

RTCA Paper No. 313-15/TOC-24

November 12, 2015

Meeting Summary, November 12, 2015

Tactical Operations Committee (TOC)

The eleventh meeting of the Tactical Operations Committee (TOC), held on November 12, 2015, convened at 9:00 a.m. The meeting discussions are summarized below. The following attachments are referenced:

Attachment 1 – List of Attendees

Attachment 2 – Presentations for the Committee (containing detailed content of the meeting)

Attachment 3 – Summary of the July 21, 2015 TOC Meeting

Attachment 4 – Review of Phases 3 and 4 of NOTAM Search Implementation

Attachment 5 – List of VORs Approved for Discontinuance

Attachment 6 – Initial FAA Response to Caribbean Recommendations

Attachment 7 – 29 Palms Project Airspace Overview Public Brief

Attachment 8 – Initial FAA Response to Class B Recommendations

Welcome and Introductions

Committee Co-Chair, Mr. Bryan Quigley, Managing Director of Flight Operations at United Airlines called the meeting to order and welcomed the TOC members and others in attendance. Co-Chair, Mr. Dale Wright, National Air Traffic Controllers Association (NATCA), was unable to attend due to a personal matter. All TOC members and attendees from the public were asked to introduce themselves (TOC members and General Public Attendees are identified in Attachment 1). Prior to beginning the meeting, Mr. Quigley and Ms. Ray both offered their acknowledgement and appreciation to Mr. Quigley's predecessor as Co-Chair, Mr. Jim Bowman of FedEx Express, for his prior leadership of the Committee.

Mr. Quigley then reviewed the agenda and began the proceedings of the meeting.

Designated Federal Official Statement

Ms. Elizabeth "Lynn" Ray, Vice President of Mission Support for the Air Traffic Organization (ATO), and the Designated Federal Official of the TOC, read the Federal Advisory Committee Act notice governing the open meeting.

Approval of July 21, 2015 Meeting Summary

The Chair asked for and received approval of the written Summary for the July 21, 2015 meeting (Attachment 3).

FAA Report

Ms. Ray next provided a report from the FAA on various topics relevant to industry. She first addressed issues relating to staffing and vacancies in the FAA. Ms. Ray mentioned that 12% of executive or senior manager positions in the Air Traffic Organization (ATO) were expected to become vacant within the next 12 months. Four percent of incumbents have already announced retirements.

Ms. Ray also discussed priorities around Controller and Technician hiring. The FAA is planning to hire approximately 6,000 controllers over the next five years. A TOC member inquired about whether the FAA was having difficulty finding candidates for controllers. Ms. Ray responded that the FAA has not had difficulty with the pool of applicants. The challenges in hiring have been external issues such as budget uncertainties and information security breaches. Another member inquired where the pool of applicants come from for hiring new technicians. Ms. Ray stated that while hiring new technicians is a challenge, the FAA is able to identify new applicants with the Department of Defense (DoD) serving as one key source.

Next, Ms. Ray discussed the FAA's Budget status. The FAA's budget is currently authorized through March 31, 2016, and appropriations are currently extended through December 10, 2015. The FAA is anticipating a Continuing Resolution beyond December. For the longer term, she noted that the FAA is awaiting the budget "passback" from the Office of Management and Budget (OMB) for Fiscal Year 2017 around Thanksgiving. A TOC member inquired what impact the Bi-Partisan Budget Act of 2015 would have on the FAA's funding. Ms. Ray noted that Act does not have any aviation related offsets in the bill, so the discretionary spending caps are not changed through FY2017.

Ms. Ray briefly touched on the subject of Privatization of the FAA or parts of it. While she did not have any additional information on the subject beyond what is publicly known, Ms. Ray again reiterated the Agency's position that it needs management flexibility as well as stabilized funding.

A TOC Member inquired about the status of the FAA's Surface Office which the member noted is rumored to be moved to System Operations. Ms. Ray said that no announcement has been made yet on the office. She said that System Operations is examining a number of reorganization scenarios and the role of the Surface Office is included in such discussions. A TOC Member requested that information be given on this subject in the future, noting that when information is not, stakeholders may draw conclusions in a vacuum. Ms. Ray noted that the TOC may benefit from a briefing on the Surface Office, Collaborative Decision Making (CDM) and the organization of System Operations in a future meeting.

Ms. Ray next discussed Performance Based Navigation (PBN). She informed the TOC that the NextGen Advisory Committee (NAC) would be undertaking a task on the long term strategy associated with Traffic Flow Management. She also noted that ongoing PBN activities would see an increased focus on community and airport engagement and outreach, and the FAA is closely examining the best ways to undertake such engagement. One TOC member noted that Las Vegas was an excellent test case to pursue new approaches to community engagement. Ms. Ray noted that South Florida, with its many procedures and many airports, would be a good test case as well. Another TOC member inquired how the FAA would approach engagement for projects that were near completion. Ms. Ray said that such projects would place more emphasis on a recap of the project efforts.

Finally, Ms. Ray commented on Unmanned Aircraft Systems (UAS). She reiterated that a Task Force was working on recommendations regarding a UAS registration process and the conclusions were expected by November 20th. A TOC member inquired whether the FAA had the 'bandwidth' to deal with the increasing activities related to UAS. Ms. Ray commented that much of the current focus was on the registration process. However, she agreed that resources would continue to be difficult to manage. UAS would continue to draw resources with increased rulemaking activities, Continuing Resolutions continue to cap staff and other activities such as Commercial Space require additional attention. A TOC member also commented that from an operator's perspective, there needs to be a heightened level of concern about UAS. The member noted that for an airliner to hit a 10-15 lb. UAS is not the same hitting a bird of the same size, and the expect impact would be significant. The member inquired what had to happen for the issue to be raised in priority given that UAS will only proliferate in the future. Ms. Ray communicated her shared concern and urgency on the matter and suggested that the new executive leadership in the FAA working on UAS should come to a future TOC meeting and discuss with the Committee.

NOTAM Search Overview and Demonstration

Ms. Trish Gay, FAA, provided a history and overview of the NOTAM Search effort, and Mr. Steve Habicht, CNA, provided a demonstration of the NOTAM Search website. Ms. Gay's presentation materials are included in Attachment 2. TOC members representing both general aviation and business aviation interests commented that their organizations had received positive feedback on NOTAM Search from members and that the powerful collaboration between industry and FAA was appreciated. Another TOC member inquired how third party flight planners may get NOTAMs from the Future NOTAM System. Ms. Gay mentioned the NOTAM Distribution Service will provide NOTAM data via System Wide Information Management (SWIM) and enables users to ingest all NOTAM information. Currently, NOTAM Distribution Services operates as a request/response service. In the first half of 2016, this will convert to a publish/subscribe service.

Another TOC member inquired about increasing NOTAM Search's capabilities to populate UAS NOTAMs. The TOC members discussed that operators are interested in having this information but at the moment, there were safety risk concerns about enabling external parties such as UAS

operators to submit NOTAMs. The Members discussed that if external parties were permitted to enter NOTAMs, these would have to be highly structured inputs.

Finally, another TOC member noted that graphical NOTAMs remain a challenge and there is a need for industry and FAA collaboration to address the issue.

Recommendation for Phases 3 and 4 of NOTAM Search

Mr. Mark Cardwell, FedEx Express, and Chair of the NOTAM Task Group next briefed the TOC on the next set of recommendations on NOTAM Search. He informed the TOC that the NOTAM Task Group had reviewed Phases 3 and 4 of deployment of FAA's NOTAM Search.

The report included recommendations across a number of categories:

- **Passwords:** recommendations included less restrictive and complex password policy, shortened lockout policy and use of 'cookies' to store username/password
- **Mapping Functionality:** recommendations included clarifying current restriction of mapping to US FIRs, option to adjust or resize view of map side-by-side with text, overlay geo-tagged NOTAMs on aeronautical charts and presenting ARTCC boundaries and geo-tagging ARTCC NOTAMs to the center of the ARTCC
- **Presentation of Information:** recommendations included consistent use of three or four letter airport identifier across pages, providing information and/or links to sources of defined terms, removing Military special icon and improving graphics used to convey NAVAIDs
- **Improving Accuracy and Completeness of Information:** recommendations included ensuring laser notices are classified correctly at the input stage, ensuring shared identifiers are working properly and the future incorporation of Airport and Facility notices from NTAP
- **Improving Usability of User Guide:** recommendations included the ability to make guide full screen, searchable within the guide and hyperlinks to sections from the Table of Contents

During discussion, Ms. Ray expressed appreciation to the Leadership and Members of the Task Group for all of the excellent work.

Committee Action: The Committee agreed by consensus to approve the NOTAM Recommendations on Phases 3 and 4 of NOTAM Search (Attachment 4) and sunset the NOTAM Task Group.

VOR MON Program Update

Ms. Rowena Mendez, FAA, provided an update on the VOR Minimum Operating Network (MON) program to the Committee members. She reviewed the target number of VORs planned for decommissioning (308), the geographical spread, the number at MON airports and the process for public comment on the intended list to decommission. Ms. Mendez's briefing materials can be found in Attachment 2.

One Committee member inquired why International arrival routes were being retained in the MON given that most international aircraft often have state-of-the-art navigation equipment. The VOR MON Program team responded that impacting international arrival routes added a layer of international coordination complexity that the Program elected not to handle its initial phases.

Another TOC member inquired what the impact of the decommissioning VORs would be on existing conventional route structure. The member wished to further understand how the impact on routes would be managed. Ms. Ray responded that this topic would be addressed further later in the day when the TOC discussed the new tasking on the PBN Route Concept of Operations.

Finally, a TOC member inquired about accessing the full list of VORs that would be decommissioned in the next ten years. Ms. Mendez said that the full list would be made available through a Federal Register notice but that approximately 30 VORs on the list were already available as they had begun the public comment process. Ms. Mendez provided this list to the TOC (Attachment 5).

Update and Draft Recommendations from Airport Construction Task Group

Mr. Mark Hopkins, Delta Airlines, and Mr. Chris Oswald, Airports Council International-North America, provided an update and review of draft recommendations from the Airport Construction Task Group. Briefing materials reviewed during the meeting are included in Attachment 2.

During a discussion on recommendations related to developing a repeatable process for planning complex construction, a TOC member requested the Task Group to consider when the construction occurs as a factor for which operators might provide input. Mr. Oswald commented that for airports in the “Snowbelt”, timing is pre-defined as such facilities must conduct construction during the summer. He also noted that night time construction is often identified as an ideal solution to avoid impact to operations, but this approach does not work for all operators, particularly cargo carriers. He pointed out that the issue highlights the need for operators to have a voice during the early planning stage so that all possible solutions are examined. Mr. Oswald also noted that during the Construction Task Group’s visit to Baltimore-Washington Airport (BWI) in July 2015, the team at BWI mentioned that they brought their construction contractors into meetings with operators to build connections between these very different stakeholder groups.

During dialogue around recommendations related to execution and completion of construction, a TOC member highlighted the operational challenges associated with cranes at on and off airport locations. The member provided an example at an East coast hub when the operator did not know if an off-airport crane was up or down, and the TOC member drove in the local area to visually determine if it was down. Once the individual noted that the crane was not visible, he contacted the construction contractor and reminded them to inform the FAA that the crane was down so that associated NOTAMs impacting arrival procedures could be cancelled. The TOC member noted that the airline operator was unable to carry extra cargo on its aircraft given the impact of from this off-site crane.

The TOC members also discussed the value of having precise understanding of the lat/long of obstacles to minimize the impact of the obstacle on arrival and departure procedures. Finally, the group discussed the importance of improving lighting of cranes. Mr. Oswald informed the TOC members that the Task Group recognized the need to provide detailed information on obstacles, including lat/long information, out to the pilots, Dispatchers and Operational Engineers who are involved in planning and operating. He noted that the Task Group had not yet determined the best method for disseminating such information.

The members also discussed the immense challenges with managing off-airport obstacles, as these obstacles are managed by parties who are completely independent of the aviation system. One member commented that the Task Group may consider a phased approach to the crane and obstacle recommendations, emphasizing that control of obstacles on airport should be accomplished sooner and that off airport obstacle would pose a greater and more long term challenge.

Finally, a TOC member inquired about the status of the FAA's consideration of recognition of one engine inoperative procedures in the future. Ms. Ray noted that this could be a future briefing topic for the TOC.

Update on the NextGen Advisory Committee (NAC)

Mr. Andy Cebula, RTCA, provided an update on the NAC. Mr. Cebula highlighted recent and current taskings of the NAC relating to metrics tracking operational performance impacts of NextGen as well as long term strategy relating to Traffic Flow Management. His briefing materials may be found in Attachment 2.

FAA Response to Recommendations on Improving Operations in the Caribbean

Mr. Jim Linney, Director Air Traffic Systems in the Program Management Organization (PMO), next provided an initial response to the TOC on its July 2015 recommendations on improving operations in the Caribbean. (Mr. Linney's briefing materials are included in Attachment 6.) Mr. Linney noted that the FAA is considering the 20 recommendations provided in the TOC's July recommendations and were working to assess each. He stated that the FAA was identifying which recommendations were "within authority" of current Programs, meaning it could be addressed with increased funding and scope of existing efforts. The FAA is also identifying which "required new authority" which would be a longer process to go through approval processes to develop new implementation efforts. As an example, Mr. Linney noted that when costing out the recommendation to include ADS-B ground stations in the Caribbean, a 20 year life cycle cost for such ground stations becomes costly enough to trigger more involved evaluation processes. He commented that the FAA would have its assessment of the recommendations completed by January 2016 and would return to brief the TOC after that time.

A TOC member noted that the TOC as well as the Eastern Regional Task Group members that developed the recommendations would be willing and interested to support the FAA in any

evaluation or assessment of the recommendations. Another TOC member, focused on increasing the urgency of addressing the Caribbean, suggested the FAA consider the potential growth in Cuba and the need to accommodate a likely growth from the normalizing of relations between the US and Cuba. Ms. Ray noted that the ERTG recommendations were being considered in context of a larger Caribbean strategy for the Administrator that would be rolled out early in 2016. Finally, a TOC member commented that if the TOC felt the issue was not receiving great enough attention and focus, it could warrant attention of the NextGen Advisory Committee.

Update on Regional Task Groups

Mr. Bob Lamond, NBAA and Co-Chair of the Western Regional Task Group (WRTG), provided a summary of a recent WRTG meeting that included a briefing from the Marine Corps on the proposal for expansion of the 29 Palms Special Activity Airspace (SAA). Mr. Lamond mentioned that the WRTG members were particularly interested in the assessment of the operational impact of the expansion to the civilian operator community. The Marine Corps briefing on 29 Palms is included as Attachment 7.

Mr. Edwin Solley, Southwest Airlines and Co-Chair of the Central Regional Task Group (CRTG), mentioned that there is no activity currently in the CRTG.

Finally, Mr. Glenn Morse, Co-Chair of the ERTG, inquired about the status of the next steps for the New York/New Jersey/Philadelphia airspace redesign efforts. Ms. Ray noted that there is a commitment for a Metroplex-like project for New York in the 2018 timeframe, pending budget availability. Currently environmental work was still in process and would need to be completed prior to moving forward on the effort.

FAA Response to Recommendations on Class B Airspace

Mr. Ken Ready, FAA Acting Manager Airspace and Rules Team, provided an initial response to recommendations from the TOC relating to Class B airspace. He mentioned that these recommendations were timely as the FAA is working on changes to the 7400.2 guidance document (in which Chapter 15 relates to Class B airspace) as well as evaluating Class B excursions in the NAS. He noted that this feedback was a preliminary report and more detailed feedback would be forthcoming. Mr. Ready's response document may be found as Attachment 8.

Mr. Ready commented that the FAA requested further information or discussion on a number of the recommendations, and the TOC discussed that a valuable next step would be for the Leadership of the Class B Task Group to dialogue with Mr. Ready and his colleagues in the FAA that were evaluating the recommendations. Such dialogue would be intended to ensure that the intent of the recommendations were clearly communicated to the FAA. This interaction will be planned before the next TOC meeting.

Update and Draft Recommendations the National Procedure Assessment (NPA) Task Group

Mr. Randy Burdette, Virginia Department of Aviation, and Mr. Michael Perrizo, Air Wisconsin, presented an update and draft recommendations from the NPA Task Group. Briefing materials from this discussion are included in Attachment 2.

There was extensive discussion on the NPA TG's draft recommendations around identifying circling lines of minima candidates for cancellation. Mr. Rune Duke, Aircraft Owners and Pilots Association and member of the NPA Task Group, assisted Mr. Burdette and Mr. Perrizo in explaining the Task Group's draft criteria for identifying circling candidates. Mr. Duke explained the criteria and acknowledged that the intent of the criteria was to identify candidates and all candidates would require subject matter expert review from both the air traffic and operator communities prior to cancellation.

Potential Tasking on PBN Route Concept of Operations

Mr. Robert Novia, FAA, next provided an overview of a new tasking to the TOC relating to review of the FAA's PBN Concept of Operations. Mr. Novia noted that development of the ConOps had been done with an FAA-centric team and that the FAA was interested to engage operators into the review of the concept. Ms. Ray also noted that this effort was a direct follow-on to the VOR MON activity which would be impacting conventional route structure.

Mr. Novia explained that the concept intends to address questions such as what the upper level route structure needs to look like in the future. He said that the FAA has believed it needs to put structure only where it is needed but that such (and other) assumptions in the concept thinking needed feedback from the operators. He also explained that most recent airspace efforts, including Metroplex, were localized in nature with development of approach and departure procedures and limited, local airway work. However, no local effort was examining routes in an integrated and holistic way across the NAS.

Ms. Ray stated that the TOC will be requested to examine the Concept, validate the problem statement, provide recommendations around a NAS-wide point-to-point strategy and identify alternative to the intended design and implementation. For specific regions, she also noted that the FAA may request any of the Regional Task Groups to provide support.

Ms. Ray informed the TOC that the tasking letter would be made available within a matter of weeks.

Adjourn

Chairman Quigley ended the meeting of the Committee at 3:30 p.m.

Next Meeting

The next meeting of the TOC is March 3, 2016 in Washington, DC.

**Attendees: November 12, 2015 Meeting of the
Tactical Operations Committee
Washington, DC**

Name¹	Company
<i>Pennington, Darrell</i>	<i>Air Line Pilots Association</i>
Perrizo, Michael	Air Wisconsin
Duke, Rune	Aircraft Owners and Pilots Association
<i>Rudinger, Melissa</i>	<i>Aircraft Owners and Pilots Association</i>
<i>Oswald, Chris</i>	<i>Airports Council International (ACI North America)</i>
Habicht, Steve	CNA
<i>Hopkins, Mark</i>	<i>Delta Air Lines, Inc.</i>
Adams, Mark	Federal Aviation Administration
Dermody, John	Federal Aviation Administration
Gay, Trish	Federal Aviation Administration
Jerdan, Scott	Federal Aviation Administration
Linney, Jim	Federal Aviation Administration
Mendez, Rowena	Federal Aviation Administration
Novia, Robert	Federal Aviation Administration
Pfingstler, Susan	Federal Aviation Administration
<i>Ray, Lynn</i>	<i>Federal Aviation Administration</i>
Ready, Ken	Federal Aviation Administration
<i>Steinbicker, Mark</i>	<i>Federal Aviation Administration</i>
Cardwell, Mark	FedEx Express
Santos, Phil	FedEx Express
<i>Murphy, Bill</i>	<i>International Air Transport Association</i>
Bertapelle, Joe	JetBlue Airways
<i>Roberts, Bart</i>	<i>JetBlue Airways</i>
Geoghagan, William L	National Air Traffic Controllers Association
Burdette, Randall	National Association of State Aviation Officials
<i>Lamond Jr, Bob</i>	<i>National Business Aviation Association</i>
<i>Bechdolt, Stacey</i>	<i>Regional Airline Association</i>
Cebula, Andy	RTCA, Inc.
Mitra, Trin	RTCA, Inc.
<i>Solley, Edwin</i>	<i>Southwest Airlines</i>
Hashemi, Deihim	The MITRE Corporation
<i>Molin, Doug</i>	<i>The MITRE Corporation</i>
Emden, Philip	United Airlines, Inc.
Morse, Glenn	United Airlines, Inc.
<i>Quigley, Bryan</i>	<i>United Airlines, Inc.</i>
<i>Kast, Christian</i>	<i>United Parcel Service</i>

¹Committee member names appear in italics.



