

RTCA Paper No. 136-16/TOC-028

April 4, 2016

Meeting Summary, April 4, 2016
Tactical Operations Committee (TOC)

The thirteenth meeting of the Tactical Operations Committee (TOC), held on April 4, 2016, convened at 2:00 p.m Eastern Standard Time. 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 March 3, 2016 TOC Meeting

Attachment 4 – WRTG – Operator Input to Northern California Noise Initiative Plan

Attachment 5 – Graphical TFR Tasking Letter

Welcome and Introductions

Committee Co-Chairs, Mr. Bryan Quigley, United Airlines, and Mr. Dale Wright, National Air Traffic Controllers Association (NATCA), called the meeting to order and welcomed the TOC members and others in attendance. 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. Quigley and Mr. Wright then reviewed the agenda and began the proceedings of the meeting. (The briefing charts from the meeting are included as Attachment 2.)

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 March 3, 2016 Meeting Summary

The Chairs asked for and received approval of the written summary for the March 3, 2016 meeting (Attachment 3).

Western Regional Task Group / Operator Input to Northern California Noise Initiative Plan

Mr. Dan Allen, Chair of the Western Regional Task Group, briefed the TOC on draft recommendations titled, "Operator Input to Northern California Noise Initiative Plan." The recommendations were in response to FAA tasking to the Western Regional Task Group (WRTG) under the TOC. The task requested the TOC and WRTG to provide operational perspective on six specific suggestions offered by the community in NorCal to improve noise.

Mr. Allen reviewed the WRTG's response to six suggestions in the NorCal Initiative Plan, which included use of speed brakes, runway choices, Instrument Flight Procedure (IFP) choices, nighttime offloads/routes, early turns and international air carrier execution of Optimized Profile Descents (OPDs). The TOC had no concerns with these six responses.

Mr. Allen explained that this task was conducted on a very short timeline, and as a result, the WRTG had no response to Task 3, which requested any additional ideas/recommendations which might better help address community noise concerns. Mr. Glenn Morse, United Airlines, submitted a proposed response to Task 3 which read as follows:

"Items 2, 3, and 4 of the 6 suggestions in the Initiatives the TOC was tasked to address relate to existing SFO Noise Abatement Procedures, which are available at <http://www.flysfo.com/community-environment/noise-abatement>. The current FAR Part 150 process is the appropriate vehicle to develop, assess and implement noise abatement procedures as components of the Noise Compatibility Plan."

One TOC member noted that interaction between the FAA and flight operators and the community on noise issues can be tense. The member expressed concern that the wording used in the draft report did not convey appropriate recognition from operators for the level of concern about noise in the community. The TOC decided that additional editing of the text of the report was necessary.

- **Committee Action:** The Committee agreed by consensus to provisionally accept the WRTG draft response to the NorCal Noise Initiative subject to an additional iteration to improve the wording in the report. Attachment 4 to this report is the final and approved report, completed after the April 4 TOC meeting, that the TOC transmitted to the FAA.

Performance Based Navigation (PBN) Route Structure Concept of Operations Task

Mr. Mark Hopkins, Delta Airlines, and Mr. David Surrige, American Airlines, briefed the TOC on the new PBN Route Structure Task Group. Mr. Hopkins and Mr. Surrige are the Co-Chairs of this Task Group. They reviewed the tasking elements, the members and the schedule for the task.

Ms. Ray noted that the PBN Route Structure CONOPs has been available to industry for the last two years but that the FAA has been interested to receive industry feedback and perspective on the concept.

One TOC member noted that his airline were regular users of the National Route System (NRS) and utilized its flexibility. He commented that operators are seeking flexibility in routing where feasible.

Another TOC member commented that this task group will need to remain closely aligned with other PBN related taskings in the NextGen Advisory Committee (NAC). The NAC has a PBN NextGen Integration Working Group (NIWG) as well as a task examining tools for PBN Time, Speed and Spacing.

FAA Report

Ms. Ray spoke next about organizational changes within the Air Traffic Organization's Mission Support Services. Ms. Ray noted that Mr. Bill Davis, who had previously acted as Deputy VP in Mission Support, would move to a new executive role focused on new entrants (unmanned vehicles and commercial space) as well as the National Airspace System (NAS) Navigation Strategy. Ms. Jodi McCarthy would replace Mr. Davis as DVP of Mission Support and Mr. Gary Norek would serve as Acting Director of Airspace Services, replacing Ms. McCarthy.

NATCA Agreement on Facility Release Policy and Placement of New Hires

Mr. Dale Wright, NATCA, next provided the NATCA perspective on placement and movement of controllers. Mr. Wright noted that the NAS cannot afford gaps on hiring, particularly with many facilities having 40% of controllers eligible to retire.

Mr. Gene Burdick, FAA, spoke as well, informing the TOC of the FAA's collaborative effort with NATCA to balance the controller workforce across the needs of the NAS. The FAA has centralized decision making around staffing around the NAS, moving away from a previous process which was decentralized across the nation's 300+ facilities. The FAA developed a national prioritization tool to monitor the "staffing health" of facilities and "triage" the needs. The tool examines staffing, pipeline of new hires, retirements, attrition, etc. to determine priorities. The FAA reprioritizes NAS staffing needs each month.

The prioritization tool was accompanied by a new national release policy. Facilities that had appropriate staffing could release controllers within 3 to 6 months, and this accounted for 90% of facilities. For the remaining 10% of facilities, where staffing challenges remained, the policy permitted release within 12 months.

Additionally, the FAA is hiring new controllers based on a national vacancy announcement. This gives the FAA flexibility to place new controllers where they are needed. The FAA is hiring on two tracks – one track for those with no previous experience and a second track for those with experience. The last round of hiring was in December 2015 for the second track, and a new round of hiring is anticipated for Fall 2016.

Introduction to TFR Tasking

Ms. Ray next introduced a new task for the TOC on Graphical TFRs. The tasking letter is included as Attachment 5. The task was brought to the TOC in large part based on the interest and request of the Aircraft Owners and Pilots Association (AOPA). The three components of the task are:

- Task 1 – Use broader expertise and data to clarify and validate issues associated with TFRs and recommend solutions
- Task 2 – Recommend policy regarding an online authoritative source for TFR content and use of TFR information for flight planning purposes
- Task 3 – Develop an associated set of business rules around what can be disseminated; to whom the data should be disseminated; standardization of the format; graphical depictions; and means of dissemination.

One TOC member expressed concern that the tasking includes a six month time frame to develop recommendations. Ms. Ray commented that once leadership was identified for the group, those individuals would need to determine the amount of time required to accomplish the effort. She noted that if more than six months were required, the FAA would be open to that.

Adjourn

Chairmen Quigley and Wright ended the meeting of the Committee at 3:30 p.m.

Next Meeting

The next meeting of the TOC is June 23, 2016 in Washington, DC.

**Attendees: April 4, 2016 Meeting of the
Tactical Operations Committee
Washington, DC**


| Name¹ | Company |
|----------------------------|---|
| <i>Pennington, Darrell</i> | Air Line Pilots Association |
| <i>Rudinger, Melissa</i> | Aircraft Owners and Pilots Association |
| <i>Oswald, Christopher</i> | Airports Council International (ACI North ... |
| <i>Surridge, Dave</i> | American Airlines, Inc. |
| <i>Will, Brian</i> | American Airlines, Inc. |
| <i>Short, Rico</i> | Beacon Management Group |
| <i>Hopkins, Mark</i> | Delta Air Lines, Inc. |
| <i>Fountain, Denise</i> | DoD Policy Board on Federal Aviation |
| <i>Burdick, Gene</i> | Federal Aviation Administration |
| <i>Ray, Lynn</i> | Federal Aviation Administration |
| <i>Allen, Dan</i> | FedEx Express |
| <i>Bertapelle, Joe</i> | JetBlue Airways |
| <i>Roberts, Bart</i> | JetBlue Airways |
| <i>Wright, Dale</i> | National Air Traffic Controllers Association |
| <i>Lamond Jr, Bob</i> | National Business Aviation Association |
| <i>Cebula, Andy</i> | RTCA, Inc. |
| <i>Jenny, Margaret</i> | RTCA, Inc. |
| <i>Mitra, Trin</i> | RTCA, Inc. |
| <i>Solley, Edwin</i> | Southwest Airlines |
| <i>Molin, Doug</i> | The MITRE Corporation |
| <i>Emden, Philip</i> | United Airlines, Inc. |
| <i>Morse, Glenn</i> | United Airlines, Inc. |
| <i>Quigley, Bryan</i> | United Airlines, Inc. |
| <i>Kast, Christian</i> | United Parcel Service |

¹Committee member names appear in italics.



