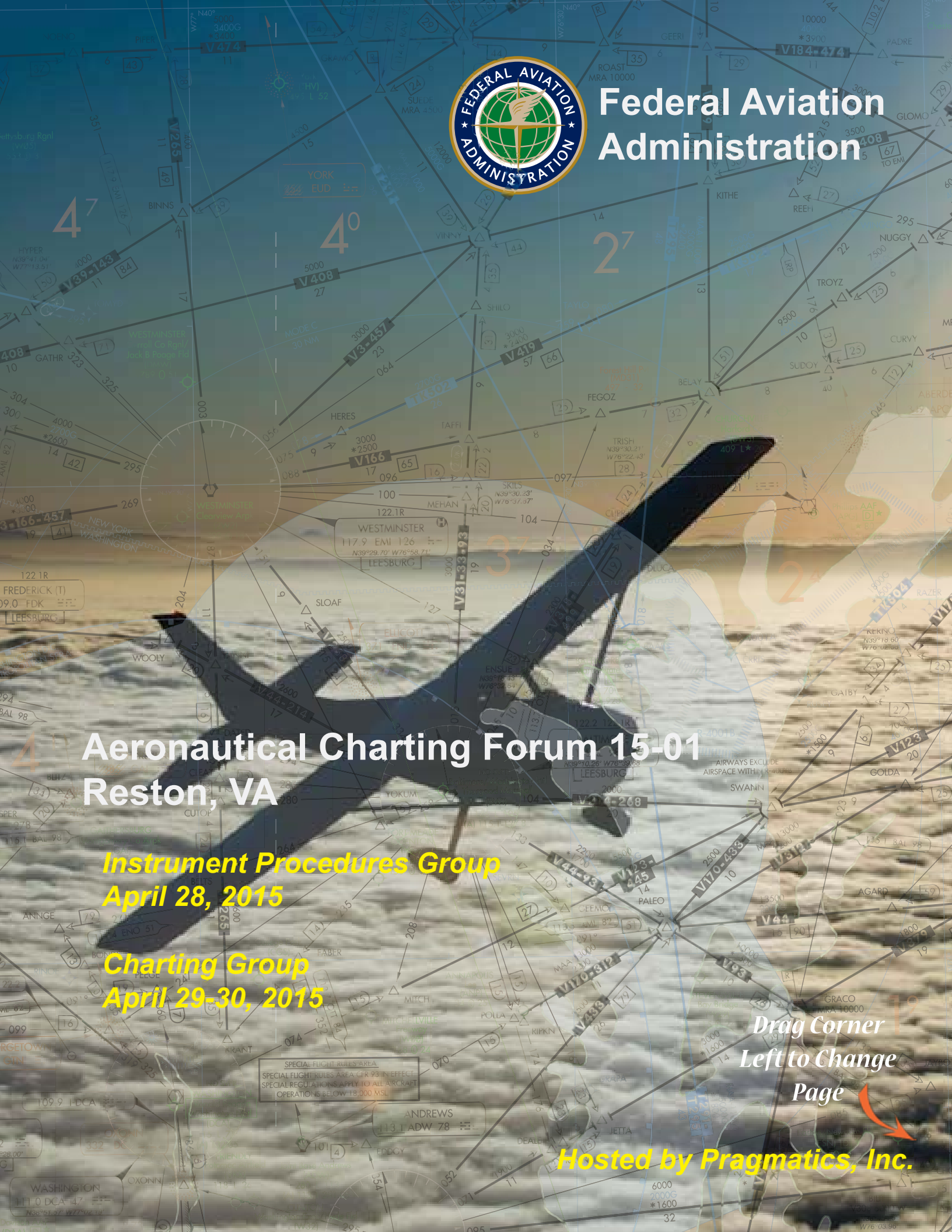

Federal Aviation Administration

Aeronautical Charting Forum 15-01
Reston, VA

Instrument Procedures Group
April 28, 2015

Charting Group
April 29-30, 2015

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Hosted by Pragmatics, Inc.

Instrument Procedures Group

AERONAUTICAL CHARTING FORUM (ACF)
MEETING 15-01 April 28, 2014
HOST: PRAGMATICS, INC.
1761 BUISNESS CENTER DRIVE
RESTON, VA 20190

INSTRUMENT PROCEDURES GROUP (IPG) AGENDA

I.	**OPENING REMARKS**		Tom Schneider
II.	**PRAGMATICS WELCOMING COMMENTS**		Tim Strutzel
III.	**REVIEW MINUTES OF LAST MEETING, ACF 14-02**		Steve VanCamp
IV.	**BRIEFINGS**	ACF-IPG Web Site - Update SAIB	Tom Schneider Kevin Bridges

V.	**OLD BUSINESS (Open Issues)**		**OPR**
	92-02-110	Cold Station Altimeter Settings	AFS-405/420/470 AJV-344
	02-01-241	Non-radar Level and Climbing Holding Patterns	AJV-8
	07-01-270	Course Change Limitation Notes on SIAPs	AFS-420 John Collins
	07-02-278	Advanced RNAV (FMS/GPS) Holding Patterns Defined by Leg Length	AFS-420/470 Joshua Fenwick
	09-02-291	Straight-in Minimums NA at Night	AFS-420 (US-IFPP)
	10-01-292	Removal of the Visual Climb Over Airport Option on Mountain Airport Obstacle Departure Procedures	AJV-823
	10-01-294	RNP SAAAR Intermediate Segment Length and ATC Intervention	AFS-420
	11-02-298	Converging ILS Coding and Chart Naming Convention	AFS-410/420
	12-01-299	Loss of CAT D Line of Minima in Support of Circle-to-land Operations.	AFS-420 (US-IFPP)
	12-01-301	Publishing a Vertical Descent Angle (VDA) with 34:1 Surface Penetrations in the Visual Segment	AFS-420 AJV-344 Joshua Fenwick

13-02-312	Equipment Requirement Notes on Instrument Approach Procedures	AFS-410
14-01-315	90 Degree Airway-to-RNAV-IAP Course Change Limitation: Arrival Holds	AFS-420 (US-IFPP)
14-01-316	RNAV Fixes on Victor Airways Used for RNAV SIAPs.	AJV-344
14-02-317	Use of GPS on Conventional (Ground-Based NAVAID) Instrument Approach Procedures (IAPs)	AFS-470
14-02-318	Charting LNAV Engagement Altitudes	AFS-420

VI. NEW BUSINESS (New Agenda Items)

		SPONSOR
15-01-319	Removal of the Epoch Year documentation on 8260-series FAA Forms.	AFS-420
15-01-320	Common Sounding Fix Names	APA
15-01-321	Coding of Missed Approach for ILS31L and ILS31R at KJFK	APA
15-01-322	Charts for SID, STAR, and OPD do not provide accurate information for filing a flight plan in many cases.	John Collins

VII. NEXT MEETINGS

ACF 15-02 is scheduled for October 27-29, 2015, hosted by Lockheed Martin, Crystal City, VA.

ACF 16-01 is scheduled for April 26-28, 2016, hosted by TBD.

December 12, 2014

Dear Forum Participant

Attached are the minutes of the Aeronautical Charting Forum, Instrument Procedures Group (ACF-IPG) meeting held on October 28, 2014. The meeting was hosted by Pragmatics, Inc, 1761 Business Center Drive, Reston, VA. An office of primary responsibility (OPR) action listing (Atch 1) and an attendance listing (Atch 2) are appended to the minutes.

Please note there are briefing slides inserted in the minutes as PDF files shown as stickpins. 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 information relating to ongoing activities including the ACF-IPG. The home page is located at:
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs420/acfipg/
This site contains copies of minutes of the past several meeting 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 **15-01** is scheduled for **April 28-30, 2015** with ALPA, Inc., Herndon, VA as host.
ACF **15-02** is scheduled for **October 27-29, 2015** with Lockheed Martin as host.

Please note that **meetings begin promptly at 8:30 AM**. Dress is business casual. Forward new agenda items for the 15-01 ACF-IPG meeting to the above addressees not later than April 10, 2015. A reminder notice will be sent.

We look forward to your continued participation.

Thomas E. Schneider, FAA/AFS-420
Co-Chairman, Aeronautical Charting Forum,
Chairman, Instrument Procedures Group

GOVERNMENT / INDUSTRY AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
Meeting 14-02
Pragmatics, Inc.
October 28, 2014

1. Opening Remarks: Tom Schneider, AFS-420, 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 October 28. Pragmatics Corporation hosted the meeting at their Reston, VA facility. Mr. Tim Strutzel made welcoming and administrative comments on behalf of Pragmatics. A listing of attendees is included as attachment 2.

2. Briefings:

a. Tom Schneider, AFS-420, discussed enhancements to the ACF-IPG web site, including functionality of the site, the ongoing effort to expand the history data base to include all issues from inception to present. Contact Steve VanCamp if any specific items are needed prior to placement on the web site. We hope to have all of these on the site prior to the ACF 15-01. The web site also now has a PDF version of the ACF booklets from previous meetings.

b. Joshua Fenwick, AeroNavData, Inc. briefed the group on behalf of Garmin on the issue of coding of Charted Visual Flight Procedures (CVFPs) discussed at the ARINC NDB working group meeting in held in October, 2014. ( ) Discussed were two CVFPs at SFO, both for RWY 28L the TIPTOE VISUAL RWY 28L/R and the QUIET BRIDGE VISUAL RWY 28L/R. Users want these in their FMS, but understand there is no FAA certification guidance for coding them. These two procedures are displayed as “R28L V” and “R28L F”. The ARINC 424 group decided not to address the issue with a new character code and it is not yet decided how this will be handled in the future, but that somehow the relationship between the ident and the correct procedure needs to be established. Joshua brought up RNAV visuals, and Rick Dunham, AFS-420, stated we are not ready to discuss that issue. Tom Schneider, AFS-420, added that these are not RNAV approaches, but are CVFPs. Valerie Watson, AJV-344, inquired if the problem was that the title on the chart does not match the ARINC coding. Joshua responded that the disconnect is having two different approaches to the same runway end and no way to distinguish them in the coding. Joshua acknowledged that these are Visual approaches and as such the FAA never planned to code these procedures. Ed Ward, Southwest Airlines, said he is surprised that the FAA is producing these and that they are out there in an avionics database. Tom responded by reiterating these are CVFPs and the FAA never intended to put them into a database. Ted Thompson, Jeppesen, supported this view, and further stated that nothing precludes an airline from pursuing an RNAV overlay to a procedure. If the airline does this, they incur the responsibility of charting, naming convention, and other issues under their own operating procedures. Related to this, there is the complex issue of choosing and selectively adding VFR waypoints to IFR databases. Rick reiterated that RNAV visual criteria is under review, and not ready to discuss. Ted agreed. Brad Rush, AJV-344, and Valerie discussed documentation issues. Joshua will take back the ACF input, explain that this is an issue between the customer (airline) and the database supplier and that at this time, decisions on coding these procedures and including them in specific databases will need to be decided between the two.

3. <u>Review of Minutes of Last Meeting</u>: Steve VanCamp, AFS-420, (ISI/Pragmatics Contract Support), briefed that the minutes of ACF-IPG 14-01, which was held on April 29, 2014 were electronically distributed to all attendees as well as the ACF Master Mailing List on June 11, 2014. There were no changes submitted, and the minutes are accepted as distributed.

4. <u>Old Business</u> (Open Issues):

a. 92-02-110: Cold Station Altimeter Settings (*Includes Issue 04-01-251*).

John Blair, AFS-410, said he has been directed to send the cold temperature NTAP information out for publication on Dec 12, 2014. Valerie Watson, AJV-344, asked Kel Christianson, AFS-470, to brief the Bruce DeCleene, AFS-400, proposal to include separate temperature values for different segments on the approach. Kel briefed that the proposal would involve charting Intermediate (I), Final (F), and Missed (M) cold temperature values, rather than the single temperature previously agreed upon. Valerie asked if we could discuss that, since she had made a charting specification that had already gone thru both Flight Standards and the users, and all had signed off on it. The usefulness of this information to a pilot was discussed and whether this should be documented on the approach chart. Michael Stromberg, Air Wisconsin, said what would be extremely useful with all these digital charts is if the pilot could just enter in a temperature, and then the digital charts would tell you what the new altitude would be. John and Valerie agreed that this would be the simplest for the user, but this would not be possible at this time. Michael said although the FAA is not able to accomplish this, other manufacturers of charts might. After a lengthy discussion, the consensus of pilots in attendance voiced that multiple cold temperature values for the different segments of the approach is not supported. Overwhelming opinion is that this would not be utilized by the pilot and would only add confusion. Lev Prichard, APA, said he would prefer to correct for worst case across the board, so calculation can be made en route, planned and briefed. Charles Wade, Delta Airlines, voiced that multiple temperatures and multiple corrections is far too complicated and requests that the FAA “keep it simple”. Ted Thompson, Jeppesen, briefed that at the request of the FAA, he reached out to users, and the overwhelming consensus was to chart the single (warmest) temperature only. The ACF pilot group participants in attendance concurred. Tom verified with Kel that the multiple temperature depiction was a proposal only, suggested by Bruce, and based on input from the group; the FAA will go forward with a single altitude correction value on the chart. Kel said he would inform Bruce that the pilots at the ACF did not support the multiple temperature proposal. John restated that the NTAP cold temperature information should still be in published on 12 December and pilots are expected to know how corrections are to be made. If pilots choose not to correct when an FAA inspector is on board, there will likely be consequences. Tom inquired about the list of affected airports, and asked if they have been NFDD’d? Kel stated he is prioritizing the list of airports. Valerie stated they cannot begin publishing the airport remark in the NFDD until the charting specification is signed off, and that should be happening soon. Kel briefed that he coordinated with Valerie that a maximum of 175 charts (not airports, since some have multiple procedures) will be revised each 8 week cycle. Tom asked Kel about Aeronautical Information Manual (AIM) guidance. Kel advised that AFS-initiated cold temperature guidance will be in the January publication. He also said the ATO would be including some AIM guidance, but was not sure if this would make it into the AIM this January. Rick Dunham, AFS-420, tasked Mason Curling, AFS-405, to ensure the information gets into the AIM (critical). Mason said if info is provided from Kel, he will ensure it is included in the AIM. Michael asked if there is a list of when the chart changes will be published so the airlines will know. Valerie said all of the changes will be in the NTAP in December and will be published incrementally on the charts. Kel restated that the NTAP will document all airports that require correction, regardless of chart publication cycle. He stressed that the approach plate is

not the trigger, the NTAP is. Rich Boll, NBAA, said he understands that initially the NTAP will be the only source of temperature correction airports and that have a correction and that corrections are mandatory, but pilots do not always fly with the NTAP in hand. He stated that publishing only an NTAP listing will not be sufficient, and this list needs to be sourced someplace else also. Kel suggested pilots carry a copy in their flight bag. Rich said this is not feasible, and asked if we could place in the list in the TPP. Valerie said they had discussed placing this list on a web site. Pilots commented about not having internet access on the aircraft. Rich stated with info in the TPP, at least information is in the aircraft, but acknowledged that this was not a perfect solution. Brad Rush, AJV-344, advised this would require the extra information be in all the books, including Florida, where the issue will never be applied. Lev asked why the information would not be disseminated via D-NOTAMs. Tom advised that to his knowledge, the information would not go out as NOTAMs. Michael said the difficulty is enforcing a procedure where there is no cue for the pilot on the approach plate, but they are responsible for compliance. Lynette said NOTAMs could be issued, but questioned whether the pilot community wants 200+ NOTAMs. The group discussed the NOTAM subject, but no clear preference was expressed. Valerie suggested AeroNav Products could issue a Safety Alert to inform users of the affected airports and to point them to the NTAP & AIM for further guidance. She shared that there would also be a list of the airports posted on the AeroNav Products website on the TPP page. Tom asked Rich if this would suffice. Rich said he is concerned about distribution.

Status:
Continue to work AIM/AIP guidance: AFS-470 to keep AFS-420 updated regarding IPH guidance required; AFS-405 will follow up with AFS-470 regarding AIM updates; and AFS-470 to provide a status update at the next meeting. Valerie Watson, AJV-344, will finalize charting specifications, work with AFS-470 to issue a Safety Alert and will keep Jeppesen informed. **Item Open:** AFS-405, AFS-420, AFS-470 and AJV-344

b. 02-01-241: Non Radar Level and Climb-in-Hold (CIH) Patterns.

Eric Fredricks, AJV-823, briefed that the DCPs have been rewritten, passed internal review, and they are going out for coordination/comment in the next two weeks. The intent is to publish on the June 2015 publication date.

Status: Continue to track FAA Order JO 7210.3 DCPs. **Item Open:** AJV-8

c. 07-01-270: Course Change Limitation Notes on SIAPs.

Tom Schneider, AFS-420, briefed updates are in the draft FAA Order 8260.19G, which is out soon for coordination, and planned for March 5, 2015 publication. The paragraph 8-2-5e will read as follows: ( ). John Collins, GA pilot, asked whether RNAV approach procedure feeders within 30NM are RNAV 1 or 2. Brad Rush, AJV-344, advised RNAV 1 & 2 standards are used in the development of procedures, but as a pilot your operating standard for Nav specifications is RNAV 1. John said when operating on feeder routes the system scales from 2 to 1 at 30NM. Valerie Watson, AJV-344, inquired if this is not always en route criteria. John agreed and will research the issue and write up a formal RD for the next ACF if necessary.