THE GOLD STANDARD FOR AVIATION SINCE 1935

RTCA Tactical Operations Committee


Eleventh Meeting
November 12, 2015
RTCA Headquarters




THE GOLD STANDARD FOR AVIATION SINCE 1935

Welcome and Introductions


Co-Chair:
Bryan Quigley, United Airlines



One More Thanks to Jim Bowman




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Topical Agenda

- FAA Report
- Overview of NOTAM Search and Final Recommendation from the NOTAM Task Group
- Response from FAA on Recommendations for Caribbean Operations
- Three Updates
 - From VOR Minimum Operating Network (MON) Program
 - From the NextGen Advisory Committee (NAC)
 - From the Regional Task Groups
- Review of Draft Recommendations on two tasks
 - Airport Construction Task Group
 - National Procedure Assessment Task Group
- Introduction of potential new task on PBN Route Strategy

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PUBLIC MEETING ANNOUNCEMENT
Read by: Designated Federal Official Elizabeth Ray
Tactical Operations Committee (TOC)
November 12, 2015

In accordance with the Federal Advisory Committee Act, this Advisory Committee meeting is OPEN TO THE PUBLIC.

Notice of the meeting was published in the Federal Register on:

October 22, 2015

Members of the public may address the committee with PRIOR APPROVAL of the chairman. This should be arranged in advance.

Only appointed members of the Advisory Committee may vote on any matter brought to a vote by the Chairman.

The public may present written material to the Advisory Committee at any time.

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Review and Approval of:

July 21, 2015
Meeting Summary

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FAA Report

Elizabeth “Lynn” Ray
Vice President, Mission Support Services
Air Traffic Organization

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Overview of NOTAM Search

Trish Gay, FAA

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RTCA NOTAM Task Group / FAA Collaboration

NOTAM System Modernization to meet the Pilot's Bill of Rights

Presented to: RTCA Tactical Operations Committee

By: Trish Gay

Date: November 12, 2015



Federal Aviation Administration



Pilot's Bill of Rights Act of 2012

Authorized NOTAM Improvement Program:

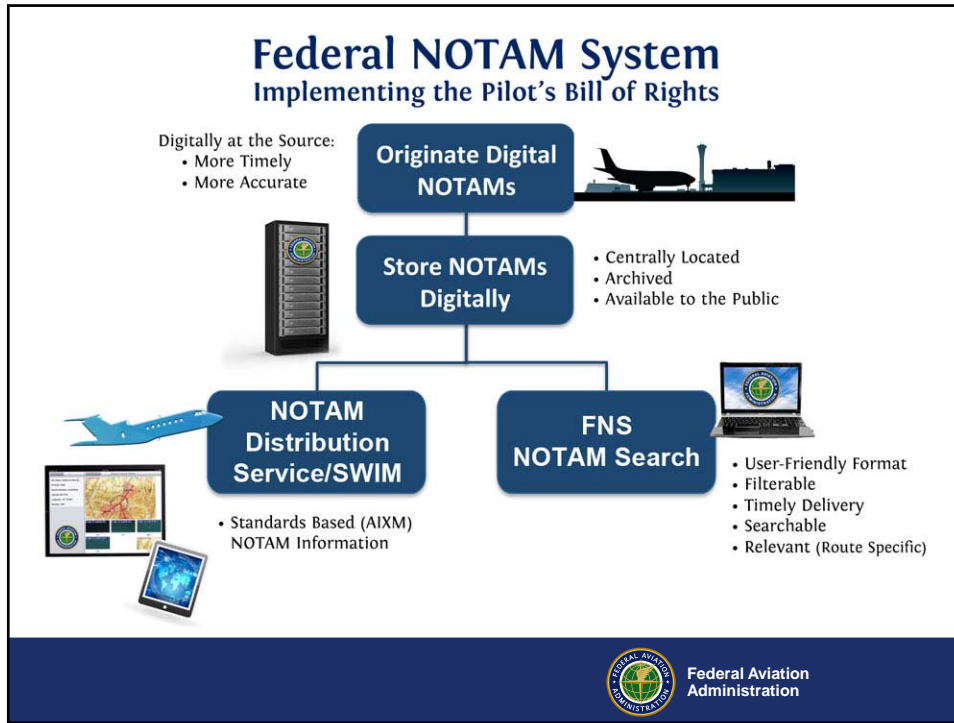
- Pertinent and timely
- Archived in a public, centralized location
- Filtered so pilots can prioritize
- More specific and relevant to route of flight






Federal Aviation Administration

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NOTAM Search Archive


Federal Aviation Administration
FNS NOTAM Search

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[External Links](#)


Searched at: 2014-12-22 16:21:08 UTC

→ Archival search on location 'SJC' and date '2014-02-03': 24 NOTAM(s) found. (Click to change)


List View Table View
Filters
Sort by
Counts 24

Location	Number	Class	Start Date UTC	End Date UTC	Comment
SJC	N/A	Aerodrome	09/04/2012 1642		ON AIRPORT - SEE CONSTRUCTION GRAPHIC
SJC	01032	Aerodrome	01/20/2014 2004	01/20/2015 2004EST	TWY F BTN TWY V AND TWY W1 CLSD 1401202004-1501202004EST
SJC	42260	Procedure	01/14/2014 2100	01/14/2015 2100EST	STAR NORMAN Y MINETA, SAN JOSE INTL, SAN JOSE, CA. POINT REYES ORE. ARRIVA.
SJC	12004	Aerodrome	12/03/2013 1506	07/04/2014 1729EST	RWY-29 RUNWAY END IDENTIFIER LGT-OUT-OF-SERVICE-1312031506-1407041729EST
SJC	12062	Aerodrome	12/03/2013 1505	07/04/2014 1729EST	RWY-11/09 CHANGED TO TWY W1-1312031505-1407041729EST
SJC	12003	Aerodrome	12/03/2013 1506	07/04/2014 1729EST	RWY-11/09 CLSD-1312031506-1407041729EST
SJC	42056	Other	01/14/2014 1400	07/14/2014 1400	CANCELLED BY FDG-42056 ON 06/02/14 18:00
SJC	42057	Other	01/14/2014 1400	07/14/2014 1400	CANCELLED BY FDG-42057 ON 06/02/14 18:00
SJC	42058	Procedure	01/14/2014 1402	PERM	IAF NORMAN Y MINETA SAN JOSE INTL - SAN JOSE, CA - RNAV (RNP) 2 RWY 30R - ORG.
SJC	42059	Procedure	01/14/2014 1401	PERM	IAF NORMAN Y MINETA SAN JOSE INTL - SAN JOSE, CA - RNAV (RNP) 2 RWY 30L - ORG.

Search for NOTAMs up to 3 years in the past



Federal Aviation Administration



NOTAM Task Group: Review of NOTAM Search Implementation Phases 3 and 4

Mark Cardwell, FedEx Express


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Recent History


- In August 2014, FAA published a four phase implementation plan for NOTAM Search
- Phase 4 completed in October 2015
- NOTAM Task Group met in October and November 2015 to review Phases 3 and 4 of implementation

NOTAM Search Enhancements

Phase 1	<ul style="list-style-type: none">• Route of Flight Query• New Filters• User Interface (UI) Update
Phase 2	<ul style="list-style-type: none">• User Profiles
Phase 3	<ul style="list-style-type: none">• User Profile Enhancements• Filter Enhancements
Phase 4	<ul style="list-style-type: none">• PilotWeb Functionality• Sunset PilotWeb

 Federal Aviation Administration 4


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Task Group Members

- Darrell Pennington, Air Line Pilots Association
- Des Keany, American Airlines, Inc.
- Jocelyn Cox, CNA
- Steve Habicht, CNA
- Shaelynn Hales, CNA
- Jack Hurley, Delta Air Lines, Inc.
- Fred Anderson, Federal Aviation Administration
- Ernie Bilotto, Federal Aviation Administration
- Gary Bobik, Federal Aviation Administration
- Dave Bradshaw, Federal Aviation Administration
- Trish Gay, Federal Aviation Administration
- Brian Hint, Federal Aviation Administration
- Lynette Jamison, Federal Aviation Administration
- Scott Jerdan, Federal Aviation Administration
- Bob McMullen, Federal Aviation Administration
- Diana Young, Federal Aviation Administration
- **Mark Cardwell, FedEx Express (Chair)**
- David von Rinteln, Hewlett Packard
- Michael Williams, Hewlett Packard
- Jeffrey Miller, International Air Transport Association
- Jon Reisinger, Jeppesen
- Aaron Wood, Jeppesen
- Ashish Solanki, Maryland Aviation Administration
- Mark Prestrude, National Air Traffic Controllers Association
- Rich Boll, National Business Aviation Association
- Bob Lamond Jr, National Business Aviation Association
- Trin Mitra, RTCA, Inc.
- David Newton, Southwest Airlines
- Edwin Solley, Southwest Airlines
- Ezra Jalleta, The MITRE Corporation
- Jim Mills, U.S. Air Force
- Christian Kast, United Parcel Service


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Feedback to Implementation Phases 3 and 4

- **Passwords**
 - Complex password policy – recommend less restrictive; particularly relevant for users accessing system in crew room or FBO
 - System lockout policy too long and occurs after too few attempts
 - Use of ‘cookies’ to store username/passwords on user machine
- **Mapping Functionality**
 - Clarify current restriction of mapping capability to US FIRs
 - Options to adjust/resize view of map side-by-side with text
 - Overlay geo-tagged NOTAMs over aeronautical charts
 - Present ARTCC boundaries and geo-tag ARTCC NOTAMs to the center of the ARTCC

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Feedback to Implementation Phases 3 and 4

- **Presentation of Information**
 - Consistent use of three or four letter airport identifier across pages
 - Provide information and/or links to sources of defined terms
 - Remove Military special icon as DoD
 - Improve graphics used to convey NAVAIDs

- **Improving Accuracy and Completeness of Information**
 - Ensure laser notices classified correctly at the input stage
 - Shared identifiers not currently working properly in NOTAM Search
 - Future incorporation of Airport and Facility notices from NTAP

- **Improving Usability of User Guide**
 - Ability to make full screen, search within guide and hyperlinks


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Review of NOTAM Search Implementation Phases 3 and 4

DISCUSSION

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TOC Action

Consider Recommendation on:

***Review of NOTAM Search
Implementation Phases 3 and 4***

and Transmit to FAA and Sunset
NOTAM Task Group

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Update on VOR Minimum Operating Network (MON) Program

Rowena Mendez, FAA


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**Very High Frequency
Omnidirectional Range
(VOR) Minimum Operational
Network (MON)
Implementation Program**

Presented to: RTCA TOC

By: Leonixa Salcedo, AJM-324
VOR MON Program Manager

Date: November 12, 2015



Agenda

- Program Goals
- Stakeholder Engagement
- VOR MON Program Strategy and Timeline
- Program Accomplishments
- VOR MON Program Requirements
- Candidate VORs and MON Airports
- VOR Airway Structure and Impact
- Next Steps
- Summary

VOR MON Program Goals

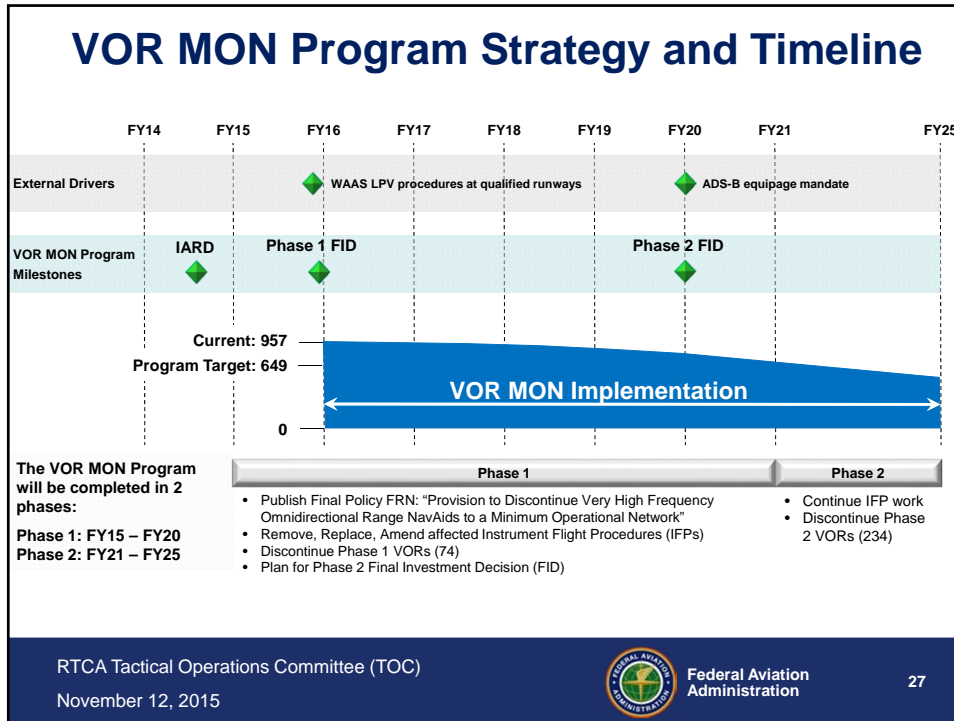
- **Support the NAS transition from VOR based routes to a more efficient Performance Based Navigation (PBN) structure consistent with Next Gen goals and the NAS Efficient Streamlined Services Initiative (NESS).**
- **Enable pilots to:**
 - Revert from PBN to conventional navigation in the event of a Global Positioning System (GPS) outage;
 - Tune and identify a VOR at an altitude of 5,000 feet or higher;
 - Navigate using VOR procedures through a GPS outage area;
 - Navigate to a MON airport within 100 nautical miles to fly an Instrument Landing System (ILS) or VOR instrument approach without Distance Measuring Equipment (DME), Automatic Direction Finder (ADF), surveillance, or GPS; and
 - Navigate along VOR Airways especially in mountainous terrain where surveillance services are not available and Minimum En Route Altitudes (MEAs) offer lower altitude selection for options in icing conditions.
- **Discontinue approximately 30% (308) of VORs by 2025, in accordance with JO 7400.2 and established policies.**



Stakeholder Engagement

- **Federal Register Notice “Proposed Provision of Navigation Services for the Next Generation Air Transportation System (NextGen) Transition to Performance-Based Navigation (PBN)” completed announcing the intent to establish a VOR MON – December 2012**
- **Department of Defense/Department of Homeland Security retention requirements received – January 2015**
- **RTCA Tactical Operations Committee (TOC) tasks completed – April 2015**
- **VOR MON Working Group Planning Session conducted (Included NATCA and PASS Representatives) – May 2015**
- **VOR MON Instrument Flight Procedure (IFP) Waterfall Working Group Meeting conducted (Included NATCA and PASS Representatives) – June 2015**
- **Continued engagement will occur through:**
 - Publishing the Final Policy FRN
 - Part 71 Rulemaking Process for Airways and Routes
 - Circularization process required for NAVAID discontinuance according to FAA Order 7400.2
 - Developing VOR MON Familiarization media for the ATC community





- ## Program Accomplishments
- Completed the MON VOR and candidate discontinuance lists – *April 2015*
 - Completed Limits-of-Coverage testing to expand VOR standard service volume – *May 2015*
 - Received Phase 1 Final Investment approval to discontinue approximately 74 VORs by the end of FY2020 – *September 30, 2015*
- Note:** The discontinuance goal for Phase 1 may adjust based on annual coordination with the Capital Investment Team (CIT) and approved allocated funding.
- RTCA Tactical Operations Committee (TOC)
November 12, 2015
- Federal Aviation Administration 28

VOR MON Program Requirements

- Retain VORs to perform ILS, LOC, or VOR approaches supporting “safe-landing” at a suitable destination within 100 NM of any location within the CONUS. Selected approaches would not require ADF, DME, RADAR, or GPS
- Retain VORs to support international oceanic arrival routes
- Retain VORs to provide seamless coverage at and above 5,000 ft AGL:
 - Some coverage will exist below 5,000 ft AGL
 - Seamless coverage will not be available in portions of the Western US Designated Mountainous Area
- Retain most VORs in western designated mountainous area, specifically those anchoring Victor airways through high elevation terrain
- Retain VORs outside of the CONUS
- Only FAA owned/operated VORs were considered for discontinuance

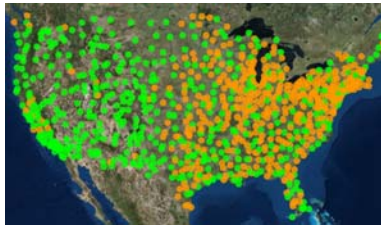


VOR MON Program Requirements (Cont'd)

- DMEs and TACANs will generally be retained when the VOR service is terminated
- VOR Discontinuance will be completed in accordance with FAA Order 7400.2, “Procedures for Handling Airspace Matters”.
- For each VOR, the procedures affected will be either amended (including chart revisions), canceled, or replaced prior to discontinuance of the service (*FAA Order 8260.19 Flight Procedures and Airspace*).
- PBN coordination will be done to avoid duplication of efforts or creating unnecessary conventional routes.
- Co-located communication services at the VOR facility will either be relocated or reconfigured to continue their services.
- Flight inspections will be conducted to support the implementation of the new MON VOR Standard Service Volume (SSV), as well as any required frequency changes.

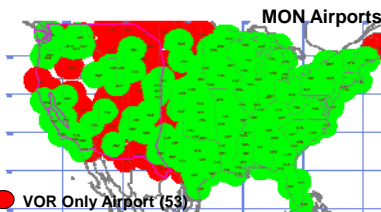


Candidate Discontinued VORs and MON Airports



- Retained VORs (649)
- Target Discontinued VORs (308)

VOR MON Discontinuance Target	
Service Area	# Discontinued
Western	15
Central	162
Eastern	131
Total Target	308



- VOR Only Airport (53)
- ILS Airport (136)

MON airports ensure that an aircraft is within 100 nmi of a location where an ILS or VOR approach may be flown.

