

December 27, 2017

Dear Forum Participant

Attached are the minutes of the Aeronautical Charting Forum, Instrument Procedures Group (ACF-IPG) meeting 17-02 held on October 24, 2017. The meeting was hosted by the Aircraft Owners and Pilots Association (AOPA) at their Frederick, MD conference center. An office of primary responsibility (OPR) action listing ([Attachment 1](#)) and an attendance listing ([Attachment 2](#)) are appended to the minutes.

Please note there are briefing/presentation slides inserted in the minutes as PDF files, indicated with a highlighted "slide", as discussed during the Forum. All are asked to review the minutes and attachments for accuracy and forward any comments to the following:

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The Flight Procedure Standards Branch's web site contains historical information relating to ongoing activities including the ACF-IPG, and the home page can be viewed at https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs400/afs420/acfipg.

This site contains the historical minutes of past meetings as well as a chronological history of open and closed issues to include: the original submission; a brief synopsis of the discussion at each meeting; the current status of open issues; required follow-up action(s); and the OPR for those actions. There is also a link to the ACF Charting Group web site. We encourage participants to use these sites for reference in preparation for future meetings.

ACF meeting **18-01** is scheduled for **April 24-26, 2018** with MITRE as host. ACF meeting **18-02** is scheduled for **October 23-25, 2018** with host Pragmatics.

Please note that **meetings begin promptly at 8:30 AM**. Dress is business casual. Forward new agenda items for the 18-01 ACF-IPG meeting to the above addressees not later than April 10, 2018. A reminder notice will be sent.

We look forward to your continued participation.

John Bordy, Flight Standards Service
Co-Chairman, Aeronautical Charting Forum,
Chairman, Instrument Procedures Group

AERONAUTICAL CHARTING FORUM (ACF)
MEETING 17-02 October 24, 2017
HOST: Aircraft Owners and Pilots Association (AOPA)

1. **Opening Remarks:** John Bordy, Flight Standards co-chair of the Aeronautical Charting Forum (ACF), and Chair of the Instrument Procedures Group (IPG), opened the meeting at 8:30 am on Tuesday, October 24, 2017. The Aircraft Owners and Pilots Association (AOPA) hosted the meeting at their Frederick, MD facility.

2. **AOPA Welcoming Comments:** Rune Duke, AOPA, provided welcoming comments on behalf of AOPA. The group was very appreciative of AOPA's willingness to host the Forum and for the outstanding facilities.

3. **Introductions:** Attendees introduced themselves and whom they represented. A sign in roster was circulated and a listing of attendees is included as [attachment 2](#).

4. **Review of Minutes from Last Meeting, ACF 16-02:** Steve VanCamp, Flight Procedure Standards Branch, (Pragmatics - Contract Support), briefed that the minutes of ACF-IPG 16-02, which was held on October 25, 2016, were electronically distributed to all attendees and contacts on the ACF Master Mailing List on December 8, 2016. ACF 17-01 was not held, but the number was retained for future reference (to maintain continuity if a history search of an issue is conducted). There were no changes submitted, and the minutes were accepted as distributed.

5. **Informational Briefings:**

a. **Status of 8260-Series Orders:** John Bordy (Flight Procedure Standards Branch), briefed ([VIEW](#)) the current status of 8260-series orders and provided a synopsis of recent changes to each order.

(1) Order 7910.5D, Aeronautical Charting Forum. Last issued December 2016 and included changes to formatting, the audience, policy related to the preparation of ACF minutes, and other editorial changes.

(2) Order 8260.3D, US Standard for Terminal Instrument Procedures (TERPS). This draft is currently being coordinated externally and will primarily update the ILS final and missed approach criteria to align more fully with LPV final and missed approach criteria ([VIEW](#)). Other changes include requirements for STAR deceleration, precipitous terrain evaluations, and a relaxation of visibility restrictions based on the availability of parallel taxiways. During this update, Rune Duke (AOPA) inquired about the status of the Vertical Guidance Surface (VGS) as described within the current Order 8260.3C since that version indicates the VGS was supposed to be applied to non-vertically guided approach procedures beginning in October 2017. John stated that application of VGS to non-vertically guided approach procedures has been delayed indefinitely to allow Flight Standards time to validate the impact of the VGS on existing approach procedures and to ensure the VGS is the appropriate surface to use. John stated publication of Order 8260.3D will not cause the VGS to be applied towards non-vertically guided approach procedures until these actions are completed by Flight Standards.

(3) Order 8260.19H, Flight Procedures and Airspace. This version was published July 2017 with changes to magnetic variation tolerances, which was increased from 3 degrees to 5 degrees.

Instrument flight procedure (IFP) NOTAM policy was removed from the order since earlier this year it was incorporated into FAA Order 7930.2, Notices to Airmen (NOTAM). The next iteration of this order (8260.19I) is currently being drafted with and should be published in 9-to-12 months.

