data collected during FY08, FY09, and FY10 through June of 2010. Background and methodology information is not repeated in this report; refer to [Massimini et al., 2008].

Note that this paper only refers to simultaneous approaches conducted in less than visual approach conditions—dependent instrument approaches and visual approaches are not discussed. Also note, however, that the aircraft usually would encounter visual conditions at some time on the approach. For example, if the airport weather was 2000 feet (ft) ceiling and 4 statute miles visibility, the airport could not conduct visual approaches to multiple runways. Therefore, simultaneous approach procedures would be in use. However, when the aircraft descended through 2000 ft above the ground, they would be flying in visual conditions. This operation would be considered a simultaneous approach and would be included in this research.

The term "simultaneous approaches" will be used in this paper to indicate simultaneous independent approaches in weather conditions that preclude the use of visual approaches.

1.1 Organization of the Report

Section 1 contains background. Section 2 contains a summary of the data collected, and Section 3 provides recommendations.

1.2 Caveats

As discussed in [Massimini et al., 2008], the results presented in this report are an attempt to obtain objective data on the frequency and severity of blunders during simultaneous approaches and are believed to be the most objective data available on these subjects.

Notwithstanding, there are certain imperfections and areas of subjectivity in the analysis. For example:

Radar trajectories from FAA data often have anomalies that cause the point-by-point trajectories to be erratic. Also, some radars have bias, and the data often shift between radars when redundant coverage is available at an airport, which is common at large airports. This sometimes makes it difficult to determine if an aircraft actually entered the No Transgression Zone (NTZ), or if the trajectory was just erratic due to data anomalies. Also, measuring the deviation angle had to be approximated in several cases due to radar jitter.

Several events were detected and rejected since they occurred during turn onto final, where 1000 ft vertical separation was maintained. However, as may be detected in the events described in Section 3, a sloppy and uncorrected turn on sometimes led to a deviation later in the approach after altitude separation was lost. The distinction between a rejected turn-on event and a deviation that was accepted was made by persons experienced in the analysis of simultaneous approaches, but was somewhat subjective.

The count of simultaneous approaches was inferred from FAA arrival and weather data. Simultaneous approaches were assumed in progress if the weather was less than visual approach minima for the airport and the arrival rate was more than ten aircraft/15-minute period. It is possible that facilities could be conducting simultaneous approaches at other times, which might tend to undercount the number of approaches. It is also possible that facilities were not conducting simultaneous approaches during the times CAASD inferred, either due to data inaccuracies or to CAASD's inference assumptions. However, CAASD spot checked several times and these checks indicated that the criteria to infer simultaneous approaches appeared to be reasonable for all airports except for Memphis International Airport (MEM), which appears to be conducting dependent parallel approaches during the last few months (based on requests for voice recordings from the facility after a deviation was discovered). Accordingly, the approach and deviation data from Memphis for FY10 have been removed from the summary for this report. Data for FY08 and FY09 were retained, however, since there were no significant indications of dependent approaches during those years.

This data collection did not attempt to gather information on approaches where a controller gave a correction to an aircraft, but the aircraft never flew near or into the NTZ. An event of this type would be, at most, a minor deviation from course, and the effect would be measured more effectively as controller workload.

In summary, the authors believe that the data presented in this report provide a reasonable estimate of the rate and severity of deviations during simultaneous approaches.

2 Event Summary and Analysis

2.1 Approaches Analyzed

Table 2 shows the number of approaches screened at each airport during the period of 1 October 2007 to 30 June 2010.

Table 2. Simultaneous Approaches Screened during FY08 – FY10 (June 2010)

Airport	FY08	FY09	FY10 (6/30/2010)	Totals
ATL	84,826	92,295	71,442	251,563
CLT	33,123	36,739	25,984	95,846
CVG	15,832	9,798	6,838	32,468
DEN	14,279	12,865	14,338	41,482
DFW	41,919	41,222	45,810	128,951
DTW	28,658	27,628	23,718	80,004
IAD	13,345	13,390	10,076	36,811
IAH	55,867	43,005	38,092	136,964
LAX	41,657	30,627	20,226	92,510
MEM	20,406	24,149	*	44,555
ORD	47,865	37,853	49,484	135,202
SLC	7,258	7,597	9,346	24,201
Total	405,035	380,168	315,354	1,100,557

* MEM was eliminated in 2010 due to high number of dependent approaches.

2.2 Summary of Frequency and Severity of Events Identified as Probable NTZ Violations

Table 3 provides a summary of NTZ penetrations discovered during the period of 1 October 2007 to 30 June 2010. Individual events are not presented, but radar plots are available for each event.

Table 3. Severity and Rate of NTZ Penetrations during FY08 – FY10 (June 2010)

Severity (degrees deviation)	FY08 Penetrations	FY09 Penetrations	FY10 (6/30/2010) Penetrations	Total Penetrations	Penetration Rate per Approach	Approaches/ Penetration
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Total	**14**	**19**	**8**	**41**	**4.00E-05**	**25,015**
Approaches	405,035	305,217	315,354	1,025,606		

As reported for in earlier reports [Massimini et al., 2008 and 2009], the rate of events is much lower than the bounding rate of 1 deviation/2000 approaches used by the Precision Runway Monitor (PRM) Demonstration Program and the Multiple Parallel Approach Program (MPAP) in the 1990s. Notwithstanding, some significant deviations did occur. For example, one deviation has a severity of 29 degrees—similar to the 30 degree angle used during earlier FAA analysis.

No non-responding blunders were found—all aircraft turned back to course after the NTZ penetration. An approximate 99% upper confidence bound (UCB) for the rate of non-responding deviations would be 1/238,893. Thus, there is evidence to suggest that the 1/200,000 rate of 30 degrees non-responding blunders was also conservative, as was also postulated in the PRM Demonstration Program and the MPAP.