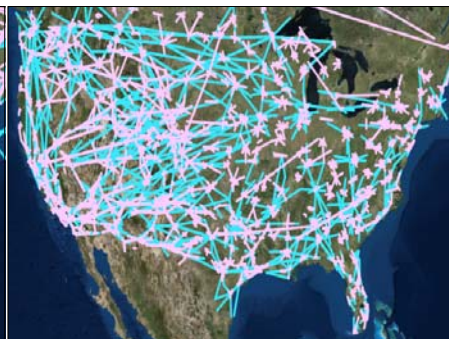
VOR Configurations			
	Retention Target	Discontinuance Target	Current Total
VOR	18	12	30
VOR/DME	245	155	400
VORTAC	386	141	527
Total	649	308	957

VOR Airway Structure and Impact

Current Airway Structure



Impact of VOR MON Program on Current Airway Structure



Legend: ● Victor Airway ● Jet Route

Next Steps

- Continue coordination with Metroplex, Instrument Flight Procedures Efficiency Group, other PBN development projects, and IFP removal teams to align activities and begin VOR discontinuance.
- Publish Final Policy Federal Register Notice (FRN) including candidate discontinuance list.
- Begin the alignment of Phase 1 (FY16-FY20) discontinuance goals with the approved budget.
- Begin Phase 1 VOR MON Implementation.




Summary

- The VOR MON Program plans to reduce the current legacy network to a MON by 2025. This network will operate as a backup navigation system in the event of an unplanned GPS localized outage.
- The program has achieved a Phase 1 FID on September 30, 2015 to discontinue approximately 74 VORs.

Note: The discontinuance goal for Phase 1 may adjust based on annual coordination with the CIT and approved allocated funding

- Stakeholder collaboration, outreach, and communication are critical to the success of this program due to vast number of interdependencies.






Update and Draft Recommendations from Airport Construction Task Group

Mark Hopkins, Delta
Chris Oswald, ACI-NA

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Airport Construction Tasking

1. Lessons Learned (Case Studies)	1. Review select past airport construction projects and associated data and identify lessons learned and recommend best practices for future projects. This would include the review of available safety and efficiency data where construction issues were noted as a factor. Please recommend a mechanism to ensure we capture and share lessons learned from future projects.
2. Evaluate FAA Planning Tools	2. Identify and evaluate current strategic planning initiatives/tools used by FAA stakeholders at the Headquarter, Service Area/Region, and Service Delivery Point levels and provide recommendations on a best approach.
3. Evaluate FAA Processes	3. Assess the use of agency orders, advisory circulars, and internal processes currently being used to guide airport sponsors in their management of airport operations during construction and provide recommendations on a best approach.
4. Understand Stakeholders	4. Identify all stakeholders internal and external to the FAA needed and define their roles in the coordination and implementation processes.
5. Outreach Strategies	5. Describe needed outreach strategies associated with each stakeholder and include a recommended timeline for outreach for major, long term projects.
6. Managing Safety Risk	6. Identify a set of recommendations on how safety risk should be better managed for aircraft operations impacted by airport construction projects.

The FAA requests this task be completed by the 2nd Quarter, FY2016 TOC meeting – March 2016


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Task Group Participants

<p>Steve Jangelis, Air Line Pilots Association John White, Air Line Pilots Association Melissa Rudinger, Aircraft Owners and Pilots Association Frank Oley, Airlines for America Chris Oswald, Airports Council International-NA (Co-Chair) Eric Silverman, American Airlines, Inc. Justin Towles, American Association of Airport Executives Rico Short, Beacon Management Group Paul Martinez, Dallas/Fort Worth International Airport Mark Hopkins, Delta Air Lines, Inc. (Co-Chair) Jim Marcoux, Delta Air Lines, Inc. John Dermody, Federal Aviation Administration Kent Duffy, Federal Aviation Administration Freddie James, Federal Aviation Administration Jeffrey Jones, Federal Aviation Administration Khalil Kodsí, Federal Aviation Administration Andrew Lamb, Federal Aviation Administration Vered Lovett, Federal Aviation Administration Jennifer Morris, Federal Aviation Administration</p>	<p>Pat Mulqueen, Federal Aviation Administration Susan Pflugstler, Federal Aviation Administration Dave Siewert, Federal Aviation Administration Tony Tisdall, Federal Aviation Administration Beverly Tulip, Federal Aviation Administration Richard VanAllman, Federal Aviation Administration Lynn Williams, Federal Aviation Administration Greg Yamamoto, Federal Aviation Administration Bill Murphy, International Air Transport Association Lee Brown, Landrum-Brown Celia Fremberg, Landrum-Brown Paul Shank, Maryland Aviation Administration Vincent Cardillo, Massachusetts Port Authority Ric Loewen, National Air Traffic Controllers Association Ralph Tamburro, Port Authority of New York & New Jersey Trin Mitra, RTCA, Inc. Bob Flynn, The MITRE Corporation Glenn Morse, United Airlines, Inc.</p>
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Significant Work Areas & Status

	Work Area	Status
	Documenting Background, Methodology and Executive Summary of this effort	Discussed by TG; draft writeup by next meeting in December
1	Overview of Stakeholders in Construction, Needs, Required Outreach	
2	Gaps & Recommendations: Awareness	
3	Gaps & Recommendations: Complex Construction Planning	
4	Gaps & Recommendations: Construction Execution	Discussed recently by TG; early draft writeup by next meeting in December
5	Safety Focused Recommendations	
6	Recommendations on FAA Tools, Processes & Guidance	Discuss at next meeting in December

Stakeholders in Construction

AIRPORTS



- Airport Owner/Municipality
 - Finance
 - Engineering & Design
 - Airport Operations
- Consultants
- Contractor

FAA



- ARP/ADO
- System Operations
- Local/Adjacent ATC
- ACAC
- Instrument Flight Procedures Team
- Service Center/NPI Teams
- Tech Ops
- Airspace Services

OPERATORS



- Corporate Real Estate
- Station Management
- Air Traffic Group
- Performance Engineering
- Network Planning
- Crew Scheduling
- Flight Crews
- Dispatch
- Ops Control

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Generic Construction Process

		Planning				Execution		
AIRPORTS	MP	Design		Bid/Award		Execute		
	Env/1 Rec Dec	Board/ Owner	Eng & Design	Consultants	Finance	Contractor		Airport Operations
FAA	ARP/ADO	Evaluate Design & Funding						
	System Operations	Model design impacts			Managing flow during construction			
	Local/Adjacent ATC	Design eval, playbook, training			Managing ops during construction			
	ACAC	Provide guidance, best practices, etc. throughout process						
	Instr Fit Proc Team	Dev temp proc's			Permanent changes			
	Service Center/NPI Teams	Scope RAs		Reimbursable Agreement Support				
	Tech Ops	Shut and Reactivate Eqp						
Airspace Services	Ongoing Obstacle Evaluation							
OPERATORS	Eval impacts & Adjust oper'l plan					Manage ops during construction		
	CRE, St Mgmt	AT Group Perf Eng	Ntwrk Pln Crew Skd			Dispatch	Flight Crews	Ops Control

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Key Gaps in Airport Construction

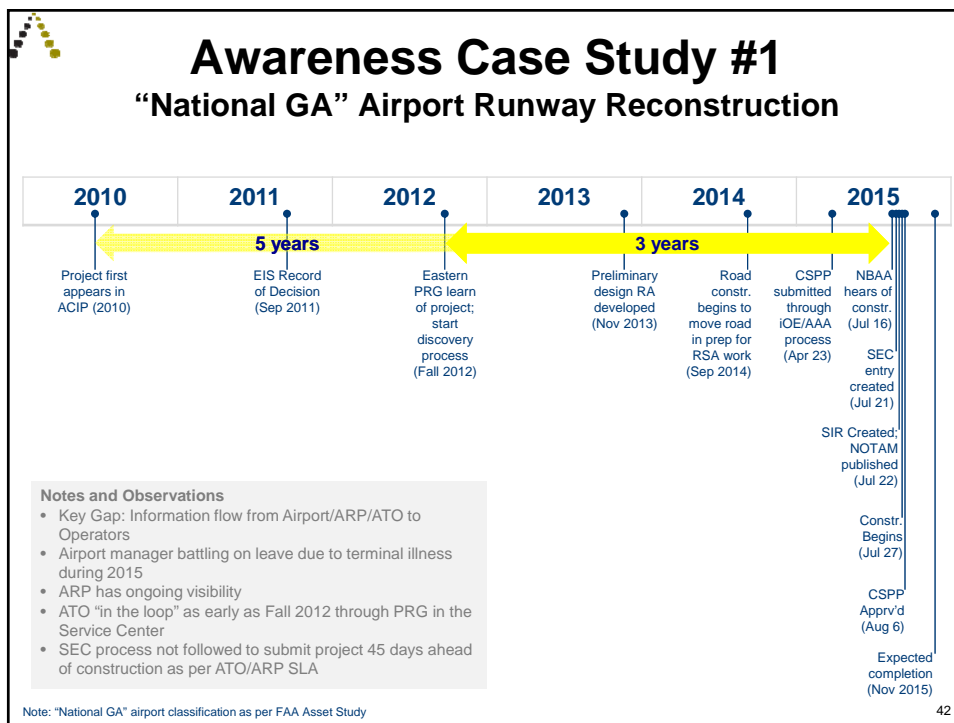
Awareness of Planned Construction

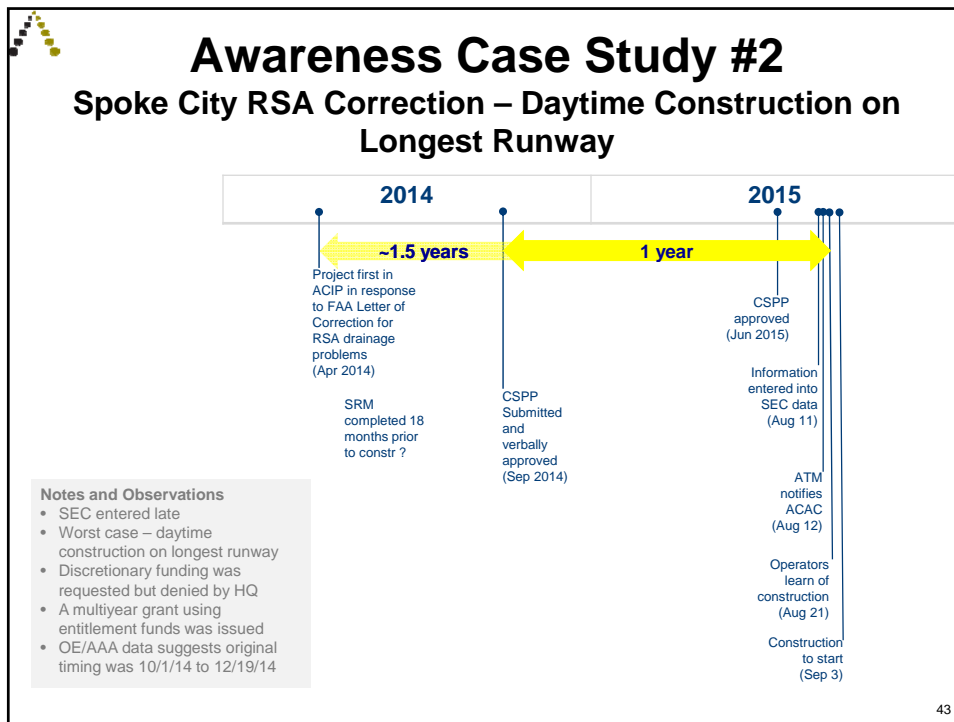
Consistent Construction Planning

Consistent Execution

Issue	Today information about planned construction at smaller airports can "slip through the cracks"	Today planning for large, complex construction does not follow a standard template; to an extent, the process is "reinvented" each time	Today maximum available capacity at an airport during construction not always available; also, completion of construction is not always synchronized with parallel efforts to ensure resources are fully available to operators at the conclusion of construction
Applicability	Primarily applicable to <u>Airports Outside of FAA's 84 Focus Airports</u>	Applicable to Most <u>Construction at Largest Airports in NAS or Highly Complex Projects at Any Airport</u> (MLI, JNU, PSP) with significant operational and/or safety implications	Applicable to <u>All Construction</u> projects
Need	Need reliable, centralized information flow on construction efforts and status with at least 6 month lookahead time	Need consistent, repeatable engagement process across all stakeholders during planning with 2 year lookahead time	Need consistent, repeatable engagement process across all stakeholders during execution

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Construction Clearinghouse Concept

Simple, standard web-based form with minimal required data about construction, including:

- Airport
- Runway(s) & dates
- Taxiway(s) & dates
- Date/Hours of closures
- Expected impact
- Likelihood
- Point of contact for more information

Requirement for TBD organization(s) to submit 6 months pre-construction. Primary options to submit information may include:

- Airport authorities
- Service Centers – NPI teams
- ADOs
- ATMs
- Tech Ops

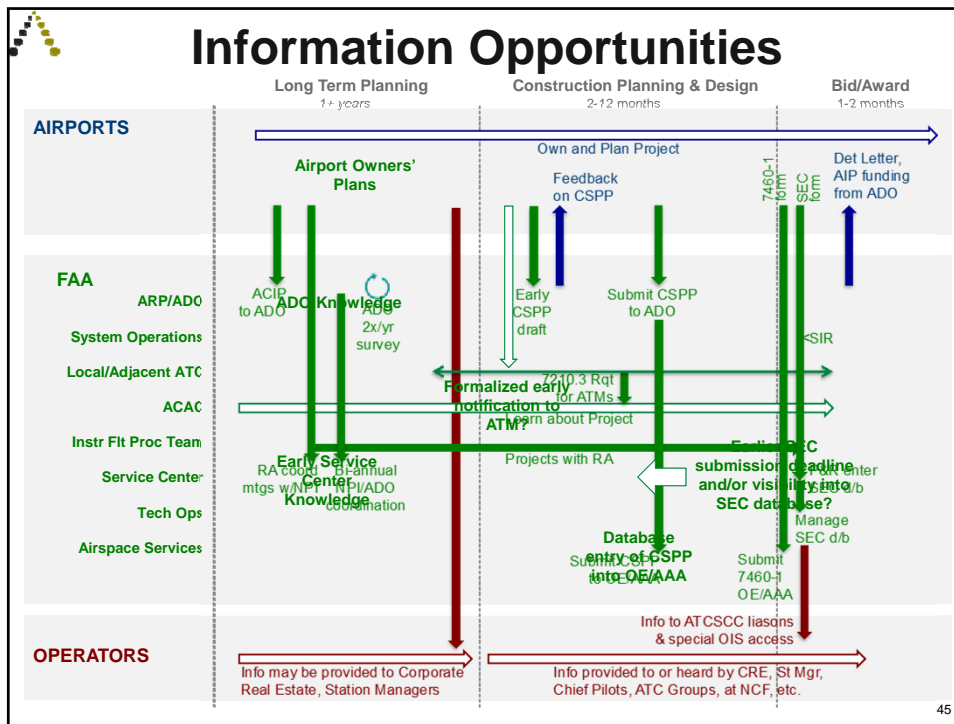
Requirement applied to multiple organizations for redundancy, both airport authorities and in FAA

Form submission could be linked to draft CSPP submission or other key event

Centralized Database Manager

- Searchable database
- Resources that regularly quality check against existing data, delete obsolete records, adjust dates as changes are entered, etc.
- Who should own and manage this?
 - ACAC with resources?
 - NPI/Service Centers/Mission Support?
 - Tech Ops?
 - Others?

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- ## Construction Awareness Draft Recommendations
1. Develop a notification process and information portal about intended construction.
 2. Have multiple sources of submission into a construction information portal.
 3. Define one organization in the FAA to collect, quality control and manage construction information.
 4. Make construction portal information accessible to the Public.
 5. Consider moving the Strategic Event Coordination (SEC) deadline earlier from the current 30-45 day deadline.
 6. Develop a one page “desk reference” for airport authorities to understand their full suite of reporting requirements.
 7. Engage key airport trade organizations such as ACI-NA, AAAE and NASAO to collectively develop educational materials and help roll out any new improvements to the airport community.

Construction Planning

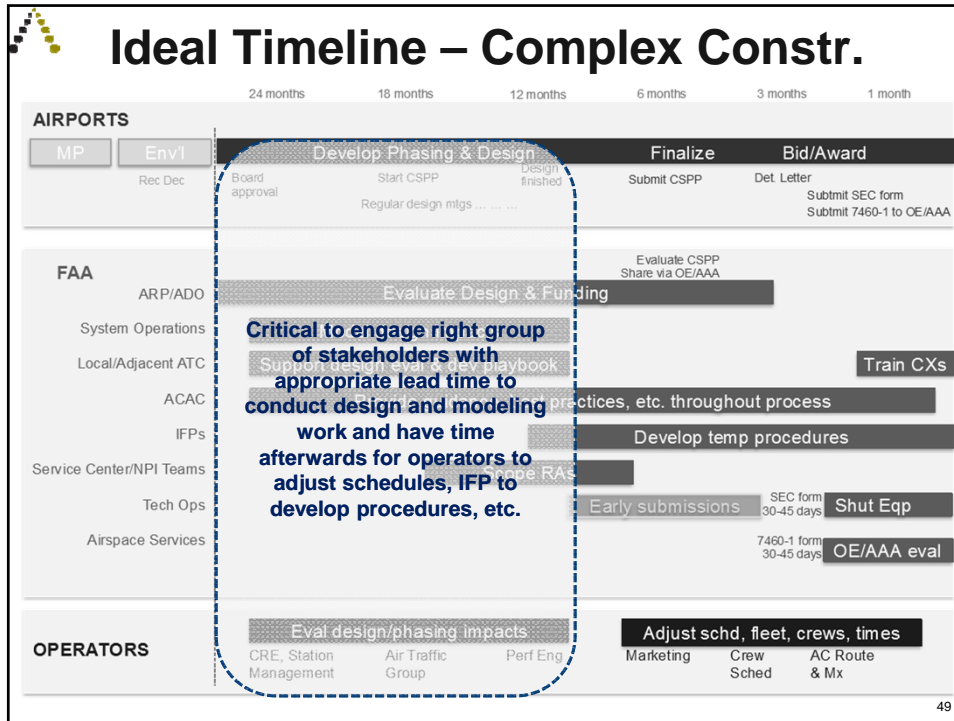
- Recent history of large scale, highly impactful construction has been inconsistent
 - On the right trajectory
- Continually reinventing process and timelines from project to project
 - In some cases, capacity modeling began too late, in others access to appropriate local operational experts took too long, in other cases airport authority did not engage quickly, etc.