Note: After this meeting of the ACF, Flight Standards started the process to issue Change 1 to Order 8260.19H; this change impacts Flight Standards only and will not be coordinated externally. The change will shift instrument flight procedure waiver/approval authority and approval of special instrument procedures from the Flight Technologies Division to the Division's Flight Procedure Implementation and Oversight Branch. This change is expected to be published by February 2018.

(4) Order 8260.26F, Establishing Submission Cutoff Dates for Instrument Flight Procedures. Change 1 to this order was issued in May 2017 to correct dates in the timetable.

(5) Order 8260.46F, Departure Procedure Program. Last issued in December 2015. A new version (i.e., Order 8260.46G) should be seen in external coordination in approximately 60 days. The draft version being coordinated clarifies Top Altitude requirements, remover requirement to document detailed list of takeoff obstacles from FAA Form 8260-15B for SIDs and adds a requirement to always document takeoff obstacles on FAA Form 8260-15A.

(6) Order 8260.58A, US Standard for PBN Instrument Procedure Design. Change 1 was issued March 2017, added advanced RNP to all sections. Draft Order 8260.58B in progress, and will add RNP-AR departure criteria and incorporate Order 8260.42B, US Standard for Helicopter Area Navigation (RNAV). Expected publication is late 2018.

b. ATC "Do Not Chart" holding patterns (ACF #99-02-218): John Bordy (FAA Flight Procedure Standards Branch), briefed ([VIEW](#)) this as an awareness issue. ATC requested Order 8260.19 language be added to allow the option to not chart missed approach holding on the plan view. John discussed an example ([VIEW](#)) and some possible issues ([VIEW](#)), asking if these should be allowed. Gary Fiske (AJT-24) responded ATC may not ever intend the missed approach aircraft to hold or that the charted pattern may overlap other airspace, adding if the pattern is coded but not charted that is a flaw in system and Air traffic may not know that procedure is there. Rich Boll (NBAA) said that if procedure is documented on FAA Forms 8260-2/3/5 it will then show up in the pilot data base. When asked by John, Gary said that even though the aircraft will probably never get to the holding pattern there is no harm in publishing it. Discussion followed on lost com procedures and that the holding pattern does exist even though not charted (when coded). The question in a data driven world becomes what is the graphic the pilot will see, which leads to a possible disconnect. This is a rare situation, and John will discuss this internally within Flight Standards and possibly take to the US-IFPP. Tony Lawson (Aeronautical Information Services) will research exactly how many of these are in the NAS (how big of an issue). John will brief the next ACF-IPG on the issue.

c. Proposal to remove airport names from 8260 series forms: John Bordy (FAA Flight Procedure Standards Branch), briefed ([VIEW](#)) a proposal to remove airport names from IFP 8260-series forms. Currently, airport names are contained on the forms, which requires an amendment to every procedure at the airport whenever an airport changes its name. By removing airport names from these forms, the FAA will avoid the need to amend procedures in the future resulting in significant savings in both time and costs. The new form (shown) will include the airport's unique assigned identifier, so it's believed that inclusion of the airport's name isn't really needed. Ted Thompson (Jeppesen) said some other notification method will be needed to show the name change and there is possibly a NOTAM issue to be considered, but this is a good step. Valerie Watson (Aeronautical Information Services) said the NFDC should pre coordinate a change like this, and added Aeronautical Information Services charting agrees with the proposal. John said this is an initial feasibility presentation of the idea and more work will

be needed including possibly other similar items for removal. Steve Szukala (Aeronautical Information Services) commented the majority of their work is procedure maintenance and they are looking at non-TERPS related data changes that do not impact the actual procedure. John will brief the next ACF on the issue.

d. ICAO Instrument Flight Procedures Panel (IFPP) Committee Report: John Bordy (FAA Flight Procedure Standards Branch), briefed ([VIEW](#)) how the ICAO IFPP operates and who the participating US members are. Some issues being discussed by the IFPP include conventional NAVAIDS depiction, renaming and moving significant points, ATS routes and navigation specifications for routes (possible U.S. impact later), charting requirements, adding transitions to SIDs and STARs (U.S. allows transitions but ICAO does not), visual segment surface mitigations (similar to our visual surface), PBN to xLS, GBAS CAT II/III, and RNP AR design.

6. Old Business (Open Issues)

a. 07-02-278: Advanced RNAV (FMS/GPS) Holding Patterns Defined by Leg Length. John Bordy (Flight Procedure Standards Branch) briefed the AIM language was published in April 2017. The group agreed this item could be closed.