RTCA Tactical Operations Committee


Thirteenth Meeting
April 4, 2016
RTCA Headquarters



Welcome and Introductions

Co-Chairs:
Bryan Quigley, United Airlines
Dale Wright, NATCA


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Topical Agenda

- FAA Report
- NATCA Agreement on Facility Release Policy and Placement of New Hires
- PBN Route Structure Concept of Operations task Terms of Reference
- Recommendations to Consider for Approval from the Western Regional Task Group / NorCal feasibility study
- Introduction to Graphical TFR Tasking

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PUBLIC MEETING ANNOUNCEMENT

**Read by: Designated Federal Official Elizabeth Ray
Tactical Operations Committee (TOC)
April 4, 2016**

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:

March 16, 2016

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:

**March 3, 2016
Meeting Summary**


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**Operator Input to Northern
California Noise Initiative Plan**

Dan Allen, FedEx Express
Co-Chair, Western Regional Task Group

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WRTG NorCal Tasking

- Task 1 – Review six specific suggestions in Section 4 (4a through 4f) of the attached draft of the NorCal Initiative Plan and provide operator feedback on the impact of these specific suggestions. Feedback may be in the form of neutral, negative or positive feedback.

- Task 2 – Feedback will describe impacts (if any) and rationale.

- Task 3 – Provide any additional ideas/recommendations which might better help address community noise concerns.


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Six Operator Issues Reviewed in NorCal Initiative

- **Use of speed brakes:** Operators can focus on reducing the use of speed brakes. Pilots have the sole responsibility to determine when speed brakes should be used.
- **Runway choices:** Operators may request more “fly friendly” Runways, especially at night, to reduce noise concerns in certain locations.
- **IFP choices:** Operators can file “fly friendly” procedures, especially at night, to reduce noise concerns in certain locations.
- **Nighttime Offloads/Routes:** Communities want a focus on reducing noise concerns at night.
- **Early Turns:** Operators can assist ATC in ensuring as much as possible of a flight is over water versus over land by not requesting early turns on course.
- **International air carrier execution of Optimized Profile Descents (OPDs):** AJV will reach out to IATA to discuss and get input and perspective on this issue.

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#1 Use of speed brakes

Operators can focus on reducing the use of speed brakes. Pilots have the sole responsibility to determine when speed brakes should be used.

- Response: Arriving aircraft following the same Instrument Flight Procedure may have different vertical profiles due to the type, weight and navigation system of the aircraft, winds and weather conditions, ATC clearances, volume of air traffic, and other factors. At times, these variables can put the aircraft into an undesired energy state (i.e., too high/too fast). While pilots prefer to fly an idle descent without using speed brakes, sometimes speed brakes are necessary to ensure the aircraft remains consistent with the procedure or ATC clearance. It is not feasible for pilots to commit to reduced use of speed brakes since they are only used when operational conditions require.

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#2 Runway choices

Operators may request more “fly friendly” Runways, especially at night, to reduce noise concerns in certain locations.

- Response: Runways are assigned by air traffic control for each flight based on the aircraft type, the weather conditions and, to the extent possible, existing agreements between air traffic control facilities. There may be conditions in which a pilot requests a specific runway based on operational need, such as requiring a longer runway due to aircraft weight. However, runway assignment is typically communicated from air traffic to the pilot making pilot requests for non-standard runways unlikely on a regular basis.

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#3 IFP choices

Operators can file “fly friendly” procedures, especially at night, to reduce noise concerns in certain locations.

- Response: Similar to the discussion of runway assignment above, air traffic control is responsible to assign the appropriate Instrument Flight Procedure to each aircraft based on the aircraft, operator capabilities and operational conditions. The intent of such IFPs is to ensure a safe and orderly flow of aircraft on arrival or departure. Pilots understand that air traffic may assign a “fly friendly” departure or arrival procedure at night.

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#4 Nighttime Offloads/Routes

Communities want a focus on reducing noise concerns at night.

- Response: Operators have a history of working with the FAA and communities to reduce environmental impact and continue to do so. Further study and refinement of the existing Nighttime SFO runway use program may be an opportunity to improve the program’s performance for all stakeholders. Operators need to have assurances that nighttime noise abatement procedures do not adversely impact airline schedule reliability, passenger connections and FAR 117 flight and duty requirements.

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#5 Early Turns

Operators can assist ATC in ensuring as much as possible of a flight is over water versus over land by not requesting early turns on course.

- Response: When departing, pilots follow either the turns on the FAA's published departure procedure or ATC-provided clearances. Departure procedures (DP) are coded in databases on an aircraft's flight management system (on board computer). When planning and operating the procedure, the pilot selects the DP, briefs it and plans to fly it in its entirety. They execute the procedure unless ATC provides an alternate instruction.

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#6 International air carrier execution of OPDs

AJV will reach out to IATA to discuss and get input and perspective on this issue.

- Response: If there are specific events in which international air carriers executing OPDs deviate from what the FAA expects, IATA is willing to support with coordinating dialogue between the specific operator's flight technical group and FAA AJV and Flight Standards staff.

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Proposed Response to Task 3

Task 3 – Provide any additional ideas/recommendations which might better help address community noise concerns.

- Items 2, 3, and 4 of the 6 suggestions in the Initiatives the TOC was tasked to address relate to existing SFO Noise Abatement Procedures, which are available at <http://www.flysfo.com/community-environment/noise-abatement>. The current FAR Part 150 process is the appropriate venue to develop, assess and implement noise abatement procedures as components of the Noise Compatibility Plan.


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Review of “Operator Input to Northern California Noise Initiative Plan”

DISCUSSION

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TOC Action

Consider Recommendation on:

***Operator Input to Northern California
Noise Initiative Plan***

and Transmit to FAA


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**PBN Route Structure Concept of
Operations Tasking**

Mark Hopkins, Delta Airlines
Dave Surrige, American Airlines
Co-Chairs, PBN Route Structure Task Group


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Context for Tasking

- NAS is in transition
 - PBN NAS Nav Strategy, transition to PBN service environment
 - VOR MON and impact on Victor routes
 - Localized Metroplex implementations
- Cost of maintaining both conventional / PBN structure
- Many goals for the future routes structure
 - How/where to procedurally de-conflict aircraft on parallel routes in congested airspace
 - Point to point navigation
 - Designing routes to circumvent SAAs
 - Etc.

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PBN Route Structure Task Elements

- Task 1 - Use broader expertise and data to refine or validate CONOPs problem statement.
- Task 2 - Recommend refinement to the criteria-based methodology for establishing low and high altitude PBN route structure.
- Task 3 - Recommend a NAS-wide point to point navigation strategy.
- Task 4 - Recommend alternatives to the proposed approach for design and implementation.


20



Members of Task Group

- Darrell Pennington, Air Line Pilots Association
- Rune Duke, Aircraft Owners and Pilots Association
- Dave SurrIDGE, American Airlines, Inc.
- Rico Short, Beacon Management Group
- Mark Hopkins, Delta Air Lines, Inc.
- Denise Fountain, DoD Policy Board on Federal Aviation
- Robert Novia, Federal Aviation Administration
- Lee Brown, Landrum-Brown
- Bill Wise, National Air Traffic Controllers Association
- Bob Lamond Jr, National Business Aviation Association
- Trin Mitra, RTCA, Inc.
- Perry Clausen, Southwest Airlines
- John Brandt, The MITRE Corporation
- Shweta Mulcare, The MITRE Corporation
- Jeff Shepley, The MITRE Corporation
- Glenn Morse, United Airlines, Inc.
- Jonathan Bonds, United Parcel Service

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Excerpt from Terms of Reference


- **Task 1 - Use broader expertise and data to refine or validate CONOPs problem statement.**

In this task, the group is requested to evaluate the problem statement noted in Section 1.2 of the Draft PBN Route CONOPs report. The current problem statement describes the issues the FAA attempts to address with a NAS-wide PBN route structure strategy. The FAA seeks stakeholder validation that this is indeed the right problem to address as well as any information the FAA may be missing. The FAA is open to recommendations that evolve the problem statement and further improving the strategic focus of the CONOPs.

- **Task 2 - Recommend refinement to the criteria-based methodology for establishing low and high altitude PBN route structure.**

In this task, the Task Group is asked to consider the initial “criteria-based methodology” referred to in Sections 4.2.1 and 4.2.2 of the CONOPs. In these sections, the CONOPs document qualitatively describes the conditions that can form the basis for evaluating the need for route creation, optimization, removal or retention. The task seeks recommendations on modifications, additions or deletions to what has been described in these sections. The FAA seeks qualitative criteria at this time and not quantitative thresholds. Prioritization of criteria would be helpful.

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


Excerpt from Terms of Reference (Cont.)

- **Task 3 - Recommend a NAS-wide point to point navigation strategy.**

In this task, legacy approaches to point-to-point navigation should be considered and the Task Group is requested to determine the appropriate strategy for the future. The FAA is open to options that include retaining some or parts of existing approaches or even definition of a new approach.
- **Task 4 - Recommend alternatives to the proposed approach for design and implementation.**

In this task, the Task Group is asked to review and comment on the FAA's intended approach for multiple working groups that will design and implement future route structure in the NAS.