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Consistent Planning - Ideal Timeline

	24 months	18 months	12 months	6 months	3 months	1 month
AIRPORTS						
MP						
Env'l						
Rec Dec						
Board approval to start						
Start CSPP						
Regular design mtgs						
Design finished						
Submit CSPP						
Det. Letter						
Submit SEC form						
Submit 7460-1 to OE/AAA						
FAA						
ARP/ADO						
System Operations						
Local/Adjacent ATC						
ACAC						
IFPs						
Service Center/NPI Teams						
Tech Ops						
Airspace Services						
Eval design & funding						
Model design impacts						
Support design eval & dev playbook						
Provide guidance, best practices, etc. throughout process						
Develop temp procedures						
Scope RAs						
Early submissions						
SEC form 30-45 days						
Shut Eqp						
7460-1 form 30-45 days						
OE/AAA eval						
OPERATORS						
Eval design/phasing impacts						
Adjust schd, fleet, crews, times						
CRE, Station Management						
Air Traffic Group						
Perf Eng						
Marketing						
Crew Sched						
AC Route & Mx						

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- ## Construction Planning Draft Recommendations
1. Develop a process for classifying expected construction as “complex”.
 2. Leveraging existing checklists from ACAC, RTAP and Sys Ops, develop an Airport Construction Action Plan template with checklists and timelines to be utilized for any construction projects deemed “complex”.
 3. Identify an “ownership” team for the effort to drive schedule, manage process, keep participants on task, etc. May include Project Owner, ATM, DDSO, Operator. Consider structured teaming arrangement to formalize.
 4. Identify and document RAAs for engagement of key stakeholders during planning.
 5. Complex projects should report to FAA HQ Leadership to ensure proper high level attention.
 6. During planning, schedule monthly or bi-monthly stakeholder meetings
 7. If necessary, provide infrastructure to support management of the process
 8. Explore opportunities to integrate modeling efforts between FAA Tech Center, operators and airport authorities
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Construction Execution: Case Study

- Case Study: WSA GA Airport
 - In January 2014, initial planning discussions to relocate runway 14/32 due to runway surface deterioration at airport began
 - Construction included lengthening the runway by 700 ft and shifting it 300 ft to the east. Originally estimated to be completed in the summer of 2014. However, survey data was not available in time for the 11/13/14 publication date.
 - Airport postponed construction for summer of 2015 and 02/04/16 was new publication date.
 - On 08/10/15, the Western Operations Support/Flight Procedures Team (OSG/FPT) informed Aeronautical Information Services (AIS) airport had completed project early and reopened runway.
 - AIS immediately issued Notice to Airman (NOTAMs) not authorizing both RNAV (GPS) procedures and the departure procedure.

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Construction Execution – IFP Focus

Draft Recommendations

- Form a working group to align all Survey Data with the Instrument Procedures Production Cycle. Data is the foundations for these procedures and will be the Priority consideration when NFDC issue new Data. (Aeronautical Information Services has made some head way in this direction but nothing has been formalized at this point).
- Prepare and send Magnetic Variation Letter to Aeronautical Information Services well before any painting or Runway Movement Area signage is done. This Letter is done now just 3 Months before the Procedures are printed and needs to happen sooner. Once the Letter is signed the Airport will not have to change Magnetic Variation.
- FPTs should have a similar 24/7 response to that of Aeronautical Information Services or the possibility of moving their responsibility for temporary Obstacles/Cranes to Aeronautical Information Service hours should be considered.


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Construction Execution – IFP Focus Draft Recommendations

- Issue NOTAMs with the OE/AAA number (and Latitude and Longitude?) of temporary Obstacle impacting procedure.
- Publish obstacle NOTAM as soon as information is available (earlier better)
- Electronic reporting of height, lat, long on cranes
- Explore ways to have a Contingency plan that included locations of all On Airport (and Off Airport?) Obstacle/Cranes that affect the published flight procedures for Major Airport Construction. The plan should identify the responsible party to confirm Cranes are down (Crane Sheriff). This plan should go in to effect when the Weather is forecasted to go below lowest minimums.
- Establish a primary POC to ensure recommendations are maintained. May be Airport Construction Advisory Committee (ACAC).


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Additional Emerging Issues in Construction Execution

- OE/AAA Process
 - Flushing Cranes
- How to handle flexibility/adaptation to changes during construction
 - Need for information portal for actual construction status, changes, etc.?
 - Handle impact on on available capacity and system impacts, equipment availability, etc.
 - Best practices of info sharing during construction (see WSA, JFK examples)
 - Integrate cranes onto construction diagrams?
- Post-event lessons learned to evaluate existing processes
 - KPIs?
 - Feedback to the owner of the complex process templates to adjust/evolve


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Next Steps

- Further develop ideas for additional safety improvements during construction
- Evaluate full suite of FAA tools, processes, guidance and develop recommendations
- Drafting and documenting case studies and recommendations
- Submit recommendations at TOC meeting on March 3, 2016

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Update on NextGen Advisory Committee (NAC)

Andy Cebula, RTCA

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NAC Meeting Oct 8th




- Hosted by FedEx Express in Memphis
- NextGen Integration Working Group
 - Priorities: DataComm, Multiple Runway Operations, PBN, Surface
 - Updates for 2015
 - Rolling Plan – Review 2017, add 2018 & 2019
- Metrics: Measuring Effects of Implementation
 - Joint Analysis Team – Co-Chairs: Ilhan Ince, AA, Dave Knorr FAA
 - FAA – Industry Performance Tracking (Passur Aerospace)
- Promote benefits from NextGen Implementations

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NAC Meeting Oct 8th (cont.)

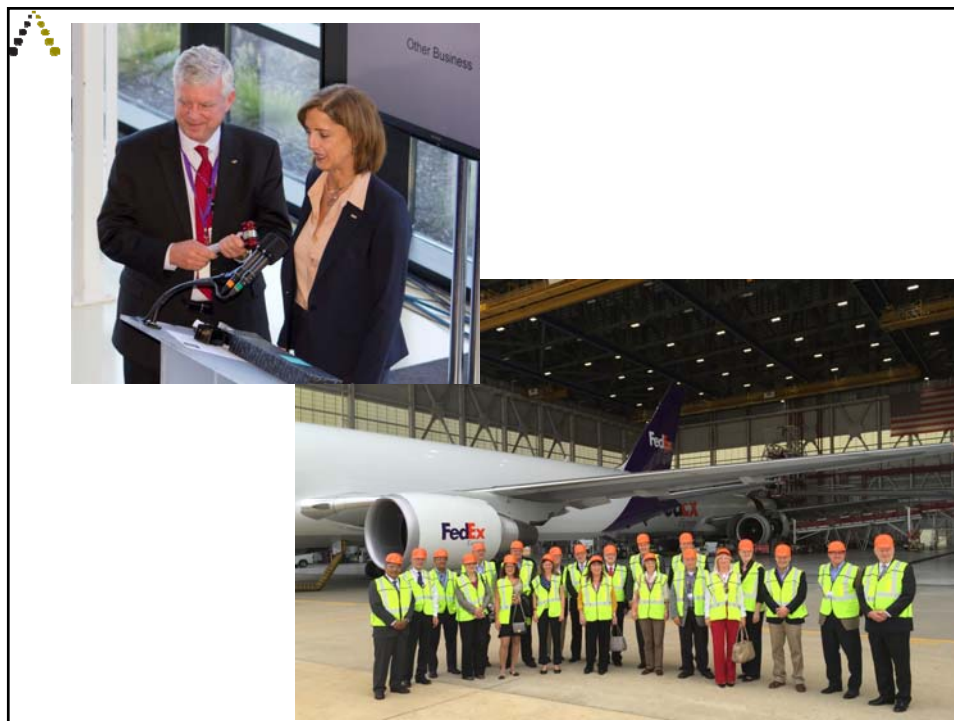
- Performance Based Navigation (PBN) National Airspace System Navigation Strategy
- Community outreach in the implementation of PBN (community impacts)
- ADS-B – equipage plans, etc.



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Action Items From Oct NAC

Action Item	Responsible Entity	Completion Date
Determine how the NAC/NACSC can address community outreach in the implementation of PBN (community impacts)	FAA/RTCA	TBD based on FAA and airports review of current actions at November 2015 NACSC meeting
NAC accepted October updates to NextGen priorities. Updates will be incorporated into the plan and Congress will be briefed.	NIWG Leadership (FAA/Industry)	November 2015
NextGen Integration Working Group will initiate developing a rolling plan	NIWG Leadership (FAA/Industry)	Kick-Off Nov NACSC meeting Interim February NAC meeting Final June NAC meeting
Carriers report on status of plans for output of 2020 fleets equipage of ADS-B (Note: releasable data should be de-identified)	Industry: provides data via Equip 2020; Reports fleet progress at NAC meeting	December Equip 2020 Meeting Update February NAC 2016 meeting
Report on ADS-B equipage status for air carrier and general aviation at future NAC meetings	FAA	2016 NAC Meetings February/June/October
Pending FAA tasking related to traffic flow management, as a result of PBN Aviation Rulemaking Committee's work on PBN NAS Navigation Strategy	FAA/PARC	November 2015 Presentation of Tasking to NACSC; Due Date for Tasking, TBD
NAC should promote benefits received by the aviation industry from NextGen implementations – specifically JFK PBN implementation and Memphis Wake ReCat	NAC/NACSC	November 2015 NACSC meeting Agenda Item to determine follow-up activities





**FAA Response to TOC
Recommendations on Operations
in the Caribbean**

Jim Linney, FAA

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**Update from Regional
Task Groups**


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**FAA Response to TOC
Recommendations on Class B
Airspace**

Lynn Ray, FAA


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**Update and Draft
Recommendations from National
Procedure Assessment Task Group**

Randy Burdette, Virginia Dept. of Aviation
Michael Perrizo, Air Wisconsin

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Objectives of Task


- **Criteria for Procedure Cancellation**
 - For both regulatory (IAPs) and non-regulatory (SIDs/STARs) tracks
 - Validate or recommend changes to current approach
 - Explore opportunity to define one track

- **Implementation**
 - Validate or recommend ways to streamline current plans

- **Outreach to Operators and ATC**
 - Validate or recommend changes to current plans
 - Particular attention to non-regulatory track

- **Recommend where to go next beyond current plan**

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NPA Task Group Participants

<p>Marc Henegar, Air Line Pilots Association Darrell Pennington, Air Line Pilots Association Michael Perrizo, Air Wisconsin (Co-Chair) Michael Stromberg, Air Wisconsin Rune Duke, Aircraft Owners and Pilots Association Melissa Rudinger, Aircraft Owners and Pilots Association Brian Townsend, American Airlines, Inc. Steve Madero, DoD Policy Board on Federal Aviation Mark Adams, Federal Aviation Administration Jose Alfonso, Federal Aviation Administration Wayne Eckenrode, Federal Aviation Administration Bill Fernandez, Federal Aviation Administration Danny Hamilton, Federal Aviation Administration</p>	<p>Gerald Lynch, Federal Aviation Administration Robert Novia, Federal Aviation Administration Lee Brown, Landrum-Brown Dennis Kelly, National Air Traffic Controllers Association Bob Lamond Jr, National Business Aviation Association Trin Mitra, RTCA, Inc. Perry Clausen, Southwest Airlines Gary McMullin, Southwest Airlines John Brandt, The MITRE Corporation Howard Callon, The MITRE Corporation Glenn Morse, United Airlines, Inc. Randy Burdette, Virginia Department of Aviation (Co-Chair) Vernon Carter, Virginia Department of Aviation</p>
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Contents for Today

- The Categories of Procedures NPA TG is Evaluating
- Draft Recommendations by Procedure Category
- Draft Process for Procedure Cancellation
- Additional Draft Recommendations

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Categories & Counts of Lines of Min.

Category	Num	Perc	
SIDs	1085	3%	542 Conventional [542 by individual airport]
			543 RNAV [543 by individual airport]
STARs	670	2%	312 Conventional
			358 RNAV
RNAV	13691	41%	5984 RNAV (LNAV)
			3442 RNAV (VNAV)
			3567 RNAV (LPV)
			594 RNAV (LP)
			104 GPS Standalone
RNAV (RNP)	720	2%	53 0.10
			59 0.11
			14 0.12
			8 0.13
			9 0.14
			66 0.15
			12 0.16
			14 0.17
			10 0.18
			4 0.19
			38 0.20
			5 0.21
			5 0.22
			6 0.23
			3 0.24
			5 0.25
			4 0.26
			2 0.27
			1 0.28
			3 0.29
399 0.30			

Category	Num	Perc	
ILS	1745	5%	1284 ILS
			153 ILS (CAT II)
			118 ILS (CAT III)
			120 ILS SA
			32 ILS SA (CAT II)
LOC	1498	5%	38 ILS PRM
			1430 LOC
NDB	694	2%	68 LOC B/C
TACAN	15	0.05%	
VOR	2164	7%	1233 VOR
			931 VOR/DME
LDA	33	0.1%	32 LDA
ASR	221	1%	1 LDA PRM
GLS	11	0.03%	
PAR	7	0.02%	
SDF	6	0.02%	
Circling	10457	31%	
Side Step	83	0.2%	
ODPs	137	0.4%	
RNP Specials	4	0.01%	
VOR/DME RNAV	6	0.02%	

Total = ~33,000 Lines of Minima

Note: >300 Ground Based IAPs expected to be decommissioned later this year

Source: From FAA website on 8/20/15 - https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/ifp_inventory_summary/

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TG Assessment of Each Category

Categories NPA Group has reached draft conclusions:

TACAN	15	0.05%
VOR	1233	4%
VOR/DME	931	3%
NDB	694	2%
ASR	221	1%
PAR	7	0.02%
SDF	6	0.02%
Circling	10457	31%

41%

Categories NPA Group does not intend to address at this time:

ODPs	137	0.4%	Do not change obstacle departure procedures
RNP Specials	4	0.01%	Not public procedures
VOR/DME RNAV	6	0.02%	Slated for cancellation
LDA	32	0.1%	Most LDAs exist for imp reason; small number; leave as is
LDA PRM	1	0.003%	Most LDAs exist for imp reason; small number; leave as is
ILS	1284	4%	Not remove procedure with lateral and vertical guidance
ILS (CAT II)	153	0.5%	
ILS (CAT III)	118	0.4%	
ILS SA	120	0.4%	
ILS SA (CAT II)	32	0.1%	
ILS PRM	38	0.1%	
GLS	11	0.03%	New procedure category
LOC "with" ILS	1284	4%	Associated with existing ILS equipment
Standalone LOC	214	1%	
LOC B/C	68	0.2%	
Side Step	83	0.2%	

11%

Categories NPA Group is still evaluating:

SIDs	1085	3%	542 Conventional [542 by individual airport]
			543 RNAV [543 by individual airport]
STARs	670	2%	312 Conventional
			358 RNAV
			5984 RNAV (LNAV)
			3442 RNAV (VNAV)
RNAV	13691	41%	3567 RNAV (LPV)
			594 RNAV (LP)
			104 GPS Standalone
			53 0.10
			59 0.11
			14 0.12
			8 0.13
			9 0.14
			66 0.15
			12 0.16
			14 0.17
			10 0.18
			4 0.19
RNAV (RNP)	720	2%	38 0.20
			5 0.21
			5 0.22
			6 0.23
			3 0.24
			5 0.25
			4 0.26
			2 0.27
			1 0.28
			3 0.29
			399 0.30

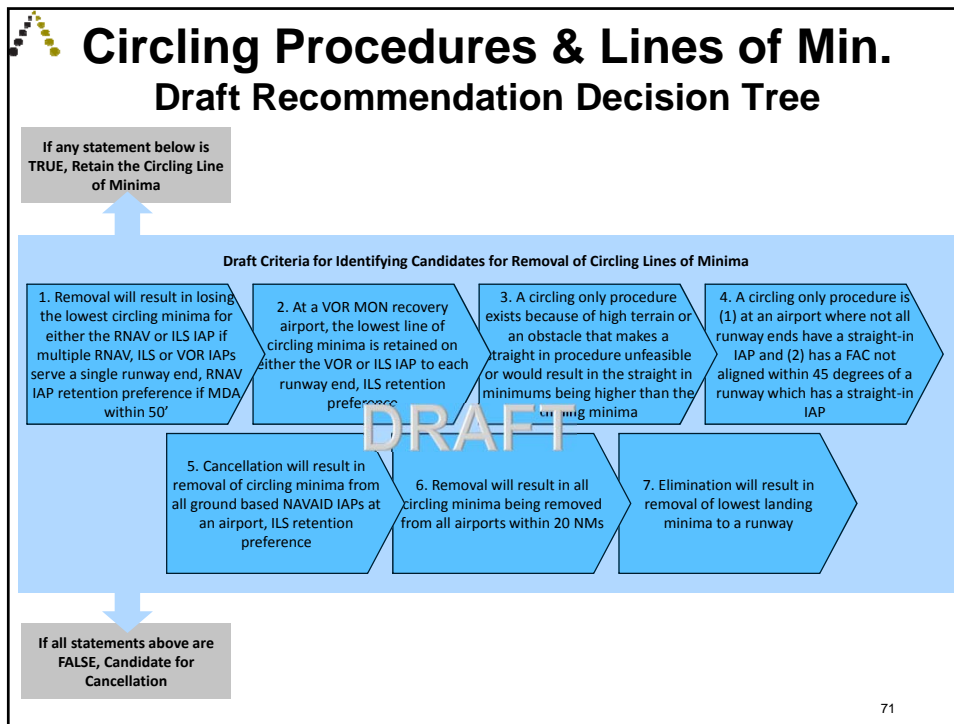
49%

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ASR, PAR and SDF Procedures Draft Recommendations

1. Evaluate existing ASR and PAR procedures and consider cancellation for those at civilian only (not joint DoD) facilities
 - DoD requirement to maintain currency on ASR/PAR procedures. Initial analysis by DoD/ANG suggests about 84 out of 221 ASR procedures at civilian facility
2. Continue engaging rest of government (DoD, CBP, etc.) to evaluate necessity of ASR and PAR procedures at joint use facilities
3. If procedures will be maintained, FAA must maintain training and currency of controllers to offer the procedure
4. Facility that cannot provide ASR/PAR approaches due to training should NOTAM those procedures out of service until such time that staff are trained
5. Consider remaining six SDF procedures for decommissioning

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Case Studies: Application of Circling Criteria

JFK (58%)		
ILS OR LOC RWY 04L	640-1	627 Simulator IAP/Criteria 5
RNAV (GPS) Y RWY 04L	640-1	627 Retained according to criteria 1
VOR RWY 04L	640-1	627 Solicit comments
ILS OR LOC RWY 04R	640-1	627 Simulator IAP/Criteria 5
RNAV (GPS) Y RWY 04R	640-1	627 Retained according to criteria 1
VOR RWY 04R	640-1	627 Solicit comments
ILS OR LOC RWY 13L	680-1	667 Solicit comments
ILS OR LOC RWY 13L - PRI	640-1	627 Solicit comments
RNAV (GPS) Z RWY 13R	640-1	627 Solicit comments
ILS OR LOC RWY 31L	640-1	627 Solicit comments
RNAV (GPS) Y RWY 31L	640-1	627 Retained according to criteria 1
VOR RWY 31L	640-1	627 Solicit comments
ILS OR LOC RWY 22L	640-1	627 Solicit comments
VOR/DME RWY 22L	640-1	627 Solicit comments
RNAV (GPS) Y RWY 22L	640-1	627 Retained according to criteria 1
ILS RWY 22R	640-1	627 Solicit comments
RNAV (GPS) RWY 22R	640-1	627 Retained according to criteria 1
ILS OR LOC RWY 31R	640-1	627 Solicit comments
RNAV (GPS) Y RWY 31R	640-1	627 Retained according to criteria 1
TEB (75%)		
ILS OR LOC RWY 06	760-1	751 Solicit comments
ILS OR LOC RWY 19	760-1	751 Retained according to criteria 1/5/7
RNAV (GPS) X RWY 06	760-1.25	752 Retained according to criteria 1
RNAV (GPS) Y RWY 06	800-1	791 Solicit comments
RNAV (GPS) Y RWY 19	960-1.25	952 Solicit comments
VOR/DME RWY 06	760-1	751 Solicit comments
VOR/DME-B	800-1	791 Solicit comments
VOR RWY 24	760-1	751 Solicit comments