Status: Item Closed.

b. 12-01-299: Loss of CAT D Line of Minima in Support of Circle-to-Land Operations. John Bordy (Flight Procedure Standards Branch), informed the group that the policy memo that was issued in December 2014 indicating its FAA policy to accommodate category C and D minimums to the maximum extent possible is still in effect and similar language will be added to draft Order 8260.43C, Flight Procedures Management Program. The draft order is in internal coordination and should be seen in external coordination soon, with publication anticipated in approximately six months. Rich Boll (NBAA) mentioned that there still appears to be a problem in getting category D minimums published at certain locations. John said if anyone is aware of problems then please forward those instances to him so they can be investigated to determine why category D minimums weren't published. Rich mentioned he had not yet seen a draft of the relevant language within the draft Order 8260.43C that will address this issue. John took an action to see if it's possible to provide the relevant excerpt from the draft Order 8260.43C to both NBAA and AOPA so they can review the language.

Action Items: John Bordy will inquire within Flight Standards to determine if it's possible to provide relevant excerpts from draft Order 8260.43C to both NBAA and AOPA.

Status: Item will remain open until the 8260.43C is published.

c. 12-01-301: Publishing a Vertical Descent Angle (VDA) with 34:1 Surface Penetrations in the Visual Segment also includes issue 13-01-309. Rich Boll (NBAA), briefed ([VIEW](#)) there are two primary purposes in changing the AIM; the first is to emphasize that VDA on non-precision approaches are advisory, and the second is to explain why a VDA might be included on a chart when not included in source and how it may end up in a data base. Rich discussed the draft guidance on the slide as shown, with group comments on each. John Bordy (Flight Procedure Standards Branch), said this guidance would be sent to both Flight Standard' Flight Operation Branch and AIR-6B1 for review. The next AIM cut-off is March 29, 2018, with publication Sept 2018. Rich added comment is requested on the language from ACF participants (not necessarily the final version). Ted Thompson (Jeppesen) said the effort in last 20 years was to provide as many non-precision approaches as possible with advisory VDAs

with ARINC 424 coding, adding that Jeppesen did that down to MDA. Rich also discussed ([VIEW](#)) the BIH RNAV(GPS) Y RWY 12 approach, noting in the chart profile view there is a visual segment obstacle note, which means somewhere there is an obstacle which flight inspection was concerned about. However, there is also a stipple, indicating the 34:1 visual segment (and thus the 20:1) is clear, which is confusing. Rich would like resolution on these two charting standards prior to issue closure (only publish one of the two). John suggested it's possible the obstacle that flight inspection was concerned about was not contained within the database that was used to evaluate the approach procedure. John Bordy and Tony Lawson (Aeronautical Information Services) took an action to research how this can occur and provide feedback at the next ACF.

Action Items:

John Blair will review proposed AIM language.

John Bordy to provide draft AIM language to IPG participants to solicit comments.

John Bordy and Tony Lawson will research how it's possible for flight inspection to determine that no VDA should be published, yet the procedure chart still includes a stipple.

Status: Item will remain open.

d. 13-02-312: Equipment Requirement Notes on Instrument Approach Procedures.

John Bordy (FAA Flight Procedure Standards Branch), briefed changes were added to Order 8260.19H (published in July 2017), which expanded guidance related to equipment requirement notes. See paragraph 8-6-8 of Order 8260.19H for the new content. In addition, Aeronautical Information Services completed a charting specification to support the new equipment/PBN requirements box on an approach procedure. After publication, it was determined the new guidance didn't fully address "hybrid" procedures, which are a mix of both conventional and PBN (e.g., an ILS approach with a PBN initial approach segment). Implementation of Order 8260.19H is currently on hold for hybrid type procedures until requirements can be determined and guidance developed to ensure equipment and PBN requirements can be clearly conveyed to pilots. Joel Dickinson (Performance Based Flight Operations Branch) then provided a conceptual briefing ([VIEW](#)) related to PBN requirement notes. The concept he has been working on is intended to standardize information on procedure charts. Some examples of the front of the TPP were discussed, showing the format as: NAVSPEC first, then a required sensor, then a required function, then the minimum RNP. Valerie Watson (Aeronautical Information Services) discussed how to differentiate these items, such as punctuation, and a lengthy discussion ensued on the pros and cons of various delineations (lines, semi-colon, colons, parentheses, slashes, words, etc.). Rich Boll (NBAA) inquired about training on the new format (once established). Joel said there will be explanatory guidance issued, adding he will look at what ICAO is doing and this work was generated by the PARC three years ago. John Bordy asked Joel how to move forward, and it was decided that specific comments on the presentation should be sent directly to Joel.dickinson@faa.gov. John Moore (Jeppesen) said the ICAO did work on this for years and that their movement is towards a single NAVSPEC on a procedure. He asked Joel when the FAA decided to include multiple NAVSPECS on a procedure and how that got coordinated. John Moore expressed a concern that foreign operators who are used to a single NAVSPEC will fly here and see multiple NAVSPECS. In addition, John Moore expressed a concern that charting formats should be under the purview of Aeronautical Information Services and not a Flight Standards entity.

Action Items:

John Bordy will post the slide presentation on the IPG website and solicit comments to be forwarded to Joel Dickinson.

Joel Dickinson will continue to develop PBN requirements notes.
Joel Dickinson will solicit and review comments as requested above.