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Schedule for Task Group

- Kickoff meeting on April 12th at RTCA
- Expect monthly meetings for rest of the year
 - May conduct some airline visits
- Deliver recommendation in Q1 2017

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FAA Report

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


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**NATCA Agreement on Facility
Release Policy and Placement of
New Hires**

Dale Wright, NATCA
Beth Mack and Gene Burdick, FAA


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Introduction to Graphical TFR Tasking

Lynn Ray, FAA


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Graphical TFR Issues

- NOTAM text is not user friendly
- Third party vendor automation sometimes depicts graphical TFRs incorrectly
- Data provided by FAA not always suitable for Direct User Access Terminal Service vendors
- FAA website contains disclaimer that it is not for flight planning purposes


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Areas to Address

- Standard method for TFR data for development of TFR graphics
 - Including consistent format of TFR NOTAM text that will allow accurate graphical depictions
- Online definitive source for all known TFRs
- Whether disclaimer about TFR graphics can be removed from FAA website
- Provide TFR valid times
- Whether to reclassify, chart or publish permanent TFRs

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Tasking Elements

Request response to following in about 6 months' time:

- Task 1 – Use broader expertise and data to clarify and validate issues associated with TFRs and recommend solutions
- Task 2 – Recommend policy regarding an online authoritative source for TFR content and use of TFR information for flight planning purposes
- Task 3 – Develop an associated set of business rules around what can be disseminated; to whom the data should be disseminated; standardization of the format; graphical depiction; and means of dissemination


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Next Steps

- Finalize leadership
- Call for participation
- Target late October TOC meeting for task completion

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Closing Comments

Designated Federal Official:
Lynn Ray, Federal Aviation Administration

Co-Chairs:
Bryan Quigley, United Airlines
Dale Wright, NATCA

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Next Meetings:

June 23, 2016

October 27, 2016

Washington, DC

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Adjournment

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RTCA Paper No. 091-16 TOC-027

March 3, 2016

Meeting Summary, March 3, 2016
Tactical Operations Committee (TOC)

The twelfth meeting of the Tactical Operations Committee (TOC), held on March 3, 2016, 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 November 12, 2015 TOC Meeting

Attachment 4 – Tasking letter for PBN Route Structure Concept of Operations task

Attachment 5 – Recommendation on Process and Criteria for Cancellation of Instrument Flight Procedures

Attachment 6 – AOPA White Paper on the Need to Standardize the Format of Temporary Flight Restrictions

Attachment 7 – Tasking letter for Western Regional Task Group on Operator Questions in the NorCal Noise Initiative Plan

Attachment 8 – FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties

Attachment 9 – Recommendation on Improving Awareness, Planning and Execution of Airport Construction

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. 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. Quigley then reviewed the agenda and began the proceedings of the meeting. (The briefing charts from the meeting are included as Attachment 2.)

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 November 12, 2015 Meeting Summary

The Chair asked for and received approval of the written summary for the November 12, 2015 meeting (Attachment 3).

FAA Report

Ms. Ray next provided a report from the FAA on various topics relevant to industry. She began by reviewing the budget situation for the FAA. The FAA has appropriations for Fiscal Year (FY) 2016 and FY2017, which is 0.4% higher than the FY2016 enacted budget. The increase in the FY2017 budget enables the FAA to continue maintaining active levels of its workforce as well as hire for the future. The budget is currently authorized through March 31, 2016, and the FAA anticipates an extension beyond the current authorization. The key concern for the FAA is, without a new budget deal, the FY2018 budget is planned to return to sequestration levels of funding, which correspond to FY2014.

Ms. Ray next spoke of the FAA’s continued approach to hiring new air traffic controllers to staff for the future. Over the last five years, the FAA has hired 4,700 new controllers and it plans to hire an additional 7,400 in the next five years. The FY2016 goal is to hire 1,619 controllers. The FAA has hired 719 controllers and has about 300 more in process year-to-date; that leaves an additional 600 new controllers to meet this year’s goal.

Ms. Ray informed the TOC about key vacancies in the executive staff at the FAA. She noted that the Deputy Vice President of Safety role had been filled by Steve McMahon. Within Mission Support, Ms. Ray noted that Bill Davis was moving aside from the Deputy VP role to focus on key strategic issues, including Unmanned Aircraft Systems (UAS), Commercial Space and the Performance Based Navigation (PBN) NAS Navigation Strategy. Jodi McCarthy will be filling in the Deputy VP role behind Mr. Davis.

Ms. Ray concluded by reviewing the key issues that are garnering the most attention within the FAA. She mentioned that UAS continues to be a critical area of attention. Additionally, noise and community outreach was receiving attention as the FAA sought to develop robust approaches to engaging with airports and communities on noise.

Finally, a TOC member inquired about how newly hired controllers are deployed into the NAS and how the FAA’s agreement with NATCA manages the facility release process and policy. The TOC expressed an interest to better understand how the movement of controllers is managed, to ensure appropriate staffing, to keep critical facilities “healthy” as well as allowing for career progression.

Ms. Ray noted that such information would be best provided by Management Services and/or Air Traffic Services.

Discussion on PBN-Related Industry Taskings and Introduction to PBN Route Structure Task

Mr. Robert Novia, PBN Program Office, next briefed the TOC about the different ongoing initiatives between the FAA and industry on PBN. (A chart depicting these activities is included on page 4 of Attachment 2.) He noted that the recently completed PBN NAS Navigational Strategy is an enterprise strategy, including required infrastructure, routes, instrument flight procedures and decision tools to augment spacing. It is a 15 year planning framework intended to identify what is required and not required for the NAS to transition to a PBN NAS. Mr. Novia commented that the National Procedure Assessment (NPA) Task Group's work to develop process and criteria for cancellation of unnecessary or redundant procedures was a component of the Nav Strategy to remove elements of the "legacy" NAS that are no longer required.

Another aspect of the FAA's larger PBN strategy is to develop what is required for the future PBN operation. This includes a route structure for PBN operations. (The tasking letter for the PBN Route Structure Concept of Operations task is included as Attachment 4.) In the high altitude domain, the FAA is planning to phase out Jet (J) routes and replace them with some level of Q routes. The FAA has developed a concept of operations for this route structure, and the TOC has been tasked to evaluate this Conops.

A TOC member noted that traveling east to west, the straight line is rarely the best route and there is a need in the NAS to enable flexibility in routing day to day. Mr. Novia stated that the Conops does not make specific suggestions on how to enable such flexibility in the NAS and that the FAA is open to the TOC's ideas on this subject. There was additional discussion about ensuring the TOC's Task Group consider existing grid systems; previous working groups have worked hard to develop these grid concepts and they should be given appropriate consideration.

A TOC member noted that the NAS includes a variety of route solution sets that do not integrate the needs of air traffic controllers in the controller handbook (7110.65), what the crew does, what the dispatcher does and what to do in non-normal conditions. A future PBN Route Conops needs to consider all of these factors.

Mr. Novia also noted that the scope of the Conops is both high and low altitude route structure. He mentioned that some Victor airways will be removed as the VOR Minimum Operating Network effort proceeds.

Finally, TOC members offered some important considerations for the PBN Route Structure Task Group. One member noted that there is a critical issue of database size on Flight Management System (FMS) computers. Simply adding more route options in the NAS is not an option as the FMS can only accommodate a fixed volume of data, and this should be considered in the work of the PBN Route Conops Task Group. Another TOC member commented that modern, sophisticated flight planning systems tend to have similar underlying algorithms and typically select the same optimal

route which can cause en route congestion. The task group should consider such system level impacts in its effort.

Recommendation for Criteria and Process for Cancellation of Instrument Flight Procedures

Mr. Michael Perrizo, Air Wisconsin, and Mr. Randy Burdette, Virginia Department of Aviation, Co-Chairs of the National Procedure Assessment Task Group, briefed the TOC on recommendations for the criteria and process for cancellation of Instrument Flight Procedures in the NAS. (The full recommendation report is included as Attachment 5.) Mr. Perrizo and Mr. Burdette informed the TOC that the FAA spent approximately \$50 million on procedure maintenance and flight inspection in FY2015. With the NAS transitioning to NextGen, from a mostly ground-based NAS, there was need and opportunity to save capital by removing unnecessary procedures. That capital could then be redeployed to further improve access to airports, runway ends and communities throughout the NAS.