Status: AFS-420 to track Order 8260.19G update. John Collins will research the issue and address at next ACF as need be. **Item Open:** AFS-420 and John Collins.

d. 07-02-278: Advanced RNAV (FMS/GPS) Performance of Holding Patterns Defined by Leg Length

Tom Schneider, AFS-420, briefed that Bob Lamond, NBAA, had sent Steve Jackson, AFS-420, correspondence as agreed upon, and here is Steve's response ( ). Tom advised there will be no NavSpec changing current RNAV holding practices as described in the AIM/AIP. Rick Dunham, AFS-420, asked Rich Boll, NBAA, to explain the purpose of this agenda item. ICAO is revising their RNAV holding guidance and there is no NavSpec specifically defining RNAV holding. Rich said AIM guidance is insufficient. His concern is that as long as both ATC and pilots knows aircraft may fly outbound more than prescribed before turning back to achieve desired leg length NBAA is satisfied. Tom indicated Steve is saying pilot must follow AIM guidance regardless of what the box does. Rich said that the current nav system would require pilot initiate turn and re-intercept pattern, which is too much leg work for the pilot. He would recommend a return to timed holding, and AIR-130 would have to go to manufacturers and have them fix their systems. Kevin Bridges, AIR-130, said there is no NavSpec for automated RNAV holding. Current MOPS define it, but it is not a required function. The pilot needs to fly what the procedure says, regardless of what the box manufacturers have programmed into their systems. Group discussion followed on box functionality and differences, and the fact that this is not a coding issue. Rick Dunham, AFS-420, said AFS-420 will take another look at the language in AIM/AIP and IPH, in conjunction with AFS-470, to ensure pilots know to stay inside airspace. Joshua Fenwick, AeroNavData, said this would be a good issue for the ARINC NDB group to take up, and he will forward it to Sam Buckwalter to discuss. The group meets in June 2015. Tom added we could see if RTCA or ARINC 424 group can take, since there is nothing more the ACF can do at this point.

Status: AFS-420/470 will look at AIM and IPH language. Joshua Fenwick, AeroNavData, will bring issue up with ARINC 424 committee. **Item Open:** AFS-420/470 and Joshua Fenwick, AeroNavData

e. 09-02-291: Straight-in Minimums NA at Night

Tom Schneider, AFS-420, provided an update ( ) from John Bordy, AFS-420, showing the current standard and what changes are in progress. Rick Dunham, AFS-420, advised this may change before FAA Order 8260.3C is finalized, and stated that the guidance will harmonize the visual straight-in and circling issue, along with a number of 20:1 issues. Tom said the last slide will be submitted at January 2015 US-IFPP. Rick has done some ad-hoc coordination with US-IFPP members via email and received verbal concurrence on proposed changes. Kevin Bridges, AIR-130, inquired about the splay to be used, stating his concern on flight check of obstacles. Rick said they will report any obstacles they see along edges. Rick discussed safety case and data risk management methods used to warrant this change. Vincent Massimini, MITRE, asked if the intent is to prohibit night landings on instrument approaches. Tom stated that policy in FAA Order 8260.19 has changed and addresses "instrument" flight procedures and this does not impact operations conducted under VFR. Rick advised that a memo is being finalized to change the current FAA Order 8260.3B criteria immediately (not wait for FAA Order 8260.3C publication). Rich Boll, NBAA, asked about procedure revisions and Brad Rush, AJV-344, said policy when reviewing a procedure is to review "all" runway visual areas at same time at the airport.

Status: AFS-420 will continue to work the issue through the US-IFPP. **Item Open:** AFS-420 (US-IFPP).

f. 10-01-292: Removal of the Visual Climb Over Airport Option on Mountain Airport Obstacle Departure Procedures

Eric Fredricks, AJV-823, briefed DCPs were rewritten for FAA Order JO 7110.65, the AIM Pilot Controller Glossary and the AIP. These documents are being reviewed by ATO Terminal Operations. Targeted publication date is June 2015.

Status: AJV-823 to continue to track the change and will advise on progress of DCP's. **Item Open:** AJV-823.

g. 10-01-294: RNP SAAAR Intermediate Segment Length and ATC Intervention.

Kel Christianson, AFS-470, briefed ( ) that the PARC has completed work on this topic and the report on vectors to RNP final was published on August 22, 2014. Gary Fiske, AJV-8, added that FAA Order JO 7110.65 has already been changed to account for 90 degree turns. He stated that the subject has been expanded into a paragraph 4-8-1 change on parameters for turns onto an RF leg, which is due to be published January 8, 2015. Tom Schneider, AFS-420, advised that changes to FAA Order 8260.58 will appear in the "A" revision. Rick Dunham, AFS-420, added the change will address design criteria for these types of procedures, will be aligned with other changes, and that speed concerns (design constraints) remain. Planned publication for Order 8260.58A is July 2015.

Status: AFS-420 will report on changes to FAA Order 8260.58A. **Item Open:** AFS-420

h. 11-02-298: Converging ILS Coding and Chart Naming Convention.

Brad Rush, AJV-344, briefed on the changed converging ILS approach naming standard (there are only 4 locations in US affected) and procedures at Philadelphia (PHL), ILS V RWY 17 (test case). All comments received so far are positive and the plan is to change Minneapolis (MSP) & Dallas-Fort Worth (DFW) in the March-April 2015 time frame. The remaining location, Washington-Dulles (IAD), may eliminate the converging approaches altogether, so these may not require revision The FAA Order 8260.3C will include the naming convention with the suffix always being "V" for converging ILS approaches. Tom Schneider, AFS-420, added there are additional requirements for FAA Order 8260.19, regarding chart notes and these will be similar to other simultaneous procedures. This new guidance will be incorporated into the next revision of Order 8260.19 scheduled for March 2015 publication. AFS-420 will look at the IPH for any changes. John Blair, AFS-410, will look at changes for the AIM/AIP.

Status: AFS-420 will report on changes to Order 8260.19 and IPH. AFS-410 will report on changes to AIM/AIP. **Item Open:** AFS 410/420

i. 12-01-299: Loss of CAT D Line of Minima in Support of Circle-to-Land Operations.

Tom Schneider, AFS-420, briefed on slides ( ) provided by John Bordy, AFS-420. He then asked Rich Boll, NBAA, to elaborate on the issue. Rich briefed that there are a large number of airports in the NAS that do not have, or will soon be losing CAT C & D minima on the basis of airport design code/runway reference code. Rich provided an example of an airport in Iowa losing its CAT C line of minima because the runway was designated to a class BII category. Tom said that in the majority of these cases, when procedures are being designed, the RAPT, in conjunction with the airport regional authority, decide on categories to publish. Rich mentioned the stronger language added to FAA Order 8260.3B, change 26, to support circle to land

operations has helped. Rick Dunham, AFS-420, said there is also additional guidance for the RAPT on CAT C & D in an official memo that should come out soon. Tom advised if additional information becomes available prior to publishing the ACF minutes, it will be attached.

Status: AFS-420 will continue to track US-IFPP action and report on publication of new guidance memo. **Item Open:** AFS-420 (US-IFPP)

Editor's note: *Memorandum: RAPT criteria guidance for inclusion of instrument approach categories C & D on instrument procedures signed 12-04-2014.* ( )

j. 12-01-301: Publishing a Vertical Descent Angle (VDA) with 34:1 Surface Penetrations in the Visual Segment (*Includes Issue 13-01-309 LP Procedure Cancelled Because of VDA Not Being Charted)*

Tom Schneider, AFS-420, briefed there are two parts to the issue. The first provided by Dan Wacker, AFS-420, ( ) shows what is in coordination for VDA design in FAA Order 8260.3C. The chart note change is in FAA Order 8260.19G, which will be published in March 2015. Rick Dunham, AFS-420, advised that they are working on IPH guidance and strengthening the language in FAA Order 8260.3C to maximize use of vertical guidance. The goal is to provide vertical guidance if at all possible on all procedures. Revised AIM/AIP language will follow as appropriate. John Collins, GA pilot, pointed out that higher angles will restrict categories and would not want to see an approach "lost" because of a high angle. Rich Boll, NBAA, asked Ted Thompson, Jeppesen, what happens if AeroNav Products does not provide a Descent Angle or a Descent Angle NA note, and Ted replied they code a zero angle. Kevin Bridges, AIR-130, said charts can be tailored to user requests and they can provide whatever they want on advisory vertical guidance. Joshua Fenwick, AeroNavData, said the ARINC NDB group looked at this issue and was interested in the ACF discussion, which he will communicate. The ARINC group acknowledged if coding a zero is a bad idea, they will consider removing angle from the ARINC 424 coding. There are pilots that may want the advisory angle to continue to be calculated and coded. John asked if the zero is used as an angle or code and Kevin said it depends on the manufacturer. Kevin added that AIR-130 was against using zero as a solution because of the problems it may cause. Brad Rush, AJV-344, said that AeroNav Products will not source or support the enabling of an angle on a procedure that would take aircraft thru an obstacle. Discussion followed on how the angle is coded and how it's used by pilots. The main issue is use of an angle below the MDA. Lev Prichard, APA, said this is an education issue since pilots are "visual" at that point. Tom said issue was discussed internally and there will not be a SAFO issued, however, clearly pilot education needs to be expanded. Rick added that language in the AIM/AIP and IPH are under review. Kevin said the angle is being coded as a zero and guidance has been published that this can cause problems with boxes. There is nothing that prevents a manufacturer from using another method to calculate advisory vertical guidance or charts being tailored to display information, but it might be good idea to publish a list of affected airports until all notes have been published. Discussion followed on possible benefits of a list and who would use information. Brad is looking internally at the possibility. Kevin then addressed a second issue ( ) with a recap that there are no MOPS/TSO requirements and people can choose how to use. AIR-130 issued a Special Airworthiness Information Bulletin (SAIB) ( ) to inform that the issue exists (i.e., be ready for it) and also alerted aircraft OEMs, avionics manufacturers, and operators, providing suggestions on mitigation.

Status: Joshua Fenwick, AeroNavData, will bring the issue back to the ARINC NDB workgroup and report at the next ACF; AFS-420 will review AIM/IPH language; AJV-344 will look at

possibly developing a list of affected airports. **Item Open:** Joshua Fenwick, AeroNavData, AFS-420, and AJV-344

k. 13-01-311: Terminal Arrival Areas

Tom Schneider, AFS-420, briefed all references to free flight in FAA Order 8260.58 are being removed (although already accomplished via waiver) and IPH guidance will be in the next release. AIM/AIP diagram work has been completed. There is guidance for TAA placement on RNAV to ILS procedures; however, TAAs are not placed on procedures that contain conventional means (i.e., either an MSA or a TAA can be published, but not both). Rich Boll, NBAA, agreed to close the agenda item.

Status: Item Closed

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

John Blair, AFS-410, briefed the status and stated his belief that it would be beneficial to have consistent chart placement of a box with required equipage (items not in procedure title) for conventional and PBN approaches. This would enhance preparation and briefing of the approach. Tom Schneider, AFS-420, referred to PBN information box work in progress and Kel Christianson, AFS-470, said that for approaches, the group briefed last time that equipment requirements would be published above the existing notes box of the briefing strip. He briefed that this should be done initially with conventional procedure information, then as PBN information is developed and finalized, it can be placed in the same location. Rich Boll, NBAA, said the original issue was about both contradictory information and various locations of information on the approach plate/chart, and inquired about the 2020 timeframe on PBN information. Ted Thompson, Jeppesen, brought up that chart note placement has historical inferences: placement in the planview means one thing and briefing strip placement means another. If equipment notes were consolidated to perhaps publication of the most onerous one and placed in a standardized location, much pilot confusion may be alleviated. The nuances of note placement are fairly subtle and are probably often misinterpreted. There may also be a need to enhance wording for applicability to a certain phase of the procedure. Rick Dunham, AFS-420, acknowledged the concerns of the group, but stated that staffing dictates that at this time this is not a high priority issue. A work group formed at ACF14-01 did not meet, although there is still interest. A copy of the previous work group list was read and is included ( ).

Status: AFS-410 will work toward scheduling a meeting with those signed up to participate and report back at the next meeting. **Item Open:** AFS-410

m. 13-02-313: Chart Notes for Simultaneous Approaches

Gary Fiske, AJV-8, briefed that the chart note will now read “simultaneous approach authorized” (specific runway numbers will be removed) and that FAA Order JO 7110.65 is in update process. Rick Dunham, AFS-420, advised that charts will be revised, with the notes simplified and extraneous language removed. John Blair, AFS-410, stated that explanatory language is in the AIM. Gary recommended this item be closed. The group agreed.

Status: Item Closed

n. 14-01-315: 90 Degree Airway-to-RNAV-IAP Course Change Limitation; Arrival Holds

Tom Schneider, AFS-420, briefed that the US-IFPP decision was to maintain status quo and recommends that no further work be done on the issue. Rick Dunham, AFS-420, said attempting to harmonize the intercept between RNAV and conventional was problematic due to the anecdotal data which indicates greater than 90 degree turns for RNAV provide flight track problems. The decision was made to leave the rules and guidance as-is, pending further study. Tom asked Rich Boll, NBAA, how this issue works with new agenda item on RNAV substitution (14-02-317). Rich responded that the issues are different. Rich mentioned older RNAV procedures with 90 degree design intercepts that exceed these limits due to MagVar changes. The group discussed containment issues and the fact that pilots are now flying these procedures with RNAV.RNAV does turn anticipation (FB) and conventional assumes fly over (FO). The concern is that the area assessed for obstacles is very different. There was the suggestion of coding as FO, but that adds area outside of the turn.. Discussion ensued, with Rick committing to AFS-420 taking the issue back to the US-IFPP again for consideration.

Status: AFS-420 will return to US-IFPP for further discussion. **Item Open:** AFS-420 (US-IFPP)

o. **14-01-316:** RNAV Fixes on Victor Airways Used for RNAV SIAPs.

Paul Gallant, AJV-11, briefed they are constrained by 14 CFR Part 71 legal description on VOR airways criteria that does not allow placement of an RNAV waypoint (WP) on the legal description of the airway. This would require a major rule change which is a lengthy process. There are many fixes on airways, but criteria define the legal description in the airway docket only as the endpoints (NAVAIDS), and where there is a change of airway direction. The 8260-16 document only cites NAVIADs & fixes used both to describe the line work and to document en route altitudes, changeover points and equipment requirements. Gray Fiske, AJV-8, asked if it would suffice to just add RNAV WP on the Form 8260-2, rather than as part of the legal description. Valerie Watson, AJV-344, said Form 8260-2 documentation in “fix use” would show the RNAV WP on the airway. Rich Boll, NBAA, said the problem is coding the fix on the airway for the data base providers and cited as example the RNLDI DEPARTURE (SID from Washington Dulles airport) to OTTTO WP which is directly over Linden VOR and doesn’t join J134. A lengthy group discussion ensued with the acknowledgement that there are problems/issues with placing a waypoint on a conventional airway. If a convention (ground-based) fix were established and USED as a waypoint on the RNAV procedure, it could be documented as part of the airway on Form 8260-2, which will trigger NFDD action. Admittedly, clarity of fix intended use in the documentation will help; current AeroNav policy is to, when possible, use existing fixes in development and adjust new procedures accordingly. Brad Rush, AJV-344, stated that current fix documentation is presently very good (i.e., box is checked on Form 8260-2 for fix type and remarks section is annotated for fix use). The issue remains whether a WP can be placed on an en route victor airway and document strictly as WP on the airway via 8260-2? There needs to be defined guidance to place WP on airway. Tom Schneider, AFS-420, stated FAA Order 8260.19 guidance says fix must have use to match procedure. Any fix can be used as a waypoint. We expect that when it is documented in the “fix use” block on the Form 8260-2 (i.e., on the airway), it will be NFDD that way, ATC will use it that way, and all users will place it where it belongs. Guidance is already in place, the fixes used as WPs are on the Form 8260-2 and no further action is required. Brad will work on expanded guidance for when a fix is placed on an ATS route. When possible it should be supportive of the route (i.e., hierarchy concept from years past).

Status: AJV-344 will work on and provide recommended language on the issue for consideration. **Item Open:** AJV-344

5. New Business:

a. 14-02-317: Use of GPS on Conventional (Ground-Based NAVAID) Instrument Approach Procedures (IAPs)

New issue presented by Rich Boll, NBAA, (); provided background on the GPS overlay program. The third phase (first two done) added the "…or GPS" on conventional procedures. With addition of new RNAV approaches, the "or GPS" is are being removed from the conventional procedure chart titles (i.e. if currently a VOR or GPS RWY 14 approach exists, addition of an RNAV 14 approach will cause the "or GPS" is being removed from the VOR 14 approach title). The VOR approach is still in the database, but if flying it using RNAV, what guidance is the pilot to use on the final approach? FAA does have guidance in the AIM, paragraph 1-2-3, and AC 90-108, with respect to substitution (i.e., using GPS in lieu of an inoperative NAVAID or aircraft equipment) and is not the issue here. Rich is inquiring into AIM/AIP guidance where RNAV can be used on conventional procedures. Particularly in the final approach segment, defining what monitoring requirements are, what conventional NAVAID course guidance is sufficient, any limitations/tolerances, and how to resolve contradictory information. Vince Massimini, MITRE, pointed out that AC 90-108 covers most of this already, up to final, and allows for lateral guidance except on final (pilot needs to switch to conventional for final). Rich pointed out this not clear in the AIM/AIP and there is some confusion/ disagreement in the field. Rich believes that this is not a certification issue, but an operations issue. John Blair, AFS-410, said that if on a VOR approach and using the benefits of RNAV, you need to have VOR guidance up somewhere. Group discussion ensued regarding different airline Op Specs and operations, the fact that how no one is flying raw data, use of approach overlays and differences for Part 91 & 135 operations. Rich said that all NBAA is looking for is more definitive AIM/AIP guidance on this issue, whatever it comes out to be. AFS-470 will take IOU to look it over for possible AIM/AIP enhancement of current guidance.

