

July 5, 2018

Dear Forum Participant

Attached are the minutes of the Aeronautical Charting Forum, Instrument Procedures Group (ACF-IPG) meeting 18-01 held on April 24, 2018. The meeting was hosted by the MITRE, at their McLean, VA 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" or "VIEW", 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 AFS-420 web site contains historical information relating to ongoing activities including the ACF-IPG, and the home page is located at:

https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs400/afs420/acfig.

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 **18-02** is scheduled for **October 23-25, 2018** with AOPA as host. ACF meeting **19-01** is scheduled for **April 23-25, 2019** with host TBD.

We look forward to your continued participation.

John Bordy, FAA/AFS-420
Co-Chairman, Aeronautical Charting Forum,
Chairman, Instrument Procedures Group

**AERONAUTICAL CHARTING FORUM (ACF)
MEETING 18-01 April 24, 2018
HOST: MITRE Corp
Meeting Minutes**

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, April 24, 2108. MITRE Corp hosted the forum at their McLean, VA headquarters.
2. **MITRE Welcoming Comments:** Al Herndon, MITRE, provided welcoming comments on behalf of MITRE. The group was very appreciative of MITRE's willingness to host the Forum and for the outstanding facilities.
3. **Introductions:** Attendees introduced themselves and their organizations. A sign in roster was circulated and a listing of attendees is included as [attachment 2](#).
4. **Review of Minutes from Last Meeting, ACF 17-02:** Steve VanCamp, Flight Procedure Standards Branch, (Pragmatics - Contract Support), briefed that the minutes of ACF-IPG 17-02, which was held on October 24, 2017, were electronically distributed to all attendees and contacts on the ACF Master Mailing List on December 27, 2017. 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 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. There is a governmental initiative to reduce certain types of meetings, however this meeting will continue. Under review is a possible name change for the forum and a review of the requirements for providing notification of upcoming meetings within the Federal Register.
 - (2) Order 8260.3D, U.S. Standard for Terminal Instrument Procedures (TERPS). Published in February 2018; primary effort was aligning ILS and LPV evaluation standards. (About 90% accomplished). Change 1 in progress (anticipate publication late 2018) with emphasis on departure procedures.
 - (3) Order 8260.15E, U.S. Army Terminal Instrument Procedures Services. Revision in progress, with coordination between the U.S. Army and Aeronautical Information Services (AJV-5).
 - (4) Order 8260.19H, Flight Procedures and Airspace. Change 1 to be published soon. The changes were strictly editorial so did not go out for external coordination. Change 2 draft should be developed soon, with the emphasis to clarify equipment and PBN requirements notes,

and other minor changes requested by AJV-5 for procedure development (no impact for external organizations).

(5) Order 8260.46F, Departure Procedure Program. Last issued in December 2015. Draft Order 8260.46G is in external coordination now; changes include removal of references to ARINC coding, clarification on top altitudes, removal of takeoff obstacles from SID charts, etc.

(6) Order 8260.58A, US Standard for PBN Instrument Procedure Design. Change 1 published March 2017, and Change 2 expected by the end of the year. One goal is the incorporation of helicopter criteria (which would then cancel Order 8260.42), and the other is adding RNP-AR departure criteria.

Mike Clayton, Air Force Flight Standards Agency (AFFSA) inquired about Order 8260.32E, U.S. Air Force Terminal Instrument Procedures Service, and John Bordy (Flight Procedure Standards Branch) advised John Lindsey (Flight Procedure Standards Branch) is the POC. Mike indicated some editorial changes are needed, so John Bordy suggested submitting issues directly to John Lindsey or by introducing a new item at the next US Instrument Flight Procedures Panel (US-IFPP) meeting in June. Bennie Hutto, National Air Traffic Controllers Association (NATCA), said even though Order 8260.19 changes were editorial in nature, NATCA would have liked to have seen the Order in coordination. NATCA wanted to request some changes to keep the order aligned with Air Traffic Order updates. John Bordy suggested those items should be raised in various groups that are currently ongoing (such as the US-IFPP departure or STAR working groups) or as new items for the US-IFPP in June. John Bordy demonstrated how to register with the FAA to receive notifications of updates to Flight Standards orders and notices. (link shown in slide)