3 Recommendations

Many of the recommendations contained in [Massimini et al., 2008] have been acted upon—the FAA began testing for revised standards for simultaneous approach procedures in July 2009. The initial test was for closely-spaced simultaneous approaches, and additional testing is also planned.

Although this data gathering effort has been fruitful, it is labor intensive. The data gathering has been successful in that deviations from final approaches have been characterized for over one million simultaneous approaches. Further testing may provide refined estimates, but is unlikely to provide significantly more insight than the large sample of simultaneous approaches already investigated.

New simultaneous approach standards will have to be validated in a Safety Risk Management Document (SRMD). An SRMD is almost certain to suggest or require monitoring of simultaneous approaches for deviations from final approach. CAASD has developed an automated tool to screen and identify deviations from independent approaches. Use of this automated tool should reduce the cost of maintaining the data collection. CAASD recommends transitioning to the automated tool at the beginning of FY 2011. See [Eckstein et al., 2010] for additional details.

4 List of References

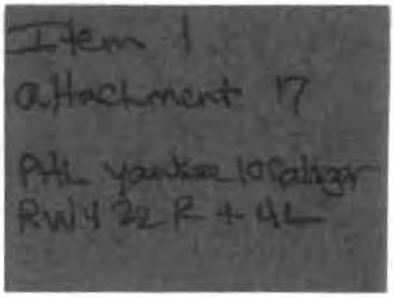
Eckstein, A., Dr. S. V. Massimini, G. C. McNeill, M. J. Mill, F. A. Niles, 2010, *Prototype for an Automated Approach Data Collection and Reporting Capability*, MTR100216, The MITRE Corporation, McLean, VA.

Massimini, Dr. S. V., G. C. McNeill, N. Tene, 2008, *Frequency and Severity of Deviations During Simultaneous Independent Approaches to Parallel Runways*, MP080164, The MITRE Corporation, McLean, VA.

Massimini, Dr. S. V., G. C. McNeill, N. Tene, 2009, *Frequency and Severity of Deviations During Simultaneous Independent Approaches to Parallel Runways–A 2009 Update*, MP090245, The MITRE Corporation, McLean, VA.

Appendix A Glossary

ATL	Atlanta Hartsfield - Jackson International Airport
CAASD	Center for Advanced Aviation System Development
CLT	Charlotte/Douglas International Airport
CVG	Covington, Cincinnati/Northern Kentucky International Airport
DEN	Denver International Airport
DFW	Dallas-Fort Worth International Airport
DTW	Detroit Metropolitan Wayne County Airport
FAA	Federal Aviation Administration
FMA	Final Monitor Aid
ft	feet/foot
FY	Fiscal Year
IAD	Washington Dulles International Airport
IAH	George Bush Intercontinental/Houston Airport
ILS	Instrument Landing System
LAX	Los Angeles International Airport
MEM	Memphis International Airport
MPAP	Multiple Parallel Approach Program
NTZ	No Transgression Zone
ORD	Chicago O'Hare International Airport
PRM	Precision Runway Monitor
SLC	Salt Lake City International Airport
SRMD	Safety Risk Management Document
UCB	Upper Confidence Bound


Item 1
Attachment 17
PHL yankee 10 Caliber
RWY 22R + 4L

PHL - DTW

Preliminary Discussion List / Brainstorming

Mission: To assess the safety risks, if any, and mitigations for any hazards discovered, reference the Yankee Localizer RWY 22R and 4L

1. Equipment was flight checked good – no aircraft in critical area when completed (TP)
2. Equipment in a location that is acceptable by rules and regs (TP)
3. The math model identified that large profile AC can put the signal outside of the tolerance (E, TP)
4. Do not know how the signal affects all aircraft (TP)
5. Winter - Low Vis (SS)
6. Pilot awareness – Offset Charting (SR)
7. Are the safety protocols satisfactory (TP)
8. Estimated 2000 or less operations with the Yankee localizer (TP)
9. XX Go-Arounds by pilots due to the Yankee localizer (TP)
10. How many Go-arounds caused by the Offsets (See #9)
11. False localizer information (caused by offset of 2.5 degrees on charts) (pilot concern) (TP)
12. Loss of signal - instrument showing oscilation of signal or partial loss of signal (pilot concern) (E)
13. Educate pilots who seldom see the offsets (See #6)
14. Add to ATIS that there is an Offset (SR)
15. Add to the 10-7/company page? Highlight offset (Jepps) (See #6)
16. Offset approach not flown everyday (TP)
17. Additional phraseology from feeder controllers (TP, SR)

18. Attention all users page (See #6)
19. Close proximity of localizer to the runways/taxiways (E, C)
20. What can an aircraft encounter if the signal is disrupted (TP-not enough data)
21. What is the ATC procedure response? (TP)
22. How much of a signal disruption must occur for the aircraft to be affected (TP)
23. The localizer signal leads the aircraft into the non transgressional zone (TP)
24. Yankee localizer Weather minimums? (TP)
25. Aircraft breaks off offset ILS approach and is cleared for visual (TP)
26. Staggering approaches not doing PRMs(TP)
27. No B757-300 or larger on RWY 22R/4L(SR)

Item 2

Results and comments from FAA's flight inspections for ILS4 approaches

[redacted]

FIPC BASIC FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
ILS Y RWY 4L 1	DETROIT METROPOLITAN WAYNE	KDTW	BP-09-194-16

FAC ID: ALA	CITY: DETROIT	ST: MI	ORIG CHART DATE: 11/10/2016

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/A	☐ YES	0.5		2015060927130704006

PREFLIGHT NOTES

REVIEWER:	DATE:
COMMENTS:	CHECK ONE: ☐ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?	X	

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
11/10/2016	VN329	N73	☒ SAT ☐ SAT W/CHANGES ☐ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
[redacted] @ 11/14/2016 07:27	[redacted]	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
This obstacle check completes the previous flight inspection of 11/02/2016, N68.