Status: AFS-470 will review and look at AIM/AIP guidance. **Item Open:** AFS-470

b. 14-02-318: Charting LNAV Engagement Altitudes

New issue presented by Lev Prichard, Allied Pilots Association. () Lev briefed the issue and talked about the Pilot Controller Procedure and Systems Integration (PCPSI) work group discussions on "Climb Via" vs. "climb and maintain" procedure differences. Discussions within the PCPSI led to the question of what are "LNAV engagement altitudes" and is this a procedure attribute that should be identified and called out to users on a chart? A lengthy group discussion followed (referencing examples on the presented the slides).Lev wrapped up the discussion with recommendations to define LNAV engagement altitude and to ascertain whether there is a need to identify it on procedures, explain it in published guidance, etc. Tom Schneider, AFS-420, advised there was never any intent to chart an "LNAV engagement altitude". We have VA-DF (Heading to an Altitude [VA] until Direct to Fix [DF]) altitudes to support various needs, such as diverging courses for simultaneous departure procedures. These charted altitudes are not specifically for LNAV engagement. There is a requirement that LNAV be engaged no later than 500 feet above the airport elevation, prior to the aircraft executing a turn (i.e., altitude to climb to before next leg type navigation). A discussion followed regarding how this came to be interpreted as a a constraining altitude and if it needs to appear on a chart or in the FMS. Tom asked the group where the ACF should go with the issue. Rick Dunham, AFS-420, briefed that they are reviewing FAA Order 8260.53, *Standard Instrument Departures That Use Radar Vectors to Join RNAV Routes,* criteria as it is absorbed by FAA 8260.58 and that AFS-420 would take a look at the guidance. Brad Rush, AJV-344, advised that by current criteria

standards, all altitudes are “at-or-above” unless specifically stated otherwise, so that a pilot should never be leveling out on what is published as an at-or-above altitude on a Departure. Gary McMullen, Southwest Airlines, said in the short term, we should focus on VA/DF legs and publish all these altitudes as “at-or-above”. The group discussed a host of human factor issues, including historical issues and pilot techniques. Tom discussed looking at policy guidance regarding departure instructions text to help procedure designers publish these in a more clearly understood fashion.

Status: AFS-420 will review FAA Order 8260.53 & FAA Order 8260.46 and other criteria. **Item Open:** AFS-420

6. Next Meeting: ACF meeting **15-01** is scheduled for **April 28-30, 2015** with ALPA, Inc., Herndon, VA as host. ACF **15-02** is scheduled for **October 27-29, 2015** with Lockheed Martin as host.

Please note the attached Office of Primary Responsibility (OPR) listing (attachment 1) for action items. It is requested that all OPRs provide the Chair, Tom Schneider, AFS-420, a written status update on open issues not later than April 10, 2015 - a reminder notice will be provided.

7. Attachments (2): 1. OPR/Action Listing
2. Attendance Listing

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
OPEN AGENDA ITEMS FROM MEETING 14-02

OPR	AGENDA ITEM (ISSUE)	REQUIRED ACTION
AFS-405, AFS-420, AFS-470 and AJV-344	**92-02-110:** (Cold Weather Altimetry)	AFS-405/470: Work AIM/AIP guidance, keep AFS-420 updated for IPH changes, and provide a status update at the next meeting. AJV-344/AFS-470: Consider a safety alert and keep Jeppesen informed so they can prepare Briefing Bulletin.
AJV-8	**02-01-241:** (Non-Radar Level and Climb-in-hold (CIH) Patterns	Continue to track FAA Order JO 7210.3 DCPs.
AFS-420, John Collins	**07-01-270:** (Course Change Limitation Notes on IAPs)	AFS-420 to track Order 8260.19 update. John Collins will research RNAV sensitivity issue and address at next ACF as need be.
AFS-420/470, AeroNavData	**07-02-278:** (Advanced RNAV (FMS/GPS) Holding Patterns Defined by Leg Length)	AFS-420/470 review AIM/AIP and IPH language for possible enhancement. AeroNavData bring issue up with ARINC 424 committee.
AFS-420 (US-IFPP)	**09-02-291:** (Straight-in Minimums NA at Night)	Continue to work issue through the US-IFPP and report.
AJV-8	**10-01-292:** (Removal of VCOA Option at Mountainous Airports)	Continue to track the change and advise on progress of DCP's.
AFS-420	**10-01-294:** (RNP SAAAR Intermediate Segment Length and ATC Intervention)	Report on changes to FAA Order 8260.58A.
AFS 410/420	**11-02-298:** (Converging ILS Coding and Chart Naming Convention)	AFS-420 Report on changes to Order 8260.19 and IPH. AFS-410 Report on changes to AIM/AIP.
AFS-420 (US-IFPP)	**12-01-299:** (Loss of CAT D Line of Minima in Support of Circle-to-Land Operations)	Continue to track US-IFPP action and report on publication of new guidance memo.
AeroNavData, AFS-420, and AJV-344	**12-01-301:** (Publishing a Vertical Descent Angle (VDA) with 34:1 Surface Penetrations in the Visual Segment, *also includes issue 13-01-309*)	AeroNavData: Bring the issue back to the ARINC NDB workgroup and report at the next ACF. AFS-420: Review AIM/AIP and IPH language. AJV-344: Consider developing a list of affected airports.
AFS-410	**13-02-312:** (Equipment Requirement Notes on Instrument Approach Procedures)	Work toward scheduling a meeting with those signed up to participate in sub-group and report back at the next meeting.
AFS-420 (US-IFPP)	**14-01-315:** 90 Degree Airway-to-RNAV-IAP Course Change Limitation; Arrival Holds	Return to US-IFPP with results from ACF-IPG discussion for re-consideration.
AJV-344	**14-01-316:** RNAV Fixes on Victor Airways Used for RNAV SIAPs.	Work on and provide recommended language on the issue for consideration.
AFS-470	**14-02-317:** Use of GPS on Conventional (Ground-Based NAVAID) Instrument Approach Procedures (IAPs)	Review current guidance and consider revision/enhancement to AIM/AIP.
AFS-420	**14-02-318:** Charting LNAV Engagement Altitudes	Review FAA Order 8260.53 & FAA Order 8260.46 and other criteria to see if changes are needed.

ACF 14-02
INSTRUMENT PROCEDURES GROUP
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ACF 14-02
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AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 15-01 – April 28, 2015

RECOMMENDATION DOCUMENT

FAA Control # 15-01-319

Subject: Removal of the Epoch Year documentation on 8260-series FAA Forms.

Background/Discussion: Historically, magnetic variation values and epoch year have been documented together on 8260-series instrument flight procedure FAA Forms.

Aeronautical Information Services documents and retains records indicating the magnetic variation and the epoch year value that was used during procedure development.

At times the epoch year documentation has generated questions from various users as to the older dates listed on the forms. In many locations, magnetic variation does not change and may be within tolerances over numerous years, regardless of the epoch calculation model. For example: A published epoch year value of 1965 may still be within tolerance using a 2020 World Magnetic Model (WMM).

Discussion has not identified any current user requirements for the epoch year information.

The National Flight Data Digest (NFDD) will begin to publish both the magnetic variation value and the epoch year which makes the information available to all charting agencies.

Recommendations: Open to ACF discussion to determine if there is any objection to FAA directives being changed to support this request to remove Epoch year from 8260-series FAA Forms.

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Date: 3 April 2015

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AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 15-01 – April 28, 2015

RECOMMENDATION DOCUMENT

FAA Control # 15-01-320

Subject: Common Sounding Fix Names

Background/Discussion: Complaints have been made that common spelled or common sounding navigation fix names are being used in terminal areas that are causing confusion. Efforts have been made to enact change, but local facilities sometimes do not take notice because they have created the names and like them. In some cases, it does not seem to be a problem to an ATC controller, but quite often it is a struggle for the crew to get the correct spelling into a FMS in a timely manner. Recently, an airline crew was on radar vectors at KATL and was cleared direct SHELE to resume the ONYON arrival, but instead went direct SCHEL because it was on the assigned approach. At KDFW, multiple complaints of too many "Navy" fixes have been common. TRYTN SID has "NAVYE", SEEVER STAR has fix "NAAVY", and CQY8 STAR fix named "NAVYS". All in the DFW terminal area. Additionally, there is another "NAVYY" in the KPHL area. Attempts were made at local level to fix the issue, however the fixes are popular in the ATC environment. While certain names and "string of names" are popular in some terminal areas, they can cause cockpit confusion and FMS entry error, or a deviation in track.

Recommendations:

1. APA acknowledges the vast amount of fixes in the NAS and current efforts to manage them. However, we would like to appeal to the group these decisions and try to find a way to resolve these occurrences when attempting to get them changed at a local level has failed. Perhaps the FAA Air Traffic Operations Oversight Division, or other FAA organizations responsible for addressing flight/air traffic safety, can assess these conditions and step in to resolve our concerns. Also, recommend a process be established to alert ATC facilities when these conditions are noted and require action.

2. Order JO 7400.2K, paragraph 3-3-4d, currently states: *"Five−letter names that are assigned by the Mission Support, Terminal Procedures and Charting Group and major commands will be coordinated with the associated ARTCC to preclude similar sounding fix names."* We do not believe this paragraph is explicit enough to prevent similar sounding fix names from being in close proximity to one another. This paragraph should be expanded to include language similar to what is in paragraph 3-3-3b, regarding Navaid naming and placement, which states: *"The name must not sound similar to an existing NAVAID/fix location name within the originating ARTCC's area, the adjacent ARTCC's area, or within a 300 NM radius from the NAVAID involved."* ATC facilities following this guidance for "fix naming" would prevent situations shown in the examples from happening.

Comments:

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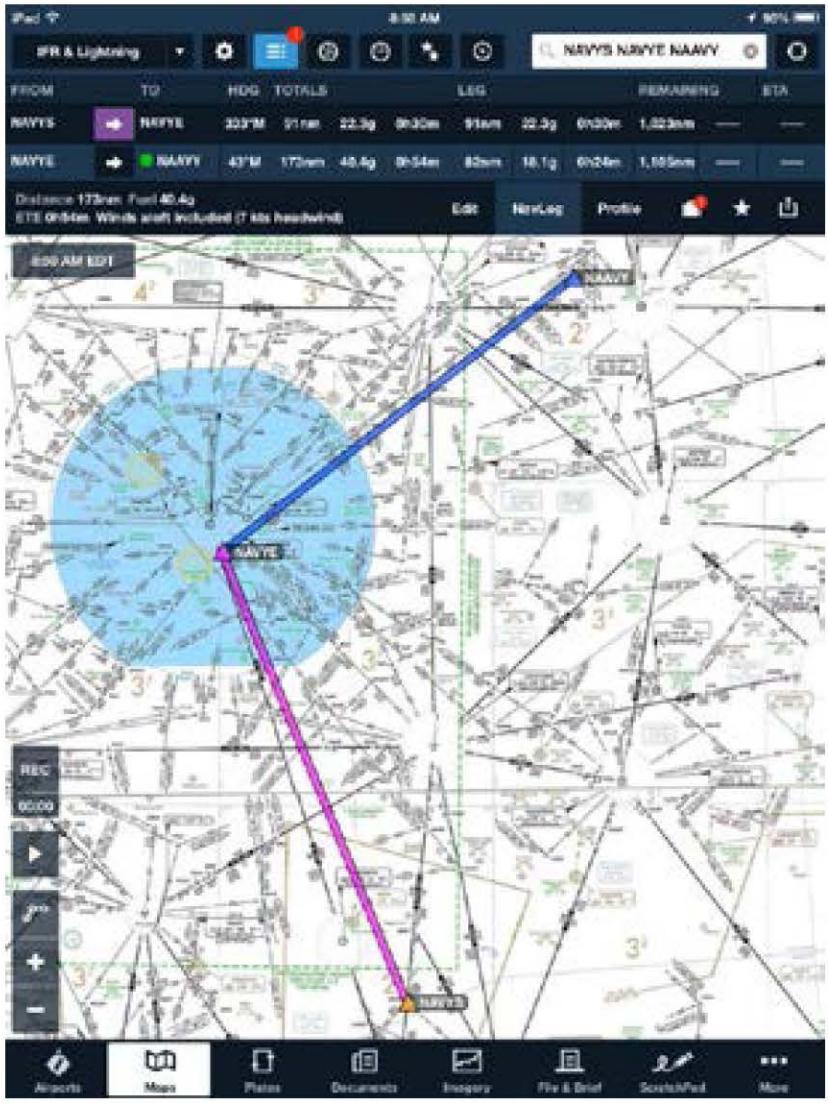
Date: 8APR15


VFR & Lightning
SHELE SCHEL
ATLANTA CLASS B AIRSPACE
EXAMPLES OF CLASS B ALTITUDES
Airports
Maps
Plates
Documents
Imagery
File & Brief
ScratchPads
More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TOTALS
LEG
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ETA
Edit
NewLeg
Profile
NAAVY
NAYYE
Airports
Maps
Plates
Documents
Imagery
File & Brief
ScratchPad
More

AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 15-01 – April 28, 2015

RECOMMENDATION DOCUMENT

FAA Control # 15-01-321

Subject: Coding of Missed Approach for ILS31L and ILS31R at KJFK

Background/Discussion: It was recently discovered by an airline crew that the missed approach for the ILS31L and ILS31R at KJFK does not appear to be coded correctly in the FMS database. The coding and text on the approach chart do not match and is causing confusion in the cockpit. The FMS coding indicates these are "At or Above" altitudes, however the text indicates the intent of these to be coded as "At" altitudes. It seems that the "at" altitude is indeed providing procedural separation the way it is described. Investigation with Aeronautical Information Services (AIS) and Jeppesen revealed that the text description indicates a level off, but the actual coding indicates "at/above or minimum." FAA Form 8260-3 states that "Altitudes are minimum altitudes unless otherwise indicated." However, when it comes to the text used to describe missed approach instructions, Order 8260.19F, paragraph 8-6-7d Note, states:

Note: *To standardize and clarify altitudes and the meaning of "and" or "then" when used as connecting words between segments of the missed approach, "and" means a continuous climb to the stated altitude; "then" means the altitude condition must be reached at the prior to the connecting word "then", and either is maintained through the remaining missed approach or a second altitude will be stated.*

Recommendations: Unlike RNAV procedures that are accompanied with ARINC coding information with the procedure, non-RNAV procedures do not. Recommend that database coding authorities become familiar with and comply with the use of the terms (i.e., "and" vs. "then") used when coding conventional instrument procedures as defined in Order 8260.19F, paragraph 8-6-7d Note.

Comments:

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Date: 8APR15

NEW YORK, NEW YORK | AL 610 (FAA) | 15064

ILS or LOC RWY 31L

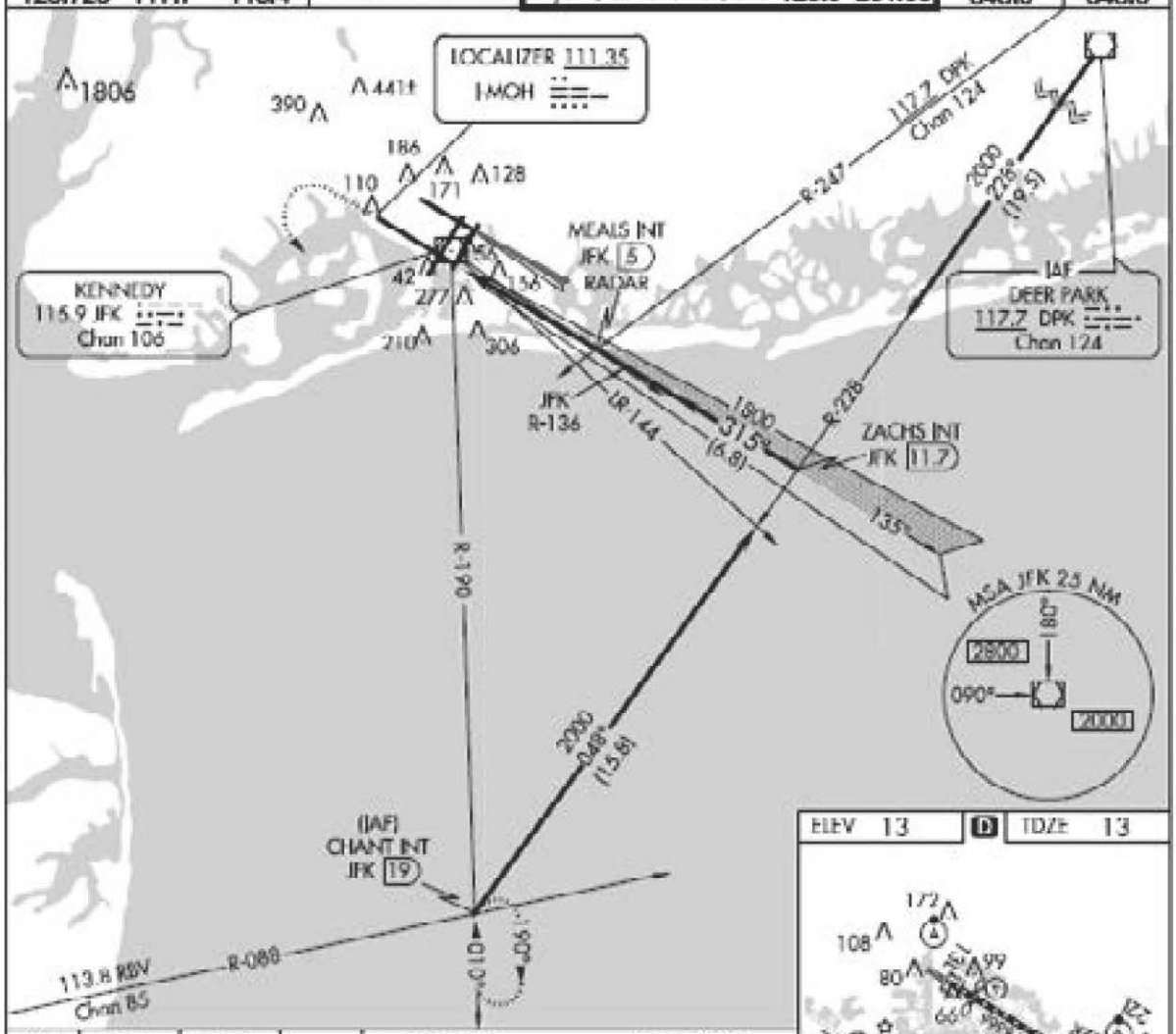
JOHN F KENNEDY INTL (JFK)

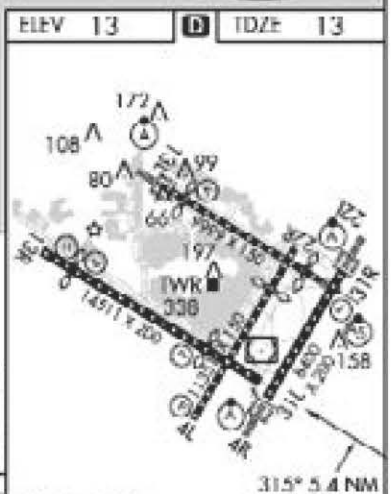
LOC I-MOH	APP CRS	Rwy Hdg	11248
111.35	315°	TDZE	13
		Apt Elev	13

Simultaneous approach authorized with Rwy 31R. DME from JFK VOR/DME.