Mr. Perrizo and Mr. Burdette informed the TOC that the Task Group’s approach was to review procedures as they are categorized in the FAA’s Instrument Flight Procedures Inventory webpage, which is https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/ifp_inventory_summary/. The table below presents an assessment of which types of procedures the Task Group elected to evaluate in its report. For those not evaluated for cancellation at this time, rationale is provided on pages 13-14 of Attachment 5. For those that were evaluated for cancellation, criteria and additional detail are provided in the report. The report includes a detailed decision tree for identifying cancellation candidate Circling Procedures or Lines of Minima as well as candidate SIDs and STARs for cancellation.

| Type of IFP | Additional Breakdown of IFPs | | Assessment |
|--|------------------------------|----------------|------------|
| 1. Circling | - | - | ● |
| 2. Instrument Approach Procedures (IAPs) | Ground-Based IAPs | ILS | ● |
| | | LOC | ● |
| | | LOC (B/C) | ● |
| | | LDA | ● |
| | | LDA PRM | ● |
| | | Side Step | ● |
| | | VOR / DME RNAV | ● |
| | | NDB | ● |
| | | TACAN | ● |
| | | VOR | ● |
| | VOR / DME | ● | |
| | MLS | ● | |
| | TLS | ● | |
| | SDF | ● | |
| | PAR | ● | |
| ASR | ● | | |
| 3. SIDs and STARs | Conventional | RNAV | ● |
| | | GLS | ● |
| | RNAV | SID | ● |
| | | STAR | ● |

Legend

- Evaluated for cancellation
- Not evaluated at this time

Messrs. Perrizo and Burdette reviewed the group’s recommendations for PBN Instrument Approach Procedures, noting that PBN approaches are considered a key foundation of the NextGen NAS. As a result, they stressed that a NAS-level approach and criteria to cancellation of PBN was not

appropriate. Instead they recommended that local teams identify any redundant PBN procedures and lead requests for cancellation.

Ms. Perrizo and Mr. Burdette also presented a proposed process for cancellation of IFPs. The process recognizes the fact that cancellation of IAPs as well as SIDs/STARs requires development of criteria at a national level while identifying candidates for cancellation at a local level. The proposed process allows for participation of both flight operators and air traffic controllers while only requiring formal public comment where it is necessary. They also presented recommendations focusing on the outreach required to stakeholders in the cancellation process.

A TOC member noted that it was important that any procedure cancellation effort not hamper flight schools that are training future aviators. Mr. Perrizo noted that recommendation 3b, the decision tree for circling approaches, includes the concept of not cancelling procedures if a trainee needs to travel more than 20NM from a flight school for training. The 20NM distance was thought by the group to not be too onerous.

Another TOC member commented that flight operations outside of the NAS may include procedure types that are uncommon in the NAS. There is thus an important consideration in retaining procedures to ensure availability of procedures for US operators to train in preparation for international operations. The TOC member noted that in the future simulation capabilities may help address this issue.

A TOC member inquired whether the NAS is at the point to remove all conventional (non-PBN) SID and STAR procedures at the largest airports. The member noted that Nav Canada had done so at major airports in Canada over 10 years ago without any negative repercussions. Ms. Ray noted that this could be done in the NAS today but a question of resiliency remains, as there is currently no identified backup plan in the event of a GPS outage.

Committee Action: The Committee agreed by consensus to approve the Process and Criteria for Cancellation of Instrument Flight Procedures (Attachment 5) and sunset the NPA Task Group.

Update on Mitigation of Obstacles in the Visual Surface Area

Mr. Danny Hamilton and Mr. Steve Szukala, FAA, next provided an update to the FAA's effort for addressing obstacles in the 20:1 visual surface area. Mr. Hamilton and Mr. Szukala noted that obstacle validation in the visual segment is highly manual work and that the data in the obstacle database was often not valid. The FAA had conducted a two year "get healthy" plan for obstacles in the visual segment in which it pursued a three step process:

1. Verify the database obstacles through validation and coordination with the airport sponsor
2. Once obstacles were validated, use Notice to Airmen (NOTAMs) to NOTAM out impacted procedures
3. Work with the airport to plan long term mitigation

Messrs. Hamilton and Szukala informed the TOC that over 3,000 airports in the National Airspace System (NAS) had been evaluated and about half had obstacles penetrating a visual surface. After two years of mitigation efforts, nearly all airports had mitigated obstacles through a combination of lighting, obstacle removal and procedure amendment. Recent evaluation of penetrations suggested only about 5-10% of airports had penetrations, suggesting a significant reduction from two years before. The FAA noted that there is intent to continue using a risk based approach for managing obstacles in the visual segment, though the specific approach for the future may not be identical to the approach used in the “get healthy” process of the past two years.

The briefing generated multiple questions from TOC members. One TOC member inquired about when airports are responsible for conducting a survey. The FAA responded that there are no formal requirements for surveys on a periodic basis. When there is a change at an airport, airports typically need new surveys. However, after an airport receives a survey, it typically takes 12 to 18 months for obstacles to get into the obstacle database. Finally, one participant noted that surveys are becoming more and more affordable to conduct with use of unmanned aerial systems (UAS).

A TOC member suggested the FAA and industry provide an educational campaign for airports on this obstacle validation effort. Growth of vegetation is a key challenge for airports, and the participant suggested educational information about how to monitor vegetation growth would be helpful. The intent of such a campaign would be to enable airports to effectively monitor potential obstacles and address them proactively.

Discuss Potential New Task – Graphical Temporary Flight Restrictions (TFRs)

Ms. Melissa Rudinger, Aircraft Owners and Pilots Association (AOPA), next discussed a white paper AOPA had provided requesting a new TOC task related to graphical TFRs (included as Attachment 6). Ms. Rudinger noted there was no definitive source for graphical TFRs, and different vendors had their own solutions. As a result of confusing and possibly incorrect graphical TFR data, pilots were violating TFRs. In a recent VIP movement in Los Angeles in February 2016, 43 pilots had violations.

Ms. Ray noted that the FAA was considering this task and whether to conduct it now or whether the FAA had to conduct any internal work prior to initiating a task. She commented that she expected the FAA to have a conclusion on next steps for this topic in approximately one month.

One Committee member commented that Special or Security TFRs were the greatest challenges and that the text of the TFR needed to follow a consistent format. Additionally, the member noted that there was a need for a definitive, reliable source to generate the graphic. There is desire for the graphic to be controlling data along with the text of the TFR.

Discuss New Task – Western Regional Task Group NorCal Initiative

Ms. Ray next introduced a new task to the TOC for the Western Regional Task Group to provide operator input into a noise initiative the FAA has underway in Northern California (NorCal). (The

Tasking Letter is included as Attachment 7 and the FAA's Noise Initiative Plan for Northern California is included as Attachment 8.) Ms. Ray pointed out that the NorCal Metroplex effort was done and complete and this noise initiative was not a reopening of Metroplex. She said that the community had identified proposals to improve noise and the FAA committed to conducting a feasibility assessment of these proposals. The FAA is aware that not all of the proposals will be feasible and that safety would not be compromised. However, Ms. Ray noted, there would likely be some tradeoffs with respect to efficiency.

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. Briefing materials from this discussion may be found in Attachment 2.

FAA Response to Recommendations on Class B Airspace

Mr. Ken Ready, FAA Acting Manager Airspace and Rules Team, next provided the FAA's response to recommendations from the TOC relating to Class B airspace. Mr. Ready's response is included in briefing materials in Attachment 2.

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. The FAA concurred with all but one of the recommendations of the TOC. The only one which was a non-concur was the concept of a buffer on the boundary of Class B airspace. Some TOC members commented that the non-concur from the FAA on this recommendation means that aircraft in and out of the Class B may be in very close proximity and still be considered "legal". This issue, the members stated, was driving TCAS Resolution Advisories (RAs) on the boundaries of Class B airspace. These members noted that the issue would warrant discussion and attention in the future.

Another TOC member noted that air traffic controllers already have a Complexity Index (CI) that may be leveraged as the FAA considers new safety and complexity oriented metrics as suggested in the recommendations.

Finally, there was discussion that much human factors work would be required to evaluate what is feasible for executing a part time Class B concept.

Briefing on Proposed Approach to Consider One Engine Inoperative (OEI) Procedures

Mr. John Speckin, FAA, next provided a briefing on the FAA's proposed policy to considering OEI procedures in hazard determinations. The concept, detailed in briefing materials in Attachment 2, is for airports to work with its operators to identify one OEI path that would be utilized in hazard

assessments. Mr. Speckin and Ms. Ray both noted that this approach is currently a proposed policy and may not be implemented. He said that pilot projects were conducted at multiple airports in the NAS with the focus of determining whether it was even feasible to identify a single surface for OEI procedures.

There was discussion about Miami Dade County as a unique case for OEI procedures. The county had enacted zoning laws to protect OEI paths around the airport.

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 a response to the TOC on its July 2015 recommendations on improving operations in the Caribbean. (Mr. Linney's briefing materials are included in Attachment 2.)