Status: Item will remain open and new developments briefed at next IPG.

e. 14-01-315: 90-Degree Airway-to-RNAV-IAP Course Change Limitation; Arrival Holds. John Bordy (FAA Flight Procedure Standards Branch), briefed this item discussed at the US-IFPP and a working group subsequently met to discuss the issue. It was determined Flight Standards has no desire to change the conventional 120-degree limitation. Flight Standards believes over time the differences between RNAV and conventional procedures will be reduced as RNAV procedures become more common and conventional procedures get replaced. Rich Boll (NBAA) showed ([VIEW](#)) the BIH RNAV(GPS) Y RWY 12 and discussed procedure entry (or lack thereof) and his belief that as more RNAV procedures are added, the 90-degree limitation will reduce procedure entry capabilities. John indicated he believes there is no desire by Flight Standards to allow turns greater than 90 degrees for RNAV. Rich believes the RNAV procedure design technique needs to consider placement of fixes on airways so as to minimize the elimination of procedure entry restrictions. John and Tony Lawson (Aeronautical Information Services) indicated they could look into the specific design issues with the BIH RNAV (GPS) Y RWY 12 procedure to see if the entry limitations could be eliminated and provide an update via email. AJV-5 will look at any specific design issues on this specific procedure. John reiterated the FAA is not going to look at conventional requirements changes. Tony mentioned initial layouts normally come from the RAPT checklists. John indicated he would look into policy related to how checklists are developed (specifically related to the identification of IAF locations and design guidance) and determine if improvements areas could be identified to increase availability of procedure entries. Rich asked if the IFPP could provide a formal response on why it's not possible to increase the 90-degree limitation for RNAV turns.

Action Items:

John Bordy and Tony Lawson will look at any specific design issues on the BIH RNAV (GPS) RWY 12 procedure to determine if redesign could improve procedure entry and provide an update via email.

John Bordy to determine if design guidance is needed to assist both the RAPT and procedure designers in locating fixes on airways.

John Bordy will ask the chair of the US-IFPP (Thomas Nichols) to provide a response to Rich on why it's not possible to increase the RNAV 90-degree turn limitation.

Status: Item will remain open and an update on actions provided at next ACF.

f. 14-01-316: RNAV Fixes on Victor Airways Used for RNAV SIAPs. John Bordy (Flight Procedure Standards Branch), advised Order 8260.19H (page 2-27) guidance was published in July 2017. He recommended this item to be closed; no objection was voiced by the group.

Status: Item Closed.

g. 15-01-320: Common Sounding Fix Names. John Bordy (Flight Procedure Standards Branch), briefed there were several outstanding IOUs from the last meeting. The first was for Valerie Watson (Aeronautical Information Services) to find out if the FAA is running out of pronounceable five-character fix names; she responded that NFDC assured her that we are not running out of names. Gary Fiske (AJT-24) asked why we are permitting fix names to be created with consonants only, particularly since we are not running out of names. Tony Lawson

(Aeronautical Information Services) said they pull from a list of available names, and Gary added some projects (such as Metroplex) request site specific related names. Thompson (Jeppesen) said pronounceability/lack-of is the root of the issue. Two examples were cited by the group; PLFMD and CHRCL. The group was able to determine that both of these fixes are site specific, and thus the pronunciation might only be obvious locally. PLFMD near Charleston, SC sounding like "Pluff Mud" and CHRCL being near Louisville, KY sounding like "Churchill" (as in Churchill Downs). John asked if we need a policy that prohibits the request of certain names to reduce issues like these. Rich Boll (NBAA) said when NorCal put out their list of fix names several years prior they had to also publish a sheet on pronunciation. Valerie agreed to take an action to consult with NFDC management to determine if the list of pronounceable names includes fixes without vowels and to see what their policy is to ensure the names they issue are pronounceable. Gary asked if NFDC or AJV-5 is vetting fix names that are specifically requested. Lev Prichard (ALPA) asked what is being done about common sounding fix names (as opposed to pronunciation); John responded that we will also query NFDC as to whether or not there is a process to compare and eliminate fix names that sound similar to others. Ted suggested VOLPE has done research on this and should be consulted. Gary reviewed the resolution of the identified names from the original issue (ATL procedures gone and at DFW one name changed and other in progress) and added he has received no new similar problems. Gary is not aware of any open issues remaining. Lev stated awareness and education needs to increase to prevent these issues from happening again. John indicated he would look to see if there are any policy improvements that can be made to avoid these issues and indicated he would explore what the FAA can do to increase awareness and education on this issue to help avoid repeat issues.

Action Items:

Valerie Watson to research if the list of pronounceable names includes fixes without vowels and to see what NFDC policy is to ensure the names they issue are pronounceable
John Bordy will engage with PBN office (STAR development) and Metroplex developers (through Tony Lawson) to enhance awareness of this charting forum issue.
John Bordy to determine if policy (e.g., Order 8260.19) could be enhanced.

