

**Minutes of the Air Traffic Procedures Advisory Committee (ATPAC) Meeting #153
July 11-12, 2016**

**FAA Air Traffic Control System Command Center
3701 Macintosh Drive, Warrenton, VA 20187**

1 Opening of the Meeting

1.1 The 153rd Meeting of the Air Traffic Procedures Advisory Committee (ATPAC) was called to order by Chair Lynette Jamison on Monday, July 11, 2016 at 1:00 p.m. The meeting was held at the Federal Aviation Administration (FAA) Air Traffic Control System Command Center (ATCSCC), 3701 Macintosh Drive, Warrenton, VA.

1.2 Representatives from the FAA, National Aeronautics and Space Administration Aviation Safety Reporting System (NASA ASRS), US Department of Defense (DOD), National Business Aviation Association (NBAA), Aircraft Owners and Pilots Association (AOPA), Air Line Pilots Association (ALPA), Airlines for America (A4A), Allied Pilots Association (APA), National Air Traffic Control Association (NATCA), airlines, and the public attended as follows:

Heather Hemdal, Executive Director	Darnell Jones, FAA
Lynette Jamison, Chair	Robert Lamond, NBAA
Leslie McCormick, Secretary	Chris Lloyd, FAA
Jake Anderson, ALPA	Andy Marosvari, NATCA
James Aviles, FAA	Jordan Miller, APA
Mike Beauvais, FAA	Glenn Morse, United Airlines
Lawrence Beck, FAA	Frank Oley, A4A
John Blair, FAA	Mark Olsen, FAA
Rene Blanco-Lopez, APA	Darrell Pennington, ALPA
John Collins, General Aviation Pilot	Philip Saenger, FAA
Randy DeAngelis, FAA	Frederick Soechting, US Air Force/DOD
Rune Duke, AOPA	Paul Strande, FAA
Kari Gonter, NASA ASRS	Sydney Tutein, US Army/DOD
Keith Henry, FAA	Allan Twigg, United Airlines

1.3 Dave Foyle, Director, System Operations, welcomed the meeting to the ATCSCC on Tuesday morning, July 12.

1.4 Heather Hemdal presented the Executive Director's Report, providing the following information:

a. Status of Areas of Concern (AOC):

- Number of open AOCs: None
- Deferred AOCs from Previous Meetings to Meeting #153 – None
- New AOCs accepted at Meeting #152: None
- Closed AOCs from Meeting #152: 3
 - 145-2 - IFR Services in Class G Airspace
 - 148-01- ADS-B NOTAMS and problem reporting
 - 148-02 - Clearances below published altitudes on procedures and airways

b. Proposed AOCs: 2

- VFR Radar Advisory Service (Flight Following) and Pilot Confusion – submitted by

NASA ASRS and AOPA (**Attachment A**)

- Radio Frequency Interference Tracking Database (RFI) – submitted by NATCA (**Attachment B**)

c. Topics for discussion:

- Status of Runway Approach Hold Sign Test
- Update from 7110.65 Rewrite Team
- Time-Based Flow Management (TBFM) Procedures
- Procedural Changes Resulting from ATO Safety Top 5
- Wake Turbulence Update
- Update on 8400.9 Runway Selection and Use

d. Briefings on new topics

- Marshalling Wand Replacement

e. FAA Update: The FAA Reauthorization expires July 15, 2016 and will be voted on this week.

1.5 Corrections to ATPAC #152 Minutes: The meeting had no changes to the ATPAC #152 Minutes.

1.6 Review of Agenda Items and Call for New Agenda Items. The following agenda was presented to the meeting. No new agenda items were proposed.

- a. Call to Order/Roll Call
- b. Executive Director's Report
- c. Corrections to ATPAC #152 Minutes
- d. Review of Agenda Items and Call for New Agenda Items
- e. Review of Deferred Safety Items/Call for Safety Items
- f. Introduction of New AOCs or Miscellaneous Items
- g. Briefings/Updates on Recurring Agenda Items
- h. Discussion on New Agenda Items
- i. Location and Dates for Future Meetings
- j. Adjourn

2 Review of Deferred Safety Items/Call for Safety Items - None

3 Introduction of New AOCs or Miscellaneous Items

3.1 Two proposed AOCs were submitted to the meeting:

Visual Flight Rules (VFR) Radar Advisory Service (Flight Following) – submitted by NASA ASRS and AOPA

- a. NASA ASRS reports have shown pilots misunderstand what radar flight following means in terms of transitioning Class D surface areas and what pilot versus air traffic controller responsibility is in these situations. This issue was originally presented at the February 2016 ATPAC.
- b. Pilots under radar flight following report via ASRS being terminated and switched over to the Tower with the assumption that the radar controller had received permission for that aircraft to enter the Class D surface area. Pilots and controllers report via ASRS that the aircraft pilot

does not have time to turn away from the airspace and then is violated for an airspace deviation by the Tower as authorization had not been received. Pilots are mistakenly delaying establishing two-way communications with the Tower in this circumstance. Pilot reports show confusion regarding responsibilities when under radar flight following in terms of Class D surface area transitions.

- c. AOPA's Pilot Information Center has received similar reports from pilots. They have also received questions from pilots as to whether they are responsible for calling each tower while enroute and under radar flight following. AOPA believes this is an education issue that should be addressed.
- d. AOPA and NASA proposed the solution to this issue be in the form of a new paragraph in the Aeronautical Information Manual (AIM) that would make it explicitly clear what the pilot's responsibility is and what they can expect from air traffic control.
- e. The following new paragraph was recommended to be added to Section 4-1-18, Terminal Radar Services for VFR Aircraft:

(a) Basic Radar Service.

(6) For a pilot receiving VFR radar advisory service, air traffic control will coordinate with the appropriate control tower to secure authorization for transitions that would take the aircraft through a Class D surface area. The pilot is not expected to obtain his/her own authorization through each area when in contact with a radar facility. When VFR radar advisory service is terminated in close proximity to a Class D surface area, the pilot is still responsible for establishing two-way communications with the control tower as required by 14 CFR Section 91.129.

- f. Following discussion by the meeting, it was suggested that the issue should be addressed in the Class D airspace section as well. (**Attachment C**) Based on this, NASA ASRS and AOPA further recommended a new sentence be added to Section 3-2-5(b)(3), Class D Airspace:

(b) Operating Rules and Pilot/Equipment Requirements:

(3) Arrival or Through Flight Entry Requirements.