The FAA has parsed all of the TOC's recommendations in the Caribbean into four categories:

1. FAA concurs with recommendation. No additional research is required. International agreement and interdependencies are required.
2. FAA concurs with recommendation. Additional research regarding operations and/or technical interdependencies are required.
3. FAA concurs with recommendation. Additional research regarding operations and/or technical interdependencies are required. Investment decision not yet made (requires JRC-level approval or disapproval).
4. FAA does not concur with moving forward with this recommendation, not pursuing at this time.

Mr. Linney then reviewed each of the TOC's recommendations and explained the categorization. Currently, the FAA was putting together a schedule for those recommendations that would be implemented or researched further, along with milestones. He also expressed a willingness to come back to the TOC at future meetings and provide updates.

Recommendations on Improving Awareness, Planning and Execution of Airport Construction

Mr. Mark Hopkins, Delta Airlines, briefed the TOC about recommendations from the Airport Construction Task Group related to improving awareness, planning and execution of airport construction.

Mr. Hopkins began by providing some overarching thoughts regarding airport construction. First, he noted that airport construction involves stakeholders from across the aviation spectrum, including airport operators, flight operators, many groups with the FAA's Air Traffic Organization as well as the FAA's Airports division. In this context, collaboration is paramount to success. While recommendations are offered specifically to the FAA in this report, success will result from identifying reliable ways to institutionalize collaboration between these various stakeholders.

Mr. Hopkins also pointed out that there is much guidance, process, checklists, etc. for stakeholders on various aspects of airport construction planning and execution. What is often missing is the connectivity between different existing tools. Hence, the recommendations offered in this report are aimed at “connecting the dots” between what already exists.

Mr. Hopkins next went through the recommendations from the Task Group. The recommendations were grouped into four primary categories: improving awareness of construction, planning of complex construction projects, improving execution of construction and safety-related aspects of construction.

During the discussion on safety in construction, one TOC member inquired about the Task Group’s intent about Safety Risk Management (SRM) Panels. Mr. Hopkins commented that the industry continues to evolve SRMs. Historically, there may have been an SRM panel conducted by the airport and another conducted by air traffic. Ultimately, the recommendations in the report seek to identify more effective methods of determining when panels are required and conducting them in a manner that has appropriate participation and engagement.

- **Committee Action:** The Committee agreed by consensus to approve Improving Awareness, Planning and Execution of Airport Construction (Attachment 9) and sunset the Airport Construction Task Group.

Adjourn

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

Next Meeting

The next meeting of the TOC is April 4, 2016 in Washington, DC.



Approved by the Tactical Operations Committee April 2016

Operator Input to Northern California Noise Initiative Plan

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

April 2016

Operator Input to NorCal Initiative Plan

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Background and Introduction

Responding to noise mitigation proposals from elected and community representatives in Northern California, the FAA committed to a three-phase study in which it is analyzing a set of proposed actions and determining if they are initially feasible, flyable and operationally acceptable from a safety perspective. The *FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties* (NorCal Initiative Plan, see Appendix A) is focused on the Northern California Terminal Radar Approach Control Facility (TRACON), also known as “NorCal.”

The NorCal Initiative Plan identifies six specific suggestions in Section 4 (4a through 4f) requiring engagement of aircraft operators. The six issues, as written in the plan, are:

- **Use of speed brakes:** Operators can focus on reducing the use of speed brakes. Pilots have the sole responsibility to determine when speed brakes should be used.
- **Runway choices:** Operators may request more “fly friendly” Runways, especially at night, to reduce noise concerns in certain locations.
- **IFP choices:** Operators can file “fly friendly” procedures, especially at night, to reduce noise concerns in certain locations.
- **Nighttime Offloads/Routes:** Communities want a focus on reducing noise concerns at night.
- **Early Turns:** Operators can assist ATC in ensuring as much as possible of a flight is over water versus over land by not requesting early turns on course.
- **International air carrier execution of Optimized Profile Descents (OPDs):** AJV will reach out to IATA to discuss and get input and perspective on this issue.

The Western Regional Task Group (WRTG) of the Tactical Operations Committee (TOC) was requested to respond to the six issues in Section 4. The task request (see Appendix B) included three components:

- Task 1 – Review the six specific suggestions in Section 4 (4a through 4f) of the attached draft of the NorCal Initiative Plan and provide operator feedback on the impact of these specific suggestions. Feedback may be in the form of neutral, negative or positive feedback.
- Task 2 – Feedback will describe impacts (if any) and rationale.
- Task 3 – Provide any additional ideas/recommendations which might better help address community noise concerns.

While the Tactical Operations Committee was only asked to review six of the potential noise reducing measures under consideration, the FAA continues to assess a number of other possible measures, documented in the NorCal Initiative Plan, more specific to flight procedures. The six items addressed in this report are not independent of these other components of the feasibility study. Additionally, these six items are not necessarily linked to other noise-related efforts being considered in Northern California and/or in the National Airspace System (NAS).

Methodology

The WRTG, which is comprised of individuals with representative experience from airlines, general aviation, labor organizations and others with expertise on operations in the western region of the NAS,

was requested to draft a response to this tasking request. Accordingly, the WTRG conducted “virtual” meetings to discuss the questions posed in the task and draft this report. The full membership of the WTRG is included as Appendix C of this report.

Response to Six Suggestions in NorCal Initiative Plan

The following responses are generated based on the safe and efficient operation of aircraft in a manner that is sensitive to the environmental issues being requested by the FAA.

Suggestion: Use of speed brakes

Operators can focus on reducing the use of speed brakes. Pilots have the sole responsibility to determine when speed brakes should be used.

Response: While pilots prefer to fly an idle descent without using speed brakes, sometimes speed brakes are necessary to ensure the aircraft remains consistent with the Instrument Flight Procedure or ATC clearance. Arriving aircraft following the same procedure may have different vertical profiles due to the type, weight and navigation system of the aircraft, winds and weather conditions, ATC clearances, volume of air traffic, and other factors. At times, these variables can put the aircraft into an undesired energy state (i.e., too high/too fast) that make use of speed brakes necessary. Therefore, speed brakes are only used when operational conditions require.

Suggestion: Runway choices

Operators may request more “fly friendly” Runways, especially at night, to reduce noise concerns in certain locations.

Response: Aircraft operators are sensitive to the need to minimize the impact of noise in certain locations. Runways are assigned by air traffic control for each flight based on the aircraft type, the weather conditions and, to the extent feasible, existing agreements between air traffic control facilities. There may be conditions in which a pilot requests a specific runway based on operational need, such as requiring a longer runway due to aircraft weight. However, runway assignment is typically communicated from air traffic to the pilot making pilot requests for non-standard runways unlikely on a regular basis.

Suggestion: IFP choices

Operators can file “fly friendly” procedures, especially at night, to reduce noise concerns in certain locations.

Response: Aircraft operators file flight plans up to several hours before scheduled departure based on forecasts of multiple factors, including airport configuration (runways in use), aircraft weight, winds, weather and temperature. At the time of departure, air traffic control is responsible to ensure the appropriate Instrument Flight Procedure is assigned to each aircraft based on the aircraft type, destination, operator capabilities and operational conditions. The intent of such IFPs is to ensure a safe and orderly flow of aircraft on departure or arrival. When conditions permit, pilots understand that air traffic may assign a “fly friendly” departure or arrival procedure at night.

Suggestion: Nighttime Offloads/Routes

Communities want a focus on reducing noise concerns at night.

Response: Aircraft operators have a history of working with the FAA and communities to reduce environmental impact and continue to do so. Further study and refinement of the existing Nighttime SFO runway use program may be an opportunity to improve the program’s performance for all stakeholders.

Suggestion: Early Turns

Operators can assist ATC in ensuring as much as possible of a flight is over water versus over land by not requesting early turns on course.

Response: When departing, pilots follow either the turns on the FAA’s published departure procedure or ATC-provided clearances. Departure procedures (DP) are coded in databases on an aircraft’s flight management system (on board computer). When planning and operating the procedure, the pilot selects the DP, briefs it and plans to fly it in its entirety. They execute the procedure unless ATC provides an alternate instruction.

Suggestion: International air carrier execution of Optimized Profile Descents (OPDs)

AJV will reach out to IATA to discuss and get input and perspective on this issue.

Response: IATA is willing to support with coordinating dialogue between a specific international operator's flight technical group and FAA AJV and Flight Standards staff, if there are specific events in which international air carriers executing OPDs deviate from what the FAA expects.

Additional Ideas/Recommendations

The TOC was requested to provide any additional ideas or recommendations that might better help address community noise concerns. Items 2, 3, and 4 of the 6 suggestions the TOC was tasked to address relate to existing SFO Noise Abatement Procedures, which are available at <http://www.flysfo.com/community-environment/noise-abatement>. The FAR Part 150 process should be considered as the FAA evaluates the appropriate vehicle to develop, assess and implement noise abatement procedures as components of the Noise Compatibility Plan.