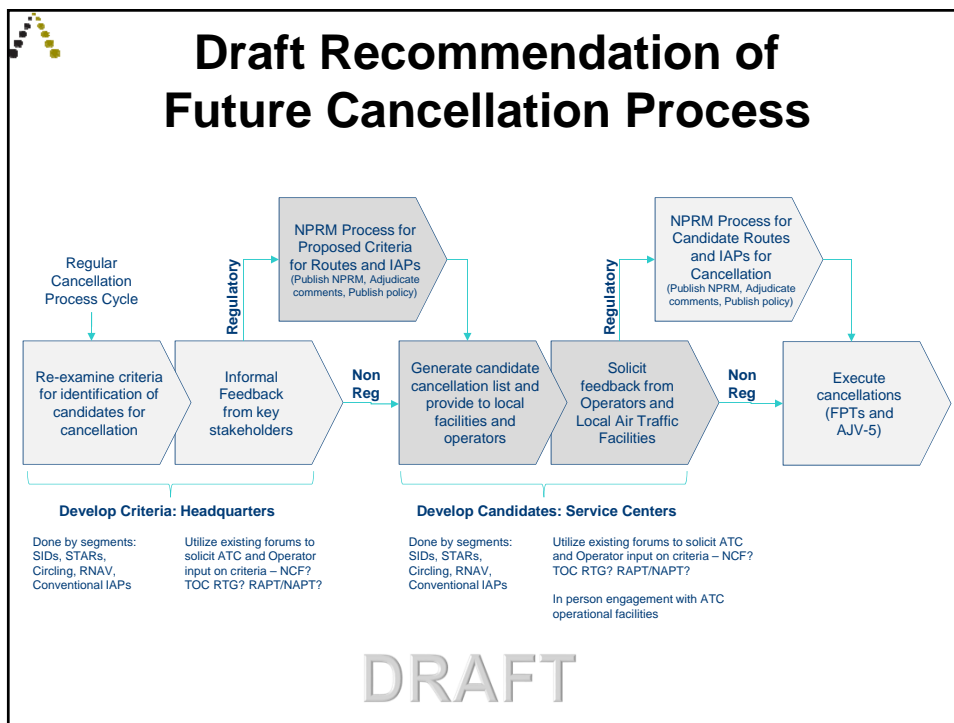
72


Additional Procedure Categories

Task Group Continues to Develop Recommendations for:

- **Ground Based IAPs (VOR, NDB, TACAN)**
 - Continue to review these categories in future, regular evaluation of opportunities to decommission as they represent a significant portion of the current total (~9%)
- **RNAV**
 - Considering what, if any, RNAV criteria should be recommended
- **SIDs & STARs**
 - Building on PRRRT experience to mature criteria

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Cancellation Process Draft Recommendations

1. Evaluation of procedures should be ongoing and occur on a recurring basis
2. Criteria should be reexamined at each recurring cycle
3. Outreach process
 1. Both Local Facilities and Operators should be engaged into the regulatory and the non-regulatory tracks
 2. Engaging local ATC facilities for feedback is most effectively accomplished in person to guide facilities through the process and discussion
 3. Local facility engagement should be done one time for both the regulatory and non-regulatory tracks
 4. Key facility involved in creation in of a procedure should participate in its decommissioning


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Additional Draft Recommendations

- Periodically examine permanent NOTAMs, closed airports, decommissioned nav aids (VORs, NDBs) and ensure any associated procedures are removed
- As needed and subject to availability of budget, re-augment FAA procedure maintenance and development through contract support to increase capacity of this organization
- Continue to invest in automation and technology improvements that have the potential to improve the FAA's productivity in procedure maintenance and development

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Challenges for NPA Effort

- Scope of the Task
- Dependency/Overlap with Other Industry Efforts
 - VOR MON
 - PBN Strategy/Circling Approaches


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Anticipated Issues for Next Meeting

Potential Tasking: PBN Route Strategy Review

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Closing Comments

Designated Federal Official:
Lynn Ray, Federal Aviation Administration

Co-Chairs:
Bryan Quigley, United Airlines


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Next Meetings:
March 3, 2016
June 23, 2016
October 27, 2016

Washington, DC

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Adjourment

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July 21, 2015

Meeting Summary, July 21, 2015
Tactical Operations Committee (TOC)

The tenth meeting of the Tactical Operations Committee (TOC), held on July 21, 2015, convened at 9:00 a.m. The meeting discussions are summarized below. The following attachments are referenced:

Attachment 1 – List of Attendees

Attachment 2 – Presentations for the Committee (containing detailed content of the meeting)

Attachment 3 – Summary of the May 20, 2015 TOC Meeting

Attachment 4 – Air Traffic Organization Positions Chart

Attachment 5 – Review of NOTAM Search Phase 2 Implementation

Attachment 6 – Recommendations to Improve Operations in the Caribbean

Attachment 7 – GPS Adjacent Band Compatibility Feedback on Exclusion Zones

Attachment 8 – Class B Airspace Designation, Design and Evaluation

Welcome and Introductions

Committee Co-Chair, Mr. Jim Bowman, Vice President of Flight Operations at FedEx Express called the meeting to order and welcomed the TOC members and others in attendance. Co-Chair, Mr. Dale Wright, National Air Traffic Controllers Association (NATCA), was unable to attend due to a personal matter. All TOC members and attendees from the public were asked to introduce themselves (TOC members and General Public Attendees are identified in Attachment 1).

Mr. Bowman reviewed the agenda and began the proceedings of the meeting.

Designated Federal Official Statement

Ms. Elizabeth “Lynn” Ray, Vice President of Mission Support for the Air Traffic Organization (ATO), and the Designated Federal Official of the TOC, read the Federal Advisory Committee Act notice governing the open meeting.

Approval of May 20, 2015 Meeting Summary

The Chair asked for and received approval of the written Summary for the May 20, 2015 meeting (Attachment 3).

FAA Report

Ms. Ray next provided a report from the FAA on various topics relevant to industry. She informed the TOC that discussions around reauthorization were anticipated to begin in September 2015. Key issues for the Administrator include stabilizing funding for core air traffic and modernization efforts like NextGen and facility modernization. She noted that both bills in the House and Senate called for FAA funding at the President's level of request but that this was unlikely to be in place by October 1, 2015. Ms. Ray commented that the FAA is planning for a Continuing Resolution into the next fiscal year, anticipating funding at current levels which are \$108 million less than requested.

Ms. Ray informed the TOC that a key focus area for the FAA is hiring, and controllers and Technical Operations are at the forefront of priorities. She also stated that for Unmanned Aerial Systems (UAS), a separate directorate would be established and would be an integration office with an executive. A Chief of Staff in this directorate would report to the Deputy Administrator on UAS.

Ms. Ray then spoke to the TOC about a series of Organizational Changes within the Agency (see Attachment 4). She noted that Mr. Randy Park had been made permanent Deputy COO, Mr. Joseph Texeira had announced his retirement, Ms. Nancy Kalinowski had assumed the role of Deputy Vice President of Management Services and that Mr. Jim Eck had become Vice President of Program Management. A TOC member inquired whether the amount of turnover in the executive ranks was a normal rate of turnover or whether it was more than typical. Ms. Ray noted that there was an increase in turnover given that the current executives included a prevalence of individuals that were at or near retirement. She also stated that this trend was not expected to change in the near future. Another TOC member asked whether the FAA would fill open executive roles internally or whether the FAA would consider candidates outside of the FAA. Ms. Ray answered that such positions were generally bid and filled internally within the FAA.

NOTAM Task Group Recommendation on NOTAM Search Phase 2 Implementation

Mr. Mark Cardwell, FedEx Express, and Chair of the NOTAM Task Group next briefed the TOC on the next set of recommendations on NOTAM Search. He informed the TOC that the NOTAM Task Group had reviewed Phase 2 deployment of FAA's NOTAM Search. Mr. Cardwell noted that the group only had four recommendations to offer – primarily focused on improving training and help information associated with the NOTAM Search website. He stated that the group's input was trending to a reduced number of recommendations. He commented this was a reflection of the FAA's efforts to work diligently and effectively in its implementation of NOTAM Search.

One TOC member asked how the Task Group’s feedback was generated. Mr. Cardwell informed the TOC that it was generated from Task Group members, from membership organization members as well as input the FAA receives on its NOTAM Search website.

Another TOC member inquired about more information on Phase 4 of NOTAM Search. The TOC was informed by the FAA that in Phase 4 deployment, any remaining functionality from PilotWeb not in NOTAM Search would be implemented in NOTAM Search. PilotWeb would then be sunset within the following year.

Committee Action: The Committee agreed by consensus to approve the NOTAM Recommendations on NOTAM Search Phase 2 Implementation (Attachment 5).

Eastern Regional Task Group: Recommendations to Improve Operations in the Caribbean

Mr. Joe Bertapelle, JetBlue, next briefed the TOC on a series of recommendations from the Eastern Regional Task Group (ERTG) pertaining to improving operations in the Caribbean. Mr. Bertapelle Co-Chaired the ERTG effort with Mr. Glenn Morse, United Airlines, who was unable to attend the meeting.

Mr. Bertapelle informed the TOC that the ERTG’s effort in the Caribbean had brought together a wide array of stakeholders from industry (ALPA, DoD, IATA, air carriers, NATCA, NBAA) and the FAA (International office, Eastern Service Center PRG and OSG, Management and NATCA personnel from ZNY, ZMA and ZSU, MTO for Southeast, Oceanic and Offshore Procedures group, Office of International Affairs and SBS Office).

Mr. Bertapelle then gave the TOC some background on what issues were driving operational challenges in the Caribbean. He spoke about the growth the region had experienced and that which was projected into the future. He described how this growing set of operations in the Caribbean go through a funneling effect in which traffic narrows into a corridor between Miami and San Juan. He also described various infrastructure issues with communications and surveillance, that the airspace was not aligned to the traffic and various challenges coordinating with other foreign air navigation service providers (ANSPs) in the region. (Note that Mr. Bertapelle’s briefing materials may be found in Attachment 2.)

Finally, Mr. Bertapelle presented a series of recommendations that organized into infrastructure priorities, airspace priorities and harmonization:

Category		Prioritized Recommendations
Infrastructure Priorities	Communications	Implement a New Communications Frequency at Saint Maarten
		Implement a New Communications Frequency at Abaco Island
		Install Dedicated Shout Lines with Certain Adjacent or Underlying International Facilities
	Automation	Regional Implementation of Automation:

		<ol style="list-style-type: none"> 1. Continue implementation of ADE with Santo Domingo 2. Develop software translation for neighboring facilities with AIDC protocol 3. Ensure ERAM software upgrades associated with ADE stay on schedule
		Implement Independent Flight Data Processing in ZSU
	Surveillance	Implement ADS-B in the Caribbean
		Input St. Maarten Radar into the ZSU Radar Mosaic System
		Identify and Access a Backup Option for Grand Turk Radar
	Technology Improvements	Investigate Option to Access Weather Information from Long Range DoD/DHS Radars
		If the Offshore Precipitation Capability (OPC) shows promise, expedite Caribbean access
		Enable ZSU to Participate in Data Comm
		Make Caribbean Radar Presentations Available to ZNY
	Airspace Priorities	Explore Options to Reduce Separation between ZNY and ZSU/ZMA
Implement a Shortcut Route between CARPX and RENA		
Conduct an Integrated Redesign of ZMA and ZSU Airspace		
Improve Short Term Cuba Access in the Giron Corridor		
Prepare for Significant Growth in Cuba Operations		
Harmonization	FAA should establish one body to develop an integrated plan and lead implementation in the Caribbean	
	Maintain Active Coordination with ICAO's North America, Central America and Caribbean Offices	
	Ensure Active Involvement of the Office of International Affairs, Western Hemisphere Office	

A TOC member noted that in other places in the National Airspace System (NAS), technical or operational challenges are generally addressed, and why had that not happened in this region? Mr. Bertapelle noted that in the Caribbean there had been a number of stalled individual requests, such as ADS-B ground stations, new frequencies, etc. These requests had not been integrated into a holistic picture of the need for improvements in the region as a whole. Individual requests evaluated based on individual merits did not receive support but these same requests evaluated in an integrated, regional manner tell a different story and warrant priority.

Another TOC member noted that traffic to the Caribbean and South America will be growing through 2020 and the operational issues will only be exacerbated if not appropriately addressed.

Ms. Ray noted that the FAA's next step on these recommendations would be to measure associated costs and benefits. She stated that the FAA will be interested to gather operator feedback to these measurements to ensure that the benefits case for the recommendations is strong.

Another TOC member inquired about space-based ADS-B as a surveillance solution for the region. Mr. Bertapelle noted that the ERTG had considered space-based ADS-B and recognized there was risk and uncertainty associated with the technology. The ERTG did not want to distract from the ground-based option for ADS-B in the region and elected to recommend the ground solution.

Another TOC member noted the potential operational expansion into Cuba with normalizing of relations between the US and Cuba. The member inquired whether there was a need for a working group on Cuba to identify the operational challenges of significant increases of traffic between the US and Cuba. Ms. Ray noted that the growth into Cuba was indeed a priority issue within the FAA and was receiving appropriate attention at the highest levels.

Committee Action: The Committee agreed by consensus to approve the Eastern Regional Task Group Recommendations to Improve Operations in the Caribbean (Attachment 6).

GPS Adjacent Band Compatibility (ABC) Feedback on Exclusion Zones

Mr. Bob Lamond, National Business Aviation Association, and Mr. Paul McDuffee, Insitu Inc., Co-Chairs of the GPS ABC Task Group, next briefed the TOC on draft recommendations from the GPS Adjacent Band Compatibility Task Group's feedback on exclusion zones. To address the risk of GPS being unreliable in proximity of adjacent band transmissions, the FAA's GPS ABC study proposed the construct of the Exclusion Zone. Exclusion zones are cylinders around transmission towers transmitting on the GPS adjacent band within which GPS accuracy may be compromised. The power radiated from the transmitter would be limited such that GPS interference would not exceed a defined threshold at the exclusion zone boundary.

Mr. Lamond and Mr. McDuffee explained that the Task Group had been asked to provide responses to three questions:

1. The impact of Exclusion Zones on flight safety
2. The operational acceptability and safety implications of Exclusion Zones
3. Any unique considerations for small UAV operations

Mr. Lamond explained that the report's response is that Exclusion Zones negatively impact TAWS/HTAWS alerts as well as safety and operations in general. He noted that the report includes multiple case studies across various operational scenarios that highlight specific safety and operational issues associated with the exclusion zones.

Mr. Lamond also discussed that the Task Group could not define a one-size-fits-all exclusion zone that works everywhere in the NAS. The use of radio spectrum needs to be evaluated against the different NAS use cases based on the proponent's spectrum signature and density of deployment in various environments. He stated that on a case-by-case basis, a particular definition of an exclusion zone

may be acceptable in terms of operations and safety. The dimensions of new zones, their location and density need to relate to the specific operational scenarios and the impact on aviation safety. Current, accurate exclusion zone location and size data would need to be readily available to operators in the NAS.

Finally, Mr. McDuffee stated that while there are multiple similarities between UAS and other operator types, particularly helicopters, some safety impacts and operational limitations from exclusion zones are unique to the unmanned nature of UAS. For example, geo-fencing, return to base, station keeping and elevated risk of loss of equipment are all more relevant to UAS with its reliance on GPS and no human within the operating vehicle to provide a visual backup.

A TOC member inquired what the process and methodology would be for operators to know the layout of all sites of exclusion zones. Members discussed that without knowledge of the zones, definitively understanding the impacts would not be possible. Finally, a TOC member noted that UAS are 100% reliant on GPS receivers and low altitude UAS make up the majority of UAS operations today.

Committee Action: The Committee agreed by consensus to approve the GPS Adjacent Band Compatibility Feedback on Exclusion Zones (Attachment 7) and sunset the GPS ABC Task Group.

Update on Airport Construction Task Group

Mr. Chris Oswald, ACI-NA, and Mr. Mark Hopkins, Delta Airlines, Co-Chairs of the Airport Construction Task Group, next provided an update to the TOC on the Airport Construction Task Group. Mr. Hopkins reviewed the tasking for the group and highlighted the six key elements of the effort:

1. Review select past airport construction projects and associated data and identify lessons learned and recommend best practices for future projects. This would include the review of available safety and efficiency data where construction issues were noted as a factor. Please recommend a mechanism to ensure we capture and share lessons learned from future projects.
2. Identify and evaluate current strategic planning initiatives/tools used by FAA stakeholders at the Headquarter, Service Area/Region, and Service Delivery Point levels and provide recommendations on a best approach.
3. Assess the use of agency orders, advisory circulars, and internal processes currently being used to guide airport sponsors in their management of airport operations during construction and provide recommendations on a best approach.
4. Identify all stakeholders internal and external to the FAA needed and define their roles in the coordination and implementation processes.
5. Describe needed outreach strategies associated with each stakeholder and include a recommended timeline for outreach for major, long term projects.
6. Identify a set of recommendations on how safety risk should be better managed for aircraft operations impacted by airport construction projects.

Mr. Oswald and Mr. Hopkins informed the TOC that the Task Group had a wide cross section of participants including flight operators, airports, various organizations with the FAA, etc. They discussed that the group was utilizing parallel efforts to conduct its data gathering, including case studies, interviews with subject matter experts and FAA-lead analysis of current Agency processes and tools.

Mr. Oswald also reviewed some initial conclusions that the Task Group was making. First, the group has noted that for smaller or less complex construction projects, there is an industry need for a clearinghouse of information on construction. He explained that such a clearinghouse would avoid scenarios in which operators learn of construction very close to the time of construction and do not have time to adjust operations.

Mr. Hopkins noted a second key conclusion that for large, complex construction projects there is a need for consistent and repeatable engagement processes in construction planning that involves the right stakeholders at right times. He noted that while the industry has improved tremendously on this over the last decade, there was opportunity for increased consistency and not “reinventing the wheel” with each new large construction effort.

TOC members discussed the numerous perspectives that are involved in airport construction, including many non-aviation focused participants. One member commented that the industry has coordination problems in construction because, in most cases, a new process is being invented for each new project. The member noted that it would make sense to build on existing experience and develop a broader and scalable process that could be re-used and improved over time. This would require checklists and timelines, though a member noted that construction projects have variable timelines and this would make defining specific timelines challenging.

Another TOC member asked specific questions about the concept of a clearinghouse. The member inquired who would own the clearinghouse, what info would need to be conveyed and who would be responsible for conveyance.

A TOC member suggested the group consider opportunities to deploying NextGen capabilities in the context of construction to both assist in mitigation of impacts as well as to push NextGen technology. One member commented that RECAT at JFK would be an example of a measure that both implemented a NextGen capability but also helped mitigate construction impacts.

Finally, a TOC member offered support for the concept of a construction clearinghouse, noting that operators learned about planned construction at Bridgeport, CT, 11 days prior to the start of construction. The case study underscored the need for reliable mechanisms to consolidate information on construction to help operators plan mitigations.

Update on National Procedure Assessment Task Group

Mr. Michael Perrizo, Air Wisconsin, and Co-Chair of the National Procedure Assessment (NPA) Task Group provided the TOC with an update on activities in the NPA Task Group. Mr. Perrizo Co-Chairs

the group with Mr. Randall Burdette, Virginia Department of Aviation. He informed the TOC about the key areas of effort of the NPA Task Group:

1. Criteria for Procedure Cancellation, including both regulatory and non-regulatory tracks
2. Implementation – validate FAA’s approach or recommend changes to current plans
3. Outreach
4. Recommend where to go next beyond current plan

Mr. Perrizo informed the TOC that the Task Group was in the process of data gathering and have a series of monthly meetings established through February 2016. He also reviewed the draft Terms of Reference for the Task Group and requested approval of the TORs from the TOC.