b. ATC “Do Not Chart” holding patterns (ACF #99-02-218): John Bordy (FAA Flight Procedure Standards Branch), briefed ([VIEW](#)) no work has been accomplished for this item since the last meeting, adding there are only a few in the NAS. John will be introducing this to the US-IFPP as a new agenda item in June. The intent will be to ask the US-IFPP if policy should continue to allow air traffic control (ATC) facilities to continue being able to determine whether or not missed approach holding is charted on an approach procedure. The FAA will also identify locations that currently do not have charted missed approach holding patterns and query the ATC facility if they can be depicted. (ACF concurrence at 17-02 was it is desirable to show all of these).

c. Proposal to remove airport names from 8260 series forms: John Bordy (FAA Flight Procedure Standards Branch), briefed ([VIEW](#)) the intent is to move forward in Order 8260.19 change 2 to delete airport names from procedure design forms such as FAA Form 8260-3, 8260-5, and 8260-15. Drafting work on the verbiage should start in a few weeks. This change could occur early 2019 timeframe. John displayed examples of what the current forms look like and what the new forms would look like with the airport names removed.

d. International Civil Aviation Organization (ICAO) IFPP Update: John Bordy (FAA Flight Procedure Standards Branch), briefed ([VIEW](#)) ICAO IFPP initiatives. ICAO is in the process of changing procedure naming from RNAV to RNP, however the U.S. is not changing. Reuben Jonker, Nav Canada, added they are still deciding, but generally follow the U.S. due to proximity. John said ICAO has some PBN to ILS initiatives, which the U.S. supports. RNP-AR

criteria are being developed by both the U.S. and ICAO. ICAO has some ATS route naming issues but not affecting U.S.

6. Old Business (Open Issues)

a. 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 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 in draft Order 8260.43C, Flight Procedures Management Program. A draft excerpt of the language was shown ([VIEW](#)).

Action Items: John Bordy will advise on status of publishing Order 8260.43C.

Status: Item open.

b. 12-01-301: Publishing a Vertical Descent Angle (VDA) with 34:1 Surface Penetrations in the Visual Segment *also includes issue 13-01-309.* John Blair (Flight Operations Branch) ([VIEW](#)) displayed draft Aeronautical Information Manual (AIM) language developed in conjunction with Rich Boll, National Business Aviation Association (NBAA). The intent of the draft AIM addition is to fortify that VDAs are advisory only, and to explain that a database provider may calculate and provide a VDA even though one isn't charted. John Blair indicated the draft language is currently being coordinated internally within the FAA for comment and noted its focus is on FAA publications as opposed to how commercial charting entities address VDAs. A lengthy discussion followed, with one commenter indicating that perhaps the language isn't strong enough (i.e., in providing a warning about obstacles below minimum descent altitude) to which Rich responded that the displayed language only represented a small portion of the current VDA language in the AIM. Another commenter was concerned about data houses continuing to provide VDAs even though the FAA themselves weren't charting them; it was suggested that was a separate issue perhaps best addressed by certification. John Collins (GA pilot) felt the last paragraph addressed higher end aircraft equipment, and since the AIM is used more by GA pilots, the intended audience may be missed. Michael Stromberg (UPS) and Valerie Watson (Aeronautical Information Services) noted the paragraph does state clearly "...the VDA is advisory only and does not provide obstacle protection below the MDA", and do not see the need for different language. It was agreed that the draft language would be made available to everyone in attendance and that comments should be directed directly to John Blair. John Bordy (Flight Procedure Standards Branch) also addressed the stipple issue brought up by Rich at the last meeting (*Note: The stipple is the shaded extension of the glide path depiction in the profile view of an RNAV procedure and is intended to indicate the 34:1 visual surface is free from obstructions.*) John explained that stipples can be charted even where Flight Inspection has directed the VDA to be removed because the two policies have no direct linkage. The 34:1 is determined to be clear or not by evaluation of obstacles within the procedure designer's database, whereas removal of VDA can often be a subjective call by the Flight Inspector. This issue will be referred to the US-IFPP to firstly determine whether stipples should continue to be published, and if so, if there should be policy to remove stipples for those procedures where Flight Inspection directs a VDA to be removed.