Two-way radio communication must be established with the ATC facility providing ATC services prior to entry and thereafter maintain those communications while in the Class D airspace. Pilots of arriving aircraft should contact the control tower on the publicized frequency and give their position, altitude, destination, and any request(s). Radio contact should be initiated far enough from the Class D airspace boundary to preclude entering the Class D airspace before two-way radio communications are established. Pilots receiving VFR radar advisory service should note the ATC facility providing radar services will coordinate with the appropriate control tower for Class D surface area transitions (see paragraph 4-1-18a6).

- g. Bob Lamond proposed that the AOC be accepted as proposed above; seconded by Allen Twigg; approved by the meeting as AOC 153-01.

Radio Frequency Interference Tracking Database (RFI) – submitted by NATCA

- a. RFI is incredibly difficult to find when an aircraft reports it to air traffic control (ATC). The typical process is ATC gathers reports and they are delivered to Spectrum Engineering. They calculate the radio line of sight (RLOS) and plot in Google earth to narrow down a search area and someone drives out to the area to search for what is causing the RFI.
- b. If there was a process for ATC to request a pilot to record the RFI on their cell phone or to request the pilot to monitor the offending frequency and rebroadcast to ATC on another radio so ATC can save the Digital Audio Legal Recorder (DALR) recording, this would greatly improve the FAA's ability to hunt down RFI.
- c. The meeting was informed that there is currently a national repository for RFI tracking. However, it would be helpful to have a repository of recordings of all of the RFI that Spectrum Engineers find in the field with meta tagging of what equipment caused the issue. This recording could then be played to pilots reporting interference and they could tell us whether or not it matches what they are reporting to ATC.
- d. Adding the RFI recording database to rfit.faa.gov or a standalone server could be done at minimal cost with a benefit that would greatly outweigh the cost to the agency. The obvious benefit is cost savings. The more important benefit is ensuring the safety of the National Airspace System (NAS).
- e. The primary roadblock to implementing this plan would be the FAA forming procedures to implement cockpit recording practices requested by air traffic personnel in a real-time environment.
- f. Following a discussion by the meeting, it was agreed that this was a spectrum issue, and agreed that the AOC would not be accepted as it was outside the scope of ATPAC. The proposers were encouraged to submit it to the Communications, Navigation, and Surveillance (CNS) Task Force.
- g. Following the meeting, James Aviles, Spectrum Engineering Services, provided additional information for the benefit of the stakeholders. Reports of interference are received “indirectly” from the following web page:
https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/techops/safety_ops_support/spec_management/contact_us/ This is a general Spectrum web page for ALL different types of inquiries so is not exclusive of RFI issues. There is a web master that forwards anything that is received via the email feature available in this web site as it relates to RFI for investigation and follow up with the party that submitted the complaint. The web master does not check submitted items on a daily basis. When a user hits the submit button in the FAA home page for “General Spectrum” inquiries, it goes to 9-AWA-SpectrumCoordination@faa.gov.
- h. Reports are also received “indirectly” on Global Positioning System (GPS) Anomalies from the following web page: https://www.faa.gov/air_traffic/nas/gps_reports/. This actually allows the user to submit information in a web-form style document. The form goes to the 24/7/365 Satellite Operations Team located at the ATCSCC. They in turn will forward to me via email any unscheduled GPS anomaly report that will need to be investigated while they

respond to the submitter that the report has been logged and is under investigation. The Satellite OPS team will also create an RMLS ticket which in turn is replicated into my RFIT tracking system. So in this case I get the GPS Anomaly report both ways, email and via RFIT. When a user hits the SUBMIT button on this web-form it automatically goes to 9-AEA-ATCSCC-WAAS@faa.gov.

4 Briefings

Status of Runway Approach Hold Sign Test

4.1 David Allen provided an update to the meeting that there had been no change pending input from the FAA Airports organization. AJV-8 expects to move forward with Document Change Proposals (DCPs) with Airport's help. AJV-8 will coordinate with Runway Safety to update pilot materials.

Update from FAA 7110.65 Rewrite Team

4.2 David Allen presented an update on the status of the actions underway by the FAA 7110.65 Rewrite Team:

- a. Completed DCPs signed by Director
 - Approaches to Multiple Runways; (RNAV/RNP), Para 7-4-4
 - Pilot/Controller Glossary Class G Airspace – Memorandum signed by J. Allen to AJV-8 Director closing this item
 - Departure Restrictions, Clearance Void Times, Hold for Release, and Release Times, Para 4-3-4
 - Incorporate Information on Enhanced Flight Vision Systems in PCG
 - Vehicles/Equipment/Personnel on Runways & Ground Traffic Movement, Para(s) 3-1-5 and 3-7-1b
 - Traffic Information (Parallel Runways) & Same Runway Separation, Para(s) 3-1-6 and 3-10-3b2
 - Minima: Speed Assignments for Aircraft Operating Below Class B Airspace, Para(s) 5-7-3 & 7-9-1
 - Line Up and Wait (LUAW), Para 3-9-4
 - Clearance to Holding Fix, Para 4-6-1
- b. Safety Risk Management Document (SRMD) drafted. Addressing AOV Questions and Field non-concurs:
 - Passing or Diverging – Paneled. Memo sent to AFS-400 to address questions from AOV
 - Clearance Information; (Descend Via Phraseology) – Paneled. Going back to the field due to comments.
- c. Out for 45 Day Comment Period:
 - ATC Service, Duty Priority and Operational Priority, Para(s) 2-1-1, 2-1-2 and 2-1-4 – on hold due to Unmanned Aircraft Systems (UAS)
 - Visual Approach, Para 7-4-1
- d. Out for AJV-8 Initial Management Review:

- Minimum EnRoute Altitudes, Para 4-5-6. An exception was made for Global Positioning System (GPS)-equipped aircraft not to use the 22 nautical mile (NM) distance from the navigational aid.
- e. Being Worked by the AJV-8 Specialist:
- Terminal Automation Systems Identification Methods, Para 5-3-4
 - Weather Information, Chapter 2, Section 6

Time Based Flow Management (TBFM) Procedures

4.3 Darnell Jones provided a briefing on the status of TBFM. National guidance for TBFM procedures was published as a Notice to field facilities on December 10, 2015. TBFM national procedures were published/incorporated into the FAA Order 7210.3Z and the FAA Order 7110.65W in May 2016. New TBFM Use Policy language was also incorporated “When departure and or arrival flows are subject to TMI’s (Traffic Management Initiatives) or when supporting PBN procedures, TBFM must be used to the maximum extent feasible in preference to mile-in-trail initiatives.”