Status: Item will remain open until above actions are completed and the ACF-IPG is updated as to the status.

h. 15-01-321: Coding of Missed Approach for ILS RWY 31L and ILS RWY 31R at KJFK. John Bordy (Flight Procedure Standards Branch), briefed these procedures have been revised to remove the maximum altitude restrictions within the missed approach segments and emphasized any procedures with such restrictions are non-standard and require waivers approved by Flight Standards. Rich Boll (NBAA) brought up another procedure which appears to also have a maximum altitude restriction prior to the missed approach clearance limit ([VIEW](#)), TEB RNAV(RNP) Z RWY 19. Rich indicated the maximum altitude; however, is coded improperly as a minimum altitude restriction. This example indicates there may be a systemic problem so John took an action to research.

Action Items: John Bordy to determine if a systemic problem exists in the NAS by identify all locations where a maximum altitude restriction is present within the missed approach and to determine if (1) a waiver to standards was granted, and (2) determine if the altitude is coded correctly.

Status: Item will remain open until above action is complete and can be reported to the ACF-IPG.

i. 15-02-323: Depiction of Low, Close-In Obstacles on SIDs & ODPs. Valerie Watson (Aeronautical Information Services) stated an IAC Requirements Document (RD) was processed to remove charting of obstacle notes on SIDs and to amend the front matter of the TPP related to the negative T symbol (trouble T) so that it now simply indicates the airport is published in the “Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors)” section of a TPP. With the completion of this RD, the charting aspect of moving forward to remove takeoff obstacles from SIDs is now complete. Valerie also mentioned that the airports can now be searched electronically which completes the action item that was due from Krystal Behrns (Aeronautical Information Services). John Bordy (Flight Procedure Standards Branch), briefed Order 8260.46G draft will remove language requiring procedure designers to annotate all take off obstacles for SIDs. A new development is that all takeoff obstacles must be annotated on FAA Form 8260-15A, which will ensure all takeoff obstacles will be published in the “Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors)” section of a TPP. There will be no changes related to the depiction of obstacles on graphic ODPs, that is, graphic ODPs will continue to have takeoff obstacles charted on the graphic ODP. John Blair (Flight Operations Branch) advised draft AIM language is out for coordination and should be published next cycle (August 2018). For the interim, he advised information related to the removal of takeoff obstacles from SID charts has been published as a graphic notice in the Notices to Airmen Publication.

Action Items:

John Blair will track status of the AIM change and report back at the next ACF-IPG.
John Bordy will track Order 8260.46G changes and report back at the next ACF-IPG.

Status: Item will remain open until AIM and Order 8260.46G are published.

j. 16-01-324: SID/STAR Naming Policy. John Bordy (Flight Procedure Standards Branch) stated the initial language that was originally proposed for Order 8260.19H was removed (i.e, not published) per agreement at the last ACF/IPG. Rich Boll (NBAA) indicated this item could be closed. John indicated any future issues should be worked on a case by case basis rather than by policy, and therefore recommend this item be closed. No objection was received from the group regarding closure of this item.

Status: Item Closed.

k. 16-01-325: Priority of Terminal Procedure Amendments. John Bordy (Flight Procedure Standards Branch) stated draft Order 8260.43C is in internal coordination, with some language on prioritization. John indicated this change may not directly address the original issue, which is related to long-standing STAR NOTAMs that don't have a corresponding amendment scheduled within the FAA's work plan. It appears a process needs to be developed to ensure a STAR procedure amendment project is scheduled whenever ATC issues a NOTAM affecting a STAR and that NOTAM is intended to change the STAR permanently. John asked Bennie Hutto (NATCA), who is assigned to the PBN office, if they could work together to identify improvement opportunities to the STAR NOTAM and STAR procedure amendment process to ensure NOTAMs aren't active for extended periods of time. This will require coordination with the Service Area Flight Procedure Teams as well. Rich Boll (NBAA) said the original item was brought by an altitude revision on a STAR and the time cycle to address the issue needs to be more rapid. Rich recommended “slots” be allotted within the production cycle so STAR revisions (particularly those tied to large projects) could be addressed/amended rapidly. Rich said we are still allowing temporary NOTAM (T-NOTAM) to exist for 224 days, and then cancelling and reissuing them to reset the 224-day allowance for T-NOTAMs. John indicates that FAA policy is

that T-NOTAMs are not to be canceled and reissued; however, Rich indicated it is happening because slots aren't allotted to amend the STARs. John stated we're still not sure what the process is to add projects to amend STARs, but acknowledged we need to fix the process to reduce long-standing NOTAMs. Rich asked if it's possible to include STARs within the permanent NOTAM (P-NOTAM) process; John agreed to look into this. Gary McMullin (Southwest Airlines) concurred with Rich's suggestion to include STARs in the P-NOTAM process to reduce the number of long-standing NOTAMs. Bennie mentioned the term "P-NOTAM" is used in Order 8260.19H; however, that term is not used in Order 7930.2R; John agreed to research.