One TOC member noted that the NPA Task Group should be careful of the extent to which usage of a procedure was criteria to select a procedure for cancellation.

Committee Action: The Committee agreed by consensus to approve the National Procedure Assessment Task Group’s Terms of Reference.

Discussion on Time Based Flow Management (TBFM)

Ms. Ray discussed TBFM with the TOC, as TBFM has been an ongoing subject of interest for the Committee. She noted that concerns about TBFM have included Requirements for TBFM, integration and metrics. Aspects of TBFM are anticipated to be deployed in TBFM Work Packages, including packages 3 (expected 2019) and 4 (expected 2020). A key question is whether industry would be well informed enough about these work packages to know what they need to do. For metrics, questions include what defines success and what to measure.

Ms. Ray informed the TOC that these concerns may warrant task requests to the TOC and/or CDM, and the FAA is currently in process of exploring this further.

Recommendations on Class B Airspace Designation, Design and Evaluation

Mr. Phil Santos, FedEx Express, and Ms. Melissa McCaffrey, Aircraft Owners and Pilots Association, Co-Chairs of the Class B Task Group, briefed the TOC on recommendations on Class B airspace designation, design and evaluation.

Mr. Santos and Ms. McCaffrey informed the TOC of the background of this tasking on Class B airspace. Since criteria for Class B were developed, the NAS had experienced a number of changes, including the rise and fall of some major airline hubs (STL, CVG, PIT), the growth of business aviation, cargo and low cost operators, and the increasing use of the Global Positioning System (GPS) for navigation.

Mr. Santos explained that such changes in the NAS motivated the Class B tasking which focused on the following:

1. Class B airspace designation requirements.

2. Appropriate considerations for Class B airspace design criteria.
3. The evaluation process for airspace biennial reviews including criteria to expeditiously reduce or eliminate Class B airspace that no longer meets designation requirements.
4. Obtaining input from affected users as early in the process as possible.
5. Identifying the best mechanism(s) to communicate updated processes to key stakeholders.

Mr. Santos and Ms. McCaffrey then reviewed the full set of proposed recommendations from the Class B Task Group which included the following:

Class B Issue	Recommendations
Designation of Class B Airspace	The FAA should remove the enplanement and air carrier/air taxi quantitative criteria
	Total Airport Operations Counts should also include traffic from secondary airports and overflights
	An airspace complexity index should be developed to address airspace considerations beyond that of Total Airport Operations
	Criteria should be developed for airports with strong seasonal demand surges
	Use available safety data to more directly assess airspace complexity issues and mitigations
	Provide more guidance on how operational issues can be addressed without the Class B designation
	The FAA should periodically review Class B designation criteria to determine whether they should be adjusted
Modification of Class B Airspace	Remove existing guidance indicating design should be centered on a NAVAID and amend guidance to ensure designers leverage the flexibility to configure airspace that maintains Class B safety standards
	Require a review of Class B airspace and instrument procedures whenever new runways are built, existing runway changes occur (e.g. decommissioned, lengthened, or shortened) or when procedures are developed or old ones canceled
	Encourage designers to make maximum use of existing tools to accommodate VFR flights through or around Class B airspace
	Evaluate lateral and vertical gaps between adjacent airspace where VFR flight has the potential to increase hazards for Class B or Class C operations
	Recommend introduction of an altitude buffer between protected IFR airplanes and VFR aircraft
	Ensure all Class B Terminal Area Charts include information on IFR arrival/departure routes to/from the primary airport and explore possibility of extending to include secondary airports
Evaluation of Class B Airspace	Update FAA Order 7400.2 with additional guidance on data sources relevant for the biennial review
	Develop criteria for identifying when Class B airspace should be revoked

	Outline a process for revoking Class B airspace
Recommendations on the Process for External Engagement on Changes to Class B Guidance	Conduct further public engagement before implementation of any design, designation and evaluation changes to Class B guidance
	Whether communicating draft language or a Final Rule of changes to the Class B guidance, the group recommends the FAA utilize one centralized and consistent package of information across all public engagements

A TOC member noted for the fourth recommendation above that the recommendation addressed seasonal demand surges but did not address time-of-day demand surges, such as those experienced at a night time cargo hub operation. The member inquired whether that recommendation could be broadened to include consideration of Class B for airports with time-of-day demand surges. Co-Chair Bowman suggested amending recommendation number four to include both seasonal and time-of-day demand surges in the statement, and TOC members provisionally accepted this amendment. Mr. Bowman elected to keep the Class B recommendation report open with this provisional change to the fourth recommendation. However, the question of adjusting the language to the recommendation would be sent back to the Class B Task Group for consideration.

Committee Action: The Committee requested the Class B Task Group to consider amending recommendation #4 in the draft report Class B Airspace Designation, Design and Evaluation (Attachment 8) to incorporate time of day considerations as well as seasonal considerations and then report back to the TOC.

Adjourn

Chairman Bowman ended the meeting of the Committee at 3:30 p.m.

Next Meeting

The next meeting of the TOC is November 12, 2015 in Washington, DC.



**Approved by the Tactical Operations
Committee November 2015**

Review of Phases 3 and 4 of NOTAM Search Implementation

*Report of the Tactical Operations Committee in Response to Tasking from
The Federal Aviation Administration*

November 2015

Review of Phases 3 and 4 of NOTAM Search Implementation

Contents

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Background/Introduction

The Federal Aviation Administration (FAA) is required under Section 3(c) of Public Law 112-153, also known as the 2012 Pilot’s Bill of Rights (“PBoR”), to “establish a NOTAM Improvement Panel, which shall be comprised of representatives of relevant nonprofit and not-for-profit general aviation pilot groups, to advise the Administrator in carrying out the goals of the NOTAM Improvement Program.” The FAA would like to build on the progress already derived from previously established efforts to digitize NOTAMs to comply with the provisions of this law.¹

The Tactical Operations Committee (TOC) serves as the NOTAM Improvement Panel to further assist the Administration in crafting specific goals and priorities to meet the law’s intent and make needed enhancements to the NOTAM program. In this capacity, the TOC is relying on the NOTAM Task Group (TG) to provide specific recommendations on issues related to the NOTAM program.

The work of the panel will yield an increasing amount of standardized digital NOTAMs that can be more easily filtered, sorted, and prioritized. This should result in a significant reduction in the volume of NOTAMs pilots must currently review and allow pilots to focus only on those NOTAMs relevant to their flight plan/path. As a result, pilots will be more confident in the quality and accuracy of this focused NOTAM information, and the safety of the National Airspace System (NAS) will be improved.

Task and Approach

In previous FAA responses to NOTAM Improvement Panel recommendations, the FAA requested “working meeting[s] between the members of the Task Group and the Federal NOTAM System (FNS) engineering and development teams to define stakeholder requirements for some of the specific requests.” The Task Group Leadership engaged directly with the FNS team previously and provided clarification of search and filter terms, prioritization of search and filter options and other specific inputs. Much of the input of the NOTAM Task Group formed the NOTAM Search implementation plan for the FAA.

Building upon these interactions, the FAA requested the NOTAM Improvement Panel continue to provide feedback to the FAA after NOTAM Search implementation. The FAA crafted a four phase plan and the NOTAM Task Group agreed to provide feedback after each phase of implementation.

The NOTAM Task Group evaluated Phases 3 and 4 of Implementation of NOTAM Search during October and November 2015 and compiled feedback. The summary of that feedback forms the body of this recommendation document. This report is the final task of the NOTAM Task Group and completes the groups’ work.

¹ Letter from Elizabeth L. Ray (Vice President, Mission Support Services) to Margaret Jenny (RTCA President) dated July 10, 2013.

Recommendations for Phases 3 and 4 of NOTAM Search Implementation

The following items are recommendations the NOTAM Task Group identified in its review of phases 3 and 4 of NOTAM Search:

“Bugs” in NOTAM Search

1. In the Flight Path search, when buffer distances around a flight path and buffer around departure/arrival airports are set to be equal, a red X appears adjacent to the "Depart/Arrive Buffer". This bug should be fixed to present a green checkmark when the two buffer distances are equal.
2. When a user ‘mouses’ over the Field Conditions (FICON) special icon, the text that appears reads “Snow”. This text should read “FICON”.

Passwords

3. The password policy utilized for NOTAM Search requires 8 characters, one letter, one Upper case letter, one number and one special character. The password functionality is intended to enable users to set account preferences and does not enable access to sensitive information. This password policy appears too strict, and the group recommends less restrictive criteria be used. The group also understands that the current criteria are FAA minimum criteria for an FAA system and use of anything less restrictive may require a waiver.
4. Currently NOTAM Search locks a user out for 15 minutes after five failed attempts to access the user profile. Users of NOTAM Search may not be accessing the site at a home or office computer but instead could be using NOTAM Search while at a Fixed Based Operator (FBO) or other external location. Given the challenges of complex passwords noted above, users may find themselves locked out of NOTAM Search while planning operations at an FBO. Business aviation operators, in particular, may have last minute destination changes that require quick changes in information and for a user to get locked out of the system at such a time could delay operations. The group recommends decreasing the lockout period from 15 to 5 minutes and increasing the number of attempts from 5 to 10 before a user is locked out. Finally, the group recommends the FAA consider utilizing security questions to allow users to reset a password within NOTAM Search directly.
5. Remembering complex passwords for NOTAM Search is challenging. The group recommends the FAA investigate using “cookies” to store usernames and passwords on a users’ machine.

Mapping Functionality

6. The mapping functions in NOTAM Search do not extend to most NOTAMs outside of the U.S. The group understands this is due to the fact that the underlying geographic data to which NOTAMs relate are restricted to US Flight Information Region (FIR) boundaries. Given this, the group recommends that, when applicable, there be a note to the user that the map cannot display outside the United States. This will be particularly useful and avoid confusion when a user is searching for NOTAMs exclusively outside of the US and the map display is black.
7. On the map view, the webpage is split into two side-by-side tiled windows, one for the map view and the other for the NOTAMs. It is not possible to show the entire NOTAM text in the NOTAM window, even in full-screen mode. A user must click on the individual NOTAM to view it in its

entirety. The group recommends implementation of a horizontal scroll bar to permit viewing the entire NOTAM. Additionally, the group recommends permitting a movable vertical bar separating the two windows that will permit re-sizing the map window and the NOTAM window. This may enable viewing the NOTAM text in its entirety.

8. The group recommends NOTAMs be overlaid on an aeronautical chart, preferably with options such as sectional and enroute low altitude. Adding the aeronautical base map option would further enhance the mapping functionality in NOTAM Search.
9. The group recommends showing Air Route Traffic Control Center (ARTCC) boundaries and ARTCC labels centered within its area. This will allow tagging ARTCC NOTAMs to this central location versus putting a pin at the city associated with the ARTCC name.

Presentation of Information

10. On some pages, such as Location Search, a four letter airport identifier is auto converted to a three letter (i.e. KMEM into MEM) yet on other pages like Flight Path the four letter identifier is not converted until the search results are presented. The group recommends the FAA evaluate whether these could function in a similar manner.
11. Some terms are defined in NOTAM Search, such as definitions for hard/soft/wet runways. When definitions are presented, the source of that definition should be referenced or there should be a link to the corresponding source information.
12. The "Military" special icon is not displaying for many military NOTAMs (an example is Andrews, ADW). In NOTAM Search, only one icon can be presented for each NOTAM and NOTAM Search's hierarchy places the "D", or Digital, first. Currently the Department of Defense (DoD) is moving towards roll out of NOTAM Manager at all of its bases, and this is expected to be completed by Summer 2016. This implies that by mid 2016, all Military NOTAMs will be labeled "D" and the Military icon will no longer be used. Between now and mid 2016, some Military NOTAMs may include the military icon and others will be labeled with the "D" icon. This may create confusion and the icon is not required for filtering or sorting information. The group recommends removing this icon from NOTAM Search.
13. The current NAVAID icon looks similar to images that convey radiation. The FAA should consider alternative icons, including those symbols specific to VORs, NDBs, etc.

Improving Accuracy and Completeness of Information in NOTAM Search

14. There is currently a lack of continuity regarding laser warnings (see ZDV 5/3044 and airports pointing to it) classification as either "procedure" or "airspace". This may relate to options in how the NOTAM is entered into the system in NOTAM Manager. The group recommends that the FAA ensure laser notices are being classified correctly by the system.
15. Shared identifiers (such as KDTS and KVPS in DINS NOTAM) are not working properly in NOTAM Search. For shared ICAO identifiers, both airports' NOTAMs should automatically be retrieved when

one of the identifiers is searched. These are tied together because of their proximity/safety. The FAA should ensure airports that share identifiers are pulling up all requisite NOTAMs.²

16. The group recommends future incorporation of Airport and Facility Notices from Notices to Airmen Publication (NTAP) (Part 4, Section 3) as the information is of similar value as LTAs and would be more accessible to users if pulled up when the airport identifier is searched. Additionally, the group recommends including notices regarding special events that are in NTAP if the corresponding geometries are available.

User Guide

17. The User Guide window is a fixed size and cannot be expanded to full screen. Additionally, there is currently no mechanism to search within the user guide window. Finally, the table of contents are not hyperlinked to the sections within the document. The group recommends making the user guide more interactive by including an ability to make full screen, search and hyperlinks to sections of the document.

² Additional airports known to have shared ICAO identifiers include KDTS and KVPS, KGPI and KFCA, K9L2 and KEDW, KNHK and KPXT, KABQ and KIKR, KHYE and KHEY, PHNL and PHIK, PGUM and PGZU, PGUA and PGZU, WRSJ and WARR, BKPR and LYPR, OAKB and OAKX. Note this may not be a complete list of all shared identifier airports.

Appendix A: Members of the NOTAM Task Group

Darrell Pennington, Air Line Pilots Association
Des Keany, American Airlines, Inc.
Jack Hurley, Delta Air Lines, Inc.
Fred Anderson, Federal Aviation Administration
Ernie Bilotto, Federal Aviation Administration
Gary Bobik, Federal Aviation Administration
Dave Bradshaw, Federal Aviation Administration
Jocelyn Cox, CNA
Trish Gay, Federal Aviation Administration
Steve Habicht, CNA
Shaelynn Hales, CNA
Brian Hint, Federal Aviation Administration
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Glenn Sigley, Federal Aviation Administration
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Mark Cardwell, FedEx Express
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Michael Williams, Hewlett Packard
Jeffrey Miller, International Air Transport Association
Jon Reisinger, Jeppesen
Aaron Wood, Jeppesen
Ashish Solanki, Maryland Aviation Administration
Mark Prestrude, National Air Traffic Controllers Association
Rich Boll, National Business Aviation Association
Bob Lamond Jr, National Business Aviation Association
Trin Mitra, RTCA, Inc.
David Newton, Southwest Airlines
Edwin Solley, Southwest Airlines
Adam Gerhardt, TASC, Inc.
Ezra Jallea, The MITRE Corporation
Jim Mills, U.S. Air Force
Christian Kast, United Parcel Service

VORs Approved for Discontinuance

As of November 10, 2015

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Alabama

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
TDG	TALLADEGA	TALLADEGA	AL	VOR/DME	ESA	Phase 1	12-ASO-029-NR	April 22, 2013
TGE	TUSKEGEE	TUSKEGEE	AL	VOR/DME	ESA	Phase 2	13-ASO-001-NR	April 8, 2013
DCU	DECATUR	DECATUR	AL	VOR/DME	ESA	Phase 2	12-ASO-002-NR	July 26, 2012
EUF	EUFAULA	EUFAULA	AL	VORTAC	ESA	Phase 2	12-ASO-012-NR	October 10, 2012

California

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
ECA	MANTECA	STOCKTON	CA	VOR/DME	WSA	Phase 1	14-AWP-09-NR	July 15, 2014

Connecticut

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
ORW	NORWICH	NORWICH	CT	VOR/DME	ESA	Phase 2	13-ANE-203-NR	April 29, 2014

Florida

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
GNV	GATORS	GAINESVILLE	FL	VORTAC	ESA	Phase 2	13-ASO-012-NR	September 4, 2013
TAY	TAYLOR	TAYLOR	FL	VORTAC	ESA	Phase 2	11-ASO-018-NR	June 18, 2012

Georgia

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
HRS	HARRIS	HARRIS	GA	VORTAC	ESA	Phase 2	12-ASO-027-NR	April 23, 2013

Indiana

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
*ABB	NABB	NABB	IN	VORTAC	ESA	Phase 1	12-AGL-22NR	August 4, 2015

*Note: According to FSEP, this VOR was decommissioned on September 2, 2015.

Kentucky

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
ECB	NEWCOMBE	NEWCOMBE	KY	VORTAC	ESA	Phase 2	12-ASO-030-NR	October 26, 2012
BWG	BOWLING GREEN	BOWLING GREEN	KY	VORTAC	ESA	Phase 2	13-ASO-021-NR	December 6, 2013
MYS	MYSTIC	MYSTIC	KY	VOR	ESA	Phase 2	13-ASO-023-NR	September 16, 2013

Maryland

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
GRV	GRANTSVILLE	GRANTSVILLE	MD	VOR/DME	ESA	Phase 1	13-AEA-112-NR	April 23, 2013
PXT	PATUXENT	PATUXENT RIVER	MD	VORTAC	ESA	Phase 1	12-AEA-101-NR	June 12, 2012
OTT	NOTTINGHAM	NOTTINGHAM	MD	VORTAC	ESA	Phase 1	11-AEA-129-NR	April 24, 2012

Maine

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
PNN	PRINCETON	PRINCETON	ME	VOR/DME	ESA	Phase 1	12-ANE-206-NR	December 4, 2012

Missouri

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
RIS	RIVERSIDE	KANSAS CITY	MO	VOR/DME	CSA	Phase 1	11-ACE-10-NR	July 1, 2011

Mississippi

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
EWA	KEWANEE	KEWANEE	MS	VORTAC	ESA	Phase 1	12-ASO-009-NR	January 22, 2013
GCV	GREENE COUNTY	LEAKSVILLE	MS	VORTAC	ESA	Phase 2	12-ASO-045-NR	June 12, 2013

New York

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
DKK	DUNKIRK	DUNKIRK	NY	VORTAC	ESA	Phase 1	13-AEA-125-NR	March 14, 2014
ELZ	WELLSVILLE	WELLSVILLE	NY	VORTAC	ESA	Phase 1	13-AEA-115-NR	February 24, 2014
GFL	GLENS FALLS	GLENS FALLS	NY	VORTAC	ESA	Phase 1	14-AEA-110-NR	January 21, 2015
PLB	PLATTSBURGH	PLATTSBURGH	NY	VORTAC	ESA	Phase 1	10-AEA-118-NR	May 9, 2012

Ohio

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
AOH	ALLEN COUNTY	LIMA	OH	VOR	CSA	Phase 1	09-AGL-33-NR	November 26, 2012

Pennsylvania

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
HZL	HAZLETON	HAZLETON	PA	VOR	ESA	Phase 1	09-AEA-110-NR	
IHD	INDIAN HEAD	SEVEN SPRINGS	PA	VORTAC	ESA	Phase 2	12-AEA-116-NR	August 26, 2013

For the HZL VOR, the approval process was done years ago. We are still waiting for the approval date.