4.4 A presentation on the TBFM Action Plan was also provided (**Attachment D**).

Update on Procedural Changes Resulting from the ATO Safety Top 5

4.5 Larry Beck provided an update on the ATO Safety Top 5. (**Attachment E**) Items reported on included Tower Visual Scanning, Wake Encounter, and Loss of Wake Separation.

Wake Re-categorization Project (RECAT)

4.6 Paul Strande provided information on the status of Wake RECAT. Analysis for the RECAT Phase II readiness decision was completed, enabling implementation efforts for the key site at Southern California Terminal Radar Approach Control (TRACON) (SCT) in September. An optimization tool to determine categorizations that enable increased benefit based on the fleet mix of the TRACON has been developed and used for SCT and additional site planning. Modifications to the tool for improved features and performance are planned for the coming year.

4.7 Wake Turbulence Mitigation for Arrivals–Procedure (WTMA–P): Analysis is complete for Philadelphia (PHL), Detroit (DTW), and Atlanta (ATL), and PHL and DTW have been authorized in FAA Order 7110.308A. Discussions with PHL have led to tentative plans for implementation, possibly in the coming months. More coordination with PHL is needed to finalize their plans. For DTW, work is underway for development of an Area Navigation (RNAV) approach to enable use of the procedure there. Discussions with ATL/A80 on potential implementation are pending and the outcome of those discussions will determine whether ATL is added to 7110.308A. No additional site analyses are currently planned, though facilities can send requests for consideration.

4.8 Wake Turbulence Mitigation for Departures (WTMD) and Paired Departures: WTMD operational demonstrations at San Francisco (SFO), Houston Intercontinental (IAH), and Memphis (MEM) were completed in early 2015 with a report published in May 2015. A decision was made by the FAA Joint Resources Council (JRC) not to pursue further acquisition of WTMD due to low availability of the required wind conditions and in turn, low benefits. The JRC approved the FAA NextGen Office execution of an operational demonstration of Paired Departures at SFO. The demonstration is planned to start in fiscal year (FY) 2017 and will enhance the WTMD operational concept and provide a significant increase in opportunities for reduced separation on departure. If the one-year operational demonstration

for Paired Departures shows benefits that support a decision for implementation at other airports, an acquisition decision will be sought via the Acquisition Management System. The operational demonstration of Paired Departures will use the same hardware as WTMD and some refined software and new procedures. Operation safety analysis and an SRM Working Group are currently underway.

4.9 Time Based Wake Separations: Wake turbulence research to assess a time based separation (TBS) concept has begun. This work is considering the feasibility and applicability in the National Airspace System (NAS) of the TBS capability currently in use at London Heathrow Airport. Analysis of wind conditions and separation impacts at US airports will be part of the assessment, along with an investigation of requirements for NAS automation.

Update on FAA Order 8400.9, Runway Selection and Use

4.10 John Blair briefed the meeting on the status of FAA Order 8400.9, *National Safety and Operational Criteria for Runway Selection Plans and Noise Abatement Runway Use Programs*. **(Attachment F)**

4.11 The purpose of this order is to provide a process for towered (Part 139) airports to identify operational parameters for the safe arrival and departure of aircraft at airports. Airports with formal or informal noise abatement programs are required to have a Runway Selection Plan as part of their Noise Abatement Runway Use Program. The Runway Use Plan defines noise-preferred runways and includes wind/weather/environmental limitations for operating in the preferred configuration.

5 Discussion on New Agenda Items

5.1 Joshua Hazelwood and Myrissa Clark requested to provide a presentation on Replace Marshalling Wands. They are students at the University of Southern Indiana. Their proposal incorporated the use of lighted gloves to replace marshalling wands. The gloves would be expected to enhance comfort, increase the flow of the wand user's tasks, and decrease the risk of wand-associated foreign object debris (FOD).

5.2 The meeting agreed that this was not an FAA issue, and would be better addressed to airport managers. The airlines also have safety management programs that would make recommendations to airports.

5.3 Further information was provided to Joshua and Myrissa following the meeting.

6 Location and Dates for Future Meetings

6.1 At the conclusion of the meeting, the Executive Director opened a discussion on the continued viability of ATPAC, noting that there are now many avenues for participation that did not exist when ATPAC was established.

6.2 Participants were given the opportunity to comment, and a summary of the comments follows:

- a. A lot of good has come out of ATPAC with good discussions. However, other meetings now compete for time and participation. There is nothing addressed at ATPAC that can't be covered in another group or by a coalition.
- b. There are more competing groups, and more opportunity is provided to comment on work though wider coordination. This may have replaced the need for ATPAC.

c. While ATPAC is not as robust as it may have been in the past, the DOD representatives do not have the opportunity to participate in some of the other meetings.

6.3 The Executive Director noted all the comments, and directed the Secretary to send out an e-mail to all members to invite comments from those who were not in attendance, as well as additional input as a result of discussions within the represented organizations.

6.4 Further information will be provided on the decision regarding the continuation of ATPAC, as well as information on future meetings, if applicable.

7 Adjournment

7.1 There being no further business, the meeting was adjourned on Tuesday, July 12 at 11:25am.



AIR TRAFFIC PROCEDURES ADVISORY COMMITTEE

AREA OF CONCERN & AGENDA ITEM Submission Form

(Check one)

Area of Concern → Safety Item? Yes No

Agenda Item

For Admin Use Only

AOC Number: AOC 153-01

Date: July 11, 2016

Recommendation

Number: R-_____

SUBJECT: VFR Radar Advisory Service (Flight Following) and Pilot Confusion

DISCUSSION: NASA ASRS reports have shown pilots misunderstand what radar flight following means in terms of transitioning Class D surface areas and what pilot versus air traffic controller responsibility is in these situations. This issue was originally presented at the February 2016 ATPAC.

Pilots under radar flight following report via ASRS being terminated and switched over to the Tower with the assumption that the radar controller had received permission for that aircraft to enter the Class D surface area. Pilots and controllers report via ASRS that the aircraft pilot does not have time to turn away from the airspace and then is violated for an airspace deviation by the Tower as authorization had not been received. Pilots are mistakenly delaying establishing two-way communications with the Tower in this circumstance. Pilot reports show confusion regarding responsibilities when under radar flight following in terms of Class D surface area transitions.

AOPA's Pilot Information Center has received similar reports from pilots. They have also received questions from pilots as to whether they are responsible for calling each tower while enroute and under radar flight following. AOPA believes this is an education issue that should be addressed.

SUGGESTED ATPAC ACTION: AOPA and NASA propose the solution to this issue be in the form of a new paragraph in the Aeronautical Information Manual (AIM) that would make it explicitly clear what the pilot's responsibility is and what they can expect from air traffic control.