MISSED APPROACH: Climb to 500 then climbing left turn to 1000 until intercepting JFK R-190, then climb to 3000 via JFK R-190 to CHANT INT/JFK 19 DME and hold.

ATIS			NEW YORK APP CON		KENNEDY TOWER			GND CON	CLNC DEL
(ARR-NE)	(ARR-SW)								
128.725	117.7	115.4	128.12	269.0	Rwys 4R/22L and 13L/31R	119.1	281.55	121.9	135.05
					Rwys 4L/22R and 13R/31L	123.9	281.55	348.6	348.6





CATEGORY	A	B	C	D
S-ILS 31L	213/40 200 (200-½)			
S-LOC 31L	440/50 427 (500-1)		440/60 427 (500-1¼)	440-1½ 427 (500-1½)
CIRCLING	640-1 627 (700-1)		640-1¾ 627 (700-1¾)	640-2 627 (700-2)

RLLS Rwy 13R
HIRL all Rwys
TDZ/CL Rwys 4R, 13L, 31R and 22L

FAF to MAP 5.4 NM

Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

NEW YORK, NEW YORK
Amdt 10D 18SEP14

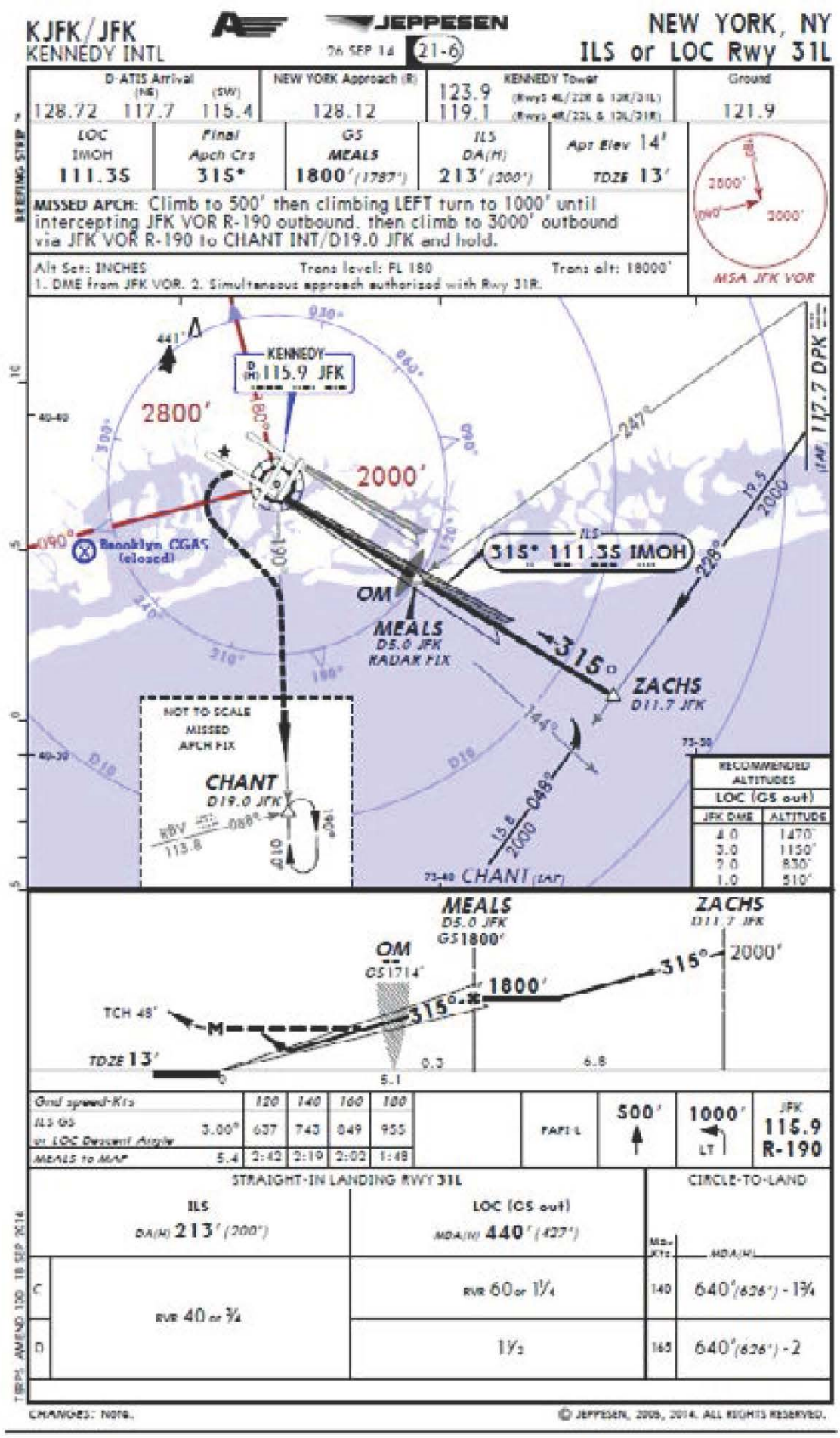
40°38'N-73°47'W

JOHN F KENNEDY INTL (JFK)

ILS or LOC RWY 31L

NE-2, 02 APR 2015 to 30 APR 2015

NE-2, 02 APR 2015 to 30 APR 2015


KJFK/JFK
KENNEDY INTL
JEPPESEN
26 SEP 14
21-6
NEW YORK, NY
ILS or LOC Rwy 31L
D-ATIS Arrival
128.72 117.7 115.4
NEW YORK Approach (R)
128.12
KENNEDY Tower
123.9
119.1
Ground
121.9
LOC
IMOH
111.35
Final
Apch Crs
315°
GS
MEALS
1800' (1787')
ILS
DA(H)
213' (200')
Apt Elev 14'
TDZE 13'
MISSED APCH: Climb to 500' then climbing LEFT turn to 1000' until intercepting JFK VOR R-190 outbound, then climb to 3000' outbound via JFK VOR R-190 to CHANT INT/D19.0 JFK and hold.
Alt Set: INCHES
Trans level: FL 180
Trans alt: 18000'
1. DME from JFK VOR. 2. Simultaneous approach authorized with Rwy 31R.
MSA JFK VOR
2800'
2000'
KENNEDY
D (H) 115.9 JFK
441'
2800'
2000'
Brooklyn CGAS (closed)
ILS
315° 111.35 IMOH
OM
MEALS
D5.0 JFK
RADAR FIX
315°
ZACHS
D11.7 JFK
IAF 117.7 DPK
247°
228°
19.5
2000
NOT TO SCALE
MISSED APCH FIX
CHANT
D19.0 JFK
RBV 113.8
080°
190°
144°
049°
15.6
2000
73-40 CHANT (IAF)
RECOMMENDED ALTITUDES
LOC (GS out)
JFK DME | ALTITUDE
4.0 | 1470'
3.0 | 1150'
2.0 | 830'
1.0 | 510'
MEALS
D5.0 JFK
GS 1800'
OM
GS 1714'
ZACHS
D11.7 JFK
315°
2000'
1800'
TCH 48'
TDZE 13'
0.3
6.8
5.1
Grid spread-Kts
ILS GS
or LOC Descent Angle 3.00°
MEALS to MAP 5.4
120 140 160 180
637 743 849 955
2:42 2:19 2:02 1:48
FAF/IL
500'
1000'
LT
JFK
115.9
R-190
STRAIGHT-IN LANDING RWY 31L
ILS
DA(H) 213' (200')
LOC (GS out)
MDA(H) 440' (427')
CIRCLE-TO-LAND
Max Kts
MDA(H)
C
D
RVR 40 or ¾
RVR 60 or 1¼
1½
140
165
640' (626') - 1¾
640' (626') - 2
CHANGES: NONE.
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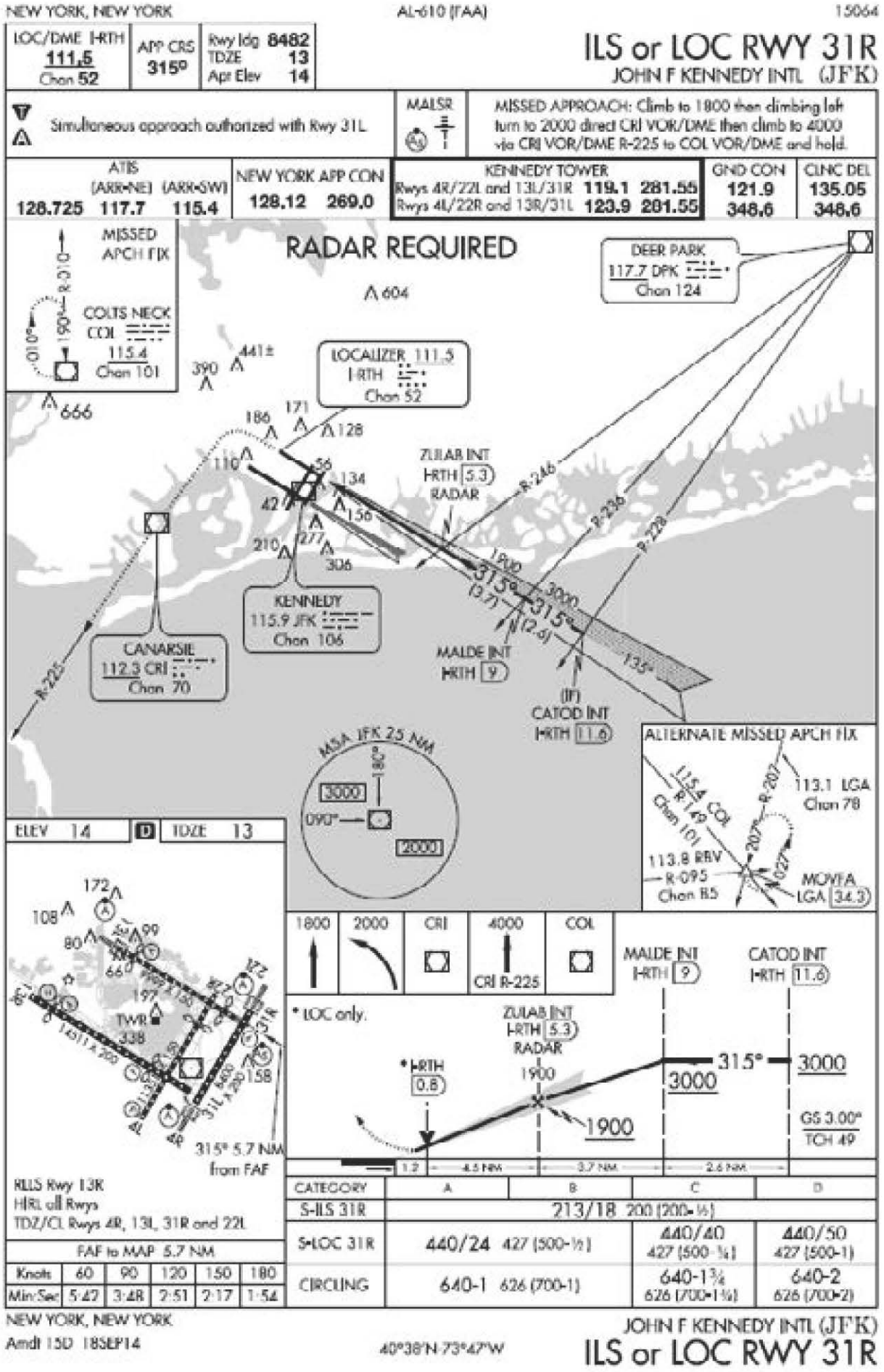
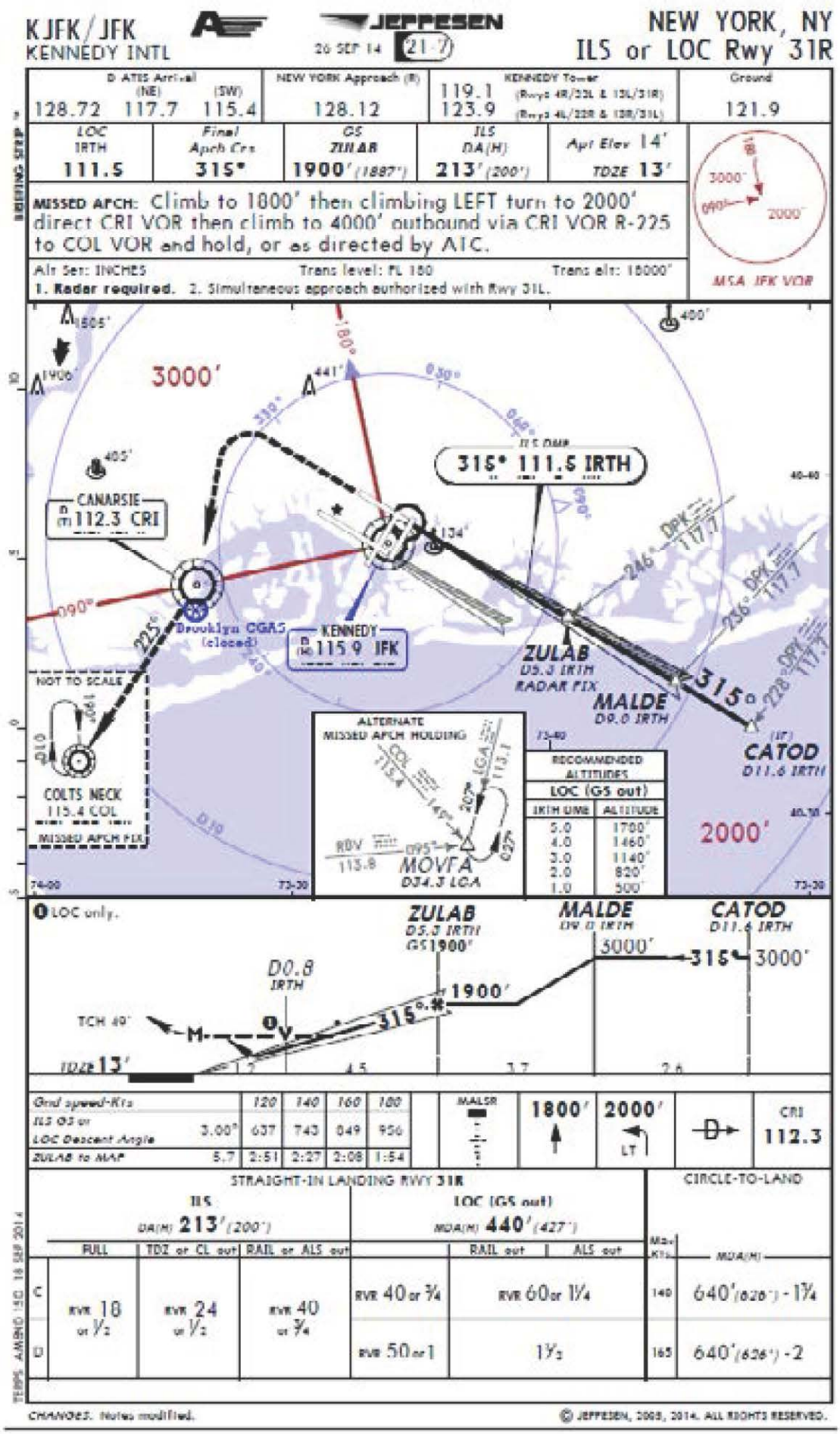