Tennessee

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
JKS	JACKS CREEK	JACKS CREEK	TN	VOR/DME	ESA	Phase 1	13-ASO-026-NR	September 25, 2013
DYR	DYERSBURG	DYERSBURG	TN	VORTAC	ESA	Phase 1	13-ASO-019-NR	November 22, 2013

Virginia

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
FKN	FRANKLIN	FRANKLIN	VA	VORTAC	ESA	Phase 1	14-AEA-112-NR	November 6, 2014
LVL	LAWRENCEVILLE	HERNDON	VA	VORTAC	ESA	Phase 1	12-AEA-126-NR	May 1, 2013
ROA	ROANOKE	ROANOKE	VA	VORTAC	ESA	Phase 2	11-AEA-107-NR	March 5, 2013

West Virginia

ID	VOR Name	City	ST	VOR Type	Service Area	Decommissioning Phase	NR #	NR Approval Date
CKB	CLARKSBURG	CLARKSBURG	WV	VOR/DME	ESA	Phase 2	13-AEA-114-NR	November 21, 2013
HNN	HENDERSON	HENDERSON	WV	VORTAC	ESA	Phase 2	12-AEA-120-NR	October 19, 2012
RNL	RAINELLE	RAINELLE	WV	VOR	ESA	Phase 1	12-AEA-117-NR	November 19, 2012

Strategy for Enhancing Air Traffic in the Caribbean

ATO Response to the RTCA's
Eastern Regional Task Group
(ERTG) Recommendations

Presented to: Tactical Operations Committee

By: Jim Linney, ATS Director

Date: November 12, 2015



Purpose of Today

- The FAA has developed a **formal memo** in response to the July 2015 Eastern Regional Task Group (ERTG) of the RTCA TOC report outlining **20 “Operational Needs To Address Caribbean Operations”**
- This memo outlines a clear approach to address these 20 recommendations with three examples of early recommendations which may be implemented
- Our goal to day is to brief you on FAA's plan of action outlined within this memo.



Background

In **November 2014**, the FAA tasked the **RTCA Tactical Operations Committee (TOC)** with identifying infrastructure and airspace issues that need to be addressed to improve the safety, capacity and efficiency of operations in the Caribbean.

Specifically, this tasking requested recommendations in the following four sub-task areas: **1) Problem Identification, 2) Infrastructure, 3) Airspace, and 4) Harmonization**

At the end of **July 2015**, the **Eastern Regional Task Group (ERTG)** of the RTCA TOC responded with a report outlining **20 “Operational Needs To Address Caribbean Operations”**



Summary of Recommendations

Summary and Impact of Recommendations

Category	Recommendation	Timing	
Infrastructure Priorities	Communications	Implement a New Communications Frequency at Saint Maarten	1-3 years after funding in place
		Implement a New Communications Frequency at Abaco Island	1-3 years after funding in place
		Install Dedicated Shout Lines with Certain Adjacent or Underlying International Facilities	1-3 years after funding in place
	Automation	Regional Implementation of Automation: 1. Continue implementation of ADE with Santo Domingo 2. Develop software translation for neighboring facilities with AIDC protocol 3. Ensure ERAM software upgrades associated with ADE stay on schedule	18-24 Months (Best Case)
		Implement Independent Flight Data Processing in ZSU	TBD
	Surveillance	Implement ADS-B in the Caribbean	2.8 years
		Input St. Maarten Radar into the ZSU Radar Mosaic System	TBD
		Identify and Access a Backup Option for Grand Turk Backup	18 months
	Technology Improvements	Investigate Option to Access Weather Information from Long Range DoD/DHS Radars	TBD
		If the Offshore Precipitation Capability shows promise, expedite Caribbean access	TBD
		Enable ZSU to Participate in Data Comm	TBD
		Make Caribbean Radar Presentations Available to ZNY	After data storage capacity approx. 2018



Summary of Recommendations

Summary and Impact of Recommendations (Continued)

Category	Recommendation	Timing
Airspace Priorities	Explore Options to Reduce Separation between ZNY and ZSU/ZMA	Ongoing approx. 2 year project
	Implement a Shortcut Route between CARPX and RENAII	Ongoing approx. 1 year project
	Conduct an Integrated Redesign of ZMA and ZSU Airspace	Ongoing
	Improve Short Term Cube Access in the Giron Corridor	TBD
	Prepare for Significant Growth in Cube Operations	TBD
Harmonization	FAA should establish one body to develop an integrated plan and lead implementation in the Caribbean	TBD
	Maintain Active Coordination with ICAO's North America, Central America and Caribbean Office	TBD
	Ensure Active Involvement of the Office of International Affairs, Western Hemisphere Office	TBD



Our Approach

Implementing these recommendations will be complex. The FAA has carefully evaluated each recommendation and is considering the following factors:

- Dependency on other Air Navigation System Providers (ANSPs) for in-kind efforts, coordination or formal agreements
- Dependency on other recommendations with in the TOC Report
- Additional study, research and/or analysis needed to determine scope or complexity, and
- Available capital funding, for initial investment and 20-plus year lifecycle costs



Overview of Initial Prioritized Recommendations

The FAA has identified three initial “example recommendations” in response to the July 2015 report, “Recommendations to Improve Operations in the Caribbean”

These **three initial example recommendations** include:

1. Install dedicated Shout Lines with certain adjacent or underlying international facilities
2. Regional implementation of automation interface
3. Fuse SXM radar into ZSU's surveillance data



Example #1 – Install Dedicated Shout Lines

Description: Install dedicated Shout Lines with certain adjacent or underlying international facilities. Provides a “direct line” between facilities for a controller to communicate with, or “shout” to another facility without dialing or waiting on the other end to pick up.

Benefits: Saves controller time and attention from dialing/waiting on a call to go through and instead allowing controller to stay focused on the traffic display. It will increase efficiency and help eliminate route extensions, or holding for aircraft while coordination is accomplished.

Risks/Dependency: Multiple Agreements and dedicated resources required from neighboring facilities/ANSPs.



Example #2 – Regional Implementation of Automation Interface

Description: Implementation of Automated Data Exchange (ADE) with Santo Domingo, develop SW translation for neighboring facilities with AIDC protocol, and ensure ERAM SW upgrades to support ADE.

Benefits: ADE eventually leads to seamless transition of aircraft and comes in three phases: 1) ADE provided flight plan, position, time information 2) Provides flight plan changes, and 3) Automated handoffs.

Risks/Dependency: Additional future SW development may be required, which could require additional funding. Automation upgrade in Santo Domingo (and potentially other sites) must occur prior to ADE implementation. International agreements and coordination are required.

Dependency:



Federal Aviation
Administration

9

Example #3 – Fuse SXM radar into ZSUs surveillance data

Description: Involves input of the existing SXM radar into ZSU, via Fusion. Provides additional radar coverage into/out of SXM Approach, as well as increasing the coverage in the Northeast portion of ZSU airspace.

Benefits: SXM radar may support reduction of separation standards between Northeast portion of ZSU airspace. Provides more efficient service for climbing and descending oceanic traffic in and out of a number of aerodromes. Estimate affects between 150-200 flights per day.

Risks/Dependencies: Requires completed agreement with St. Maartin. Modification to automation system must be considered at San Juan due to potential system limitations.



Federal Aviation
Administration

10

Overview of Future Efforts

In addition to the **three initial identified recommendations**, the FAA has determined that the remaining recommendations will be segmented into the following effort types:

- **Within Authority** – This type of effort requires no business case as it supports current operational capabilities within the existing program baseline. Minimal additional capital investment required
- **Requires New Authority** – This type of effort requires a business case and large capital investment. It represents a new or enhanced operational capability



Efforts Within Authority

The following examples of efforts “**Within Authority**” are part of the current performance baseline and may not require development of a business case:

- **Input St. Martin Radar into the ZSU Radar Mosaic System**
- **Explore Options to Reduce Separation between ZNY and ZSU/ZMA**
- **Conduct an Integrated Redesign of ZMA and ZSU Airspace**



Efforts Requiring New Authority

The following are examples of efforts “**Requiring New Authority**” and will require development of a business case and may require a significant capital investment:

- **Implement Independent Flight Data Processing in ZSU (ERAM)**
- **Implement ADS-B in the Caribbean**
- **Identify and Access a Backup Option for Grand Turk**
- **Enable ZSU to Participate in Data Comm.**



Next Steps

- By January 2016, The FAA commits to defining which recommendations can be planned for implementation, which will require further analysis and assessment, and when the assessments will be completed (for all recommendations)
- The FAA will implement recommendations that are determined to be within FAA approved scope after completion of the detailed assessment
- The FAA will communicate with the TOC progress in the assessments and implementation efforts. The FAA intends to provide a detailed brief of the opportunities selected for further study and analysis at the next TOC meeting.





29 Palms Airspace Establishment Over Newly Acquired Lands:



Information Brief



Sept 25, 2015



Overview



- **29 Palms Expansion Project**
 - Purpose & Need
 - Study Areas
 - Land Acquisition
- **Special Use Airspace (SUA) Expansion**
 - Surrounding Airspace
 - Airspace Challenge
 - SUA Proposal Requests
 - Permanent/Temporary/CFA
 - Proposal Review
- **Summary**
- **Questions**





29 Palms Expansion Project: Purpose and Need

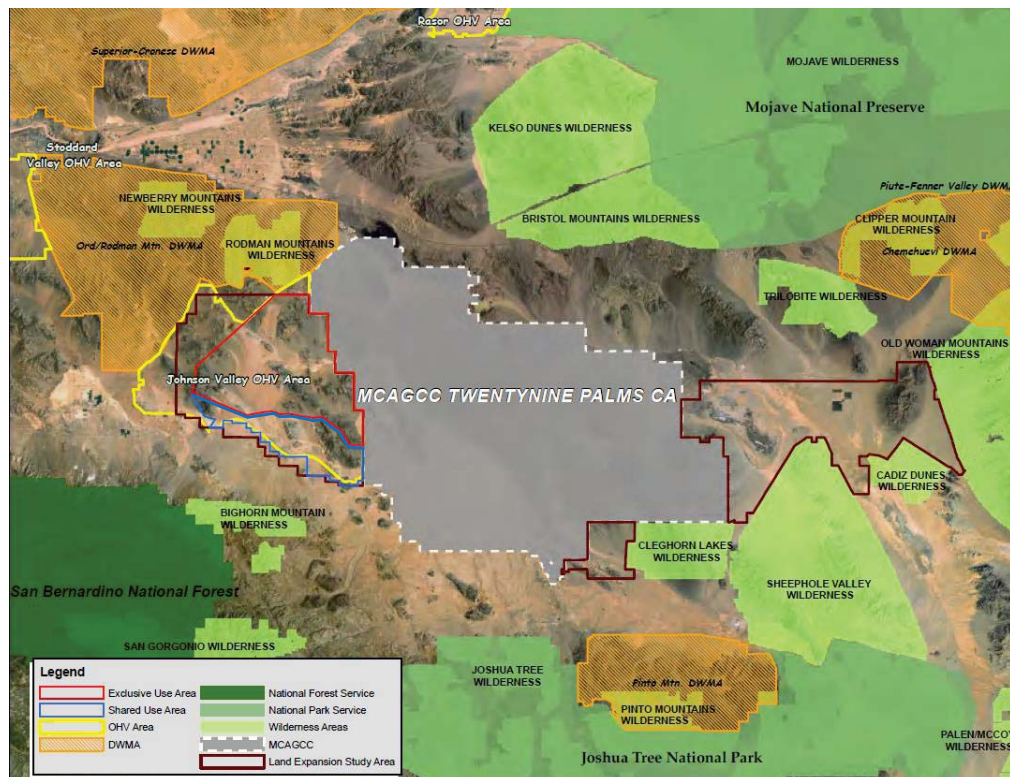


- **Purpose:** Fulfill the Marine Corps requirement to provide sustained, combined-arms live-fire, and maneuver field training for Marine Expeditionary Brigade (MEB) sized Marine Air Ground Task Forces (MAGTFs).
 - *Marine Corps Strategy 21 (2000)*: MEB is the primary contingency response force.
 - *Universal Needs Statement (2002)*: Identified need for training area and facility to conduct realistic, live-fire training for all elements of MEB-sized MAGTF.
 - *Center for Naval Analyses (2004)*: Analyzed MEB training requirements and conducted nationwide study of potentially suitable locations.
 - ▶ CNA identified Combat Center as the only location that could meet the MEB training requirement, but only if it were expanded.
- **Need:** Existing facilities, ranges and live-fire ground and air maneuver areas are inadequate to support the requirement for MEB-sized training exercises.
 - *OSD Reports to Congress (2004-2014)*: Acknowledged that “the Marine Corps does not have a range capable of supporting MEB-sized fire and maneuver combined-arms exercises.”
 - *MROC (Nov 2006)*: Approved Universal Need Statement (UNS) for Large-Scale MAGTF Training Area.

3



Study Areas & Surrounding Lands



Note: Shared Use Area is now called “Restricted Public Access Area”

4



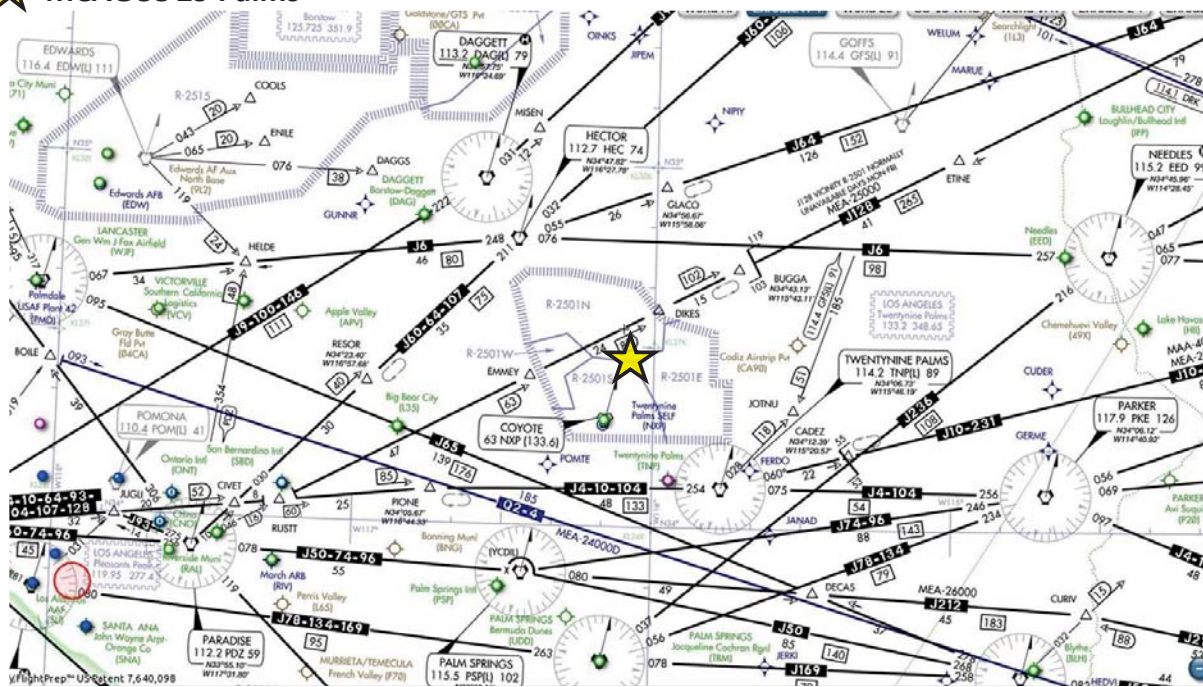
29 Palms Expansion Project

- **Making a Decision:** After evaluating nearly 20,000 comments on the FEIS and considering the FEIS along with costs and mission training requirements, the Secretary of the Navy published the Record of Decision (ROD) on February 15, 2013.
 - The ROD selected a modified Alternative 6 as the alternative to meet MEB training requirements, with a recommendation for mitigation developed in coordination with the Bureau of Land Management.
 - The Department of the Navy submitted an application to Congress for withdrawal of public lands.
- **Congressional Withdrawal:** In December of 2013, Congress passed and the President signed the National Defense Authorization Act (NDAA) of 2014, authorizing the withdrawal of approximately 151,000 acres of federal land to accommodate MEB training requirements.
 - The Congressional withdrawal expanded MCAGCC by 97,697 acres designating an Exclusive Military Use Area, allotted a 53,231 acre Shared Use Area available for public use 10 months of the year when not in use for military training, and designated approximately 43,431 acres as the Johnson Valley Off Highway Vehicle Recreation Area (JVOHVRA) for year-round public recreation.



Surrounding Airspace

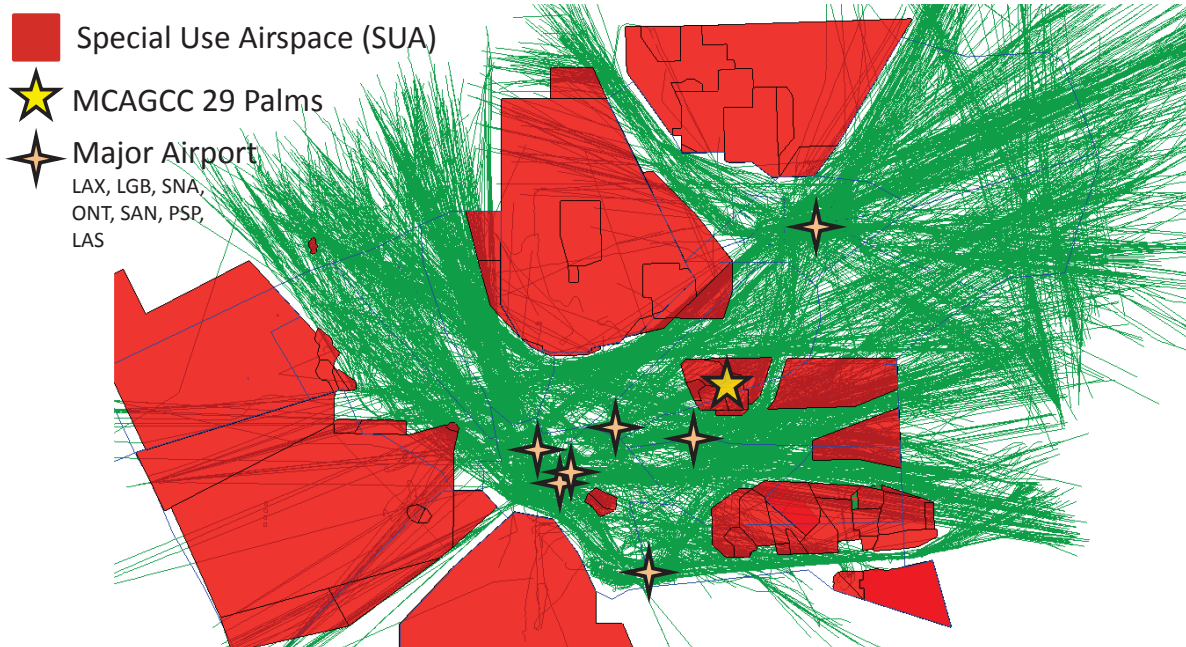
★ MCAGCC 29 Palms



Enroute Airways Chart



Airspace Challenge



FAA Air Traffic Control Facilities must work around a large amount of SUA in the SW Region in support of major metropolitan areas while optimizing flight paths and climb/descent profiles to maximize efficiency. [Green Lines represent flights in 24 hours]

The USMC has been working on this proposal with the FAA since 2009

7

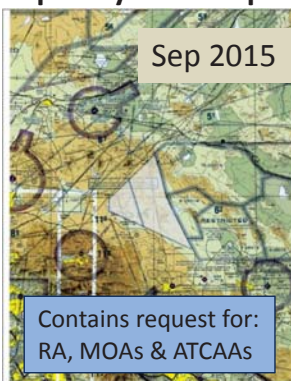


MCAGCC SUA Expansion Currently 3 Types of SUA Proposals Underway

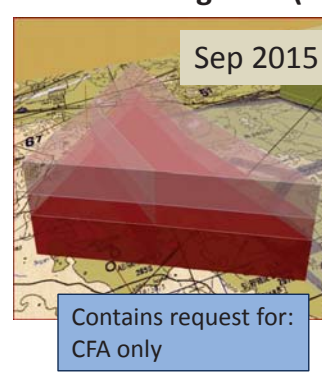
Permanent SUA Proposal



Temporary SUA Proposal



Controlled Firing Area (CFA)



Types of Airspace Used or Potentially Used at MCAGCC

Restricted Area (RA): Non-military aircraft are prohibited from entering during military training activities that involve live fire; MCAGCC releases RA for use by all aircraft in the National Airspace System when not needed for military training.