Action Items:

John Bordy will inquire if it's possible to provide relevant excerpts from draft Order 8260.43C to the NBAA.

John Bordy and Bennie Hutto will work jointly on STAR NOTAM process improvements to ensure STAR NOTAMs generate a timely project to amend the STAR.

John Bordy will research the P-NOTAM history to determine the feasibility of expanding it towards STARs (currently they are limited to ODPs and approach procedures).

John Bordy will research usage of the term "P-NOTAM".

Status: Item will remain open.

I. 16-01-326: FAA Order 8260.46F, "Top Altitude" Charting Constraints. John Bordy (Flight Procedure Standards Branch), showed a ([VIEW](#)) containing draft Order 8260.46G changes (red text). Gary Fiske (AJT-24) discussed the history of the ATC policy on the limit of two top altitudes per SID (versus two per airport). The concern is too many altitudes can lead to confusion and misapplication of clearances. Bennie Hutto (NATCA) said they have no issue with two altitudes per SID procedure but prefer individual charts for each airport like the FAA publishes (which would also reduce chart clutter). Gary said no action has occurred within the ATO to change the current top altitude policy. John opined if issue should remain open, and Valerie Watson (Aeronautical Information Services) said only if ATC wants. Ted Thompson (Jeppesen) discussed their products and how they combine procedures (example is Houston with 20), and said individual airport charts would be a huge undertaking. Rich Boll (NBAA) asked if a temporary accommodation would be for facilities to use "Top altitude as assigned by ATC" as a third option (in addition to two specific top altitudes)? Gary questioned this, and group discussion followed on the issue. John asked what more can be done related to instrument procedure policy and what the next step is. Gary said the draft Order 8260.46G language of two top altitudes per SID procedure works for ATO. John asked the group who this doesn't work for? Bennie responded that this doesn't work for NATCA. John suggested that the ATO and NATCA needs to get together to resolve this and that perhaps this need not be an ACF issue. Gary and Bennie recommended the ACF carry the issue one more cycle to allow time to coordinate with each other. Valerie wondered if the draft language note could be misinterpreted to mean two altitudes per airport; John will review.

Action Items:

Gary Fiske and Bennie Hutto will have further discussions and report back at next ACF.

John Bordy will review draft note and clarify as needed.

Status: Item Open.

m. 16-02-327: Arrival Holding Patterns Required for Approach Entry. Rich Boll (NBAA) briefed the results of the working group meetings ([VIEW](#)), held over the past year. The working group concluded policy already prohibits use of arrival holding patterns in lieu of hold-in-lieu procedure turns, but the group did recommend an expanded use of arrival holding patterns where a hold-in-lieu is not possible (for example, at an initial or feeder fix). These recommendations will require changes to Order 8260.19, to which Rich displayed draft language that would be consistent with the recommendations. Rich noted the establishment of procedure turns is limited by the 14 CFR Part 97.3 definition, indicating they are used for establishment on an intermediate or final segment only (therefore not a feeder or initial segment). The working group rejected the idea of coding arrival holding patterns as part of the procedure because it could be misconstrued as authorizing a pilot to fly the arrival holding pattern without specific authorization from ATC. Rich displayed draft AIM/AIP language that could be used to support the expanded use of arrival holding patterns. Rich stated the working group rejected the recommendation to allow an arrival holding pattern to be flown without specific ATC authorization. Rich presented two chart note examples that could be used to support the expanded use of arrival holding patterns and presented some examples of the notes on charts; Rich indicated the working group could not decide between the two notes. John suggested ACF-IPG participants review the slides and forward comments. Rich said if the 90/120-degree angle issue is not addressed there will be more of these, and again requested input or any other ideas. John stated it would be a good idea to introduce these suggestions to the US-IFPP in January.

Action Items:

Rich Boll to collect comments received regarding the working group recommendations, particularly with the proposed AIM/IPH language and the two notes under consideration. John Bordy will introduce the recommendations to the US-IFPP in January, 2018 and obtain feedback from that group.

Status: Item will remain open.

n. 16-02-328: Increasing Complexity of Speed Restriction Notes on SIDs & STARs. John Bordy (Flight Procedure Standards Branch), briefed this issue has two parts: The first is related to departure procedures, which are governed by Order 8260.46. Draft changes to Order 8260.46G ([VIEW](#)) to help standardize speed notes have been added to the order which should be in external coordination shortly. STARs are partially governed by Order 8260.19; therefore, speed notes related to STARs will be addressed within draft Order 8260.19I with an expected publication of late 2018. Developments on both orders will be address at the next ACF-IPG.

Editor's note: Additional recommendations will be added from ACF-IPG new (closed) agenda item 17-02-332

Action: John Bordy will report on the status of changes to Order 8260.46G and 8260.19I.

Status: Item Open.