Editor's Note: Proposed AIM language sent to all ACF 18-01 IPG participants in attendance via e-mail on 04-25-2018 soliciting comment for John Blair NLT 05-08-2018.

Action Items:

- John Blair will look at feedback from the 04-25-2018 email and review proposed AIM language.
- John Bordy will present a new agenda item for the US-IFPP on stipple usage.

Status: Item open.

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

Joel Dickinson (Performance Based Operations Branch) provided an update on progress related to developing the long-term concept for performance based navigation (PBN) notes on instrument flight procedures. The PBN notes will indicate the required navigation specification and sensor required to fly the procedure (or certain segments of the procedure) and indicate any additional capabilities that may be required (for example, RF turns). This effort is rooted in a recommendation from the Performance-based Operations Aviation Rulemaking Committee (PARC) to standardize notes and add them to all PBN instrument flight procedures. Joel indicated that when the notes and format are finalized, there would be corresponding guidance in the legend of the Terminal Procedures Publication and expanded AIM and Instrument Procedures Handbook information. Joel stated the original PARC recommendation was for PBN notes to be annotated on all PBN instrument procedures, but somehow SIDs and standard terminal arrival (STAR) procedures were not included in the FAA's initial efforts, so Joel is working to correct that. Rune Duke, Aircraft Owners and Pilots Association (AOPA), said there are some existing procedures with notes that aren't clear. Valerie Watson (Aeronautical Information Services) added they are receiving P-NOTAMs and amendments for PBN requirements notes on these type procedures also. Joel confirmed these are on hold awaiting corresponding guidance publication. John Collins (GA pilot) discussed PBN codes as used when filing flight plans, and Joel concurred some line up and others do not, adding that is part of the effort. John Collins added that when designating some codes, ARTCC ERAM computers will give the authority to some aircraft to fly procedures their equipment is not capable of. Ken Holden, U.S. Army, added the note "RNAV-1" must be linked to a sensor (leads to question should TAA be RNAV-1). Joel reiterated the effort is to standardized terminology (meaning) and format (presentation) and how it will look to the pilot. John Bordy (Flight Procedure Standards Branch) mentioned change 2 to Order 8260.19 will clarify existing PBN note requirements to, particularly ILS procedures that incorporate PBN segments (i.e., hybrid procedures). Michael Stromberg (UPS) asked if examples would be available, and Joel said yes. Gary McMullen, Southwest Airlines (SWA) said they would like to take examples back for review by management. Many members of the group indicated they want to see proposed changes before any decisions are made as there are concerns related to ICAO harmonization, format, PBN box content, and the language that is intended for the AIM and IPH. Joel solicited volunteers to hold a group meeting for further PBN Requirements Notes discussions ([List](#)).

Action Items:

- Joel Dickinson will hold a meeting to discuss the issue with identified participants.
- Joel Dickinson will mature the concept and provide a further update at the next meeting.

Status: Item open.

d. 14-01-315: 90-Degree Airway-to-RNAV-IAP Course Change Limitation; Arrival Holds. John Bordy (FAA Flight Procedure Standards Branch) briefed this item was discussed at US-IFPP 18-01 and closed. John indicated the FAA does not intend to increase permissible turns for RNAV procedure from a maximum of 90 degrees to a maximum of 120 degrees. He also indicated the FAA does not intend to reduce the maximum allowable turn for conventional procedures from 120 degrees to 90 degrees. The FAA believes over time the number of conventional procedures that include turns of more than 90 degrees will gradually reduce as the VOR infrastructure is reduced and as PBN procedures become more commonplace.