Military Operations Area (MOA): A MOA is airspace designated outside of Class A airspace (18,000 –60,000 feet) to separate or segregate certain nonhazardous military activities from Instrument Flight Rule (IFR) traffic and to identify for Visual Flight Rule (VFR) traffic where these activities are conducted.

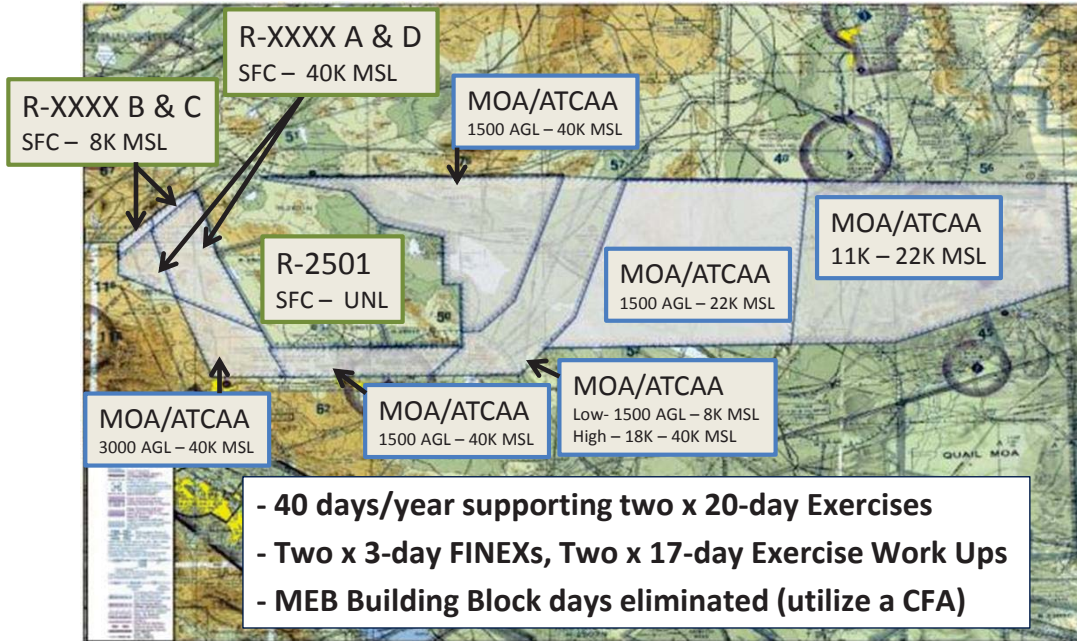
Air Traffic Control Assigned Airspace (ATCAA): Similar to a MOA (and usually overlying a MOA) within Class A airspace, only non-hazardous military activities may be undertaken in ATCAA.

Controlled Firing Area (CFA): This is airspace designated to contain activities that if not conducted in a controlled environment would be hazardous to nonparticipating aircraft. CFAs provide a means to accommodate, without impact to aviation, certain hazardous activities that can be immediately suspended if a nonparticipating aircraft approaches the area.



Permanent SUA Request

Original Proposal Submitted: April 2014

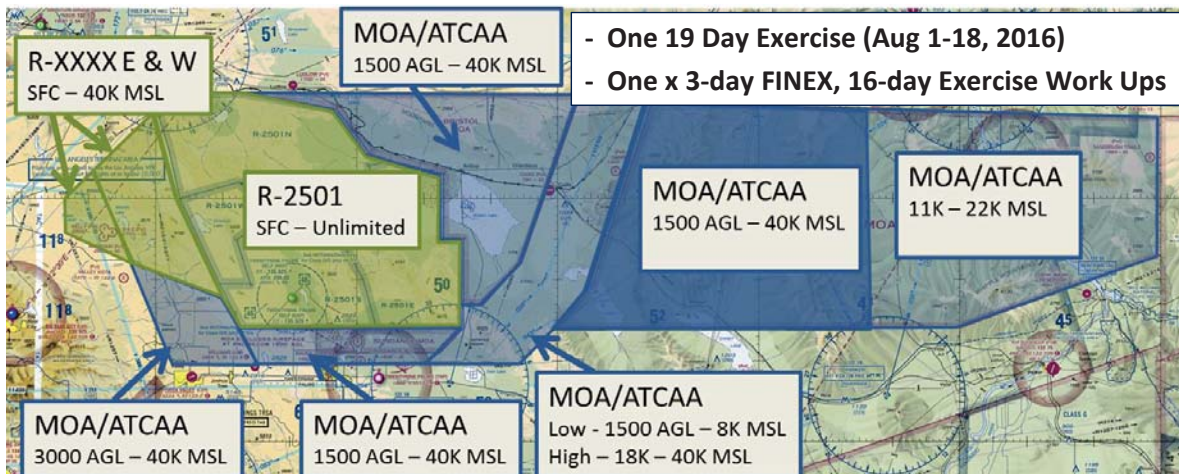


- Utilization of RA and MOAs limited to 28 days/year FL180, 6 days/year FL270, 6 days/year FL400 max.
- Utilization of MOA airspace below 5,000' MSL is confined to only 16 days. (2 x 8 days each time)



Temp SUA Request

Temp SUA Proposal for LSE 2016 - Submitted: Sept 2015



- Utilization of RA and MOAs above 18K MSL is confined to 8 days (5 to 27 K MSL & 3 to 40K MSL).
- Utilization of MOA airspace below 5,000' MSL is confined to only 8 days.



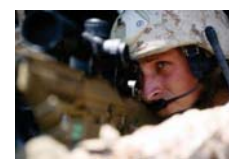
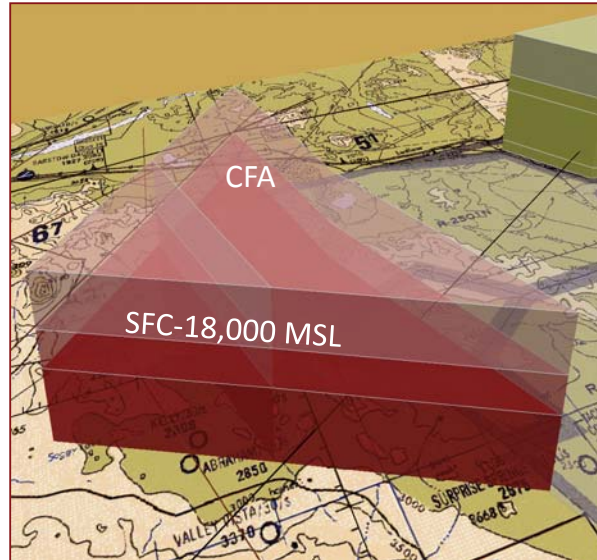
Controlled Firing Area (CFA) Request

MEB Building Block Training



CFA Proposal - Submitted: Sept 2015

- CFA: Activities must be suspended immediately when a nonparticipating aircraft approaches the area.
 - Direct & Indirect Fire Ground Weapons Systems only - Demolitions, hand grenade use, and live fire from; pistols, rifles, machine guns, mortars, tanks, and artillery
 - No Aviation Fires
- CFA supports MEB Building Block training in newly acquired lands
 - 200 days/year
 - Separate and distinct from proposed SUA for MEBEX
- Surface to 18,000 feet MSL (approx. 15,000 feet AGL)
- Only Activated to the altitude necessary
- De-activated daily upon training completion



Review of the 3 SUA Proposals



Permanent SUA Proposal



Contains request for:
RA, MOAs & ATCAAs

- 40 days/year - Supports Two x 20-day Exercises
- Two x 3-day FINEXs Two x 17-day Exercise Work Ups
- MEB Building Block days eliminated (utilize the CFA)

- Accommodates all LSE live fire and Combined Arms training

Temporary SUA Proposal

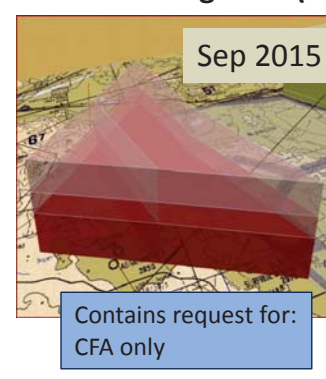


Contains request for:
RA, MOAs & ATCAAs

- Supports LSE 2016 (Aug 16) One 19-day Exercise
- 3-day FINEX & 16-day Exercise Work Ups
- MEB Building Block days eliminated (utilize the CFA)

- Accommodates all LSE 16 live fire & Combined Arms training

Controlled Firing Area (CFA)



Contains request for:
CFA only

- 200 Days per year (10 Months) supporting MEB Building Blocks
- SFC-18,000' MSL (15K AGL)
- Activated/De-Activated Daily

- Accommodates direct and indirect ground fires only.
- Must cease fire when A/C approaches



Summary

- The Marine Corps is working with the FAA to acquire permanent additional joint-use SUA above these new lands to meet the MEBEX training requirement which will be used no more than two one-month periods each year.
- Gaining permanent joint-use SUA can take several years to complete; therefore, temporary measures are being pursued to accommodate a MEB Large Scale Exercise (LSE) in August 2016.
- The Temporary SUA proposal to support LSE 16 is for no more than 19 days.
- The Temporary SUA will be activated only in support of the planned LSE and proposed utilization of Temporary SUA above 18,000' MSL is confined to no more than 8 days or less.
- The Temporary SUA will be described and activated via Notice to Airmen (NOTAM) and may also be circularized and/or published in the same manner as Temporary Flight Restriction (TFR) notices.
- During the remainder of the year, not to exceed 200 days; the airspace directly over the new lands of the MCAGCC training range complex would be under a planned Controlled Firing Area (CFA) which will not impact civilian or commercial aviation.

Request your support of these Marine Corps training requirements.

13



- QUESTIONS -



14

Class B Airspace: Designation, Design and Evaluation Recommendations and Feedback

Background

The FAA reviewed the RTCA Tactical Operations Committee (TOC) Report from September 2015 titled “Class B Airspace: Designation, Design and Evaluation.”

The report provides useful information and recommendations for updating Federal Aviation Administration (FAA) Order 7400.2, *Procedures for Handling Airspace Matters*. Based on the scope of the recommendations, the FAA recognizes that significant time and effort will be required for the agency to research and develop changes to Order 7400.2. The FAA understands these changes will not be made quickly and will require an adequate program management plan to handle a project of this magnitude. The FAA will draft a plan across lines of business to facilitate changes that are believed to be beneficial.

The report is comprehensive and a number of recommendations will require that the FAA examine existing practices. These examinations may require the FAA to engage with airspace users at certain times during the process. Based on the recommendations, the FAA offers the following feedback for further discussion during the TOC meeting scheduled for November 12.

Recommendation 1

The FAA should remove the enplanement and air carrier/air taxi quantitative criteria.

Comments

If the quantitative criteria were to be removed, it would be necessary to develop replacement criteria for determining Class B airspace candidacy. A methodology for development of the new criteria would be also needed. Moreover, the new criteria would affect a number of existing Class B airspaces. Instead, the FAA believes that the quantitative data should be retained and supplemented with additional measurements that would be established to determine candidacy.

Recommendation 2

Total Airport Operations counts should also include traffic from secondary airports and overflights.

Comments

The FAA will work to further specify what should constitute a “secondary airport” or the maximum distance from the primary airport at which an airport should be considered “secondary.” The FAA will also work to clarify the availability of the secondary airport operations traffic counts and Class B area overflight data.

Regarding overflights, the FAA will look into the development of a specific altitude of overflight traffic considered to be a factor.

It should be noted that Class B airspace is aimed at *midair collision avoidance in the terminal areas* based on containment of large turbine-powered aircraft operating to and from the primary airport. Additionally, Class B airspace must be designed to *contain all instrument procedures*.

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Recommendation 3

An airspace complexity index should be developed to address airspace considerations beyond that of Total Airport Operations.

Comments

The development of a complexity index could also incorporate recommendations 1 and 2 into a comprehensive assessment for granting Class B airspace determination.

The FAA will identify the specific factors that would be considered in developing a complexity index.

Recommendation 4

Criteria should be developed for airports with strong seasonal or time of day demand surges.

Comments

Further study is needed to determine the feasibility of establishing the proposed criteria and to develop an approach to do so. The report's discussion of this recommendation identifies some considerations and the FAA will plan a detailed approach to develop the criteria.

The designation of part-time Class B airspace areas would involve a host of issues that would need to be addressed, such as chart depiction, operational implications, outreach, pilot education, pilot inflight situational awareness of airspace status, and Air Traffic Control (ATC) facility staffing.

Recommendation 5

Use available safety data to more directly assess airspace complexity issues and mitigations.

Comments

The FAA agrees with the TOC's recommendation for use of safety data. The FAA will continue development of the recommendation further to address the availability of relevant databases and determine how to use the data in Class B analysis.

The FAA also agrees that the Operations Support Groups (OSGs) need access to the databases listed in the report and specificity about the tools that the TOC recommends will be analyzed to generate safety metrics.

Recommendation 6

Provide more guidance on how operational issues can be addressed without the Class B designation.

Comments

(The FAA agrees with the concept underlying this recommendation and will develop further guidance to the 7400.2 reference expanding Class C airspace which in turn could remove the requirement for Class B designation.

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Recommendation 7

The FAA should periodically review Class B designation criteria to determine whether they should be adjusted.

Comments

The FAA requests specific suggestions for updating or improving the Class B criteria.

Recommendation 8

Remove existing guidance indicating design should be centered on a NAVAID [Navigational Aid] and amend guidance to ensure designers leverage the flexibility to configure airspace that maintains Class B safety standards.

Comments

This recommendation has merit and specific criteria should be identified to determine when a non-standard configuration would be permitted. The discussion in the report provides general information about advances in navigational technology but does not address how a non-standard configuration would apply.

The FAA contends that the existing guidance should be retained as an option for locations where it is appropriate. Class B airspace should be varied to meet site-specific requirements as currently permitted in Order 7400.2, paragraph 15-2-3.

The FAA agrees with defining Class B boundaries using a variety of methods that take into account modern technology as well as serving the minimally-equipped VFR pilot.

Recommendation 9

Require a review of Class B airspace and instrument procedures whenever new runways are built, existing runway changes occur (e.g. decommissioned, lengthened, or shortened) or when procedures are developed or old ones canceled.

Comments

The FAA agrees with this recommendation. This review is already included in the required biennial review of all Class B airspace areas. It is also included during the planning phase for new runways as well as instrument procedure development or modification. It should be noted that during instrument flight procedure development, the first priority should be containment within the existing Class B boundary. Expanding Class B airspace may adversely impact nonparticipating aircraft.

Recommendation 10

Encourage designers to make maximum use of existing tools to accommodate VFR flights through or around Class B airspace.

Comments

The FAA will improve the existing guidance.

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Recommendation 11

Evaluate lateral and vertical gaps between adjacent airspace where VFR flight has the potential to increase hazards for Class B or Class C operations.

Comments

The FAA agrees with this recommendation and the issue will be a component of the staff study. The FAA will continue the development of this concept by addressing the proximity of adjacent airspace to reduce the potential hazards posed by VFR aircraft operating in lateral and vertical gaps.

Recommendation 12

Recommend introduction of an altitude buffer between protected IFR airplanes and VFR aircraft.

Comments

This recommendation could be problematic and controversial. Adding a buffer between protected IFR airplanes and VFR aircraft would result in *de facto* expansion of Class B airspace beyond what is required for containment of instrument flight procedures. However, we acknowledge the problem of TCAS RAs caused by transiting aircraft flying just beneath the floor of a Class B “shelf.”

To address the recommendation, many issues and potential unintended consequences would need to be examined, such as compression of VFR traffic beneath the Class B shelves and allegations that the change would be intended to “further exclude VFR traffic.” This examination should be done before a decision to implement buffers is considered.

Meanwhile, the FAA will continue to develop the recommendation regarding buffer size, locations, applicability of ATC IFR/VFR Class B separation minima, and other details that would need to be addressed.

Recommendation 13

Ensure all Class B Terminal Area Charts include information on IFR arrival/departure routes to/from the primary airport and explore possibility of extending to include secondary airports.

Comments

The FAA believes this recommendation has merit but is technically outside the scope of the Class B rulemaking process. To address the issue, the OSGs and affected ATC facilities would need to work the content of Terminal Area Charts directly with Aeronautical Information Services (AIS).

Information could be added to Order 7400.2 suggesting that charting issues should be coordinated with AIS as needed.

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Recommendation 14

Update FAA Order 7400.2 with additional guidance on data sources relevant for the biennial review.

Comments

The FAA agrees with the recommendation and will look into identification of the data sources and criteria suitable for the biennial review.

Recommendation 15

Develop criteria for identifying when Class B airspace should be revoked.

Comments

The FAA will look into specific criteria that would be considered for revocation of Class B airspace.

Recommendation 16

Outline a process for revoking Class B airspace.

Comments

The FAA agrees. This recommendation identifies the need to provide specific guidance for revoking existing Class B airspace areas for inclusion in Order 7400.2. The FAA will work to develop a process for determining the considerations and criteria that would be included in the new guidance.

Recommendation 17

Conduct further public engagement before implementation of any design, designation and evaluation changes to Class B guidance.

Comments

The FAA non-concurs with this recommendation as presented.

The process proposed in the report for implementing changes to Order 7400.2 includes public and industry outreach, a Notice of Proposed Rulemaking (NPRM), and a Final Rule, which is incorrect. Changes to FAA orders are not rulemaking actions and are not promulgated through the NPRM/Final Rule process. At most, a Notice of Proposed Policy Change would be published in the Federal Register.

The FAA believes the intent of the task was to obtain input from affected users as early in the airspace proposal development process as possible.

The recommendation confuses the Document Change Proposal (DCP) process with the 14 CFR Part 71 airspace rulemaking process.

The suggested outreach efforts far exceed what would be required for ATC policy changes, insofar as ATC policy development is the responsibility of the FAA.

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Recommendation 18

Whether communicating draft language or a Final Rule of changes to the Class B guidance, the group recommends the FAA utilize one centralized and consistent package of information across all public engagements.

Comments

As discussed under Recommendation 17, the FAA non-concurs with this recommendation as presented. Changes to FAA orders are not accomplished through rulemaking procedures.

In addition, it is unclear what “one centralized and consistent package of information across all public engagements” means.