Proposed new paragraph to Section 4-1-18. Terminal Radar Services for VFR Aircraft.

(a) Basic Radar Service.

(6) For a pilot receiving VFR radar advisory service, air traffic control will coordinate with the appropriate control tower to secure authorization for transitions that would take the aircraft through a Class D surface area. The pilot is not expected to obtain his/her own authorization through each area when in contact with a radar facility. When VFR radar advisory service is terminated in close proximity to a Class D surface area, the pilot is still responsible for establishing two-way communications with the control tower as required by 14 CFR Section 91.129.

Sponsor: Kari Gonter (NASA ASRS), Rune Duke (AOPA)

Name (Print)

NASA ASRS and AOPA

Organization

AIR TRAFFIC PROCEDURES ADVISORY COMMITTEE

AREA OF CONCERN & AGENDA ITEM Submission Form



(Check one)

Area of Concern → Safety Item? Yes No

Agenda Item

For Admin Use Only
AOC Number: AOC-xxx-xx
ATPAC #xxx
Recommendation
Number: R-_____

SUBJECT: Radio Frequency Interference Tracking Database (RFI)

DISCUSSION:

RFI is incredibly difficult to find when an aircraft reports it to ATC. The typical process is ATC gathers reports and they are delivered to Spectrum Engineering. They [calculate the RLOS and plot in Google earth](#) to narrow down a search area and someone drives out to the area to search for what is causing the RFI.

If there was a process for ATC to request a pilot to record the RFI on their cell phone or to request the pilot to monitor the offending frequency and rebroadcast to ATC on another radio so ATC can save the DALR recording, this would greatly improve the FAA's ability to hunt down RFI.

SUGGESTED ATPAC ACTION:

There is currently a national repository for RFI tracking, rfit.faa.gov. However, it would be helpful to have a repository of recordings of all of the RFI that Spectrum Engineers find in the field with meta tagging of what equipment caused the issue. This recording could then be played to pilots reporting interference and they could tell us whether or not it matches what they are reporting to Air Traffic Control.

I believe the first idea could be coordinated with stakeholders at ATPAC and could be implemented at NO COST to the agency or the users. It would save the agency money by reducing the amount of Flight Checks to hunt down intermittent RFI. It would also save in manpower and travel expenses the agency incurs sending out techs to investigate issues.

The second idea of adding the RFI recording database to rfit.faa.gov or a standalone server could be done at minimal cost with a benefit that would greatly outweigh the cost to the agency.

The obvious benefit is cost savings. The more important benefit is ensuring the safety of the NAS.

The primary roadblock to implementing this plan would be the FAA forming procedures to implement cockpit recording practices requested by air traffic personnel in a real-time environment.

Sponsor: Andy Marosvari

Name (Print)

NATCA

Organization

June 14, 2016

Date

**VFR Radar Advisory Service
(Flight Following)
and Pilot Confusion**

**Submitted by
NASA ASRS and AOPA**

Problem



- Pilot confusion regarding VFR flight following (in radar contact) and ATC versus pilot responsibility
 - Pilots misunderstanding ATC will coordinate transition through Class D airspace
 - Pilot confusion that if they cancel flight following prior to Class D airspace they are responsible for establishing two-way communication with appropriate ATC facility
- 16 ASRS reports ([ACN 1280785](#))
- Calls to AOPA Pilot Information Center

ATC Guidance FAA Order 7110.65 Paragraph 2-1-16



2-1-16. SURFACE AREAS

a. Coordinate with the appropriate nonapproach control tower on an individual aircraft basis before issuing a clearance which would require flight within a surface area for which the tower has responsibility unless otherwise specified in a letter of agreement.

REFERENCE-

FAAO JO 7210.3, Para 4-3-1, Letters of Agreement.

14 CFR Section 91.127, Operating on or in the Vicinity of an Airport in Class E Airspace.

P/CG Term- Surface Area.

b. Coordinate with the appropriate control tower for transit authorization when you are providing radar traffic advisory service to an aircraft that will enter another facility's airspace.

NOTE-

The pilot is not expected to obtain his/her own authorization through each area when in contact with a radar facility.

c. Transfer communications to the appropriate facility, if required, prior to operation within a surface area for which the tower has responsibility.

Recommendations



Proposed new paragraph to Section 4-1-18. Terminal Radar Services for VFR Aircraft.

(a) Basic Radar Service.

(6) For a pilot receiving VFR radar advisory service, air traffic control will coordinate with the appropriate control tower to secure authorization for transitions that would take the aircraft through a Class D surface area. The pilot is not expected to obtain his/her own authorization through each area when in contact with a radar facility. When VFR radar advisory service is terminated in close proximity to a Class D surface area, the pilot is still responsible for establishing two-way communications with the control tower as required by 14 CFR Section 91.129.



State/City	Airport
Roanoke	Regional/Woodrum Field
WASHINGTON	
Point Roberts	Vancouver International
Spokane	Fairchild AFB
Spokane	International
Whidbey Island	NAS, Ault Field
WEST VIRGINIA	
Charleston	Yeager
WISCONSIN	
Green Bay	Austin Straubel International
Madison	Dane County Regional-Traux Field
Milwaukee	General Mitchell International

3-2-5. Class D Airspace

a. **Definition.** Generally, Class D airspace extends upward from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures.

1. Class D surface areas may be designated as full-time (24 hour tower operations) or part-time. Part-time Class D effective times are published in the Chart Supplement U.S.

2. Where a Class D surface area is part-time, the airspace may revert to either a Class E surface area (see paragraph 3-2-6e1) or Class G airspace. When a part-time Class D surface area changes to Class G, the surface area becomes Class G airspace up to, but not including, the overlying controlled airspace.

NOTE-

1. The airport listing in the Chart Supplement U.S. will state the part-time surface area status (for example, "other times CLASS E" or "other times CLASS G").

2. Normally, the overlying controlled airspace is the Class E transition area airspace that begins at either 700 feet AGL (charted as magenta vignette) or 1200 feet AGL (charted as blue vignette). This may be determined by consulting the applicable VFR Sectional or Terminal Area Charts.

b. Operating Rules and Pilot/Equipment Requirements:

1. **Pilot Certification.** No specific certification required.

2. **Equipment.** Unless otherwise authorized by ATC, an operable two-way radio is required.

3. **Arrival or Through Flight Entry Requirements.** Two-way radio communication must be established with the ATC facility providing ATC services prior to entry and thereafter maintain those communications while in the Class D airspace. Pilots of arriving aircraft should contact the control tower on the publicized frequency and give their position, altitude, destination, and any request(s). Radio contact should be initiated far enough from the Class D airspace boundary to preclude entering the Class D airspace before two-way radio communications are established.