Action Items: AFS-420 management will send an explanatory note to Rich Boll (NBAA) on the rationale to not pursue the issue.

Status: Item closed.

e. 15-01-320: Common Sounding Fix Names. John Bordy (Flight Procedure Standards Branch) briefed on two action items: adding language to draft Order 8260.19I for awareness of common sounding fix names with procedures; will meet with PBN office on possible language changes during initial planning process for awareness in Order 7110.41. Bennie Hutto (NATCA) advised this is a site development document. Lev Prichard (APA) said this has been a problem for a long time. When pilots identify issues they have no easy place to send them, and it can take two years to fix, so a method to identify during development would be preferable. Kevin Allen (AA) mentioned two specific fixes on the SFO SERFR3 arrival, NARWL and NRRLI (published for 6 months), and Bennie agreed this was a problem and is being fixed. Ted Thompson (Jeppesen) said the issue appears to be enunciation vs. spelling. Bennie talked about reviewing the entire procedure when completed looking at every waypoint. Gary Fiske (AJT-24) said one problem is the folks involved in the design phase move on to new projects prior to the new fix names being “plugged in” to the design, and similar sounding fix issues may not be seen with the final review. The group agreed this is part of the problem and not an easy fix. Valerie Watson (Aeronautical Information Services) added NFDC has no automated way to check for issues. Ethan Israel (MITRE) thinks an automated system could be feasible, and mentioned he would be interested in investigating further. Michael Stromberg (UPS) suggested as a start to avoid fixes on the same route (i.e., a STAR) beginning with the same letter if possible, and John said that intent could be added to procedure design policy. Gary Fiske suggested (John agreed) not allowing facilities to request specific fixes for convenience. John requested the identification of a point of contact within the Air Traffic Organization (ATO) that he could work with, along with the National Flight Data Center (NFDC) in finding a solution to this issue. Gary mentioned he will ask his management to identify an ATO POC for this issue. Lev mentioned that if a facility has an issue the problem is fixed within about six months, but if pilot identifies an issue it can often take 2-3 years for a solution. Rune Duke (AOPA) said in the last two months there have been four related Aviation Safety Reporting System (ASRS) reports. Rune asked about the routing of these reports, i.e., who is getting them and are they the right people to take action. John Barry (AIR-131) suggested the phonetic enunciation of a word must be standardized by a specific source, and must be scrutinized prior to using the fix name. Bruce McGray (Flight Operations Branch) asked if an ASRS representative belongs in any of the groups (CNS; PARC; ACF; etc.) and Gary Fiske (AJT-24) said they should be sent to FAA offices. John Bordy took an IOU to look into routing. Gary said all original items in the issue have been resolved. Lev want

an ATO POC established for similar sounding names as at least a temporary fix, and Rich Boll (NBAA) agrees with the need for a common reporting POC above the facility level.

Action Items:

- Gary Fiske to provide an ATO POC to assist in working this issue.
- John Bordy to work with the ATO POC and NFDC to try to find a resolution.
- John Bordy will look into routing issues for ASRS reports related to the issue.
- John will continue draft language work on Order 8260.19I and consider incorporating some discussed ideas.