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

FIPC BASIC FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
ILS Y RWY 4L 1	DETROIT METROPOLITAN WAYNE	KDTW	BP-08-256-16

FAC ID: ALA	CITY: DETROIT	ST: MI	ORIG CHART DATE: 11/10/2016

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/A	☐ YES	0.5		20150609271307040006

PREFLIGHT NOTES

REVIEWER:	DATE:
COMMENTS:	CHECK ONE: ☐ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?	X	

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
09/16/2016	VN888		☐ SAT ☐ SAT W/CHANGES ☒ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
[redacted] @ 09/16/2016 16:38	AVN, CREWMEMBER 2	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
Due to runway construction, 04L/22R will not be done until 11/10/16

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

FIPC BASIC FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
ILS PRM Y RWY 22R I	DETROIT METROPOLITAN WAYNE	KDTW	BP-08-253-16

FAC ID: BZB	CITY: DETROIT	ST: MI	ORIG CHART DATE: 11/10/2016

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/A	☐ YES	0.5		20150609271307040003

PREFLIGHT NOTES

REVIEWER:	DATE:
COMMENTS:	CHECK ONE: ☐ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?		

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
09/16/2016	VN888		☐ SAT ☐ SAT W/CHANGES ☒ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
[redacted] @ 09/16/2016 16:38	AVN, CREWMEMBER 2	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
Due to runway construction, 04L/22R will not be done until 11/10/16

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

ILS PRM Y RWY 22R (CLOSE PARALLEL)

DETROIT METROPOLITAN WAYNE COUNTY (DTW)

LOC/DME I-BZB	APP CRS	Rwy ldg	10000
111.75	213°	TDZE	642
Chan 54 (Y)		Apt Elev	645

DME or RADAR required. Simultaneous approach authorized. Procedure NA when glide slope not available. Dual VHF Comm required. See additional requirements on AAUP.

MALSR

MISSED APPROACH: Climb to 1100 then climbing right turn to 4000 on DXO VOR/DME R-297 to DOHNT INT/DXO 15.5 DME and hold.

ATIS	DETROIT APP CON	METRO TOWER	GND CON	CLNC DEL	CPDLC
133.675	124.05 363.2 (WEST) 125.15 363.2 (EAST)	128.125 317.725 PRM 127.05	121.8 (NW) 119.45 (NE) 132.72 (SW) 119.25 (SE)	120.65	

RADAR REQUIRED

ALTERNATE MISSED APCH FIX: DOHNT INT, JXN 34.3, R-329 (326°T), R-090 (085°T), 109.6 JXN Chan 33, 090° (085°T), 270° (265°T), 115.7 CRL Chan 104

MISSED APCH FIX: DOHNT INT, DXO 15.5, R-218 (215°T), R-297 (291°T), 114.3 SVM Chan 90, 111° (111°T), 117°, 291° (291°T), 297°

(IAF) HRRON 6000 210K (RNAV 1) (GPS REQD) — 4000 131° (6.6) (124°T)

(IAF) VALLI 6000 210K (RNAV 1) (GPS REQD) — 4000 097° (7.6) (090°T)

KLIER 4000

(IAF) PYRET I-BZB 23.6 RADAR — 033° (026°T) — 4000 (177°T) 184° (3.6)

GRDCY I-BZB 20.5 RADAR — 213° (206°T) 4000 (3.1)

MMOTR I-BZB 18.5 RADAR — 213° (206°T) 4000 (2)

TAYUL I-BZB 15.4 RADAR — 213° (206°T) 4000 (3.1)

EMINN I-BZB 12.2 RADAR — 213° (206°T) 3000 (3.1)

(IF) WONDR I-BZB 9.1 RADAR — 213° (206°T) 3000 (3.1)

ANGGL I-BZB 5.9 RADAR — 213° (206°T) 2000 (3.1)

1750

MSA DXO 25 NM — 2800

UNITED STATES / CANADA

DETROIT 113.4 DXO Chan 81

804 717 776 830 728 711 786 781

LOCALIZER 111.75 I-BZB Chan 54 (Y) LOC offset 2.50°

ELEV 645 D TDZE 642

213°

22L 22R 21L 21R 27R 27L 3L 4R 9R 4L 3R

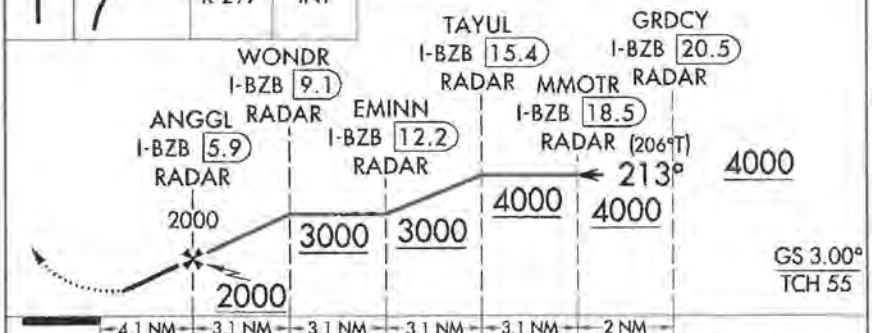
10000 X 150 — 12003 X 200 — 8708 X 150 — 10001 X 150 — 8500 X 150

TWR 877

1652± 689±

1100 | 4000 | DXO R-297 | DOHNT INT

VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 71).



TDZ/CL Rwys 4L, 4R and 3R
REIL Rwys 3L, 9L, 9R and 21R
HIRL all runways

CATEGORY	A	B	C	D
S-ILS 22R	892/24 250 (300-½)			

FIPC BASIC FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
ILS PRM Y RWY 4L I	DETROIT METROPOLITAN WAYNE	KDTW	BP-09-192-16

FAC ID: ALA	CITY: DETROIT	ST: MI	ORIG CHART DATE: 11/10/2016

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/A	☐ YES	0.5		20150609271307040004

PREFLIGHT NOTES

REVIEWER:	DATE:
COMMENTS:	CHECK ONE: ☐ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?		