NOTE-

1. If the controller responds to a radio call with, "[aircraft callsign] standby," radio communications have been established and the pilot can enter the Class D airspace.

2. If workload or traffic conditions prevent immediate entry into Class D airspace, the controller will inform the pilot to remain outside the Class D airspace until conditions permit entry.

EXAMPLE-

1. "[Aircraft callsign] remain outside the Class Delta airspace and standby."

It is important to understand that if the controller responds to the initial radio call without using the aircraft callsign, radio communications have not been established and the pilot may not enter the Class D airspace.

2. "Aircraft calling Manassas tower standby."

At those airports where the control tower does not operate 24 hours a day, the operating hours of the tower will be listed on the appropriate charts and in the Chart Supplement U.S. During the hours the tower is not in operation, the Class E surface area rules or a combination of Class E rules to 700 feet above ground level and Class G rules to the surface will become applicable. Check the Chart Supplement U.S. for specifics.

4. Departures from:

(a) A primary or satellite airport with an operating control tower. Two-way radio communications must be established and maintained with the control tower, and thereafter as instructed by ATC while operating in the Class D airspace.

(b) A satellite airport without an operating control tower. Two-way radio communications must be established as soon as practicable after departing with the ATC facility having jurisdiction over the Class D airspace as soon as practicable after departing.

3-2-5. Class D Airspace

b. Operating Rules and Pilot/Equipment Requirements:

3. Arrival or Through Flight Entry Requirements.

Two-way radio communication must be established with the ATC facility providing ATC services prior to entry and thereafter maintain those communications while in the Class D airspace. Pilots of arriving aircraft should contact the control tower on the publicized frequency and give their position, altitude, destination, and any request(s).

Radio contact should be initiated far enough from the Class D airspace boundary to preclude entering the Class D airspace before two-way radio communications are established. Pilots receiving VFR radar advisory service should note the ATC facility providing radar services will coordinate with the appropriate control tower for Class D surface area transitions and arrivals (see paragraph 4-1-18a6).



Backup

ASRS Report ACN 1280785



Narrative: 1

I was cruising VFR at an altitude of 2500 FT MSL to MDT. I contacted Harrisburg Approach prior to entering the TRSA for VFR advisories. Harrisburg gave me a transponder code and then verified radar contact. I was told to climb and maintain at or above 3500 FT to which I replied "Unable due to not being able to maintain VFR." The controller said to maintain VFR and remain at 2500 FT.

As I proceeded on course, I saw that my present course would take me into the MDT Class D airspace but since I was talking to Harrisburg Approach, I assumed that two-way communication with Harrisburg would suffice for the Class D airspace. After reviewing the FAR/AIM, I realized that I should have altered course or asked Harrisburg to leave the frequency and contact MDT for clearance thru Class D airspace.

Synopsis

Pilot under flight following questions if he should have contacted a Tower for clearance through the Class Delta.

Class D Airspace



- Class B and C airspace both have a radar component, unlike Class D
- In order to enter Class B or C airspace, two-way communication must be established with the appropriate ATC facility (clearance received for Class B)

Term VFR Radar Advisory Service



AIM p. 4-1-9

When receiving **VFR radar advisory service**, pilots should monitor the assigned frequency at all times. This is to preclude controllers' concern for radio failure or emergency assistance to aircraft under the controller's jurisdiction. **VFR radar advisory service** does not include vectors away from conflicting traffic unless requested by the pilot...

AIM p. 5-1-30

ATC separation and information services will be discontinued, including radar services (where applicable). Consequently, if the canceling flight desires **VFR radar advisory service**, the pilot must specifically request it...