Status: Item open.

f. 15-01-321: Coding of Missed Approach for ILS RWY 31L and ILS RWY 31R at KJFK. John Bordy (Flight Procedure Standards Branch) informed the group that the subject procedures at John F. Kennedy Intl airport were revised to remove the maximum altitude restrictions within the missed approach. John and Tony Lawson (AJV-5) researched the NAS to identify all procedures with a maximum altitude restriction in the missed approach and will determine a course of action for those procedures (either obtain waiver or amend). Gary Fiske (AJT-24) said this could be a coding problem when text is unclear, and John added that when waiver requests are being considered, the language of the missed approach instructions are scrutinized to ensure the intent of the procedure designer is clear. Rich asked if Order 8260.19 should contain language specifying missed approach instructions should be worded when they contain a maximum altitude restriction, and John said we normally don't include policy for non-standard procedure design (maximum altitudes in missed approach are non-standard). Rich then stated it would be possible then for different procedures (with maximum altitude restrictions) to have different language in the missed approach instructions to convey the restriction. John conceded evaluation of the missed approach instructions is subjective, but that he would talk to the manager of the branch responsible for approving waivers to see if Rich's concern about consistency can be addressed. John asked the group if they would like to keep this open or close this and report back at next meeting; the group concurred with issue closure.

Status: Item closed.

g. 15-02-323: Depiction of Low, Close-In Obstacles on SIDs & ODPs. John Bordy (Flight Procedure Standards Branch) advised the FAA is in process of removing the textual listing of takeoff obstacles from SIDs and instead placing all of them in the front of the TPP (obstacles will remain on graphic ODPs). John Bordy reported the IFPP's Departure Working Group is looking at ways to reduce the number of obstacles being charted as low, close-in obstacles. John mentioned part of the reason the number of low, close-in obstacle is growing is because of surveyors reporting more obstacles as opposed to the minimum number required by survey standards. One method being considered is to divide the initial climb area into sectors/zones, and only charting representative obstacles for each sector. John Bordy mentioned this work is ongoing and nothing has been decided as of yet. John Blair (Flight Operations Branch) said there is work on AIM language in progress. Enrique Sanabria (Port Authority NY/NJ) discussed that some listed obstacles may not exist anymore or may contain incorrect information. Enrique mentioned the Port Authority has an Obstruction Working Group for NY/NJ, and invited any interested airlines and aeronautical information providers to participate if interested. Enrique mentioned the challenges they face are often attributed to there being

multiple databases with slightly different information (such as elevation and coordinates). John Bordy also mentioned there is a Survey Working Group within the US-IFPP that is working on issues related to the recent survey data and issues related to the number of obstacles being reported through surveys.

Action Items: John Bordy will report on result of IFPP initiatives and the publication of Order 8260.46G.

Status: Item open.

h. 16-01-325: Priority of Terminal Procedure Amendments. John Bordy (Flight Procedure Standards Branch) stated this pertains to STARs that have long term NOTAMs, without a mechanism to generate an amendment to remove the NOTAM. A recent query showed approximately 40 STARs with a NOTAM over a year old (224-day limit on Temp NOTAMs applies), with some on procedures that do not exist anymore. There are permanent NOTAMs on STARs also which are not consistent with policy. Since STAR NOTAMs are issued by the ATO, John asked if there were any suggestions from ATO on how to remedy these issues. John suggested education is needed on NOTAM policy in Order 7930.2 and asked if there is a POC within the ATO that could be identified to assist with this issue. Gary Fiske (AJT-24) said the Airspace procedures office in the ARTCC would probably be where the responsibility would be. John said there are two issues: the 40 NOTAMs over a year old, and that these either need to be eliminated if no longer needed, or amendments to the procedures need to start. Awareness is needed throughout that once a NOTAM is issued that is intended to be of a permanent nature, then immediate action is required to get the procedure scheduled for amendment. Bennie Hutto (NATCA) agreed the existing process is not working even though facilities review NOTAMs daily. John said AJV-5 has a minor role in STARs, and Gary suggested using the OSG to clear existing STAR NOTAMs (determine if they are valid still). Bennie concurred. John will write Gary Fiske an e-mail outlining the problem, and Gary will take this e-mail to his management to push out to the service centers. John will call the service centers to inquire about initiating projects to clear existing identified STAR NOTAMs. John Bordy said an additional area of possible discussion is considering the use of P-NOTAMs on SIDs/STARs (questions on procedure naming and tracking) but that will be a longer term initiative.