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
11/10/2016	VN329	N73	☒ SAT ☐ SAT W/CHANGES ☐ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
[redacted] @ 11/10/2016 17:39	[redacted]	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
Completes obstacle check for inspection of 11/02/2016, N68.

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

FIPC BASIC FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
ILS PRM Y RWY 4L 1	DETROIT METROPOLITAN WAYNE	KDTW	BP-08-254-16

FAC ID: ALA	CITY: DETROIT	ST: MI	ORIG CHART DATE: 11/10/2016

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/A	☐ YES	0.5		20150609271307040004

PREFLIGHT NOTES

REVIEWER:	DATE:
COMMENTS:	CHECK ONE: ☐ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?		

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
09/16/2016	VN888		☐ SAT ☐ SAT W/CHANGES ☒ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
[redacted] @ 09/16/2016 16:38	AVN, CREWMEMBER 2	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
Due to runway construction, 04L/22R will not be done until 11/10/16

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

Item 3

written briefings and guidance to controllers after June 2018

(redacted)

Federal Aviation Administration

Memorandum

Date: April 26, 2019

To: DTW Personnel

[redacted]

Digitally signed by [redacted]
Date: 2019.04.26 14:06:30 -04'00'

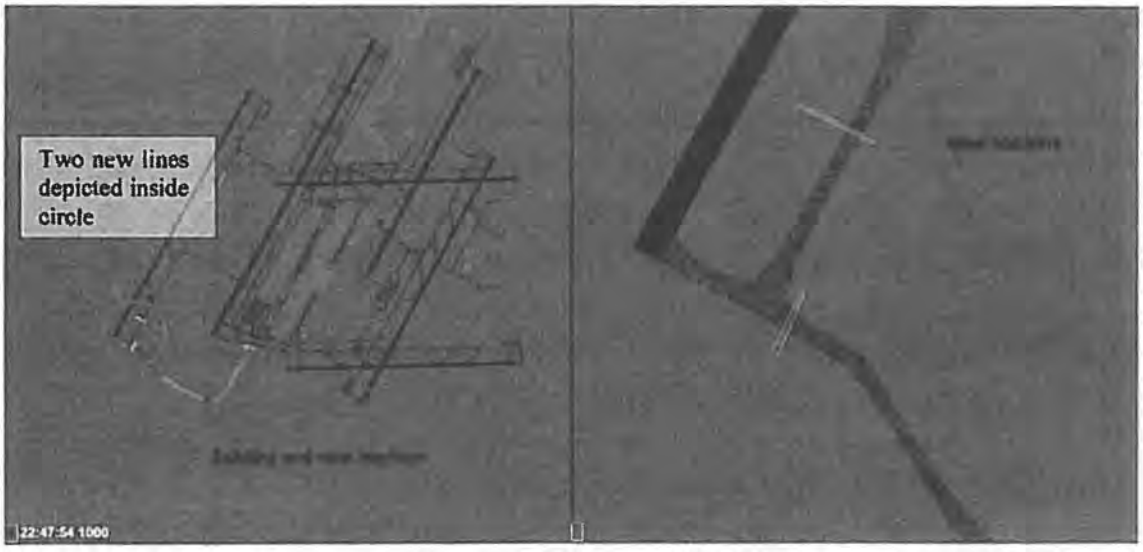
From: [redacted], Air Traffic Manager, Detroit Metro Tower

Prepared By: [redacted], 734-955-5043

Subject: RWY 22R Offset localizer critical area added to ASDE-X map

DTW NATCA requested the ILS Critical area for the offset localizer to RWY 22R be depicted on the ASDE-X map.

The map depicting these lines will be loaded on the mid April 30, 2019 and are depicted below.



Federal Aviation Administration

Memorandum

Date: December 29, 2018

From: D21 TMU

To: All personnel

Subject: Yankee Localizer

Effective immediately, TRACON personnel are authorized to conduct ILS Yankee approaches down to published minimums. The facility requirement to come off the Yankee Localizer when the ceiling or visibility drops below 800' or 2 miles has been lifted. The restrictions in place for heavies and B757/300's remains in effect.

v/r

[redacted]
Supervisor Traffic Management Coordinator
Detroit Metro TRACON
(734) 955-5083
[redacted]@faa.gov

Item 5

Mandatory Occurance reports — Attachment 1

Pilot Complaints — Attachment 2 System Service review

ASAP Reports — Attachment 3

Other anomalies

Since Aug 2018

Redacted

Air Traffic Mandatory Occurrence Report

DTW-M-2019/01/24-0002

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	2 5 0 1 2 0 1 9	0 1 0 5	O Yes ● No

5. MOR reported by (select one):

O Controller providing services
O CIC
O External Facility Referral
O FLM
O Aircraft Owner/Operator
O Hotline (Describe in summary)
O Internal Facility Review
O Electronically Detected
O Other (Describe in summary)

Brasher warning given?	Training in progress?	Nearest Airport:	Alert #:
O Yes O No	O Yes ● No	DTW	

AIRSPACE/ALTITUDE/ROUTE/SPEED MORs

E1. Aircraft information:

Aircraft ID	Aircraft Type/Suffix	IFR/VFR	Facility communicating with A/C	Position communicating with A/C	Frequency
JIA5408	CRJ2	● IFR O VFR	DTW	LNW	135.00

E2. MOR type (only complete one sub-section as applicable):

E2a. Aircraft entered airspace other than expected/intended and alternate actions were taken by ATC or the flight crew:

Airspace entered:

Facility	Position	Frequency
DTW		

Foreign facility deviation: O Yes ● No

Action taken by: ☒ ATC ☒ Flight crew

Unexpected/unintended:
☐ Altitude Assigned: _____ Observed: _____
☐ Speed Assigned: _____ Observed: _____
☒ Route

TCAS RA: O Yes O No

Spillout: O Yes ● No

SUA Name: _____

Route Difference

JIA5408 DID NOT INTERCEPT THE LOC FOR RWY 22R ILS-Y.