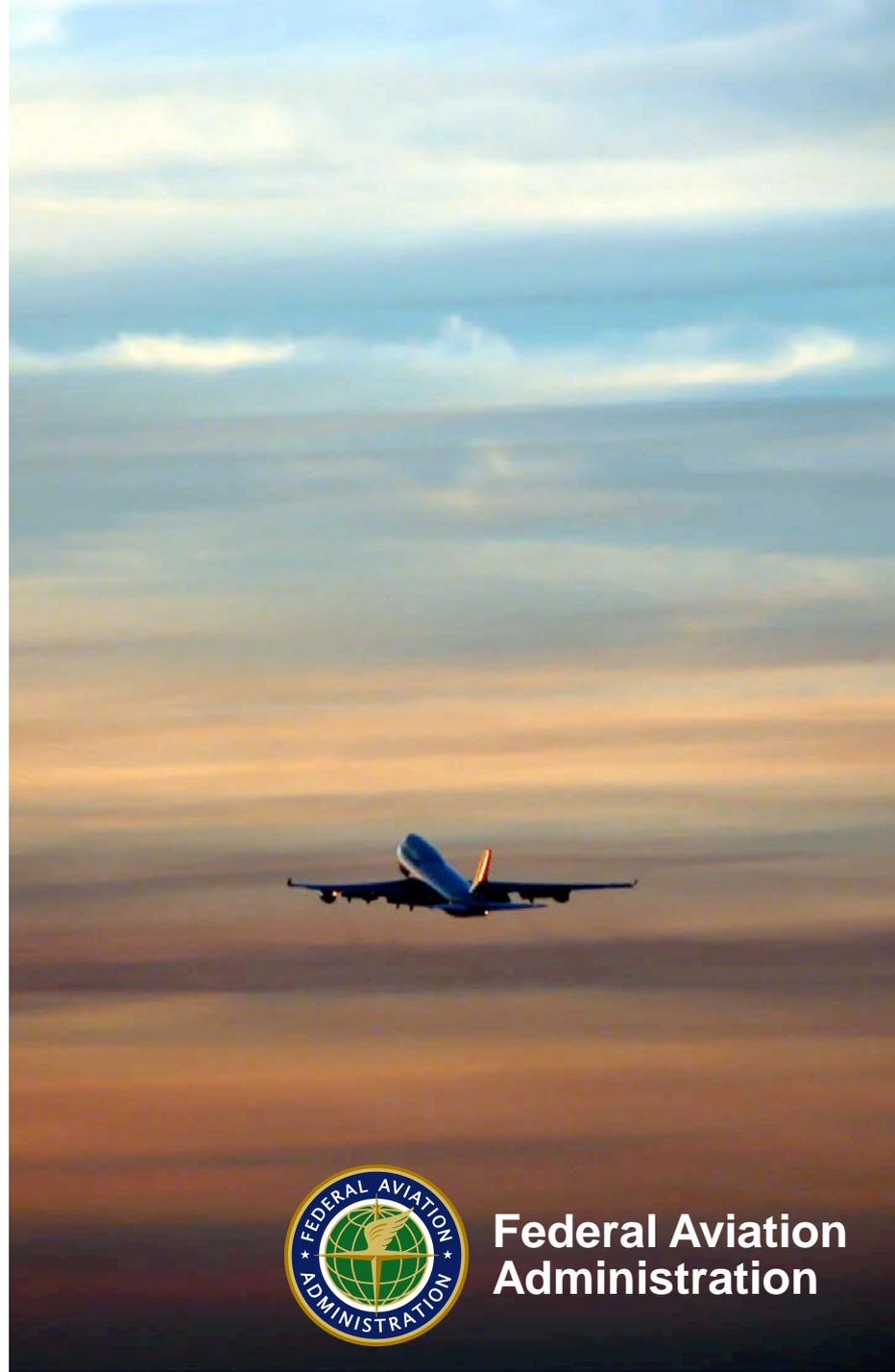
TBFM Action Plan Update

Presented to: ATPAC

By: Darnell Jones



**Federal Aviation
Administration**



Results: Status of Recommendations

5/31/16

Status → Issue Area ↓	Complete	Progressing
Vision	1	
Operational Direction	1	
Policy & Procedures	3	
Training	5	1
Culture & Communication	2	1
System Management	11	9
Outcome Analysis	3	3
Total	25	14



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Training

Status → Issue Area ↓	Complete	Progressing
Training (6)	5	1

Accomplishments

- Package for customer training delivered and available on CDM website
- eLMS & TMC training underway
 - Operational personnel have completed eLMS En route and Terminal
- 256+ TMC trained
 - Expect to train 600 TMs by 2017
- Training Order dated 10/30/15 requires TBFM Training for Stage 2, Stage 4 and TMC's

Remaining Issues

- Issue 5 - Formalized national level technical expert training

Notes

- Nat. Ops team receives SME training. Currently identifying additional training needs with training syllabus complete
- All TMC's receive SME training



Culture and Communication

Status → Issue Area ↓	Complete	Progressing
Culture & Communication (3)	2	1

Accomplishments

- ARTCC/Sv Ctr POCs identified and Initial communication email sent to facilities
- Publications, info-gram, and poster developed and distributed to field
- Established TBFM customer forum with regular meetings (next meeting August 9)

Remaining Issues

- (1) Establish regular communication with the facilities by 6/30

Notes

- Best Practices data base for the field will be developed by 12/31/16 per OIG recommendation – (KSN site)
- Video clips for facility kiosks in progress



System Management

(System Placement / Human Resources/Software/Adaptation)

Status → Issue Area ↓	Complete	Progressing
System Management (21)	12	9

Accomplishments

Software/adaptation (2)

- Software release schedule - software release schedule included in facility comm plan.
- Test site selection – PMO, AJT, AJV meet to determine appropriate test site. AJT coordinates with the selected site

Remaining Issues

- (1) Lacking easy access to feedback on problem reporting
- (1) Checklist for software upgrades to validate before operational use
- (1) Checklist for adaptation changes to validate before operational use
- (1) Develop guidelines for settings and display on metering data
- (5) Human Resources



Outcome Analysis

Status → Issue Area ↓	Complete	Progressing
Outcome Analysis (6)	3	3

Accomplishments

- Info Sharing (SWIM) now available to all customers giving them access to TBFM data
- Working with PMO with funding from AJV-7 to update OIS and NTML with TBFM data to capture for metrics
- AJR has ownership of the metrics and reporting responsibility

Complete – *unbudgeted and unfunded*

- TBFM system Replay capability; not funded
- TBFM Trial Planning capability; removed from WPK3 due to cost. It is under consideration for WPK4

Remaining Issues

- (1) Develop Key Performance Indicators which accurately measure TBFMs contribution to NAS performance that can be shared with internal and external stakeholders.
- (1) Develop TBFM diagnostic performance metrics that are specific, measurable, achievable, realistic, and timely to inform Leadership of TBFM use and effectiveness.
- (1) Based on newly defined measures enhance the system software as necessary to allow for data extraction to support system performance measurement.



TBFM System Improvements

- ✓ Weather forecast translation errors corrected. Forecasts now align with ERAM and are updated every hour vs. every two
- ✓ Advanced training for TBFM adaptors added to increase the skills needed to manage a PBN environment
- ✓ Metroplex added a TBFM implementation group to ensure adaptations were up to date and reflected the current operation.
- ✓ Problem reports “triaged” within a 14 day window with high priority issues addressed within 5 days



TBFM System & Process Improvements

System Enhancements

- SW Release 4.3.3 (March, 2015)
 - Wind processing correction
 - Integrated Departure and Arrival Capability (IDAC)
 - RNAV/RNP processing enhancements
 - GIM-S functionality
- SW Release 4.4.1 (March, 2016)
 - DCT drift correction
 - IDAC & GIM-S correction & enhancements
 - MLAS processing correction
 - System stability/failover correction
 - MA&I reporting



TBFM System & Process Improvements

Process Improvements

Release Process

- Initiated Discovery Site testing (in addition to Key Site test)
- Established optional follow-up Ops Eval
- Introduction of factory orthogonal testing
- Development of “Top 30” Issue prioritization
- Development & implementation of “Daily SAG” issue review

Issue Reporting Process

- Documentation & coordination of AIMS reporting tools & processes throughout NAS
- Establishment of targeted issues working groups (i.e. IDAC, GIM-S, TSAS) that meet weekly to review and analyze subject issues
- Development of several issue & capability specific filters for JIRA (factory issue database) for FAA engineering identification/review of TBFM issues

Capability Implementation Processes

- Established capability-specific implementation processes w/ representation from all affected stakeholders
- More fully defined, and track, implementation schedules for several TBFM enhancements