Action Items:

- John will provide an e-mail to Gary Fiske outlining the problem, and Gary will take to his management to push out to the service centers.
- John will contact the service centers to look at the 40 identified NOTAMs and identify a path forward to clear them.

Status: Item open.

i. 16-01-326: Order 8260.46F, “Top Altitude” Charting Constraints. Gary Fiske (AJT-24) briefed the current Order 8260.46 allows no more than two top altitudes per procedure, and that Bennie Hutto (NATCA) put out a change initiator requesting that be changed. An internal FAA meeting was held looking for a path forward and to discuss what air traffic’s concerns were and how the FAA got to where we are now. Bennie said the meeting consensus was to allow the inclusion of an additional “or as assigned by ATC” top altitude option, which would not be counted as one of the two currently allowable top altitudes. In other words, the request is to allow up to two numeric altitudes and a third in the form of “or as assigned by ATC”. Order

8260.46G is in coordination, so changes may be too late (could be noted as a comment by the ATO reviewers), but John Bordy (Flight Procedure Standards Branch) will check with T.J. Nichols (Manager, Flight Procedure Standards Branch) and see if a change (via reacting to a comment) could be made without requiring a restart of the coordination process. If not, then John said he will brief the issue to the US-IFPP for consideration and change within Order 8260.46.

Action Items: John Bordy will check with TJ Nichols and see if a change (via comment) is possible without requiring a restart of the coordination process. If the requested change can't be included within Order 8260.46G, then John will refer this issue to the IFPP.

Status: Item open.

j. 16-02-327: Arrival Holding Patterns Required for Approach Entry. John Bordy (Flight Procedure Standards Branch) informed the group that the proposal to allow arrival holding patterns be used for procedure entry was briefed to the January meeting of the US-IFPP and was generally well received. However, at the US-IFPP the representative from Aircraft Certification expressed some concerns regarding RNAV holding in general, and was hesitant to endorse a policy change that could be interpreted as a new certification requirement. John suggested convening a meeting with Rich Boll (NBAA) and Aircraft Certification representatives. John Bordy will set up the meeting for their concerns. Rich said he had requested feedback and only Rune Duke (AOPA) had provided any. The two verbiage options ([VIEW](#)) for possible chart notes were provided by Rich and will be placed on the Instrument Procedures Group web site to solicit feedback.

Action Items:

- The two options provided by Rich are on the Instrument Procedures Group web site to solicit feedback.
- John Bordy will set up a meeting between Aircraft Certification and Rich Boll.

Status: Item open.

k. 16-02-328: Increasing Complexity of Speed Restriction Notes on SIDs & STARs. John Bordy (Flight Procedure Standards Branch) briefed Order 8260.46G is out for external comment with some language changes. These changes will be in Order 8260.19I (STAR policy), which has not been started yet (since effort is still on Order 8260.19H Change 2.) The effort will be to provide similar language to Order 8260.46, and provide a smaller set of specific examples on speed restriction notes.

Action: John Bordy will develop draft language for Orders 8260.19 and 8260.46.

Status: Item open.

l. 17-02-329: Need for Computer Navigation Fix (CNF) at Terminus of a Dead Reckoning (heading) Segment. John Bordy (Flight Procedure Standards Branch) briefed the practice of establish CNF fixes at the end of a dead reckoning segment was just recently terminated due to the FAA's desire to stop adding fixes solely for coding purposes. John indicated we are open to the idea even though this request appears to be contrary to the direction we intended to go. John stated this issue will be referred to the June meeting of the US-IFPP for action. Rich Boll (NBAA) then asked if CNF fixes will remain on ILS approach procedures

when serving as a final approach course fix (FACF) for coding purposes. Tony Lawson (Aeronautical Information Services) indicated those will remain when no intermediate fix is present on the ILS procedure.

Action Item: John Bordy will refer this item to the US-IFPP.