NEW YORK, NEW YORK
AL-610 (FAA)
15064
ILS or LOC RWY 31R
JOHN F KENNEDY INTL (JFK)
LOC/DME I-RTH 111.5 Chan 52
APP CRS 315°
Rwy Idg 8482
TDZE 13
Apt Elev 14
Simultaneous approach authorized with Rwy 31L
MALSR
MISSED APPROACH: Climb to 1800 then climbing left turn to 2000 direct CRI VOR/DME then climb to 4000 via CRI VOR/DME R-225 to COL VOR/DME and hold.
ATIS 128.725
(ARR-NE) 117.7
(ARR-SW) 115.4
NEW YORK APP CON 128.12 269.0
KENNEDY TOWER
Rwys 4R/22L and 13L/31R 119.1 281.55
Rwys 4L/22R and 13R/31L 123.9 281.55
GND CON 121.9 348.6
CLNC DEL 135.05 348.6
RADAR REQUIRED
MISSED APCH FIX
COLTS NECK COL 115.4 Chan 101
DEER PARK 117.7 DPK Chan 124
LOCALIZER 111.5 I-RTH Chan 52
ZULAB INT I-RTH 5.3 RADAR
KENNEDY 115.9 JFK Chan 106
CANARSIE 112.3 CRI Chan 70
MALDE INT I-RTH 9
(IF) CATOD INT I-RTH 11.6
MSA JFK 25 NM
ALTERNATE MISSED APCH FIX
113.1 LGA Chan 78
113.8 RBV R-095 Chan 85
MOVFA LGA 34.3
ELEV 14
D
TDZE 13
TWR 338
315° 5.7 NM from FAF
RLLS Rwy 13R
HIRL all Rwys
TDZ/CL Rwys 4R, 13L, 31R and 22L
1800
2000
CRI
4000
COL
CRI R-225
MALDE INT I-RTH 9
CATOD INT I-RTH 11.6
* LOC only.
ZULAB INT I-RTH 5.3 RADAR
*I-RTH 0.8
1900
3000
315°
GS 3.00°
TCH 49
1.2
4.5 NM
3.7 NM
2.6 NM
FAF to MAP 5.7 NM
Knots 60 90 120 150 180
Min:Sec 5:42 3:48 2:51 2:17 1:54
CATEGORY A B C D
S-ILS 31R 213/18 200 (200-½)
S-LOC 31R 440/24 427 (500-½) 440/40 427 (500-¾) 440/50 427 (500-1)
CIRCLING 640-1 626 (700-1) 640-1¾ 626 (700-1¾) 640-2 626 (700-2)
NEW YORK, NEW YORK
Amdt 15D 18SEP14
40°38'N 73°47'W
JOHN F KENNEDY INTL (JFK)
ILS or LOC RWY 31R
NE-2, 02 APR 2015 to 30 APR 2015
NE-2, 02 APR 2015 to 30 APR 2015


KJFK/JFK
KENNEDY INTL
JEPPESEN
20 SEP 14
21-7
NEW YORK, NY
ILS or LOC Rwy 31R
D ATIS Arrival
128.72 (NE) 117.7 (SW) 115.4
NEW YORK Approach (R)
128.12
KENNEDY Tower
119.1 (Rwys 4R/22L & 13L/31R)
123.9 (Rwys 4L/22R & 13R/31L)
Ground
121.9
LOC IRTH
111.5
Final Apch Crs
315°
GS ZULAB
1900' (1887')
ILS DA(H)
213' (200')
Apt Elev 14'
TDZE 13'
MISSED APCH: Climb to 1800' then climbing LEFT turn to 2000' direct CRI VOR then climb to 4000' outbound via CRI VOR R-225 to COL VOR and hold, or as directed by ATC.
Alt Set: INCHES
Trans level: FL 180
Trans alt: 18000'
1. Radar required. 2. Simultaneous approach authorized with Rwy 31L.
MSA JFK VOR
3000'
2000'
3000'
315° 111.5 IRTH
CANARSIE
112.3 CRI
KENNEDY
115.9 IFK
Brooklyn CGAS (closed)
COLTS NECK
115.4 COL
NOT TO SCALE
MISSED APCH FIX
ZULAB
D5.3 IRTH
RADAR FIX
MALDE
D9.0 IRTH
CATOD
D11.6 IRTH
ALTERNATE MISSED APCH HOLDING
MOVFA
D34.3 LCA
RECOMMENDED ALTITUDES
LOC (GS out)
IRTH DME
ALTITUDE
5.0 1700'
4.0 1460'
3.0 1140'
2.0 820'
1.0 500'
2000'
LOC only.
ZULAB
D5.3 IRTH
GS 1900'
MALDE
D9.0 IRTH
CATOD
D11.6 IRTH
D0.8 IRTH
TCH 49'
TDZE 13'
3000'
1900'
315°
Grid speed-Kts
ILS GS or LOC Descent Angle 3.00°
ZULAB to MAP 5.7
120 140 160 180
637 743 849 956
2:51 2:27 2:08 1:54
MALSR
1800'
2000'
LT
CRI
112.3
STRAIGHT-IN LANDING RWY 31R
ILS
DA(H) 213' (200')
LOC (GS out)
MDA(H) 440' (427')
CIRCLE-TO-LAND
FULL
TDZ or CL out
RAIL or ALS out
RAIL out
ALS out
Max Kts
MDA(H)
C
D
RVR 18 or ½
RVR 24 or ½
RVR 40 or ¾
RVR 40 or ¾
RVR 60 or 1¼
RVR 50 or 1
1⅓
140
165
640' (626') - 1¼
640' (626') - 2
CHANGES: Notes modified.
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AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 15-01 – April 28, 2015

RECOMMENDATION DOCUMENT

FAA Control # 15-01-322

Subject: Charts for SID, STAR, and OPD do not provide accurate information for filing a flightplan in many cases.

Background/Discussion: When SID, STAR, or named ODP are filed in a flightplan, sometimes the FAA ERAM computer is not adapted to permit including these procedures in the flightplan. When this occurs, a flightplan that includes an affected procedure will be rejected by ERAM. This may occur well after the flightplan has been accepted by the filing agency. The result is the pilot gets to the airport, calls for their clearance, and ATC does not have a flightplan on file. If the flightplan is filed and has a departure time within a few hour window of the filing, the flightplan is routed directly to ERAM and the pilot may get an error indication that the route has an error in it. In many cases, the pilot ends up using trial and error to determine what in the route is causing the error by refiling the flightplan multiple times until they determine a route that is accepted.

Some cases involve vector SID's where ERAM doesn't accept them because a route can't be adapted for the SID. Some have specific requirements that are not stated on the chart, such as Turbojet only. Some have instructions on the Chart to file the transition waypoint and not the SID. Others still have local requirements that the SID or STAR or a specific transition are only assignable by ATC and may not be filed.

The instructions for using the computer code need updating to reflect how to file a SID, ODP or STAR with and without a transition. For example, the code for KCLT Hugo Two SID is HUG2.HUG, but filing this will be rejected by ERAM.

Recommendations: When a SID, STAR, or ODP is not adapted to be used by ERAM, consider not provide the computer filing code and indicate on the chart that the procedure may not be filed by the pilot, but it may be assigned by ATC. Include any equipment or aircraft requirements on the chart notes. Coordinate with the ERAM adaption team and the responsible ATC Facility to confirm that the published database data and charts reflect all dependencies and that the ERAM will accept the computer codes and transitions. Clarify the instructions in the Frontmatter (Legend data) in the TPP publication that describes how to use the computer code and filing flightplans.

Comments:

Submitted by: John Collins
Organization: ForeFlight LLC
Phone: 704 576-3561
FAX:
E-mail: john@foreflight.com
Date: April 6, 2015

Charting Group

Government/Industry Aeronautical Charting Forum (ACF)
Meeting 15-01

April 29 – 30, 2015

Pragmatics, Inc.

1761 Business Center Drive
Reston, VA 20190

CHARTING GROUP AGENDA

I. OPENING REMARKS

II. REVIEW MINUTES OF LAST MEETING, ACF 14-02

III. AGENDA APPROVAL

IV. PRESENTATIONS, ACF WORKING GROUP REPORTS, ACF PROJECT REPORTS

ICAO / IFPP Committee Report	FAA / Mike Webb
PARC PBN Procedure Naming & Charting	FAA / Mike Webb
Airport GIS	FAA / Dr. Michael McNerney
Discontinuation of VOR Services	FAA / Leonixa Salcedo
National Route Strategy / PBN Implementation Process FAA Order 7100.41	FAA / Robert Novia FAA / Bruce Kinsler
VFR Chart Print Schedule Realignment and Synchronization	FAA / Rick Fecht
NOTAM Briefing	FAA / Lynette Jamison
Military Unmanned Aircraft Procedures	USA / CW4 Mark Burrows
EFAS/Flight Watch/Clearance Delivery Changes	FAA / Steve Villanueva

V. OUTSTANDING CHARTING TOPICS

Forum Number	Description Summary	Submitter
07-01-195	Charting & A/FD Information Re: Class E Surface Areas **Status:** Paul Gallant, FAA/AJV-113	NBAA
09-01-214	Low Visibility Operations/SMGCS (LVO/SMGCS) Taxi Charts (*Previously titled as SMGCS Taxi Charts*) **Status:** Bruce McGray, FAA/ASW-CMO-142	FAA
11-01-238	Aerobatic Area Symbols on VFR Sectional Chart **Status:** Mike Wallin, FAA/AJV-5331 and Rick Fecht, FAA/AJV-5223	FAA Mark Payne
13-01-261	Alaska Ground Based Transceivers (GBT) Locations **Status:** Valerie Watson, FAA/AJV-553 and Bob Carlson, FAA/AJV-5641	Jim Hill FAA/AJM-2323
13-01-262	Airport Facility Directory (A/FD) Depiction of Traffic Pattern Altitudes **Status:** Steve Brisbon, FAA/AJV-5331	Randy Coller Michigan DOT
13-01-266	Standardized Depiction of Altitude Restrictions on Bottom, Top and Maintain Altitudes on Standard Terminal Arrival (STAR) and Standard Instrument Departures (SIDs) **Status:** Valerie Watson, FAA/AJV-553 and Tom Schneider, FAA/AFS-420	Jim Arrighi FAA/AJV-141
13-01-267	Addition of ATC Radar Telephone Numbers in FAA A/FD **Status:** Gary Fiske, FAA/AJV-82	John Lindsay US Citizen
13-01-268	Making Alternate Missed Approach Text Accessible to ATC **Status:** Gary Fiske, FAA/AJV-82	Rich Boll NBAA
13-01-270	Stepdown Fix Chart Notes **Status:** Tom Schneider, FAA/AFS-420	Kevin Bridges FAA/AIR-130
14-01-274	Solar Power Plant Ocular Hazard Symbol on Aeronautical Charts **Status:** Rick Fecht, FAA/AJV-5223 and Valerie Watson, AJV-553	FAA Western Services Center Operations Support Group

Forum Number	Description Summary	Submitter
14-01-276	Removal of Non-Alaska Facility Information from Alaska Supplement **Status:** Bob Carlson, FAA/AJV-5641, Melissa Rudinger, AOPA and Lynette Jamison, FAA/AJR-B1	Marshall G. Severson FAA
14-01-277	Discontinuation of World Aeronautical Chart (WAC) **Status:** Rick Fecht, FAA/AJV-5223	FAA AeroNav Products
14-01-278	Alaska Designated Common Traffic Advisory Frequency Area Chart Depictions **Status:** Rick Fecht, FAA/AJV-5223	Brian E. Staurseth FAA
14-01-279	Naming of FAA Certified, National Disseminated AWOS-3 Systems on Private Use Airports **Status:** Regina H. Sabatini, FAA/AJV-5331	Regina H. Sabatini FAA
14-02-280	MEA Usage on SIDs **Status:** Tom Schneider, FAA/AFS-420	John Collins GA Pilot
14-02-281	Publish Electronic Form of MVA Charts **Status:** Valerie Watson, FAA/AJV-553	John Collins GA Pilot
14-02-282	VASI PAPI Differences **Status:** Bryant Welch, FAA/AFS-410 and Brad Rush, FAA/AJV-54	John Collins GA Pilot
14-02-283	Charting of Transmission Lines on VFR Charts **Status:** Rick Fecht, FAA/AJV-5223 and Brad Rush, FAA/AJV-54	Christopher Hill USCG
14-02-284	DME Facilities – Charting and MAGVAR Issues **Status:** Dale Courtney, Stand Alone DME Work Group Chair, FAA/AJW-292	Leo Eldredge Tetra Tech
14-02-286	Airport Diagram Symbol for Non-Standard Runway Holding Position Marking in Conjunction with a Hot Spot **Status:** Valerie Watson, FAA/AJV-553	Chris Diggons FAA/AJI-144

VI. NEW CHARTING TOPICS

Forum Number	Description	Submitter
15-01-289	Adding "CPDLC" Information to Airport Diagram and Terminal Procedures and Updating the AFD **Briefer:** Greg Anderson, FAA/AJM-34	David Cherry DataComm
15-01-290	VFR Charting of Airport Symbol – Services Availability **Briefer:** Rick Fecht, FAA/AJV-5223	Randy L. Coller State of Michigan, MDOT - Aeronautics
15-01-291	Charting and Evaluation of Climb Gradients **Briefer:** Gary McMullin, Southwest Airlines	Gary McMullin Southwest Airlines
15-01-292	Removal of Grid Variation from U.S. IAP Charts **Briefer:** Tom Schneider, FAA/AFS-420	Steve Jackson FAA
15-01-293	STAR Terminus Point Standardization **Briefer:** Lev Prichard, Allied Pilots Association	Lev Prichard Allied Pilots Association
15-01-294	Charting Maximum Assessed Holding Altitude and Associated Speed **Briefer:** Tom Schneider, FAA/AFS-420	Steve Jackson FAA
15-01-295	Charting of VORs for the Minimum Operating Network (VOR MON) **Briefer:** Leo Eldredge, Contract Support, FAA/AJM-324	VOR MON Program FAA

V. NEXT MEETINGS

ACF 15-02 is scheduled for October 27-29, 2015, hosted by Lockheed Martin, Crystal City, VA.

ACF 16-01 is scheduled for April 26-28, 2016, hosted by TBD, TBD.

ACF 16-02 is scheduled for October 25-27, 2016, hosted by TBD, TBD.

Government/Industry Aeronautical Charting Forum (ACF)
Meeting 14-02
October 29-30, 2014
Pragmatics, Inc.
Reston, VA 20190

CHARTING GROUP MINUTES

I. Opening Remarks

The Aeronautical Charting Forum (ACF) was hosted by Pragmatics, Inc. at their location in Reston, VA. Valerie Watson, AJV-344, opened the Charting Group portion of the forum on Wednesday, October 29. Valerie acknowledged ACF Co-chair Tom Schneider, AFS-420, who presided over the Instrument Procedures Group (IPG) portion of the Forum the previous day. Valerie also expressed appreciation to Pragmatics, Inc. and Pragmatics, Inc. representative Steven VanCamp for hosting the 14-02 ACF.

II. Review Minutes of Last Meeting, ACF 14-01

The minutes from ACF 14-01 meeting were distributed electronically last spring via the AeroNav ACF website: http://www.faa.gov/air_traffic/flight_info/aeronav/acf/. The minutes were accepted as submitted with no changes or corrections.

III. Agenda Approval

The agenda for the 14-02 meeting was accepted as presented.

IV. Presentations, ACF Working Group Reports and ACF Project Reports

ICAO/IFPP Committee Report

Mike Webb, AFS-420 and advisor to the U.S. Delegation to the ICAO Instrument Flight Procedures Panel (IFPP), provided an update on the ICAO/IFPP Committee activities and an overview of the key topics of the recent summer meeting of the ICAO/IFPP Integration Working Group (IWG).

Mike announced that Robbie Myers, AFS-420, replaced Mike as the U.S. representative member on the ICAO IFPP. Mike will now serve as an advisor.

A complete list of work done regarding IFPP/12 is provided on slide #3 of PowerPoint presented at the ACF. The papers related to these items are in the final stages of being prepared for endorsement. Future tasks for IFPP/13 are listed on slide #4.

ACTION: Mike Web, AFS-420, will provide an update at the next ACF.

PARC PBN Procedure Naming and Charting

Mike Webb, AFS-420, provided an update on the Performance Based Operations Aviation Rulemaking Committee (PARC) Performance Based Navigation (PBN) Procedure Naming Action Team activities since the last ACF. Mike reported that there has been good participation across all industry shareholders. The next meeting is to be held on 10 November 2014. The group is working towards a draft recommendation paper for the PARC steering group, to be readied by December 2014.

The group has come up with several instrument approach procedure (IAP) examples that depict single or multiple NAVSPECs, as well as sensor and functional requirements to be placed in a PBN requirements box located in the briefing strip portion of the chart (See Slides #7 and #8 for prototype examples). The group will begin discussing the depiction of PBN requirements on SIDs and STARs next.

Rich Boll, NBAA, asked whether there would be any change in how the IAPs are titled, specifically, if GPS would appear in the procedure title. Rich added that if GPS is *not* included in the title, the procedure would not be properly pulled from an aircraft's FMS. Mike responded that the plan is for GPS not to be part of the procedure title and stated that FMS manufacturers have and are addressing the issue. He restated that in the U.S., RNAV will remain in the procedure title, not RNP as it appears ICAO will recommend.

ACTION: Mike Web, AFS-420, will provide an update at the next ACF.

Airport GIS and FAA Order 5010.4A update

Dr. Mike McNerney, AAS-100, provided an update on the progress made on the FAA Airports GIS program. Since the last ACF, AAS-100 has been focused on delivering several projects that will enable airports to upload their data directly to the Airports GIS server. Dr. McNerney added that by the end of the fiscal year, AAS-100 plans to have approximately 1000 airports, legacy ALPS, PDF data, Part 139 airport signage and marking plans uploaded to the cloud server. Work continues to improve the 20:1 tool, which is currently available. Work is also being done to push data out to the three FAA Centers. The Eastern Center will be the first, with the remaining two centers expected to have data pushed to them around March 2015.

Dr. McNerney next briefed on the transition work from current FAA databases to the Airports GIS database and the establishment of Airports GIS as the authoritative source for airport information. One key issue associated with the change in authoritative source pertains to the validity of source information. As has been previously reported at the ACF, data will be entered directly by the airport and only the airport providing the information will have the means to change the information. Once the data is in the Airports GIS database, it will be verified. The release of airport data is still planned to be through NFDC for official publication. The process, from start to finish, will be electronic and should reduce the number errors.