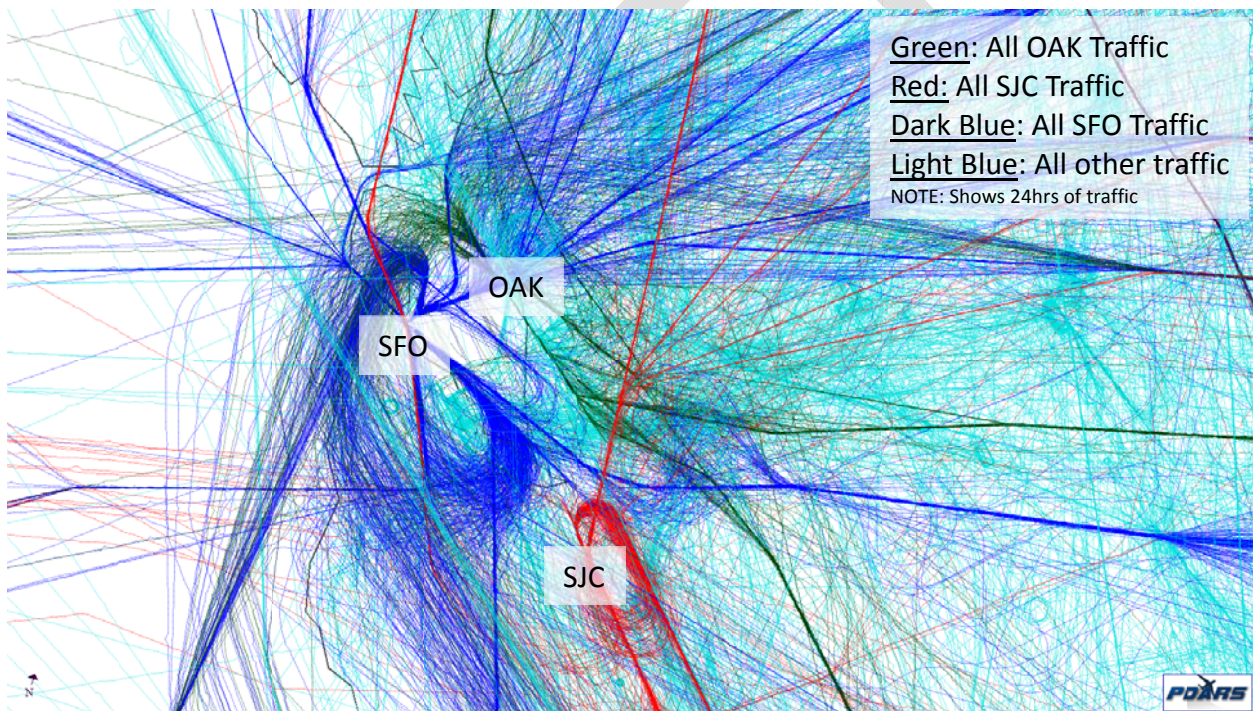
Appendix A: NorCal Initiative Plan

FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties

Compiled at the Requests of Representatives Farr, Eshoo and Speier

Executive Summary

Northern California airspace is very complex, with traffic from several major airports, smaller regional airports and military activity. All arrival and departure procedures within the Northern California airspace are interconnected, interdependent and were designed to improve safety and efficiency within the National Airspace System (NAS).



Longstanding issues with, as well as changes to, the Northern California TRACON instrument approach and departure procedures have generated noise concerns from local residents of Santa Cruz, Santa Clara, San Mateo and San Francisco Counties. In meetings and correspondence with congressional offices and local community representatives, the Federal Aviation Administration (FAA) has received recommendations to adjust the current published procedures. In response, the FAA has undertaken the following noise initiative to explore such modifications. Airspace and air traffic procedures are highly dependent upon each other within the NAS and must be evaluated collectively to ensure safety and efficiency.

This initiative will be comprised of three phases. During the first phase, the FAA will conduct a detailed analysis and a preliminary feasibility study focusing on flight procedures criteria and overall fly-ability of the new Performance Based Navigation (PBN) procedures, potential procedural modifications including speed/altitude adjustments, airspace changes and possibility of moving existing waypoints. An assessment of impacts to operations at the surrounding airports and associated procedures will be completed. In addition, coordination with the local stakeholders will be conducted during this first phase.

During the second phase, FAA will consider any amendments and/or new procedures that are determined to be initially feasible, flyable, and operationally acceptable from a safety point of view. As part of this effort, FAA will conduct the formal environmental and safety reviews, coordinate and seek feedback from existing and/or new community roundtables, members of affected industry, and the National Air Traffic Controllers Association (NATCA) before moving forward with the formal amendment process. During phase three, the FAA will implement procedures; conduct any required airspace changes and additional negotiated actions, as needed.

In addition to its mandate to ensure the safe and efficient use of the NAS, the FAA complies with the requirements of the National Environmental Policy Act (“NEPA”). As such, although not specifically detailed within this noise initiative, the FAA’s procedures and standards for evaluating noise impacts associated with all potential modifications to currently published procedures—consistent with FAA Order 1050.1F (effective July 16, 2015)—will be followed and undertaken before implementing any airspace changes. Finally, this document does not constitute either a final decision of the FAA or a re-opening of the FAA’s August 6, 2014 final decision for the Northern California (NorCal) Optimization of Airspace and Procedures in the Metroplex (OAPM).

Initiative:

Phase one: Initial Analysis, Feasibility, and Coordination

1. Instrument Flight Procedures/Airspace:

Planned Action: The FAA will conduct a detailed analysis to include preliminary feasibility from a procedures/criteria perspective and fly-ability from an aircraft perspective. Procedures will be analyzed, modeled, and flown in flight simulators. An assessment of the impact to operations and other procedures will be completed. The analysis should indicate whether the potential procedural changes could be made to effectively reduce noise.

- a. Altitude adjustments:** Raising the floor and/or ceiling of existing procedures may allow the FAA to do the same for other procedures and reduce noise concerns in certain locations.
 - i. Analyze raising the floor and ceiling of existing SERFR and BRIXX arrivals. (AJV-WOSG)
 - a) Evaluate raising the altitude at MENLO waypoint to 5,000 feet or establish a new waypoint to allow for crossing the MENLO area closer to 5,000 feet.
 - ii. Analyze reducing impacts of SSTIK, WESLA, and CNDLE departures. (AJV-WOSG)

Status: Analysis began October 2, 2015

Completion Date: TBD

- b. Track adjustments:** Where possible, tracks should be adjusted away from areas of concern and moved over water versus land.
 - i. Analyze moving the SSTIK and PORTE departures more over water. (AJV-WOSG)
 - ii. Analyze reducing the impacts of SSTIK, WESLA, and CNDLE departures. (AJV-WOSG)

- iii. Analyze moving the ILS/Visual Approach to Runway 28L offshore. (AJV-WOSG)
- iv. Analyze offsetting Visual Approaches until passing the San Mateo Bridge. (AJV-WOSG)
- v. Analyze the impact of non-charted visual approaches to RWY 28 (AJV-WOSG)

NOTE: There are three charted visual approaches to San Francisco (SFO). Two are FAA published approaches, the TIPP TOE VISUAL and the QUIET BRIDGE VISUAL. The third approach is owned by United Airlines and is a special charted visual, also available to other airlines. If changes are made to the procedure, the FAA would request that United Airlines and each airline that uses this procedure update their databases.

Status: Analysis began October 2, 2015

Completion Date: TBD

c. Waypoint Adjustments:

- i. On the SERFR arrival, analyze moving EPICK waypoint south to approximately 36 54 52.8N and 121 56 32.7W, add restriction to speed of 280 knots and altitude of 15,000 feet. (AJV-WOSG)
- ii. Analyze making adjustments to PORTE departure to maximize offshore routing. (AJV-WOSG)
- iii. Evaluate adding a new waypoint roughly over the Highway 17 summit area, between EPICK and EDDYY, with at least a 10,000 feet and 250 knot restriction. (AJV-WOSG)

Status: Analysis began October 2, 2015

Completion Date: TBD

d. Speed Adjustments:

- i. Analyze moving speed adjustments over water instead of over land. (AJV-WOSG)

- ii. Analyze reducing the speed on the current SERFR arrival. (AJV-WOSG)
- iii. Analyze data to determine compliance with the requirement to maintain 250 knots or less below 10,000 feet Mean Sea Level (MSL). (AJV-WOSG)

Status: Analysis began October 2, 2015

Completion Date: TBD

e. Holding Patterns

- i. On the SERFR arrival, study current use of the holding pattern at EPICK and the possibility of moving the holding pattern to WWAVS. (AJV-WOSG)

Status: Analysis began October 2, 2015

Completion Date: TBD

f. PBN Procedures:

- i. Evaluate proposed PBN arrival procedures from local community groups for feasibility, fly-ability and safety concerns. (AJV-WOSG)
- ii. Evaluate the effect of dispersing flight tracks over a wider range. (AJV-WOSG)
- iii. Study the feasibility of creating new transitions for the NIITE departure for airports to southbound destinations. (AJV-WOSG)
- iv. Study the possibility of new SFO RNP approaches that will serve Runways 28 L/R that follow the Big Sur ground track, curved out over the Bay crossing MENLO at 5000-6000 feet. (AJV-WOSG)

Status: Analysis began October 2, 2015

Completion Date: TBD

2. Air Traffic Control:

Planned Action: The Western Service Center, on behalf of the Air Traffic Director of Operations, will work with the facilities to assess what opportunities exist to modify operations. Part of this assessment will include looking at the possibility of adjustments during reduced volume night operations, even if day operations cannot be changed. If changes can be made there will need to be a safety assessment, controller training, pilot briefings, and the SFO community roundtable may need to be engaged.

a. Sequencing and Vector Points: There may be actions air traffic controllers can take to reduce noise concerns such as assessing whether changes can be made to vectoring aircraft over water more.