7. New Business (New Agenda Items)

a. 17-02-329: Need for Computer Navigation Fix (CNF) at Terminus of a Dead Reckoning (heading) Segment. Rich Boll (NBAA), briefed that the FAA no longer provides ARINC coding for procedures; it is up to the data base providers to provide coding based on the design of the procedure and how particular systems fly procedures. With the recent publication of Order 8260.19H, the FAA also removed the requirement to establish and publish a computer

navigation at the point where a dead reckoning segment on an instrument approach terminates (i.e., intersects the point where positive course guidance is provided). The Rich showed examples ([VIEW](#)) of CNF fixes. Rich stated that without a CNF fix, the only way to code a DR segment is as a course to intercept leg; however, some RNAV systems unable to accommodate a course to intercept leg. If the RNAV system can't accommodate a course to intercept leg, then the pilot is forced to manually change modes (heading mode to course intercept then back to approach mode) whereas with a CNF the aircraft could stay on an RNAV path until course intercept. Rich stated the belief that inclusion of a CNF would not conflict with the FAA's desire to avoid telling manufacturers how to code instrument procedures, rather it is a request to provide a waypoint (CNF) to assist in aligning the aircraft with the final approach course. Rich would like the policy that was removed from Order 8260.19H to be returned so that the establishment of a CNF would once again be required at a DR legs termination point (on a conventional approach procedure). John Bordy (Flight Procedure Standards Branch) stated the requirement was removed since the only reason it was firstly established was to support coding, which the FAA is no longer providing. He also stated DR segments are adequately evaluated for both flyability and obstacle clearance purposes. Rich concurred this is not a TERPS issue, but the inclusion of a CNF would make the procedure easier to fly. John asked the group for their opinion and many positive comments were received indicating their support for the recommendation as a means to reduce pilot workload. There was a discussion on whether or not the government needs to provide a fix on the procedure, or if it's possible for data providers to code their own fix. Ted Thompson (Jeppesen) stated CNFs were originally used to support the GPS overlay program and added that Jeppesen has the capability to create their own CNFs but would prefer the FAA provide them. John Moore (Jeppesen) cautioned about changing policy without thinking about unintended consequences. John Bordy indicated we aren't committing to anything, but Flight Standards is open to having an internal conversation related to this recommendation. Rune Duke (AOPA) indicated AOPA fully supports this recommendation. Lev Prichard (APA) indicated he supports this recommendation as well. Ted Thompson stated an added benefit of government provided CNF fixes is that they enhance chart-database consistency. John Moore questioned why the FAA should be compelled to provide a CNF fix on an ILS procedure and believes we (the FAA) need to be able to answer that question before changing policy.

Action Item: John Bordy will discuss issue internally with Flight Standards and report back on developments at the next ACF-IPG.

Status: Item accepted.

b. 17-02-330: Climb Gradients for Standard Instrument Departures (SIDs). Gary McMullen (Southwest Airlines) briefed ([VIEW](#)) an issue related to the difficulty of pilots being able to determine if published crossing altitude restrictions on SIDs can be met when an associated climb gradient (CG) isn't published. Gary stated pilots are expected to meet all restrictions on a SID; however, without a published climb gradient, pilots don't have enough information available to them to ensure they are able to meet crossing restrictions. Gary indicated that unlike STAR, there is no VNAV path available to a departing aircraft, and that the pilots are using speed and thrust settings to climb to their assigned altitude. Gary stated that pilots understand climb gradients and can determine if they can or cannot meet a properly charted climb gradient; however, the FAA doesn't allow ATC climb gradients to be charted. Gary showed two example SIDs, the EMMTT 4 from Dallas Love and the TERPZ 6 from Baltimore. He explained these SIDs included crossing restrictions that were not flyable without using additional thrust, which is something they can't do on a daily basis. Gary stated some recommendations, to include the reversion of policy to require the publication of ATC related climb gradients on SIDs. John Bordy (Flight Procedure Standards Branch) said a similar issue