Next Dr. McNerney gave an update on the FAA Order 5010.4A. He mentioned that airport lighting information will be collected in more detail, including the lighting fixture name and presence of LEDs. For instance, a MIRL system using LEDs will be identified as MIRL-L. Charting requirements of these LED systems has yet to be determined.

Dr. McNerney reported that airport survey information, for at least the larger airports, will be routed through NGS for validation. AAS-100 is investigating alternative methods for smaller airports to be validated without the NGS step required. The goal is maintain airport survey information to an accuracy of one meter.

Rich Boll, NBAA, inquired as to how the airports data would be available to those outside the FAA. Dr. McNerney responded that those outside of the federal government would need to seek access through the FAAs Aeronautical Information Services (AIM) office. Details of external access have yet to be finalized.

Lynette Jamison, AJR-B1, asked for clarification about exactly who is authorized to change airport data. Are state airport inspectors authorized to revise the data? Dr. McNerney stated that state Inspectors can request a change by sending the data to the airport, then the airport would be required (and authorized) to formally submit the data electronically to Airports GIS. If an airport is abandoned and the last point of contact cannot be reached, the state inspector may submit the data change request.

Brad Rush, AJV-344, inquired when AC 150/5300-18C would be published. Dr. McNerney stated that the Order is scheduled to be out for comment in March 2015.

Valerie Watson, AJV-344, asked for more detail about the plan for Airports GIS to database the presence of LED lighting at airports and what might be expected for charting. Coby Johnson, AFS-410, stated that there is an FAA workgroup that is looking into the issue of LED lighting. Coby stressed that there are huge implications to switching over to LEDs and the workgroup is looking into the infrastructure requirements and

working on a test plan. They are also considering alternatives to LEDs. Valerie stated that should charting of LEDs be a requirement, the issue should be brought to the ACF as a new agenda item.

Ted Thompson, Jeppesen, asked about the value of collecting and potentially publishing LED lighting for an airport. He stated that for pilots with Enhanced Vision System (EVS) devices, knowing this information might be useful, but for the average pilot, it would be useless information.

ACTION: Dr. Mike McNerney, AAS-100, will provide an update at the next ACF.

Discontinuation of VOR Services

Leo Eldridge, Tetra Tech, Contract Support to AJM-324, briefed the issue. Leo reviewed the plans for transitioning the NAS from a VOR-based NAS to an RNAV/PBN-based NAS. It is estimated that 90% of the general aviation and commercial aircraft operating within the NAS are GPS equipped. The numbers for DoD aircraft equipped with GPS were estimated to be around 60%. The need for VORs is in decline and it is still the FAA's intention to eliminate 30% to 50% of the existing VORs by 2025. The reduction will begin gradually over the first five years during which time the bulk of the procedural/airway/airspace work will assessed. Then the plan is to accelerate the process, with approximately 20 to 25 VORs decommissionings accomplished per year. Leo emphasized that there is a great deal of pre-coordination required in the decommissioning of these VORs. Many of the remaining VORs will be enhanced to supply increased service volume.

Leo stated that the coordination efforts between the FAA and DoD is ongoing. MITRE is working with the DoD to identify the VORs that will need to be retained to meet DoDs needs.

Leo emphasized that only FAA owned and operated VORs will be considered for decommissioning. There has been some discussion regarding the possibility that local authorities and airports may privatize a number of VORs that have been identified for decommissioning.

Leo discussed several challenges related to the implementation of the VOR MON. These include impacts to Instrument Flight Procedures, the implementation of the PBN National Route Structure, ongoing engineering analysis, stakeholder coordination, co-located facilities (HIWAS, RCO, ATIS, DME), and rulemaking changes. Many of these details are still unanswered.

Leo concluded by reviewing the next step for the VOR MON program. AJM-324 is still in the process of coming up with a detailed program plan. The Final Investment Decision is expected in September 2015.

ACTION: Leonixa Salcedo, AJM-324, will provide an update the next ACF.

National Route Strategy

Sharon Abhalter, AJV-14, briefed the issue. Sharon first provided an overview of the National Route Structure concept. At this time, it is a concept of operation only and as of yet, is not funded. The PBN Route Structure is envisioned to be the primary means of navigation for the future NAS and would complement and support the VOR MON program. The route structure would increase the number of RNAV routes, e.g., Q and T routes, in order to replace existing VOR-based Victor Airways and Jet Routes, while still accommodating point-to-point navigation. Route structure will be established in areas where structure is deemed necessary, for instance the high traffic corridors along the East Coast. Point-to-point navigation will be utilized in less congested zones where route structure is not deemed necessary.

Sharon stated that a system of ATC preferred routes will continue to exist and will likely be expanded.

When asked what the potential impact on the existing Jet Routes system is expected to be, Sharon responded that eventually ALL of the Jet Routes are expected to be eliminated. The existing Q Route structure will be re-evaluated, revised and added to. She briefed that Victor Airways, and T Routes would remain, especially in areas of no radar coverage and in high traffic areas. Connections between metroplexes are being analyzed and will make up a key part of the PBN National Route structure.

Rich Boll, NBAA, asked about the anticipated timeline. Sharon stated that thus far, no definitive timeline has been established and its first steps are dependent upon funding.

ACTION: Robert Novia, AJV-14, to provide an update at the next ACF.

PBN Implementation Process FAA Order 7100.41

Sharon Abhalter, AJV-14, briefed on the recently signed PBN Implementation Process Order 7100.41. The Order provides a standardized development and implementation process for PBN procedures and routes.

The order is designed to be used by a workgroup to meet agreed-upon project goals by attaining developmental and incremental milestones in PBN Implementation. It provides an increased requirement for collaboration across lines of business and establishes a process that when followed will fulfill SMS obligations. The Order also outlines the requirement for a post implementation analysis report to be filed after procedures have been put in place.

Sharon stated that numerous comments to the Order have been received and that those comments will be reviewed sometime after January 2015.

Bob Lamond, NBAA, asked if external components have access to the developmental milestones. Sharon replied that the PBN team is working on that and will provide further information at the next meeting.

ACTION: Bruce Kinsler, AJV-142, to provide an update at the next ACF.

Revision to FAA Order 8400.9, Runway Selection and Use Plan

John Blair, AFS-410, briefed on revisions to the Runway Selection and Use Plan, FAA Order 8400.9. The Order addresses safety concerns and operations of aircraft arriving at and departing from Part 139 airports. The Order will require that all Part 139 airports establish a Runway Selection Safety Team (RSST), who will be charged with determining maximum crosswind and tailwind components for each runway at their airport. This knowledge will effectively reduce the number of times pilots must reject a clearance for a runway due to cross or tail wind limitation and will also reduce the number times pilots are put in possibly unsafe situations. The timeline for coordination of the Order is by end of 2014. It is anticipated that the Order will be formally adopted by late 2015.

The purpose of this briefing was informational only. There will be no impacts on charting.

VFR Chart Print Schedule Realignment and Synchronization

Ron Haag, AJV-3212, briefed the audience on AeroNav Products' intent to eventually provide digital updates of VFR Charts every 56 days. The plan is to provide an updated digital version of the VFR charts every 56 days and an updated paper version every 224 days. The first step of the plan, to be implemented in the near future, will be to extend the paper update cycle of Sectional and TAC charts from its current 168 and 196 days (alternating) to a standard 224 days. Ron stated that the purpose of the change is partly to synchronize the VFR charts with other FAA chart products (e.g. IFR Enroute Charts, TPPs, AFD, etc.). This change will also allow charts that share Class B airspace or have large overlapping areas to be printed concurrently.

Ted Thompson, Jeppesen, expressed concern that printing the charts and producing them digitally on different schedules will result in data conflicts. Ron replied that other than when both charts are released on the same date, the digital charts would have a more current date and would appear different because the information would be more up to date.

Rick Fecht, AJV-3213, stated that the AFD chart bulletin would enable paper users of the VFR charts to keep their charts up to date with the latest chart changes.

Lynette Jamison, AJR-B1, asked how the NOTAMS would be applied to the charts given the difference in versions and delivery method. Ron responded that the Visual charting team is investigating this and other issues that will provide challenges and does not plan to move forward until they are resolved. He stated that FAA Legal has been contacted and will help work these issues prior to implementation.

ACTION: Ron Haag, AJV-3212, to provide an update at the next ACF.

V. Outstanding Charting Topics

05-02-179 Attention All-Users Page for Simultaneous, Parallel RNAV Departures & PRM Approaches

Kel Christianson, AFS-470, briefed the issue. Kel reported that the RNAV Departure AAUP guidance was published in FAA Order 8260.46 in May, 2014. Rich Boll, NBAA, inquired as to when we would start to see AAUPs in the TTPs. Kel responded that AAUPs for approaches have already been published. No requests to publish RNAV Departure AAUPs have been received to date.

Ted Thompson, Jeppesen, expressed his gratitude to Kel and Tom Schneider, AFS-420, for the work done in getting the AAUP process formalized.

STATUS: CLOSED

07-01-195 Charting & AFD Information Re: Class E Surface Areas

Paul Gallant, AJV-113, reviewed the issue. Paul stated that the AIM Chapter 3 changes have been made and are currently out for comment. Specific queries regarding a number of individual airspace areas (and extensions, times, etc.) originally identified by AeroNav Products and supplied to the Airspace & Rules office have been resent to the three service areas. Paul will follow up and process revised airspace descriptions as necessary.

STATUS: OPEN

ACTION: Paul Gallant, AJV-113, to report on publication of revised AIM guidance.

ACTION: Paul Gallant, AJV-113, to report back on feedback received from service areas and any possible Order JO 7400 action.

09-01-214 Low Visibility Operations/SMGCS (LVO SMGCS) Taxi Charts (Previously title as SMGCS Taxi Charts)

Bryant Welch, AFS-410, briefed the topic on behalf of Bruce McGray, AFS-410. Bryant stated that the SMGCS Order has been in the process of undergoing a major edit as many of the provisions detailed in the order did not materialize, largely due to funding issues. AFS-410 is now in the process of simplifying the Order, which is currently under review by the FAA Regional offices. Bryant stated that SMGCS charts will not be expected to be produced by the FAA in the near future.

STATUS: OPEN

ACTION: Bruce McGray, AFS-410, to report back on the progress made on the revision of the SMGCS Order.

11-01-238 Aerobatic Area Symbols on VFR Sectional Chart

Mike Wallin, AJV-211, briefed the issue. Mike stated that he has met with Susan Gardner, AFS-800, regarding this issue. AFS-800 and AJV-211 are working together to collect the data (lateral parameters, altitudes, times of use, contact information) on the long term Aerobatic Training Areas (ATAs) in the U.S. and to devise charting/publication criteria for them. AFS-800 will determine which areas are to be depicted on the VFR charts and which are to be published only in the AFD. Mike also reported that AJV-211 will be contacting the AFD team to investigate the possibility of creation of a separate table in the AFD similar to that used for the publication of parachute jumping areas. It is expected that an associated standard note will also be included in the AFD airport entry.

Mike reported that an average of 10 to 15 new aerobatic areas are established and 5 are decommissioned annually. Most aerobatic areas are within close proximity to an airport. As part of the publication criteria being discussed, the aerobatic area will be identified in part by the nearest airport. It is proposed that aerobatic areas would be represented by a chart symbol not unlike the symbols used for hang glider and ultralight activity. Each aerobatic activity area location will have latitude and longitude information.

Mike added that initially, the aerobatic area publication information will be distributed via NFDD add-on page, until such time as NASR can be updated to accommodate the data. The process to update NASR is expected to take approximately 12 months.

Mike reiterated that AFS-800 will assume responsibility for maintaining ATAs and submitting ATA information to NFDC for publication. Newly designated ATAs (which are established via waiver) are only valid for 2 years and have to be renewed upon expiration. AFS-800 will either inform NFDC that an area is to be deleted or has been renewed for another 2 years. ATA changes will be submitted from AFS-800 to NFDC via an online digital form, which NFDC expects to have ready by the summer of 2015. FAA Order 7900.3, which is currently being drafted by NFDC, will include the form and instructions on the submission process.

John Moore, Jeppesen, inquired as to who will be responsible for guaranteeing the Flight Standards established ATA criteria is adhered to and how the data will be verified. Mike replied that AFS-800 will be the authoritative source for ATAs and that NFDC will publish them as submitted. Original requests may still go through the FSDO and then to AFS-800. All requests for ATAs will be validated by AFS-800 before they are submitted to NFDC for publication.

STATUS: OPEN

ACTION: Mike Wallin, AJV-211, to continue working with AFS-800 to finalize charting and AFD publication criteria for ATAs.

ACTION: Rick Fecht, AJV-3213, will supply Mike Wallin a list of those Aerobatic Training Areas that currently exist on the VFR Charts and in the AFD for AFS-800 assessment.

ACTION: Rick Fecht, AJV-3213, will begin work on developing an ATA symbol for the visual charts.

13-01-260 Inclusion of Metering Frequency, 133.57, to MSP Airport Diagram – FAA AL 264

Valerie Watson, AJV-344, reviewed the topic. Valerie stated that the IACC Recommendation Document has been signed and Metering Frequencies should appear on affected airport diagrams within the next couple of charting cycles.

STATUS: CLOSED

13-01-261 Alaska Ground Based Transceivers (GBT) Locations

Valerie Watson, AJV-344, briefed the issue. Valerie stated that she has been in contact with Maureen Cummings-Spickler, AGC-520, who is the attorney in FAA General Counsel newly assigned to the ADS-B program. Ms. Cummings-Spickler informed Valerie that she is working both the ACF request and a Freedom of Information Act (FOIA) request for release of ADS-B locations. Ms. Cummings-Spickler has promised a response prior to the next ACF (April 2015).

Bob Carlson, AJV-3721, briefed that he contacted the Alaska and Western Regional Offices to inquire if they would like to submit ADS-B coverage graphics at 5,000' and 10,000' for publication in the Supplement Alaska. A response has not yet been received.

STATUS: OPEN

ACTION: Valerie Watson, AJV-344, to report back on her discussions with FAA Legal regarding the release of ADS-B tower locations.

ACTION: Bob Carlson, AJV-3721, to report back on publication of ADS-B coverage graphics at 5,000' and 10,000' in the Supplement Alaska.

13-01-262 Airport Facility Directory (AFD) Depiction of Traffic Pattern Altitudes

Valerie Watson, AJV-344, briefed the previous ACF consensus that ALL traffic pattern altitudes, whether considered "standard" or "recommended", should be both captured in the NASR database and published in the AFDs. Steve Brisbon, AJV-211, briefed that NFDC has not yet begun the process of populating all traffic pattern altitudes in NASR. Steve will follow up and attempt to expedite the project.

STATUS: OPEN

ACTION: Steve Brisbon, AJV-211, to report back on the progress in populating all Traffic Pattern Altitudes in NASR.

13-01-264 Flight Path Angle (FPA) on STAR Charts with Published Vertical Profiles

Trent Bigler, AFS-470, briefed the issue and stated that the final recommendation from the PARC VNAV Action team was not to publish FPAs on STAR Charts.

Valerie Watson, AJV-344, expressed surprise at this decision as there was very strong pilot support at the previous ACF for published FPAs on Arrivals. Trent stated that the angle will be calculated as part of the criteria, but will not be published on the chart.

STATUS: CLOSED

13-01-266 Standardized Depiction of Altitude Restrictions on Bottom, Top and Maintain Altitudes on Standard Terminal Arrival (STAR) and Standard Instrument Departures (SIDs)

Valerie Watson, AJV-344, briefed the issue. Valerie reported that AFS-420 has provided interim "Top Altitude" guidance via memo until FAA Order 8260.46F is released. Valerie showed sample charts to the group depicting how the "Top Altitude" box will appear on the planview of FAA charts.

Ted Thompson, Jeppesen, presented prototypes of Jeppesen's "Top Altitude" chart depiction, which will incorporate the altitudes into a specifically labeled "Top Altitude" column as part of the Departure Routing text block.

Valerie briefed that Top Altitude publication will begin with the Denver SIDs for the November 13 effective date cycle. A prioritized schedule is being established, in concert with Air Traffic, to place all SIDs with Top Altitude into production.

Tom Schneider, AFS-420, briefed the interim Top Altitude guidance and stated that the final guidance will be published in FAA Order 8260.46F, due to be published next September.

Tom also discussed the proposed "Bottom Altitude" changes to the STAR Order, which is in the process of being transferred to AFS-400 and incorporated into Orders 8260.3, 8260.19, and 8260.58. Once the transfer has been completed, likely sometime in 2015, Order JO 7100.9E will be cancelled. Tom has draft language prepared to support the requirement for "Bottom Altitudes" on STARs for insertion into Draft FAA Order 8260.19G.

Jim Arrighi, AJV-151, stated that the language in the order must be written to allow for one Bottom Altitude per runway transition.

STATUS: OPEN

ACTION: Tom Schneider, AFS-420, to provide an update on the transfer of FAA Order JO 7100.9 (STAR Order) to AFS-400.

ACTION: Valerie Watson, AJV-344, to draft an IACC Recommendation Document to support the charting of Bottom Altitudes on STARs and to create prototype STAR charts.

13-01-267 Addition of ATC Radar Telephone Number in FAA AFD

Gary Fiske, AJV-82, reviewed the issue and stated that this issue has not progressed since the last ACF. Gary was not able to obtain ATC consensus to release the requested phone numbers. Many questions remain unanswered within ATC such as what phones at the facilities might be dedicated to this use, who will be charged to field the calls in the facility, what specific services could be offered via phone. Gary stated that it is possible that some terminal facilities might be willing to release phone numbers, while others may not and restated that at present he does not have the ATC authorization to go forward. He will attempt to obtain a consolidated ATC position.