AJV-82 FY16 Top Five Activity

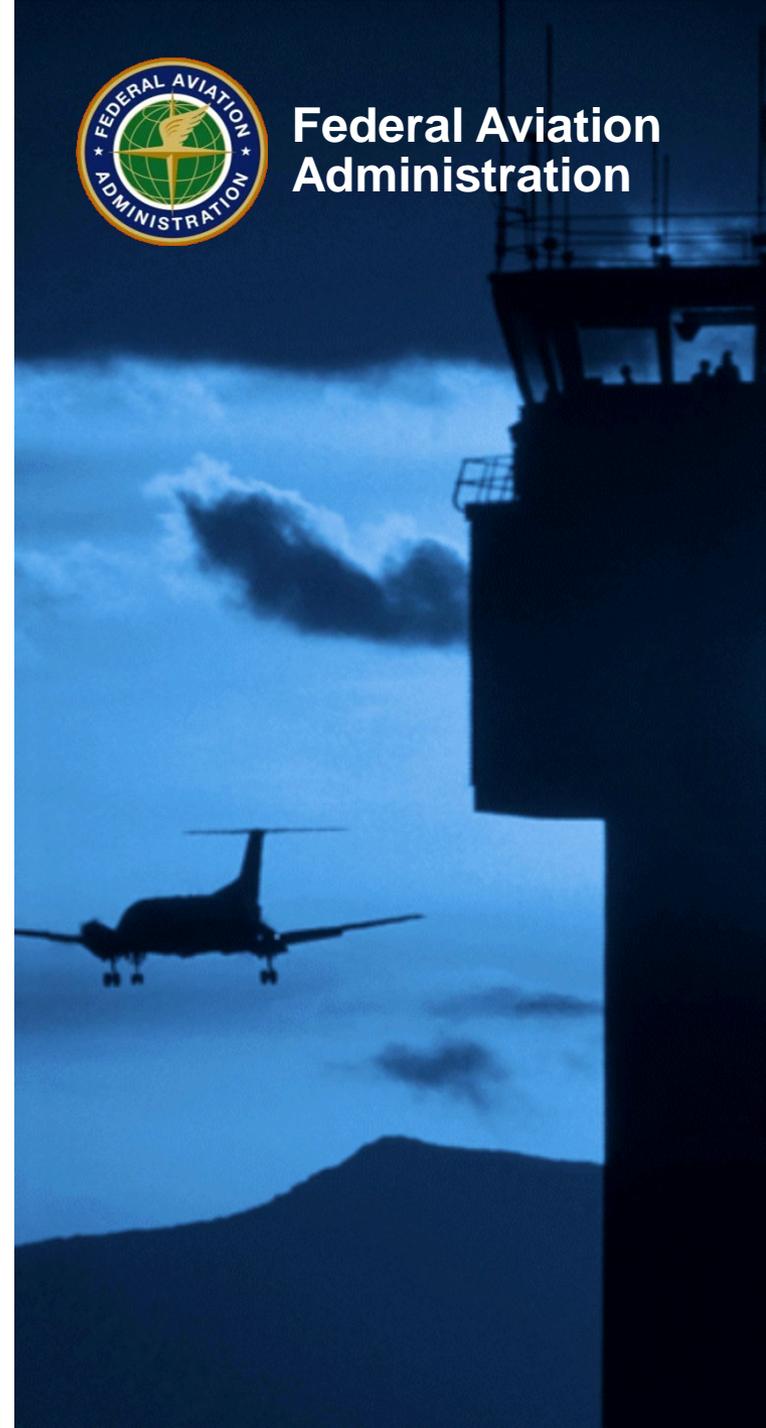
**Tower Visual
Scanning**

Wake Loss

Wake Encounter



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Tower Visual Scanning

The SRM panel discussed a variety of mitigations to treat the issue of ineffective tower visual scanning. Some of them would have more immediate impacts, while others required long-term research projects and subsequent action based on results. The panel organized these actions into a strategy that they believed would provide incremental improvements.

- Incorporate Standard Operating Procedures mandating the use of memory aids.
- Develop requirements for a human factors study that will attempt to identify elements of effective scanning techniques and subsequently employ these techniques to the field.

On-Going Actions:

- **95% of facilities must update SOPs to reflect memory aids requirements recently published in ATO Order JO 7210.3, *Facility Operation and Administration*, Paragraph 10-1-7 and Paragraph 10-1-8. This was to be accomplished by May 26, 2016. This action was completed.**
- **Provide input to and perform the Visual Scanning Techniques Research Study, which will test the effectiveness of visual scanning methods and best practices.**
- **AJI-155 will research the broader identified visual scanning questions and perform testing of specific application to ATC.**
- **In FAA Order 6480.4, *Airport Traffic Control Tower Siting Process*, require that AJI-155, Human Performance, play a role in ensuring that visual scanning is optimized when designing towers, leveraging results of the SPA study.**
- **Leverage outputs of the human factors study to promote effective scanning techniques through a campaign similar to “Turn Off, Tune In.”**

Wake Encounter

The SRM panel convened in December, 2015. Multiple actions were developed to address the issue of wake encounters without a loss. As the SRMD was developed there was further discussion as to the effectiveness of several of the proposed actions. A decision was made that the panel will need to be re-convened to amend the SRMD. This is scheduled for July, 2016.

On-Going Actions:

- **Evaluate if traffic information should be issued to aircraft potentially affected by wake of surrounding heavy and super traffic by Enroute facilities. This proposed action is the subject the SRMP will address July 20 and 21.**
- **Explore the feasibility, including a cost analysis, of developing an advisory system using a system such as Conflict Probe to assist with climb/descend clearances such that wake encounter is mitigated. If the capability is feasible, develop a draft Functional Description Narrative (FDN). Otherwise, document the rationale for not pursuing this mitigation via a white paper. Work with the ATO Operational Concepts Group, AJV-72, as applicable. (This would provide an automated cautionary advisory for climbing and descending through possible wake.)**

On-Going Actions:

- **Explore the feasibility of using ADS-B to provide aircraft type information to both ground and the cockpit. Look at current systems, such as Cockpit Display of Traffic Information (CDTI) and future systems.**
- **As part of a series of short videos that discuss specific wake turbulence issues, develop a video to advise controllers that wake can persist 20 NM or more behind the wake-generating aircraft and suggest tools at their disposal, such as lateral offset procedures, to avoid wake turbulence**
- **Report on the ongoing FAA scientific and technological effort to develop absolute safety criteria for wake turbulence separation.**



Loss of Wake Separation

The SRM panel convened in December, 2015. A variety of mitigations were discussed to treat the issue of wake turbulence separation procedures not being applied. Some of the mitigations would have more immediate impacts, while others required long-term research projects and subsequent action based on the results.

- Multi-pronged training and outreach approach.
- In an effort to create a more robust Corrective Action Plan, the panel developed a long-term mitigation plan that would continue beyond FY16.
- Develop functional requirements for a tool to assist controllers in applying wake separation standards.