Status: Item open.

m. 17-02-330: Climb Gradients for Standard Instrument Departures (SIDs). Rich Boll (NBAA) briefed from a slide presentation the findings of a working group he co-chaired with Gary McMullin over the past several months. The first part was asking the FAA to require approval before publishing any ATC crossing altitude restriction that would require a climb gradient of more than 500 ft/NM. Rich mentioned this request has already been accepted and is currently included within the draft Order 8260.46G that is currently being coordinated. The main proposal would be to reintroduce the publication of climb gradients for ATC purposes. Rich gave a brief overview of history ([VIEW](#)) on publishing ATC and obstacle climb gradients (a previous ACF agenda item requested only publishing one gradient.) Rich informed the group that the FAA used to publish ATC climb gradients, but then ceased charting ATC climb gradients under the belief that they can be too onerous since they are calculated on a worst-case basis. Rich indicated climb gradient information is needed to help pilots determine whether a crossing altitude restriction can be met. The proposal is to once again chart ATC climb gradients on SIDs. Chart examples were shown and discussed. Rich said the working group's consensus is to establish a single climb gradient for obstacle clearance on SIDs and ODPs, and to annotate these as obstacle climb gradients. When ATC crossing altitude restrictions require a climb gradient on a SID, it is proposed to establish a single climb gradient that would allow compliance with all ATC restrictions. These climb gradients would be identified on the chart as ATC climb gradients. Rich explained how the aircrew should treat each climb gradient differently. An obstacle climb gradient should be treated as a plane that the aircraft cannot ever penetrate from above, that is, the aircraft must always remain above the climb gradient's surface. Conversely, an ATC climb gradient only represents the average gradient needed to meet the crossing restriction at the fix where it's established. In this case, the aircraft's altitude between the point where the climb starts and the point where the altitude restriction is established is not that important, provided the crossing is made at the fix at (or above) the minimum charted altitude. The purpose of the ATC climb gradient is to inform the pilot of the necessary performance needed to comply with the altitude restriction. The working group suggested that a SID should be limited to one obstacle climb gradient, and if necessary, one ATC climb gradient. Further, an ATC climb gradient and the associated crossing restrictions should be eligible for cancellation by ATC when not needed or when aircraft performance is limited. Rich indicated that if the proposal is accepted, then requisite guidance and information must be published in the AIM, Aeronautical Information Publication, IPH, and Instrument Flying Handbook. Rich mentioned how we already allow two climb gradients now, one for obstacles and one for LNAV engagement (when an early turn is necessary). For consideration, he suggested the possibility of establishing an assumption (through applicable guidance) that a 500 ft/NM climb gradient up to 500 feet above departure end of runway elevation be considered the norm, which would then negate the need to publish an LNAV engagement climb gradient (similar to our current 200 ft/NM assumption). Rich said this will have to go to the US-IFPP, but wanted ACF consensus prior. Rune Duke said AOPA supports this.

Action:

- Presentation ([slide #31](#)) is posted on the ACF web site for comment (request comments be directed to Rich Boll).
- John Bordy will introduce the topic to the June US-IFPP meeting for consideration.

Status: Item open.

n. 17-02-331: Visibility/Climb Gradient Requirements for Takeoff. John Bordy (Flight Procedure Standards Branch) provided an update on the issue related to different takeoff minimums for the same runway at Las Vegas. John firstly stated that Flight Standards believes there is sufficient guidance available related to the meaning of “lower than standard” takeoff minimums since that is controlled by operations specification. Gary McMullen (SWA) agreed no additional guidance/policy is expected. Regarding the different minimums on the Las Vegas BOACH and SHEAD SIDs, Tony Lawson (Aeronautical Information Services) advised the LAS RWY 1 BOACH and SHEAD SIDs will soon be amended. John mentioned the current difference is likely attributed to the procedures being evaluated at different times, without crosschecking impact on the other procedures to the same runway. John will explore possible policy language changes to look encourage consistency across the procedures when making amendments.