Valerie Watson, AJV-344, commented that in order for the ATC numbers to be published in the AFD, they would first have to be published in NASR. Valerie also stated that there is currently no placeholder in the AFD to publish the numbers and that preliminary work will not be done to create one until a decision has been made by ATC.

STATUS: OPEN

ACTION: Gary Fiske, AJV-82, will work to gain a consolidated ATC response and report back at the next ACF.

13-01-268 Making Alternate Missed Approach Text Accessible to ATC

Rich Boll, NBAA, reviewed the issue. Gary Fiske, AJV-82, proposed that the ACF revisit the original idea of publishing Alternative Missed Approach text in the front matter of the TPPs. Rich stated that it is his understanding that many new controllers don't know what an FAA Form 8260 is. Gary acknowledged this. Gary stated that he believes publishing them in the TPP is the best way to ensure the controllers have the information. There was a vigorous discussion among ACF participants on the pros and cons of publishing the alternative missed approach text either in the front of the TPPs or on the approach charts.

Ted Thompson, Jeppesen, stated that if this information is primarily for controllers, it should not be placed on the IAP charts.

Valerie Watson, AJV-344, emphasized that the TPPs are for pilots, not ATC. She commented that it is ATC's responsibility to maintain and have available this information in the facilities and that she feels it is not up to AeroNav Products to create and maintain a new section in the TPPs because ATC does not have a sufficient process in place.

Brad Rush, AJV-344, referenced Gary to the FAA website where there is public access to all 8260 forms. Brad Rush stated that this is more of an ATC training issue than a charting issue, and that ATC needs to insure that the 8260s (and thereby the Alternate Missed Approach instructions) are available to controllers.

Gary will investigate this issue further within ATC and report back at the next ACF.

STATUS: OPEN

ACTION: Gary Fiske, AJV-82, will take the comments raised in the ACF back to ATC and investigate the best way to insure that alternate missed approach information is available to controllers.

13-01-270 Stepdown Fix Chart Notes

Tom Schneider, AFS-420, briefed the topic and advised that the revised FAA Order 8260.19G will be published March 2015. Kel Christianson, AFS-470, added that work on the changes to the AIM have been put on hold until the revisions to the Order have been published.

Rich Boll, NBAA, presented a briefing in which he expressed various concerns regarding pilot confusion over how to apply the stepdown fix chart note. One of those concerns is that there is a belief among pilots that the stepdown fix does not apply to circling. Part of the confusion stems from combining LNAV/VNAV and LNAV-only capabilities onto a single chart. Rich presented various solutions to address this confusion, including adding circling to the existing chart note, separating the vertically guided and non-vertically guided approaches onto different charts, or adjusting the TERPS criteria to remove LNAV/VNAV minima and only publishing LPV minima.

John Collins, GA Pilot, inquired as to whether there were any temperature restrictions associated with LNAV/VNAV approaches where Baro VNAV was required. Pilots within the audience commented that there is an assumption that a Baro-VNAV system attempts to fly the descent path and is potentially dangerous.

Rich put forth the following request from NBAA regarding actions on this topic:

- Suspend action to amend chart note
- In the short term, establish an FAA/Industry working group to identify, evaluate, and select suitable options to address the current issue.
- In the longer term, AFS to work with AIR to establish appropriate criteria within TERPS supporting continued use of LNAV/VNAV minima that reflect existing certification criteria respective to approach Baro-VNAV

John Collins, GA pilot, expressed his opinion that a stepdown fix after the FAF (GS Intercept) should not apply to an LNAV/VNAV procedure as it is a vertically guided procedure that meets TERPS criteria for obstacle clearances and specifies temperature limitations when using Baro-VNAV equipment to assure these obstacle clearances are satisfactorily met.

Lev Prichard, APA, stated that he does not support the addition of the asterisk for the stepdown altitude, as it will most certainly destabilize approaches using VNAV equipment. It is not necessary as LNAV minimums use a flat OCS and LNAV/VNAV minimums use a temperature corrected sloping OCS. The stepdown fix does not effectively exist for LNAV/VNAV minima and would have a negative operational effect on a stabilized approach in cold temperatures for Baro-VNAV equipped aircraft by requiring them to interrupt the VNAV path by entering another vertical mode, thus complicating and destabilizing the procedure. It is a non-issue for aircraft utilizing SBAS (WAAS), and therefore chart clutter. We do support other possible changes as discussed if it alleviates the circling issue brought up by NBAA.

Tom stated that these recommendations would have to go back to the US-IFPP and this issue be reopened in order to address the concerns. Tom reminded the audience that the related FAA Orders are still in draft. With regard to the circling portion of this issue, Tom stated that there are two options. Either the note can be expanded to also apply to circling, or a rule can be established within TERPS that if there is a stepdown fix, circling MDA cannot be established below that stepdown fix altitude.

STATUS: OPEN

ACTION: Tom Schneider, AFS-420, will readdress the issue at the USIFPP and report at the next ACF.

13-02-273 Publication of Diverse Vector Areas (DVAs)

Valerie Watson, AJV-344, briefed the issue. Valerie stated the first DVA's were published in October 2014 in the Takeoff Minimums front matter section of the TPPs.

Ted Thompson, Jeppesen, commented that the DVA appears on the Jeppesen airport diagram chart in the Jeppesen Airway Manual.

Tom Schneider, AFS-420, stated that the Instrument Procedures Handbook will be updated with DVA information in the next edition.

Bryant Welch, AFS-410, presented the DVA text submitted for publication in the AIM, which is currently in coordination and is expected to be published in the AIM for the next update cycle.

Gary Fiske, AJV-82, emphasized that a pilot should be aware of what to anticipate from ATC and that if there is a DVA at a given airport, the pilot is responsible for insuring that the aircraft can fly the DVA.

STATUS: CLOSED

14-01-274 Solar Power Plant Ocular Hazard Symbol on Aeronautical Charts

Valerie Watson, AJV-344, reviewed the topic. Rick Fecht, AJV-3213, showed the audience the current VFR Sectional chart depictions of the two solar plants that were identified by the Western Service Center as presenting an ocular hazards to pilots. He asked attendees for feedback on the depictions.

Lev Prichard, ASA, commented that the current charting depictions look understated. Lev inquired if there was anything charted on any FAA Instrument charting products. Valerie replied back that current FAA policy prohibits the practice of posting cautionary comments on IFR Charting products.

Melissa Rudinger, AOPA, Bill Wade, Delta Air Lines, John Collins, GA Pilot, and others echoed the sentiment that the solar plants are not prominently enough displayed on the current Sectional charts. Valerie suggested that the visual charting team try to work on a more prominent visual depiction and also utilize text to alert users that there is an ocular hazard associated with the plants. Rick agreed.

Lynette Jamison, AJR-B1, stated that there are currently two NOTAMs on the circuit which were issued by the ATC Traffic Advisory Committee to alert users of the plants. Lynette added that there have been several filings by pilots through NASA ASRS comments and ATSAB reports. She also stated that these are the first two such solar power stations and that there are 5 more large farms in planning. Lynette then asked if there was anything in the AIM regarding ocular hazards.

Valerie stated that in searching the AIM prior to the ACF, she found nothing addressing flash blindness or cockpit illumination associated with solar mirror farms. She stated pilots desiring to report problems with an ocular hazard should report to their local Flight Standards District Office (FSDO) to voice their concerns.

STATUS: OPEN

ACTION: Valerie Watson, AJV-344 and Rick Fecht, AJV-3213, to work on generating new charting concepts that would provide a more prominent depiction and alert users of the ocular aspect.

14-01-275 Charting Speed Limited Areas on Instrument Approach Plates

Gary Fiske, AJV-82, provided an update on discussion within ATC about assigning speeds contrary to that specified under Class B airspace and procedure issues with Southern California TRACON. Gary noted that most controllers are aware of the speed restrictions under Class B airspace and the feedback from the TRACON is that there was not a huge problem.

Gary briefed the group that the rulemaking action he was pursuing that would allow speeds "or as assigned by ATC" under Class B airspace did not receive support and the effort has been abandoned.

Rich Boll, NBAA, commented that speed limit issues for pilots are a problem throughout the NAS. Rich pointed out that the AIM states that the pilot will maintain the airspeed issued from last ATC order. This may explain why pilots maintain airspeeds into airspace below Class B. Rich add that in instances where a pilot chooses to slow down when entering airspace below Class B, the controller will often ask him why. Rich stated that there may need to be a better explanation in the AIM.

Bob Lamond, NBAA, suggested that there be a one-time re-education of both pilots and controllers. He committed to looking into some possible educational alternatives in coordination with Gary.

Valerie Watson, AJV-344, restated that, per previous ACF consensus, AeroNav Products will not chart Class B airspace boundaries on IAPs and since this issue does not involve a charting solution, the item would be closed. The group agreed.

STATUS: CLOSED

14-01-276 Removal of Non-Alaska Facility Information from Alaska Supplement

Valerie Watson, AJV-344, reviewed the issue. Melissa Rudinger, AOPA, reported that she reached out to the AOPA regional manager in Fairbanks and to pilot members in Alaska regarding the removal of non-Alaska information from the Alaska Supplement. She found strong support for retaining all of the airport information currently contained in the Supplement, both Alaskan and non-Alaskan. The AOPA Alaskan members did say that some of the airports could be looked at for removal, but requested that for the present, they would like to see all the information retained. They found having such information very useful to pilots who are flying along the border non-stop.

Lynette Jamison, AJR-B1, commented that the non-Alaska information in the Alaska supplement should be removed because the data is erroneous. Lynette added that Alaska has submitted the errors to the FAA and those errors have yet to be addressed. Valerie responded that there was a disconnect between the AFD and AK Supplement, but that will be rectified with the upcoming move to automate both books. Valerie added that work is also ongoing to establish one IACC Specification for the AFD, Alaska Supplement and Pacific Chart Supplement. Bob Carlson, AJV-3721, requested that any known errors be forwarded to him and he would see that they are remedied.

The current non-Alaska information contained in the Supplement will remain.

STATUS: OPEN

ACTION: Lynette Jamison, AJR-B1, and Melissa Rudinger, AOPA, to work with Bob Carlson, AJV-3721, on addressing the errors found in the AK Supplement.

14-01-277 Discontinuation of World Aeronautical Charts

Ron Haag, AJV-3212, reviewed the topic. Ron reported that his office submitted the Federal Register Notice in July to address AeroNav Products' proposal to discontinue the WACs. The Notice has not yet been published. Until the Federal Register Notice is published and comments are received, this issue is on hold.

STATUS: OPEN

ACTION: Ron Haag, AJV-3212, will report back on the Federal Register Notice at next ACF.

14-01-278 Alaska Designated Common Traffic Advisory Frequency Area Chart Depictions

Mike Yorke, AAL-03, reviewed the issue. Mike showed the audience the new VFR graphics generated by FAA AeroNav Products' Visual Charting Team. The new inset chart, titled Matanuska Sustia Valley CTAF, illustrates the outer parameters defining the CTAF usage in the area. Mike acknowledged and praised the efforts of the VFR Charting Team in making the new inset and in getting it published in such a short period of time. Mike then proposed that CTAF boundaries also be applied to the Sectional Chart for Anchorage.

Mellisa Rudinger, AOPA, also praised the new chart and joined Mike in support of depiction of the CTAF boundaries on the Sectional chart.

Ron Haag, AJV-3212, asked the audience if the new inset chart is sufficient or is there a perceived need to do more, such as putting the CTAF boundaries on the Sectional Chart. Ron emphasized that there are currently no charting specifications for adding CTAF boundaries to Sectional Charts.

In response to Ron's question, Mike commented that the current CTAF inset chart is helpful for users who purchase paper charts, but is not readily accessible when using digital charting applications.

Ron will investigate the digital chart website and see if the inset chart can be more easily found and accessed.

Valerie Watson, AJV-344, stated that CTAF boundaries will not be added to the Sectional charts, the parameters of CTAF areas are not formally defined, are not captured in a sanctioned database and even if they could be depicted, would cause a great deal of clutter on the charts. These areas and the inset that has been produced are really informational and she believes the inset should be labeled "Not for Navigation".

John Moore, Jeppesen, agreed and voiced that if the intent was to add CTAF boundaries to Sectional charts, the boundaries would first need to be defined, formalized and databased in NASR. Ted Thompson, Jeppesen, pointed out that once a chart like the CTAF inset is created, pilots perceive that the boundaries depicted are firm/formal boundaries.

There was discussion within the audience to how CTAF information could be potentially depicted on a Sectional chart and how the CTAF boundaries could potentially be geo-referenced for use by digital chart applications. There was a suggestion that perhaps the parameters of the inset could be shown and identified on the Sectional Chart. The Visual chart team will investigate this possibility.

STATUS: OPEN

ACTION: Ron Haag, AJV-3212, will explore ways to identify on the Sectional chart the existence and possibly parameters of the inset, so that users are aware of its existence. He will also add "Not for Navigation" to the inset. Ron and will report back at the next ACF.

14-01-279 Naming of FAA Certified, National Disseminated AWOS-3 Systems on Private Use Airports

Regina Sabatini, AJV-221, briefed the issue. Regina stated that guidance on stand-alone AWOS systems is out for comment and will likely not be published in Joint Order 7350.9B until the spring of 2015. Valerie Watson, AJV-344, stated that she will wait on initiating changes to the charting specifications until after the Order is officially released and the direction is firmly defined.

STATUS: OPEN

ACTION: Regina Sabatini, AJV-221, will provide an update on the publishing of FAA Order 7350.9.

VI. New Charting Topics

14-02-280 MEA Usage on SIDs

John Collins, GA Pilot, briefed the issue. John stated that the Legend within the TPPs says that altitudes depicted on SIDs are MEAs, yet many SIDS have altitudes specified that are of little or no operational significance. He noted that a comparison of the MEAs published on the IFR Enroute Charts to those that appear on the SIDS, shows that the altitudes often do not match and in some cases the MEA depicted on the SID is higher than the one published on the Enroute Chart.

Valerie Watson, AJV-344, stated that from a charting perspective, the MEAs that appear on the SID are published on the procedure source document, FAA Form 8260.15B and are charted accordingly. The charting offices, of either the FAA or non-government, will chart what is on the source document.

Tom Schneider, AFS-420, commented that the FAA Form 8260.46 provides for altitudes for the transitions, MOCA and MEA. Tom surmised that ATC devises the altitudes appearing on SIDs for their operational needs.

It was agreed that the issue is not one of charting but of source. Tom stated that he would put a statement into the 8260.46 that MEAs should not be raised to support ATC altitudes and that if ATC needs an altitude for operational requirements, crossing altitudes should be used.

After discussion, the second portion of the Recommendation regarding lost communications on SIDS be withdrawn by the proponent.

STATUS: OPEN

ACTION: Tom Schneider, AFS-420, to report on revision of the 8260.46 guidance on use of MEAs and Crossing Altitudes on SIDs.

14-02-281 Publish Electronic Form of MVA Charts

John Collins, GA Pilot, briefed his request to have MVA charts published in an electronic format so that they could be graphically displayed in the cockpit. Valerie Watson, AJV-344, reported that MVA data, not graphics, is currently available via an FAA FTP site (email fred.milburn@faa.gov for access). The MVA files are in line file format and are admittedly not easy to utilize. She further reported that there has been a recent internal initiative within AeroNav Products to post graphic MVA information on a public website. Val stated that the initiative is still in its embryonic stages and specifics as to format and time of release have yet to be determined.

Bob Lamond, NBAA, commented that NBAA has been engaged with the FAA for over 11 years in an attempt to obtain public access to MVA Charts in a graphic format. He stated that he was pleased with the news that MVAs will soon be released.

Ted Thompson, Jeppesen, stated that once the MVA data becomes available, Jeppesen will investigate generating an overlay for use with their digital charting products.

STATUS: OPEN

ACTION: Valerie Watson, AJV-344, to report back on the FAA initiative to provide public access to graphic MVA Charts.

14-02-282 VASI PAPI Differences

John Collins, GA Pilot, briefed the audience that PAPI and VASI systems utilize different Obstacle Clearance Surfaces (OCS). VASI systems are calibrated for obstacle clearance from the threshold to 4 NM, while PAPI systems are calibrated from runway end to 4 SM (3.25 NM). John believes the OCS should be the same for both lighting systems.

Bob Bonanni, AAS-100, provided some background information to explain the differences between the two systems. He stated that the reason for the difference is that VASI is a legacy system and that PAPI is a much newer system. The PAPI system was designed in harmonization with international standards.

Brad Rush, AJV-344, briefed that in preparing a response to Johns recommendation prior to the ACF, he reached out to the FAA office of responsibility, AJM-3222, for the Visual Guidance Lighting Systems Order, FAA Order 6850.2B, but has yet to receive a response. His intent is to encourage the Order to be changed so that the surfaces will be the defined in the same manner. He also stated that the AIM language should be clarified to better explain the current differences.

STATUS: OPEN

ACTION: Bryant Welch, AFS-410 and Brad Rush, AJV-344, to investigate responsibility for the text regarding VASI and PAPI systems in the AIM and work to clarify AIM language.

ACTION: Brad Rush, AJV-344, to report on a response regarding FAA Order 6850.2B.

14-02-283 Charting of Transmission Lines on VFR Charts

Jim O'Keafe, USCG, briefed the issue. Jim stated that the USCG is asking the FAA to consider revision of the symbology used for transmission lines on the VFR Sectional Charts. The USCG request arises from a helicopter incident in 2010 where a USCG helicopter flew into a power line and three crew members were killed. The USCG acknowledged that pilot error was a major contributing factor to the incident. Additionally, it was also acknowledged that the power lines were correctly charted on the Visual chart at the time of the incident.