- i. Analyze adjusting air traffic activity in the vicinity of Woodside VOR including altitudes. (AJT, AJV-WOSG)
- ii. Analyze adjusting air traffic to eliminate early turns over land. (AJT, AJV-WOSG)
 - a) Focus on leaving aircraft over water as long feasible.
 - b) Keep aircraft on the SSTIK departure until the SSTIK waypoint before turning.
 - c) Keep aircraft on the NIITE departure to at least the NIITE Waypoint as much as possible.

Completion Date: TBD

b. Use of Descend Via:

- i. Increase use of descend via procedures. (AJT, AJV-WOSG)
- ii. Increase use of descend via procedures for international flights. (AJT, AJV-WOSG)

Completion Date: TBD

c. Class B Containment: Some current procedures, as designed, are not fully contained within the existing SFO Class B airspace.

- i. Analyze current versus historic data to determine trends and risks to aircraft exiting and reentering Class B airspace. (AJT, AJI, AJV-WOSG)
- ii. Analyze current RNAV arrival and departure procedures to determine necessity and feasibility of redesign. (AJT, AJI, AJV-WOSG)
- iii. Analyze current RNAV arrival and departure procedures to determine necessity and feasibility of redesigning Class B airspace. (AJI, AJV-WOSG)

Status: Ongoing

Completion Date: TBD

d. Speed Brakes:

- i. Study the potential reduction and/or elimination of the use of speed brakes and conduct a track analysis to determine flight characteristics, utilizing the Aviation Safety Information Analysis and Sharing (ASIAS) database. (MITRE CAASD)
- ii. Work with stakeholders to determine feasibility of reducing the use of speed brakes and other surface controls over land.

Status: Ongoing

Completion Date: TBD

e. Runway Usage:

- i. Study the feasibility of increasing the use of Runway 10. (AJT)
- ii. Study the feasibility of increasing the use of RWY 01 for Departures (AJT). Study the feasibility of proceduralizing the 050 departure heading off RWY 01 at night. (AJT)
- iii. Study the necessity of extending nighttime operations at SFO. According to the SFO Standard Operating Procedure, the preferred Runway for operations between 0100 and 0600 local time is departing Runway 10 and landing Runway 28. (AJT)

- iv. When weather conditions permit, study the increase in use of the Shoreline 7 Departure off RWY 28R or 28L. (AJT, AJV-WOSG)

Completion Date: TBD

f. Instrument Flight Procedures (IFP):

- i. Study the feasibility of creating new transitions for the NIITE departure for airports to southbound destinations. (AJV-WOSG)
- ii. When weather operations permit, study the use of the Shoreline7 departure off of Runway 28R or 28L. (AJT, AJV-WOSG)
- iii. Study the use of offset visual approaches in lieu of straight in visual approaches. (AJT, AJV-WOSG)
- iv. Study the usage of GAP departure. (AJT, AJV-WOSG)
- v. Study whether international and domestic aircraft are handled the same by Air Traffic Control (ATC). (AJT, AJV-WOSG)
- vi. Study the feasibility of increasing the use of the SSTIK departure during the day and the NIITE departure at night. (AJT, AJV-WOSG)

Completion Date: TBD

g. Opposite Direction Operations (ODO): Operational changes related to ODO may have increased noise concerns at night in certain locations.

- i. Review recent implementation of ODO procedures and their impacts in the San Francisco Bay area. (AJT, AJI)
- ii. Assess potential options for night operations. (AJT, AJI)

Completion Date: TBD

3. Traffic Management

Planned Action: The Western Deputy Director of System Operations, on behalf of the Air Traffic Director of Operations, will work with the Western Service Center and local facilities to evaluate the actions and suggestions below. During the analysis, the focus will be on use of traffic management tools and initiative to ensure current practices are as effective and efficient as possible for the potential reduction of noise concerns.

a. Equitability: Concentration of noise should be reviewed, especially during nighttime operations.

- i. Review the current nighttime operations to determine if they adequately address preferential Runway usage. (AJT, AJV-WOSG)

NOTE: According to the SFO Standard Operating Procedure, the preferred Runway for operations between 0100 and 0600 local time is departing Runway 10 and landing Runway 28.

- ii. Evaluate the effect of dispersing flight tracks over a wider range or developing multiple parallel RNAV procedures. (AJT, AJV-WOSG)

Completion Date: TBD

b. Interactions and agreements: Facility agreements between Northern California TRACON (NCT), Oakland Air Route Traffic Control Center (ARTCC) (ZOA), and Los Angeles ARTCC (ZLA) might be amended to reduce the need for off-course vectors and speed adjustments to potentially reduce noise concerns in certain locations.

- i. Review facility agreements for possible changes to aircraft set up and sequencing. (AJT, AJV-WOSG)
- ii. Review facility agreements to ensure they are effective and efficient with regard to routing and speeds. (AJT, AJV-WOSG)

Completion Date: TBD

c. Time Based Flow Management (TBFM): The use of TBFM to enhance sequencing may reduce the need for off course vectors and speed adjustments and may reduce noise concerns in certain locations.

- i. Review the current and projected status of using TBFM procedures. (AJT, AJV, AJR)
- ii. Review the impact of using TBFM on current noise issues. (AJT, AJV, AJR)

Completion Date: TBD

d. Nighttime Offloads/Routes: Communities want a focus on reducing noise concerns at night.

- i. Review nighttime operations. (AJT)
- ii. Review cargo flight operations to determine if previous actions have adequately addressed all issues. (AJT)
- iii. Review utilizing the current Big Sur for late night cargo arrivals. (AJT, AJV-WOSG)
- iv. Review the current nighttime operations to determine if they adequately address preferential Runway usage. (AJT, AJV-WOSG)

NOTE: According to the SFO Standard Operating Procedure, the preferred Runway for operations between 0100 and 0600 local time is departing Runway 10 and landing Runway 28.

Completion Date: TBD

4. Operators:

Planned Actions: AJV will engage Airlines for America (A4A) and The International Air Transport Association (IATA) nationally to solicit perspective and input into defined issues. Operator involvement needs to be discussed, especially if the FAA does not utilize the roundtable concept to work issues with stakeholders. It is assumed that the Office of the Associate Administrator for Airports (ARP) would want some level of input or engagement as SFO should also be involved directly in these conversations.

- a. **Use of speed brakes:** Operators can focus on reducing the use of speed brakes. Pilots have the sole responsibility to determine when speed brakes should be used. (A4A, IATA)

Completion Date: TBD

- b. **Runway choices:** Operators may request more “fly friendly” Runways, especially at night, to reduce noise concerns in certain locations. (A4A, IATA, SFO)

Completion Date: TBD

- c. **IFP choices:** Operators can file “fly friendly” procedures, especially at night, to reduce noise concerns in certain locations. (A4A, IATA, SFO)

Completion Date: TBD

- d. **Nighttime Offloads/Routes:** Communities want a focus on reducing noise concerns at night. (A4A, IATA, SFO)

Completion Date: TBD

- e. **Early Turns:** Operators can assist ATC in ensuring as much as possible of a flight is over water versus over land by not requesting early turns on course. (A4A, IATA)

Completion Date: TBD

- f. **International air carrier execution of Optimized Profile Descents (OPDs):** AJV will reach out to IATA to discuss and get input and perspective on this issue. (IATA)

Completion Date: TBD

5. Community Engagement

- a. **Community Forums:** Addressing noise concerns in a densely populated and operationally complex area like Northern California is best done in a forum (such as existing and/or new roundtables) that includes community leaders and is supported by the FAA and Bay Area Airports. (AWP, AGI)
- b. **San Carlos Airport:** Apart from the efforts described in this report, there are TBD conversations with communities around the airport that are concerned about the increase in flights and noise. (AWP)

Phase two: Modifications and Review

Based on the outcome of the initial analysis, feasibility and coordination, modifications may be made to the proposed procedures and/or airspace or operating procedures using the guidance found in current FAA Orders, directives and labor agreements which includes conducting the Environmental Review; Safety Risk Management (SRM); and appropriate public outreach.