METAR Observation

KDTW 250053Z 22015KT 6SM -SN FEW020 BKN024 OVC030 M04/M08 A2981 RMK AO2 SLP104 P0000 T10391078

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2019/01/24-0002

SUMMARY

J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting.

JIA5408 DID NOT INTERCEPT THE LOC FOR RWY 22R ILS-Y AS EXPECTED. THE CONTROLLER REPORTED TO THE PILOT THEY WERE LEFT OF COURSE, THE PILOT SAID THEY WERE CORRECTING. AFTER LANDING, THE PILOT REPORTED THEY HAD INTERMITTENT SIGNAL PROBLEMS WITH ILS-Y. A VEHICLE WAS INSPECTING THE RUNWAY AT THE TIME OF THE TROUBLE. LATER AIRCRAFT REPORTED NO PROBLEM WITH THE SIGNAL AFTER THE VEHICLE CLEARED THE RUNWAY

PILOT DEVIATION

Was this a possible pilot deviation?

○ Yes ● No	Preliminary Number:	Phase of Flight:

Airspace Class:	Aircraft #:	ORG Choices:	Office Number:

Type of Deviation: Control Surface:

Pilot Summary:

Air Traffic Mandatory Occurrence Report

DTW-M-2019/01/24-0002

QA SUMMARY

QA reviewed, No loss of separation

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2019/01/17-0001

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	1 7 0 1 2 0 1 9	2 3 5 8	O Yes ● No

5. MOR reported by (select one):

- ● Controller providing services
- O CIC
- O External Facility Referral
- O FLM
- O Aircraft Owner/Operator
- O Hotline (Describe in summary)
- O Internal Facility Review
- O Electronically Detected
- O Other (Describe in summary)

Brasher warning given? O Yes O No | Training in progress? O Yes ● No | Nearest Airport: DTW | Alert #: _____

AIRPORT ENVIRONMENT MORs

I1. MOR type - airport environment MORs involving aircraft on the airport surface:

- O Aircraft on movement area/runway safety area other than expected/intended
  - Other aircraft within one-mile of landing threshold? O Yes O No
- O Canceled takeoff clearance or flight crew aborted takeoff after crossing hold-short line
- O Aircraft unintentionally maneuvered off runway or taxiway
- O Aircraft within ILS protected area other than expected/intended
  - Other aircraft on final approach - ID _____ Type/Suffix _____

I1a. Occurrence location:

Describe where on the airport surface the occurrence occurred

I1b. Aircraft information:

Aircraft ID	Aircraft type/suffix	Facility communicating with A/C	Position communicating with A/C	Frequency

I2. MOR type - airport environment MORs involving aircraft landing/departing/on low-approach:

- O Aircraft landed/departed or attempted to land/depart runways/surface other than expected/intended
- O Aircraft landed/departed or executed low approach to closed runway (or closed portion thereof)
- ● Turbojet go-around within 1/2 mile of arrival threshold (non-flight training)

I2a. Occurrence location:

RWY 22R

Describe where on the airport surface the occurrence occurred

I1b. Aircraft information:

Aircraft ID	Aircraft type/suffix	Facility communicating with A/C	Position communicating with A/C	Frequency
SKW3650	E75L	DTW	LNW	135.00

I3. MOR type - airport environment MORs involving vehicles on the airport surface:

- O Vehicle on movement area/runway safety area other than expected/intended
  - Aircraft within one-mile of landing threshold? O Yes O No
- O Vehicle within ILS protected area other than expected/intended
  - Aircraft on final approach - ID _____ Type/Suffix _____

I3a. Occurrence location:

Describe where on the airport surface the occurrence occurred

I3b. Vehicle information:

Vehicle type:
- O Airport Operator O Contractor
- O FAA O A/C not for flight
- O Tug O Tug with aircraft
- O Other (summary)

Vehicle ID	Facility communicating with vehicle	Position communicating with vehicle	Frequency

I4. MOR type - airport environment MORs involving pedestrian on the airport surface:

- O Pedestrian on movement area/runway safety area other than expected/intended
  - Aircraft within one-mile of landing threshold? O Yes O No

I4a. Occurrence location:

Describe where on the airport surface the occurrence occurred

I4b. Pedestrian name (if known):

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2019/01/17-0001

SUMMARY

J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting.

SKW3650 WENT AROUND ON A TWO MILE FINAL DUE TO A "NEAR FULL SCALE DEFLECTION ON THE LOC" ILS-Y IN USE AT THE TIME.

RISK ANALYSIS

Was this a Risk Analysis Event?

O Yes ● No

RAE Score:

PILOT DEVIATION

Was this a possible pilot deviation?