On-Going Actions:

- **Develop and post fliers/posters (either electronic or hard copy) for facilities on issuing cautionary wake turbulence advisories**
- **Provide information to AJV-8 to explore the possibility of clarifying definition of “directly behind” in ATO Order JO 7110.65, Paragraph 5-5-4, MINIMA.**
- **Update Wake Turbulence Training, as necessary.**
- **As part of a series of short videos that discuss specific wake turbulence issues, develop first video with a simulated replay of proper climb/descent with regard to wake separation and the TARP detection algorithm.**
- **Outline functional requirements for a tool to assist controllers in applying wake separation standards.**



FAA Order 8400.9

National Safety and Operational Criteria for Runway Selection Plans and Noise Abatement Runway Use Programs.

Presented to: ATPAC

By: John Blair AFS-410/Bill Carver AJT-22

Date: July 11, 2016



Federal Aviation
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History

- **Order 8400.9 originally issued in 1981**
 - No updates since
- **Established Formal/Informal plans for noise abatement**
- **No published wind limits in ATO, therefore the order became the default for use as a selection limit for locations that were utilizing “Operationally Advantageous”**
- **Joint effort between AFS-410 and ATO evolved into Runway Use and Runway Selection Plans**



Purpose of Order 8400.9

The purpose of this order is to provide a process for **towered (Part 139) airports** to identify operational parameters for the safe arrival and departure of aircraft at airports. Airports with formal or informal noise abatement programs are required to have a Runway Selection Plan as part of their Noise Abatement Runway Use Program. The Runway Use Plan defines noise-preferred runways and includes wind/weather/environmental limitations for operating in the preferred configuration.

Runway Selection guidance provided in Federal Aviation Administration (FAA) Orders 7210.3 *Facility Operations and Administration* and 7110.65 *Air Traffic Control*, is based on wind, operational advantage and pilot request. In addition to runway use, **this Order will provide the process for determining the maximum crosswind and tailwind components for each runway at an airport.** The derived values will provide the maximum wind component (direction and speed) by which the **airport must be reconfigured**, or use of a particular runway discontinued. Wind criteria for runway selection are addressed in Section 10 of this order.





Revision Rationale

- **Commercial Aviation Safety Team (CAST) Safety Enhancement (SE 219)**
- **NTSB Recommendation (A-10-109/AAR-10-04)**
- **Provide guidance at locations using Operationally Advantageous**
 - CARs & ATSAP reports on pilot/controller runway selection issues leading to corrective action reports
 - Issues arose where operational capacity flow overrode most favorable wind
- **Waiver request (SFO)**



Revision Work Group

Flight Standards

Pilot Groups and Unions

Air Traffic Organization

NATCA

Airports

Runway Safety

- **Meeting since 2013 to address safety concerns and operational realities**
- **Group defined terms, responsibilities, safety criteria including wind limits**



Re – Write Elements

- The revised order recognizes that each airport & runway is unique
- Re-write effort evolved into Runway Use and Runway Selection Plans
- Each airport has the responsibility for designing Use & Selection criteria unique to that airport within the criteria of the revised order
- The order references a newly created Runway Selection Safety Team (RSST), through the Runway Safety Program Office, that is tasked with developing an airport plan



Connected Items

ATO-

- 7110.65 *Air Traffic Control*
- 7210.3 *Facility Operation and Administration*
- 7050.1 *Runway Safety Program*
- All will go into ATO coordination when order is signed

AFS-

- Order – Signed By AFS400 on Aug 17, ready for Coordination
- OSA – completed and signed
- InFOxxxx - completed
- Website - TBD
 - Job Aids – AFS & ATO
- AWO Mentor
- ICAO
- CAST



Runway Selection Safety Team (RSST)

- The RSST determines maximum wind components for the airport's runways
- Due to the importance of establishing unique airport wind limits, the team is comprised of representatives of the local user community (air carriers, general aviation, military, labor organizations, as appropriate), airport operator, the local Airway Facilities office, Flight Standards (The Regional NextGen Branch Manager will determine the Flight Standards representative), ATO Management and the National Air Traffic Controllers Association (NATCA) from both the Airport Traffic Control Tower and the Approach Control Facility.



RSST Considerations

- **Each airport's Runway Selection Safety Team (RSST) is tasked with considering a large variety of factors**
- **Each airport may set its own parameters, but must remain within the maximum limits established in the revised order**
- **Nothing is intended to infringe upon the responsibilities of the Pilot-in-Command.**
- **An RSST must be held within 18 months of publication of the new 8400.9**



RSST Considerations

- **Runway design**
- **Aircraft performance**
- **Approach guidance**
- **Contaminated runway**
- **ATO**



Industry/Operator Involvement

- **InFO 16xxx and the RSST**

- What it is?
- Does it apply to me?
- Why should I care?
 - Safety – The big picture
- Who should I send?
 - Current and experienced operational personnel
 - What information is the operator representative expected to have?
 - Aircraft limitations and an experienced perspective of real life line operations.



Status

ATO-

- 7110.65 *Air Traffic Control – DCP awaiting coordination of 8400.9 & 7050.1*
- 7210.3 *Facility Operation and Administration – DCP awaiting coordination of 8400.9 & 7050.1*
- 7050.1 *Runway Safety Program – Coordination complete with Runway Safety Office to modify 7050.1 and include RSST as part of annual RSAT process*
- All will go into ATO coordination when order is signed

AFS-

- Order – Signed By AFS400 on Aug 17, ready for Coordination
- OSA – completed and signed
- InFOxxxx – completed ready for publishing at appropriate time
- Website - TBD
 - Job Aids – AFS & ATO



Questions?



Backup Slides



8400.9

- b. The crosswind/tailwind limits in this document are maximum limits, and should not be used as a starting point in the RSST process.** The maximum may not be appropriate for all runways or all aircraft. The limits derived by the RSST are maximum limits to aid ATC decision making in the selection of a runway and not to limit aircraft operations. The RSST must document justification for the limits established for its Runway Selection Plan. Each airport has its unique operational environment that must be taken into consideration as stated in Appendix A.



8400.9

b. Maximum crosswind component (including gust)

- i. Dry Runway: 25 kts
- ii. Wet Runway: 15 kts
- iii. Contaminated Runway: 15 kts

b. Maximum tailwind component (including gust)

- i. Dry Runway: 10 kts
- ii. Wet Runway: 10 kts
- iii. Contaminated Runway (< 8000 ft) < 3 kts (reported as calm)
- iv. Contaminated Runway (\geq 8000 ft) 5 kts



Runway Use Vs. Selection

- **Use equals Noise. Selection is all other**
- **Selection complies with 7210.3 on most favorable wind**
- **Therefore:**
 - **The design criteria will reside in a revised Order 8400.9, and a revised 7050.1. The direction to ATM to conduct an RSST resides within the 7210.3.**