was submitted to the PARC Navigation Working Group in 2015 and asked if there was any progress. Gary said the issue was a very low PARC priority; he sees no way to elevate it so brought issue back to ACF for action. Al Herndon (MITRE) said when the PARC VNAV action team was incorporated into the PARC Navigation Working Group, this issue was not included so it doesn't exist in the PARC anymore. Gary recommended convening a working group to discuss the issue and develop a resolution, adding there are other smaller related issues that can be looked at. Rich Boll (NBAA) stated that the NBAA agrees with Gary's proposals; however, they are concerned with having only one climb gradient designed to meet every case since there is a large diversity of NBAA member aircraft. Rich then briefed ([VIEW](#)) the NBAA views on this issue, and in particular the difficulty of defining what a climb gradient really is. He discussed how there's no clear definition of a flight path in a takeoff phase other than an engine-out scenario, and; therefore, no data is available to the pilot for all engines operating. Rich discussed how it's possible to meet charted altitude restrictions; however, it's also possible for the aircraft to occasionally dip below the vertical plane associated with a climb gradient during certain climb segments. Rich stated aircraft can normally determine compliance in staying above the plane associated with a climb gradient at altitudes 1500-3000 feet above the airport elevation; however, it becomes more difficult at higher altitudes. Rich stated airlines have performance engineers that can determine if SIDs are compatible with their operations; however, the NBAA members do not have the same capability and tools available to them. Rich recommend proposals to add AIM language to clearly define what a climb gradient is for both obstacle and ATC driven climb gradients. NBAA also proposes either allowing a single, all-encompassing climb gradient on a SID (but open to multiple climb gradients). Rich also agreed with Gary that we are putting restrictions on procedures that can't be met and so some method to objectively evaluate high climb gradients, or gradients at higher altitudes needs to be developed. Bruce McGray (Flight Operations Branch) said technical data may be necessary to make recommendations related to crossing restrictions and climb gradients. John Bordy asked if the ACF is the correct forum to address these issues and pointed out that a few years ago it was determined that it wasn't, therefore it was referred to the PARC. However, since the PARC isn't working the issue, we've gone full circle in considering this issue once again for the ACF. Rich stated this issue related to Order 8260.46; therefore, a TERPS issue, and therefore the ACF is the appropriate forum. Gary and Rich agreed to co-chair an ACF-IPG working group to address this issue. A signup sheet ([roster](#)) to participate in this working group was established. Please contact Gary or Rich to join the working group.

Action: Gary McMullen (SWA) and Rich Boll (NBAA) will co-chair an ACF-IPG working group on the issue.

Status: Item accepted.

c. 17-02-331: Visibility/Climb Gradient Requirements for Takeoff. Gary McMullen (Southwest Airlines) briefed ([VIEW](#)) an issue related to takeoff minimums. He began by showing two SIDs at Las Vegas (BOACH 8 and SHEAD 1) that have identical initial ground tracks, but significantly different takeoff minimums. Gary wanted to know why they are different and mentioned he queried the FAA but received no response as of yet. Gary also relayed a confusing situation that recently occurred whereby flight crews were unsure of whether or not they could depart from runway 9 in San Diego with visibility less than one mile. Gary proposed some recommendations related to the use of "standard" and "lower than standard if authorized" as well as other charting recommendations for consistency. Rich Boll (NBAA) clarified that visibility published on the back of page 10-9 (Jeppesen charts) is tied to the ODP and is separate from visibility published on a SID, adding this was a previous ACF item separating the minimums for separate types of procedures. Lengthy group discussion followed. John Blair

mentioned the government charts don't publish operation specification information on charts to avoid confusion. John Bordy (Flight Procedure Standards Branch) took an action to research the questions posed by Gary to Flight Standards on the visibility/climb gradient differences as shown in the example slides. Tony Lawson (Aeronautical Information Services) indicated the Las Vegas procedures were amended at different times, therefore they were evaluated with different information and will check on if there's a project plan to harmonize them. Ted Thompson (Jeppesen) discussed some company history and policies on publishing lower than standard visibility minimums for air carrier operations specifications on the charts. Ted mentioned they are looking at options to display differently the air carrier ops information internally.

Action Items:

John Bordy will research the specific questions raised by SWA and discuss the recommendations posed by Gary internally.

Tony Lawson will research if there's a project to harmonize the takeoff minimums at Las Vegas runway 1R.

Status: Item accepted.

d. 17-02-332: Confusing Speed Restriction Notes on SID/STAR Charts. Gerry O'Sullivan (ALPA) briefed ([VIEW](#)) an issue related to speed restrictions on STARS. He began by showing a speed note on the FLOSSI 3 STAR (Newark, NJ) appears to authorize a deviation to the 14 CFR Part 91.117 rule that prohibits speeds in excess of 250 knots below 10,000 feet MSL. Gerry discussed the magenta color of the speed note on the Jeppesen produced chart; John Bordy (Flight Procedure Standards Branch) said government charts do not use color. Ted Thompson (Jeppesen) said they publish speed notes from source, and use magenta color if the speed restriction applies to the entire procedure. John said the same note is on the FAA source. John indicated the ACF-IPG is not the proper forum to discuss Jeppesen charting standards; however, the other ALPA recommendations related to speed restrictions could be addressed through the already open ACF-IPG item 16-02-328 (Increasing Complexity of Speed Restriction Notes on SIDs & STARS). Bennie Hutto (NATCA) said he is unsure of what the speed note on the FLOSSI STAR was intended for and indicated he would research. No objection to combining this issue with ACF-IPG item 16-02-328 was voiced; therefore, this item will be combined into it.

Action Items:

The recommendations on this item will be moved to open ACF-IPG agenda item 16-02-328. Bennie Hutto (NATCA) will research the history/intent of the FLOSSI STAR from the designers.

Status: Item to be incorporated into 16-02-328.

8. NEXT MEETINGS

ACF 18-01 is scheduled for April 24-26, 2018, host MITRE.

ACF 18-02 is scheduled for October 23-25 2018, host Pragmatics.