O Yes O No

Preliminary Number:

Phase of Flight:

Airspace Class:

Aircraft #:

ORG Choices:

Office Number:

Type of Deviation:

Control Surface:

Pilot Summary:

Air Traffic Mandatory Occurrence Report

DTW-M-2019/01/17-0001

QA SUMMARY

QA reviewed. Localizer critical area was clear. Forwarded for tracking.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/23-0001

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	2 3 0 9 2 0 1 8	1 2 2 2	O Yes ● No

5. MOR reported by (select one):

O Controller providing services
O CIC
O External Facility Referral
O FLM
O Aircraft Owner/Operator
O Hotline (Describe in summary)
O Internal Facility Review
O Electronically Detected
O Other (Describe in summary)

Brasher warning given? O Yes O No	Training in progress? O Yes ● No	Nearest Airport: _____	Alert #: _____

EMERGENCY MORs

H1. MOR type - in-flight emergency conditions involving (select one):

O Medical emergency
O Inflight equipment malfunction
O Pilot Disorientation
O VFR in/on top IFR conditions
O Fuel quantity
O Bird strike
● Other (describe in summary)

H1a. Aircraft information:

Aircraft ID	Aircraft type/suffix	IFR/VFR:	Facility communicating with A/C	Position communicating with A/C	Frequency
EDV3294	CRJ2	O IFR O VFR	DTW	LNW	135.0

H1b. Malfunctioning equipment component:	H1c. Passenger or crew condition:	H1d. Medical assistance aboard:
Only complete for mechanical MORs	Only complete for medical MORs	O Yes O No O Unknown

H2. MOR type - in-flight security conditions involving (select one):

O Laser light illumination
O Hijack
O Bomb threat

H2b. Nearest major city:	H2c. Altitude:	H2d. Route information:		
Only complete for laser light illuminations		Departed	Destination	Diverted to
H2e. Location (lat/long or fix/radial distance);	H2f. Time DEN notified (UTC):		DTW	

METAR Observation

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/23-0001

SUMMARY

J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting.

EDV3294 STATED THAT HE HAD A DISCREPANCY WITH THE LOCALIZER. THE PILOT STATED THAT WHEN THEY WERE ON THE (Y) LOACLIZER THEY WERE MORE THAN 3 DEGREES OFF OF THE APPROACH. THEY SWITCHED TO THE Z LOCALIZER; WHICH WAS NOT ENERGIZED AND THEREFORE DID NOT RECEIVE A SIGNAL.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/23-0001

QA SUMMARY

QA REVIEWED.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/13-0001

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	1 3 0 9 2 0 1 8	0 9 1 8	○ Yes ● No

5. MOR reported by (select one):

○ Controller providing services	○ FLM	○ Internal Facility Review
○ CIC	○ Aircraft Owner/Operator	○ Electronically Detected
○ External Facility Referral	○ Hotline (Describe in summary)	○ Other (Describe in summary)

Brasher warning given?	Training in progress?	Nearest Airport:	Alert #:
○ Yes ○ No	○ Yes ● No	DTW	

INQUIRY MORs

G1. MOR Type - public inquiry:

Any expression of concern or inquiry, by any external entity, that is made by email, telephone, radio, etc., concerning the proximity or operation of an aircraft, either airborne or on the surface

G2. Airborne occurrence:	NMAC:	G3. Reporting source:	G4. Contact number:
○ Yes ● No	○ Yes ○ No	FDX1579	UNKNOWN

G5. Aircraft information:

Aircraft ID	Aircraft type/suffix	Facility communicating with A/C	Position communicating with A/C	Frequency
FDX1579	DC10	DTW	GNE	121.8

METAR Observation

KDTW 130853Z 03004KT 5SM BR BKN040 OVC220 17/14 A3022 RMK AO2 SLP231 T01670144 58002

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/13-0001

SUMMARY

J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting.

AFTER LANDING RWY 22R, THE PILOT OF FEDEX EXPRESSED CONCERN THAT THEY WERE UNAWARE THAT THE LOC WAS OFFSET. THE WARNING ABOUT THE LOC BEING OFFSET WAS ON THE ATIS AT THE TIME.

NMAC

Was this a NMAC?

○ Yes ● No NMAC Number: **120**

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/13-0001

	QA SUMMARY
	QA reviewed.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/04-0001

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	0 4 0 9 2 0 1 8	0 9 5 4	○ Yes ● No

5. MOR reported by (select one):

○ Controller providing services	○ FLM	○ Internal Facility Review
○ CIC	○ Aircraft Owner/Operator	○ Electronically Detected
○ External Facility Referral	○ Hotline (Describe in summary)	○ Other (Describe in summary)

Brasher warning given?	Training in progress?	Nearest Airport:	Alert #:
○ Yes ○ No	○ Yes ● No	DTW	

EMERGENCY MORs

H1. MOR type - in-flight emergency conditions involving (select one):

○ Medical emergency	○ Inflight equipment malfunction	○ Pilot Disorientation	○ VFR in/on top IFR conditions
○ Fuel quantity	○ Bird strike	● Other (describe in summary)	

H1a. Aircraft information:

Aircraft ID	Aircraft type/suffix	IFR/VFR:	Facility communicating with A/C	Position communicating with A/C	Frequency
DAL1658	B753	○ IFR ○ VFR	DTW	LNW	135.0

H1b. Malfunctioning equipment component:	H1c. Passenger or crew condition:	H1d. Medical assistance aboard:
Only complete for mechanical MORs	Only complete for medical MORs	○ Yes ○ No ○ Unknown

H2. MOR type - in-flight security conditions involving (select one):

○ Laser light illumination ○ Hijack ○ Bomb threat

H2b. Nearest major city:	H2c. Altitude:	H2d. Route information:		
Only complete for laser light illuminations		Departed	Destination	Diverted to
H2e. Location (lat/long or fix/radial distance);	H2f. Time DEN notified (UTC):	SFO	DTW	

METAR Observation

KDTW 040853Z 02003KT 9SM SCT130 OVC210 22/20 A3024 RMK AO2 SLP235 T02170200 56005

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/04-0001

	SUMMARY
	J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting. DAL1658 CHECKED WITHOUT THE Y LOCALIZER FREQUENCY. THE Y LOCALLIZER WAS ADVERTISED ON THE ATIS.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/04-0001

QA SUMMARY
QA REVIEWED.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/08/24-0003

	SUMMARY
	J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting. SKW4647 STATED THAT THE ILS (Y) WAS ERRATIC

Air Traffic Mandatory Occurrence Report

DTW-M-2018/08/24-0003

QA SUMMARY

QA REVIEWED.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/09-0002

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	0 9 0 9 2 0 1 8	2 2 4 4	O Yes ● No