Action Items:

- Aeronautical Information Services will report on amendment efforts for the Las Vegas BOACH & SHEAD SIDs to harmonize the takeoff minimums.
- John Bordy will determine if there is any policy language needed to help ensure consistency in takeoff minimums for the same runway.

Status: Item open.

7. New Business (New Agenda Items)

a. 18-01-333 Special Authorization Category I (SA CAT I) and Special Authorization Category II (SA CAT II) Chart Note Change. Doug Dixon (Flight Operations Branch) presented the issue ([VIEW](#)) requesting the removal of the equipment specific chart notes for SA CAT I and SA CAT II, since the Ops specs will identify what is required. This will normalize them with CAT II and CAT III, which do not have the notes and rely on Op Specs, Mil-Specs or LOAs to show required equipment for an operator or aircraft. This will require changes to Order 8400.13 and Order 8260.19. This change would be day forward, probably during periodic procedure reviews with abbreviated amendments as workload allows. John Bordy (Flight Procedure Standards Branch) said since the ACF had no issue, he will present the proposal at the US-IFPP.

Action Items: John Bordy will present the issue at the US-IFPP.

Status: Item open.

b. 18-01-334 Charting PBN Requirement Box on RNAV DPs and STARs. Joel Dickinson (Performance Based Operations Branch) said the original PARC recommendation for PBN requirements was on all terminal procedures (SIDs, STARs and approaches). The guidance so far has been specific to approaches and we would like to expand to include RNAV SIDs and STARs, utilizing same format and verbiage. Ted Thompson (Jeppesen) liked the idea. Joel said

same implementation timelines as original PBN box, and John Bordy (Flight Procedure Standards Branch) said that would be after Order 8260.19 change 2 as part of the overall effort. Valerie Watson (Aeronautical Information Services) has draft IACC specifications done. Discussions on this issue will be included with the group formed in issue 13-02-312 (see minutes).

Action Items:

- Joel Dickinson will continue with effort, and solicited interest parties for the combined WG from issue 13-02-312.
- John Bordy will continue on draft language for Order 8260.19 and Order 8260.46.

Status: Item open.

c. **18-01-335** Discrepancy Between STAR and Approach Common Fix Speed and Altitude constraints. Jerry O’Sullivan, Air Line Pilots Association International (ALPA), briefed an issue raised by an ALPA member who is an Airbus pilot. A fix on the KSEA HAWKZ arrival ([VIEW](#)) is common to a fix on the ILS RWY 34L and 34R, however the fix (SONDR) has dissimilar altitude and airspeed constraints on each procedure. The HAWKZ indicates a mandatory crossing altitude restriction of 6000 feet at 230 knots, whereas the ILS procedures indicate an “at or above” 6000 ft altitude constraint without any speed restriction. Jerry said that in the Airbus, the constraint on the approach procedure will take precedence, thus the “at 6000 feet” and the 230 knot constraint will both drop out of the FMS. Tony Lawson (Aeronautical Information Services) stated criteria has changed to eliminate this in the future; however, it’s possible these procedures haven’t come up for amendment since then. John said the policy changed in 2017 to address this on a day forward basis, and existing procedures are being worked as reviewed. Gary McMullen (SWA) said hard matches at the common fix solve the problem. Jerry brought up another issue of different FMS equipment manufacturers handling data differently. John Barry (Aircraft Certification) said FMS manufacturers are not going to change their systems unless the MOPS change. He strongly encourages operators bring these very valid concerns about FMS box operations to the RTCA meetings and voice these concerns. The operators need to let the engineers know their concerns, and meeting information can be found on the RTCA web site.

Action Items: John Bordy (Flight Procedure Standards Branch) will see if it’s possible to move these procedures up for amendment to eliminate the discontinuity.

Status: Item open.

8. Next Meetings.

- a. ACF 18-02 is scheduled for October 23-25 2018, host AOPA in Frederick, MD.
- b. ACF 19-01 is scheduled for April 22-25, 2018, host TBD