Completion Date: TBD

Phase three: Implementation

Based on the outcome of the modifications and review phase and assuming the proposed procedure(s) meet the purpose and need, as well as all applicable environmental laws and requirements, the controller workforce and operators will be trained/briefed on any operational or procedural changes before publication and operational use.

Completion Date: TBD

DRAFT

Appendix B: FAA Tasking Letter



U.S. Department
of Transportation
**Federal Aviation
Administration**

MAR 8 2016

Ms. Margaret Jenny
President
RTCA, Inc.
1150 15th Street NW
Suite 910
Washington, DC 20036

Dear Ms. Jenny:

The FAA has made great progress in reducing the number of people around airports that are exposed to significant aircraft noise. Nevertheless, there is an increasing level of public debate, political interest, and litigation related to aircraft noise. Public expectations with respect to noise exposure are changing. While noise levels might be the same or less due to quieter aircraft, the simple volume and concentration of flights over communities (particularly related to NextGen implementation) seems to be shaping perceptions. Dialogue with congressional and community representatives has highlighted a need to review engagement processes and associated guidance materials.

The FAA has initiated several efforts in response to noise concerns. We are developing a Community Involvement Plan for performance based navigation (PBN) to proactively identify and address community concerns during PBN projects and before PBN flight procedures are finalized. The plan also addresses more effective communication of the purpose and potential impacts of PBN projects. Improvements in how outreach is conducted for procedure changes include: early outreach to airport authorities for help in identifying local environmental sensitivities; improved responses and documentation of communication with external individuals and groups; and greater executive-level, in addition to staff-level, interaction when initiating outreach to airport authorities.

Several months ago, the FAA received several detailed, technical suggestions from organized public noise groups involving procedural and/or operational changes proposed to address community noise concerns in Northern California principally associated with operations in and out of San Francisco International Airport (SFO). The FAA was given this information through various political representatives who have continued to engage on behalf of their constituents in the SFO area. The focus of the proposals was in Santa Cruz, Santa Clara, San Mateo, and San Francisco counties. FAA committed to analyze the proposed actions and determine if they are initially feasible, flyable, and operationally acceptable from a safety perspective. The FAA will complete Phase 1 of this initiative and has committed to briefing its findings at the end of March. Phase 2 will likely utilize the PBN Order to do the formal development activities for those procedure proposals determined as feasible in Phase 1. Phase 3 will be the implementation of the procedures from Phase 2 above, as well as the

implementation of other feasible non-procedural proposals. FAA intends to work Phases 2 and 3 with the airport, communities and operators through the SFO Roundtable.

The FAA requests that the TOC Western Regional Task Group (WRTG) perform the following tasks:

Task 1 – Review the six specific suggestions in Section 4 (4a through 4f) of the attached draft of the NorCal Initiative Plan and provide operator feedback on the impact of these specific suggestions. Feedback may be in the form of neutral, negative or positive feedback.

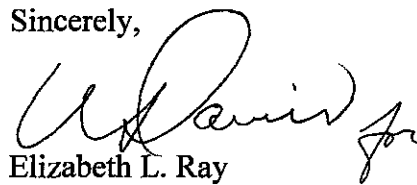
Task 2 – Feedback will describe impacts (if any) and rationale.

Task 3 – Provide any additional ideas/recommendations which might better help address community noise concerns.

Completion of these tasks will provide the FAA with help to inform better decision making moving forward. The FAA will provide subject matter experts as needed to support these tasks.

FAA would like the information/recommendations noted above by March 29, 2016.

Sincerely,



Elizabeth L. Ray
Vice President, Mission Support Services
Air Traffic Organization

Appendix C: Members of the Western Regional Task Group

Rune Duke, Aircraft Owners and Pilots Association
Melissa McCaffrey, Aircraft Owners and Pilots Association
Lynae Craig, Alaska Airlines
Toby Miller, American Airlines, Inc.
Michael O'Brien, American Airlines, Inc.
Brian Townsend, American Airlines, Inc.
Tim Stull, American Airlines, Inc.
Mark Hopkins, Delta Air Lines, Inc.
David Vogt, Delta Air Lines, Inc.
L.A. "Jake" Bailey, Federal Aviation Administration
Joe Bert, Federal Aviation Administration
DeAnna Bridenback, Federal Aviation Administration
Tom Cawley, Federal Aviation Administration
Kenneth Fox, Federal Aviation Administration
Lenore Marentette, Federal Aviation Administration
David Meeker, Federal Aviation Administration
William Ruggiero, Federal Aviation Administration
Kim Stover, Federal Aviation Administration
Warren Strickland, Federal Aviation Administration
James Taylor, Federal Aviation Administration
Adam Thorstensen, Federal Aviation Administration
Maclovio Varner, Federal Aviation Administration
Glen Wilhelm, Federal Aviation Administration
Dan Allen, FedEx Express (Chair)
Phil Santos, FedEx Express
Kevin McKennon, Horizon Air
Jeffrey Miller, International Air Transport Association
Bill Murphy, International Air Transport Association
John Martin, JetBlue Airways
Sandra Park, Mesa Airlines
Mark Prestrude, National Air Traffic Controllers Association
Trin Mitra, RTCA, Inc.
Allan Lisonbee, SkyWest Airlines
Perry Clausen, Southwest Airlines
Kevin Coon, United Airlines, Inc.
Bill Cranor, United Airlines, Inc.
George Ingram, United Airlines, Inc.
Glenn Morse, United Airlines, Inc.
Jim Hamilton, United Parcel Service
Jay Warren, Virgin America



U.S. Department
of Transportation

**Federal Aviation
Administration**

Mission Support Services
800 Independence Avenue, SW.
Washington, DC 20591

March 29, 2016

Ms. Margaret T. Jenny
President
RTCA, Inc.
1150 18th Street, NW
Suite 910
Washington, DC 20036

Dear Ms. Jenny:

The Federal Aviation Administration (FAA) issues temporary flight restrictions (TFR) pursuant to Title 14, Code of Federal Regulations, Part 91, General Operating and Flight Rules. A TFR is an airspace prohibition implemented for a specified amount of airspace, on a temporary basis, in order to provide protection to persons or property in the air or on the ground. TFRs are issued via the Notice to Airmen (NOTAM) System.

TFR NOTAMs are constructed according to guidance in FAA Order 7930.2, NOTAMS, and International Civil Aviation Organization agreements. The format used is rigid to ensure data can be interpreted and processed in the same manner for all NOTAMs. However, there are several issues which users have identified regarding the issuance of TFRs: the NOTAM text is not user-friendly; third party vendor automation often depicts graphical TFRs incorrectly; data provided by the FAA is not always suitable for Direct User Access Terminal Service vendors; and the FAA's website contains a disclaimer that it is not for flight planning purposes.

The FAA and users have identified several key areas that need to be addressed. These issues include, but may not be limited to:

- A need for a standard method for TFR data to be transmitted for the consistent development of TFR graphics, including a consistent format of TFR NOTAM text that will allow accurate graphical depictions;
- An online definitive (authoritative) source for all current TFRs and known future TFRs;
- The need to determine whether the disclaimer about TFR graphics can be removed from the FAA website allowing the information to be used for flight planning;
- The need to provide the TFRs' valid times, including sporting events, Presidential, and others;
- The need to reclassify, chart, or publish permanent TFRs including: the Washington Special Flight Rules Area, speed restrictions near Washington, D.C., and the Disney locations;
- Other possible methods to make the TFR NOTAM text more user-friendly.

As key stakeholders in this issue, I am asking for your assistance in clarifying the issues associated with TFR issuance and in developing solutions to improve the content and delivery of TFR information to aviation stakeholders.

The FAA requests that the TOC perform the following tasks and respond to the FAA with recommendations within 6 months:

Task 1 - Use broader expertise and data to clarify and validate issues associated with TFRs and recommend solutions.

Task 2 - Recommend policy regarding an online authoritative source for TFR content and use of TFR information for flight planning purposes.

Task 3 – Develop an associated set of business rules around what can be disseminated; to whom the data should be disseminated; standardization of the format; graphical depiction; and means of dissemination.

Completion of these tasks will provide the FAA with a clearer insight into what the industry values and help us to make better informed decisions moving forward. The FAA will provide subject matter experts as needed to support these tasks.

Sincerely,

A handwritten signature in cursive script, appearing to read "E. Ray for".

Elizabeth L. Ray
Vice President, Mission Support Services
Air Traffic Organization