5. MOR reported by (select one):

- O Controller providing services
- O CIC
- O External Facility Referral
- O FLM
- O Aircraft Owner/Operator
- O Hotline (Describe in summary)
- O Internal Facility Review
- O Electronically Detected
- O Other (Describe in summary)

Brasher warning given? O Yes O No | Training in progress? O Yes ● No | Nearest Airport: DTW | Alert #: _____

AIRSPACE/ALTITUDE/ROUTE/SPEED MORs

E1. Aircraft information:

Aircraft ID	Aircraft Type/Suffix	IFR/VFR	Facility communicating with A/C	Position communicating with A/C	Frequency
SKW3775	CRJ9	● IFR O VFR	DTW	LSW	135.0

E2. MOR type (only complete one sub-section as applicable):

E2a. Aircraft entered airspace other than expected/intended and alternate actions were taken by ATC or the flight crew:

Airspace entered:

Facility	Position	Frequency
DTW		

Foreign facility deviation: O Yes ● No

Action taken by: ☐ ATC ☐ Flight crew

Unexpected/unintended:

- ☐ Altitude Assigned: _____ Observed: _____
- ☐ Speed Assigned: _____ Observed: _____
- ☒ Route

TCAS RA: O Yes O No

Spillout: O Yes ● No

SUA Name: _____

Route Difference

SEE SUMMARY

METAR Observation

KDTW 092153Z 03013G27KT 7SM -RA OVC025 15/09 A3004 RMK AO2 PK WND 03027/2148 SLP173 P0001 T01500089 $

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/09-0002

SUMMARY

J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting.

SKW3775 REPORTED "ANOMALOUS LOCALIZER THAT WAS INTERMITTANT". D21 ASKED TO TALK TO THE PILOT, PILOT WAS GIVEN CONTACT INFO FOR D21 AND ASKED TO MAKE CALL. NO PROBLEMS NOTED WITH FLIGHT

PILOT DEVIATION

Was this a possible pilot deviation?

○ Yes ● No	Preliminary Number:	Phase of Flight:

Airspace Class:	Aircraft #:	ORG Choices:	Office Number:

Type of Deviation: _____ Control Surface: _____

Pilot Summary:

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/09-0002

QA SUMMARY

QA Reviewed.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/04-0002

1. Reporting FAC ID	2. Date UTC (dd/mm/yyyy)	3. Time UTC	4. Significant Occurrence?
D T W	0 4 0 9 2 0 1 8	1 0 0 7	O Yes ● No

5. MOR reported by (select one):

O Controller providing services	O FLM	O Internal Facility Review
O CIC	O Aircraft Owner/Operator	O Electronically Detected
O External Facility Referral	O Hotline (Describe in summary)	O Other (Describe in summary)

Brasher warning given?	Training in progress?	Nearest Airport:	Alert #:
O Yes O No	O Yes ● No	DTW	

EMERGENCY MORs

H1. MOR type - in-flight emergency conditions involving (select one):

O Medical emergency	O Inflight equipment malfunction	O Pilot Disorientation	O VFR in/on top IFR conditions
O Fuel quantity	O Bird strike	● Other (describe in summary)	

H1a. Aircraft information:

Aircraft ID	Aircraft type/suffix	IFR/VFR:	Facility communicating with A/C	Position communicating with A/C	Frequency
CKS592	B767	O IFR O VFR	DTW	LNW	135.0

H1b. Malfunctioning equipment component:	H1c. Passenger or crew condition:	H1d. Medical assistance aboard:
Only complete for mechanical MORs	Only complete for medical MORs	O Yes O No O Unknown

H2. MOR type - in-flight security conditions involving (select one):

O Laser light illumination O Hijack O Bomb threat

H2b. Nearest major city:	H2c. Altitude:	H2d. Route information: Departed	Destination	Diverted to
Only complete for laser light illuminations		CVG	DTW	
H2e. Location (lat/long or fix/radial distance);	**H2f. Time DEN notified (UTC):**			

METAR Observation

KDTW 040953Z 00000KT 4SM BR SCT130 BKN210 22/20 A3024 RMK AO2 SLP237 T02170200

Printed by [redacted] on 5/24/2019

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/04-0002

	SUMMARY
	J1. Summary - provide a brief summary for all MORs in this section that will provide enough information for QA to understand what occurred. Include information about items that require additional information in the specific MOR you are reporting. CKS592 DID NOT HAVE THE FREQUENCY FOR THE Y LOCALIZER. Y LOCALIZER WAS ADVERTISED ON THE ATIS.

Air Traffic Mandatory Occurrence Report

DTW-M-2018/09/04-0002

QA SUMMARY

QA REVIEWED.

Occurrence Report

Step by Step

This MOR/EOR is in "draft" status. All information contained herein may be inaccurate or incomplete.

* Indicates required item

DTWT-M-2019/01/30-0001

Preliminary Data:

Facility * DTW

Event Date* and Time* (UTC) Jan 30, 2019 1119Z

Event Time (LCL) 0619L

MOR Type * --Air Traffic Reported Unscheduled Outage/Malfunction

Facility Type * Navigation

Nearest Airport:

Questions

Potentially Significant Event?* ○ Yes ○ No

Tech Ops Notified?* ◉ Yes ○ No

What is significant?

METAR Observation:

Additional Information:

Summary *

TWO PILOT REPORTS OF THE RWY22L ILS (Y) IS ONE DOT LOWER THAN THE PAPIS. (MOCC-DN)

RMLS Data:

RMLS Log ID *

Additional RMLS Log Details

linked to:

assigned to:

Previous [redacted] - 1/30/19

trends:

Previous 30 days

Facility - 18
District - 204
Service Area - 1482
System Wide - 3669

Previous 90 days

Facility - 44
District - 635
Service Area - 4159
System Wide - 11070

Previous 6 months

Facility - 110
District - 1274
Service Area - 8332
System Wide - 22144

Previous 12 months

Facility - 239
District - 2715
Service Area - 16593
System Wide -

Select type...

Previous Note(s)

New Note

0 of 2000 characters used.

Read-only link

https://cedar.faa.gov/MorEorForm.php?entryID=324143794&rid=1018782865

Safety Tags

QA Findings *

0 of 3000 characters used.

Save Draft | Send to QC | Close

Cancel

Start Date	Stop Date	Caldate	SSR Number	Facility	Issues Identified	Associated with MOR/EOR
3/10/2019	3/10/2019	3/29/2019	DTW-S-2019/03/09-0002	DTW	Customer Feedback, Weather	NO

Attachment 2
System Service Review

QC Summary	Systemic Issue Identified	Systemic Issue Number	Issue
The panel reviewed the replay and phone call. The panel determined that the ILS Y RY4L was used in accordance with establish ILS minimums. There were other approaches available which the pilot could have asked for if they felt uncomfortable conducting the ILS Y RY4L approach. DAL2789 did fly the ILS Y RY4L approach to a landing and didn't complain about the approach until after landing and on taxiway "A". The panel suggests latitude be given from upper management on the choice of ILS Y verses ILS Z taking into consideration current weather conditions. The panel suggests upper management discuss with FLM/CICs variables impacting the choice between utilizing the ILS "Y" verses the ILS "Z"	No		

Item 5
attachment 3

---------- Forwarded message ---------
From: [redacted]
Date: Wed, Nov 28, 2018, 9:29 AM
Subject: Fwd: ATSAP Confidential Information Share Program- DTW
To: [redacted]
Cc: [redacted]

For your next meeting. Please recommend if a switch is warranted for midnight ops after consult with D21 LSC.

[redacted]

---------- Forwarded message ---------
From: [redacted]
Date: Tue, Nov 27, 2018, 11:56 AM
Subject: ATSAP Confidential Information Share Program- DTW
To: [redacted]
Cc: [redacted]

ATSAP has received the following ASAP pilot report thru our Confidential Information Share Program (CISP) involving **ILS Y 22R.**

The Airline involved has given permission to share this report with any appropriate parties. Please forward this report to your Local Safety Council for review, as well as others that you deem necessary. Please ensure all parties this is shared with are aware this information is confidential and should be treated as such.

We are requesting input from agency and NATCA regarding this issue including any mitigations or additional information you may have on the aspects of this report. Please advise what actions, if any, have been taken to rectify this situation so we can share this information with our partner airline. Joint or coordinated responses are encouraged from agency and NATCA. Please respond to the ATSAP AAT with your thoughts or need for an extension as soon as possible but no later than 14 calendar days of receiving this notification.

[redacted]
ATSAP Analysis Team

On right downwind in night VMC cleared the visual to 22R at DTW. Turned base, configured normally. We loaded the ILS Y 22R based on the ATIS. It was briefed normally paying attention to the nonstandard note about the different ILS frequency and notes about 2.5 degree difference in inbound course (213 versus 216). Turned final, got LOC capture normally and finished configuring. We were cleared to land turning base. When I started to double check our

runway alignment I got really confused. We were lined up on what I thought was 22R but the LOC was off center. With multiple parallels and lack of familiarity with DTW at night I got concerned. The Captain started correcting to the LOC and the aircraft was pointed away from the runway. Added to this, I could not identify 22L due to the airfield lighting configuration. 22R, the runway we had lined up on initially did have all of its MALSR lighting up minus the sequence flashers. I asked Tower to turn 22R lighting intensity up as a way to confirm that we were going to land on the correct runway. They did and the Captain adjusted back to the original/correct course and runway. No unstabilized approach and a minor misalignment for 10 seconds while we confirmed that we were indeed lined up on the correct runway. Recommended Changes:DTW should not use the Y ILS unless it's needed for high traffic volume. With a LDA plate it is apparent that you could become visual with the landing runway from an offset angle. This Y ILS did not make that clear to us, especially since there is a separate ILS PRM for that runway. If there wasn't an operational need to continue using this approach from its daytime use, it should be discontinued during light traffic times, IFR or night when ID of the landing runway can be more challenging. We talked to the Tower Controller once on the ground about our confusion and he said that someone above his pay grade had made the decision to keep using the ILS Y Approach even after traffic volume died down and during the night. This is a threat because even during Visual Approaches, Company Pilots are trained to back it up and confirm correct runway and alignment by having the LOC/GS as confirmation. In this case it worked against us, especially since I only land at DTW every four to six months, so airfield familiarity is lacking and there are four parallel runways at DTW!

Remarks (Upper)

RUNWAY 4L GLIDE SLOPE Y OFFSET OTS. (MOCC-BH)
SKW4998 REPORTED THAT HE LOST THE (Y) LOCALIZER ON INTERCEPT FOR RWY 4L, THERE WAS A B753 IN THE CRITICAL AREA AT THE TIME.
GGN7365 SAID THEY "NEVER GOT THE LOCALIZER" THEY WERE ASSIGNED 22R Y. HE LATER TOLD GNW HE WAS ON VECTORS, GOT DOWN BELOW THE CLOUDS AND PICKED UP TH
RWY 22L LOC AND GS OTS.
[redacted]ON. WCLC. SOUTH FLOW. TWY J9 CLSD. ASDE ONLINE. RWY 21R, 21L, 27L, 27R CLSD.CFPL: AIRPORT BEACON CONTROLLED BY WCAACFPL: RWY 27R ILS TURNED OFF. MC
SOUTH FLOW WIND 310@09, YANKEE LOCALIZER

[redacted]

HE FIELD VISUALLY.

)CC/RHCFPL: EFSTS BEEPING INCORREC