The USCG feels that the current symbology for transmission lines used on FAA charts does not stand out enough when compared to that used on Canadian charts and as suggested by ICAO charting standards. Jim

showed examples of both Canadian and FAA depictions of transmission lines, commenting that the wavy line design used on Canadian charts appears more prominently than the FAA straight line with T's symbology.

Rick Fecht, AJV-3213, commented that to date, his office has not received any complaints regarding the current FAA transmission line depiction. He added that the transmission lines are on the chart for landmark purposes only. The lines in question were below 200 feet AGL, so would not have met obstruction charting criteria. He noted that on the Canadian chart the larger symbology displaces other features of presumed importance and that the T's used in the Canadian symbology are excluded when in conflict with another charting feature. Rick stated that the current charting practices of putting FAA T-lines on sectional charts are a manual process and that revising the symbology would be an extremely labor and cost intensive endeavor.

Jim responded that for helicopter pilots, transmission lines are more than landmarks, they are flight hazards. Helicopter flight into power lines has led to many fatal accidents.

Valerie Watson, AJV-344, commented that, considering the accident report cited pilot error and that the incident was not attributed in any way to a charting issue, her opinion is that a case would be difficult to support for manually revising the transmission lines in today's financial climate where resources are severely limited. She did suggest that once the Visual charts are fully automated, such a change could be considered.

Brad Rush, AJV-344, stated that AeroNav Products will investigate the resources required to make the change. Brad requested that the Visual Charting Team look into what would be involved in changing the symbology. Rick agreed to investigate.

STATUS: OPEN

ACTION: Rick Fecht, AJV-3213, will conduct an analysis of how much work and resources would be involved to manually revise the transmission line symbology on Sectional charts.

ACTION: Brad Rush, AJV-344, will report back after AeroNav Products assesses the scope of the issue.

14-02-284 DME Facilities – Charting and MAGVAR Issues

Valerie Watson, AJV-344, briefed the issue. Valerie stated that though a number of decisions have been made regarding the handling of DME facilities, questions still remain. She briefed that in instances where a VOR that was part of a VOR/DME has been decommissioned, the remaining DME will retain the original name, three letter identifier and DME channel. Valerie questioned whether or not the paired frequency should be retained, databased and charted. Rich Boll, NBAA, said yes, the paired frequency should be retained.

A discussion ensued regarding how DMEs are intended to be used in the NAS and when or if there is a need to publish DMEs on the charts. The general consensus is that if a DME defines something in the NAS, e.g., fix makeup, part of a route, part of the description for class airspace, it will be charted. If it is solely for DME/DME/IRU use, it does not need to be charted.

Ted Thompson, Jeppesen, emphasized that pilots don't like to see a disconnect between what is displayed on the FMS and what appears on the chart. If all DMEs are going to in the FMS even if they are only being used for DME/DME/IRU, they should be considered for charting. The rules for charting DMEs should be kept simple.

Lynette Jamison, AJR-B1, asked if there would be confusion when an uncharted DME is NOTAM'd. How would a pilot know where the DME is located geographically, and what routes and procedures are impacted? Valerie commented that today, DMEs used for Q routes are databased to the route in question and are published in the back matter of the AFDs, so pilots don't know the relationship today by looking at a chart.

Leo Eldridge, Tetra Tech, Contract Support to AJM-324, voiced support for charting all DMEs so that they could potentially be utilized as points for free flight. John Collins, GA Pilot, supported this view.

The subject of whether DMEs should/would be assigned magnetic variation was brought up. Brad Rush, AJV-344, stated that a DME has no azimuth aspect, therefore assignment of a magnetic declination value meaningless and unnecessary. If there is a TACAN associated with the DME, then the TACAN would require a magnetic declination. When asked how the ARINC 424 requirement for the use of a "reference facility" for DME/DME/IRU operations on certain leg types to be coded in the procedure would be handled, Brad responded that the FAA will establish a reference facility that matches the airport of landing/departure magnetic declination, so there is no need for a DME to have an assigned magnetic declination.

John Moore, Jeppesen, stated that there are too many unknowns to be able to make decisions at this time and suggested that a DME workgroup be formed to address the many issues and requirements that need further discussion and clarification.

It was agreed that a workgroup be formed. The following individuals signed up to participate:

Stand-Alone DME Workgroup		
Name	**E-mail**	**Phone**
Dale Courtney (WG Chair)	Dale.courtney@faa.gov	202-267-4537
Leo Eldridge	Leo.eldredge@tetratech.com	571-359-0053
Valerie Watson	Valerie.s.watson@faa.gov	301-427-5155
Ted Thompson	Ted.thompson@jeppesen.com	303-328-4456
John Collins	johncollins@carolina.rr.com	704-576-3561
Vince Massamini	svm@mitre.org	703-883-5893
Josh Fenwick	josh@aeronavdata.com	618-281-8986
Lynette Jamison	Lynette.m.jamison@faa.gov	540-422-4761
Lance Christian	Lance.d.christian@nga.mil	571-557-3870
Ernie Bilotto	Ernie.bilotto@faa.gov	202-267-3551
Steve Broman	Steven.broman@faa.gov	202-267-6529
Al Herndon	Aherndon@mitre.org	703-983-6465
Alex Rushton	Alex.ctr.rushton@faa.gov	301-427-5186
Sally Frodge	Sally.frodge@faa.gov	202-267-7040
Brad Rush	Brad.w.rush@faa.gov	405-954-0188
Jennifer Hendi	Jennifer.hendi@faa.gov	301-427-4816
Ken Ward	Kc3ye@aol.com	703-927-6243

Kevin Bridges	Kevin.bridges@faa.gov	202-385-4627

STATUS: OPEN

ACTION: The Stand-Alone DME Workgroup will meet to discuss the issues brought up at this ACF and report back.

14-02-285 Charting of Arctic UAS Permanent Areas

Valerie Watson, AJV-344, informed the forum that the recommendation was withdrawn by the submitter. The RD will be closed and may be re-opened by the submitter at a future ACF.

STATUS: WITHDRAWN/CLOSED

14-02-286 Airport Diagram Symbol for Non-Standard Runway Holding Position Marking in Conjunction with a Hot Spot

Valerie Watson, AJV-344 presented the issue on behalf of the Chris Diggons, AJI-144, the Runway Safety Group proponent. Valerie stated that currently there is a prohibition against depiction of non-standard runway hold lines on airport diagrams where a Hot Spot has been established for that purpose. The submitter requests that non-typical locations of the runway hold line be shown in conjunction with the Hot Spot. It is Runway Safety's contention that a number of specific incidents at Seattle-Tacoma International (KSEA) airport could have been avoided had the hold line been depicted on the airport diagram.

John Moore, Jeppesen, commented that runway safety information tends to get buried in the lengthy Hot Spot descriptions. He suggested that the length of the Hot Spot descriptions should be addressed as well. Valerie commented that Runway Safety is the authoritative source for Hot Spot description, so after standardization, they are published as submitted. She agreed that some of the descriptions are fairly lengthy and committed to sharing this input with Runway Safety.

Lev Prichard, ASA, stated that in his experience pilots essentially ignore hot spots on charts and do not even read the textual descriptions. He voiced that the pilot is focused on the taxi clearance given by ATC and noting the clearance on an airport diagram. Lev added this is especially the case at complex airports like KBOS, KORD, KSFO, etc.

Ted Thompson, Jeppesen, commented that it appeared to him that this is a unique problem associated with just KSEA. If that is the case, it needs to be handled as unique problem. Ted advised that the FAA not devise a charting specification for just one airport, but a universal specification that can be applied to other airports.

Valerie asked the audience if there was general support for collocating non-typical locations of runway hold lines with a Hot Spot when requested by Runway Safety. There was general support for the idea. Valerie also

reiterated her commitment to reach out to the proponent of this RD, Chris Diggons, regarding the lengthiness of Hot Spot descriptions and the comments regarding the fact that pilots are not reading them.

STATUS: OPEN

ACTION: Valerie Watson, AVJ-344, to draft an IACC Recommendation Document to remove the prohibition against the charting of non-typical runway hold lines, charted by special request, in conjunction with a Hot Spot on airport diagrams.

ACTION: Valerie Watson, AJV-344, to reach out to Chris Diggons, AJI-144, regarding the negative feedback received at the ACF regarding the lengthiness of the Hot Spot descriptions.

14-02-287 Update Terminal Enroute Control (TEC) Route Descriptions to use Waypoints

Valerie Watson, AJV-344, briefed the issue on behalf of the submitter, John Collins, GA Pilot. The proponent recommends that the TEC route descriptions replace the radial/radial and radial/distance notations with 5-letter waypoint names in order to simplify the descriptions and enable them to be loaded into an FMS.

Bob Carlson, AJV-3721, responded that the TEC routes are generated from the Command Center, who serves as the authoritative source. The AFD team takes the information and publishes it exactly as it is received. It was agreed that this recommendation is not a charting issue. Bob stated that he has sent the point of contact information for the Control Center to the proponent of the RD so that he can communicate with them directly.

Rich Boll, NBAA, commented that there is merit to this recommendation. There is a need to modernize the TEC route descriptions from the legacy VOR Radial NAS environment to the RNAV NAS environment.

Bob Lamond, NBAA, added that this is part of ongoing work being done with the FAA Command Center in conjunction with the National Route Strategy.

Ted Thompson, Jeppesen, echoed the comments from NBAA that there is a need to modernize the TEC Routes so that they are in step with the waypoints and fixes used on current charts. He also stated that this simplification should also be applied to IFR preferred routes.

STATUS: CLOSED

14-02-288 Airport Reference Codes in the AFD

Bob Bonanni, AAS-100, briefed the issue. Bob described Airport Reference Codes and how they are utilized. These codes reflect the proper aircraft design groups' utilization for existing runway to taxiway separations. The airport reference codes make up a new element of the operational procedures at an airport for the airport operator and ATC to utilize. The airport reference codes are not meant to be restrictive and are a tool to allow users to quickly assess runway suitability. Bob proposed that these codes appear in the AFD.

Khallil Kodsi, AAS-100, reviewed the operating parameters associated with the airport reference codes. The airport reference codes have been published and made available via Advisory Circular 150/5300-13A. The responsibility for the use of these codes falls upon airport management.

Lynette Jamison, AJR-B1, inquired as to how many airports would be impacted by the airport reference codes. Khallil responded that currently over 3,500 airports have received the codes and more are being added.

Discussion shifted to how pilots were expected to utilize the codes. Rich Boll, NBAA asked several operational questions from a pilot perspective. He inquired as to whom at an airport would be alerting aircraft that they cannot taxi or depart from an airport based on these codes. Are these codes really for the pilot? Why should they be published in the AFD?

Bob replied that the codes would provide reference information to the pilots.

Jolda Reed, AJV-W21, voiced that she believes that Airport Reference Codes would be an extremely useful tool for Terminal ATC, but probably of limited use for pilots.

The consensus of the ACF was that Airport Reference Codes would be of little use to pilots, would likely create user confusion if published in the AFDs and therefore should not be.

STATUS: CLOSED

VII. Closing Remarks

Valerie Watson, AJV-344, thanked the attendees for their participation and voiced special appreciation to Steve VanCamp and Pragmatics, Inc. for hosting the ACF.

Notices of the official minutes will be announced via email and provided via the Internet. The two website addresses (CG and IPG) are provided below:

- Charting Group – http://www.faa.gov/air_traffic/flight_info/aeronav/acf/
- Instrument Procedures Group – http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs420/acfipg/

Please note the attached Office of Primary Responsibility (OPR) listing for action items. It is requested that all OPRs be prepared to provide verbal input at the next Forum or provide the Chair, Valerie Watson (with an information copy to Alex Rushton, Contract Support), a written status update. These status reports will be used to compile the minutes of the meeting and will serve as a documented statement of your presentation.

Appreciation to Jennifer Hendi, AJV-344, for presentation assistance for both the CG and IPG portions of the forum, conference support pre- and post-conference, and to Alex Rushton, Contract Support to AJV-344, for taking the minutes and conference support pre- and post-conference.

VIII. Next Meeting

ACF 15-01 is scheduled to be held on April 28-30, 2015, hosted by Pragmatics, Inc. in Reston, VA.

ACF 15-02 is scheduled to be held on October 27-29, 2015, hosted by Lockheed Martin at their Global Vision Center in Crystal City, VA.

ACF 16-01 is scheduled to be held on April 26-28, 2016, location and host to be determined.

ACF 16-02 is scheduled to be held on October 25-27, 2016, located and host to be determined.

IX. Attachments

a. 14-02 Attendee Roster
b. Office of Primary Responsibility (OPR)

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – April 28 - 30, 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-289

Subject: Adding "CPDLC" Information to the Airport Diagram and Terminal Procedures Pages and Updating the Airport Facility Directory

Background/Discussion:

With the FAA NextGen introduction of FANS 1/A Controller Pilot Data Link Communication (CPDLC) into the NAS the Data Communications Program initiated a Departure Clearance (DCL) Trial to support pre-operational demonstrations of key aspects of the tower controller-pilot data link communication (CPDLC) services in the field. DCL trials are operational at both the Memphis and Newark Tower facilities in utilizing the Departure Clearance service with Revisions for participating airlines.

The DCL trials are designed to validate the concept of operation for the delivery of departure clearances and revised departure clearances through advanced automation and CPDLC. The trials ensure procedures and training plans are appropriate, and will provide airspace users an opportunity to experience the benefits associated with Data Communication services.

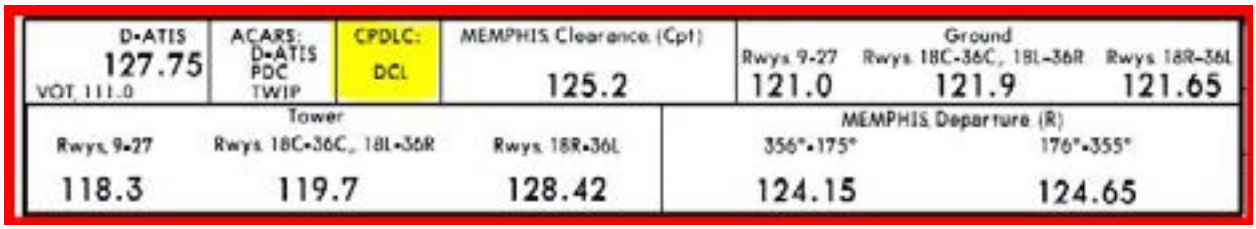
During the trial, it was discovered that flight crews utilized an ACARS based DCL ATS service known as 623 ACARS Departure Clearance used by many Air Navigation Service Providers (ANSPs) in other parts of the world. The 623 ACARS DCL application is part of the aircraft ACARS architecture HMI and has caused confusion as to which data communications application (ACARS or FANS CPDLC) flight crews should make use of when participating in the CPDLC DCL Trial.

When crews use the ACARS 623 based DCL ATS application, controllers and flight crew members are unable to communicate due to the different data communications environment which they are based on – ACARS vs. FANS CPDLC. This creates additional workload on both the controller and pilot to determine why they cannot communicate via CPDLC and why DCLs are not being delivered, or if their FANS CPDLC Logon is active ornot.

The FAA Data Communication Implementation Team (DCIT) Flight Deck Working Group (FDWG) working with industry partners have determined that flight crews require additional information in their airway manuals to differentiate what communication services are available at each facility – ACARS or CPDLC. DCIT FDWG team memberhave determined that adding an additional CPDLC communications block to the Airport Diagram, and when appropriate, to other Terminal Procedures pages, will help flight crews select the appropriate data communications application in the cockpit to participate in CPDLC services.

Recommendations:

Recommend adding an additional CPDLC communications block to the Airport and when appropriate to other Terminal Procedures pages similar to below.



Additional information can be added into this block such as LOGON: KMEM (unique to each facility) while the US is in the deployment phase of Data Comm. When the US goes to a common national logon, then it would be LOGON: KUSA. As new CPDLC services are offered in the NAS such as D-TAXI or D-HZWXR this information would be included in the CPDLC block to advise crews of additional ATS Data Comm services.

The Airport Facilities Directory should include in the COMMUNICATION/NOTAM SERVICE section CPDLC services and Logon Information as appropriate for those participating airports. Below are suggested definition enhancements as well as example inserts for consideration.

AIRPORT/FACILITY DIRECTORY LEGEND

SAMPLE *(Section)*

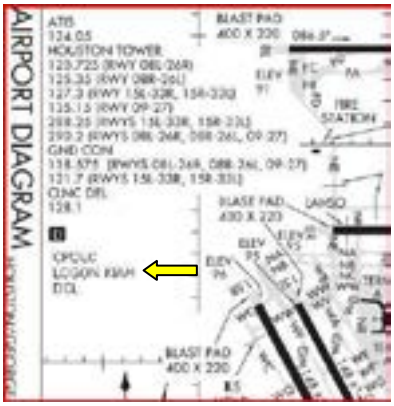
COMMUNICATIONS:
D–ATIS ARR 123.775 (972) 615–2701 **D–ATIS DEP** 135.925 (972) 615–2701 **UNICOM** 122.95
®RGNL APP CON 125.025 133.525 (E) 119.875 133.625 (W)
DFW TOWER 126.55 127.5 (E) 124.15 134.9 (W)
GND CON 121.65 121.8 (E) 121.85 (W)
CLNC DEL 128.25
CPDLC: LOGON: KDFW, DCL (*New Information for CPDLC*)

AIRPORT/FACILITY DIRECTORY LEGEND:

COMMUNICATION / NOTAM SERVICE (*New definition Information for CPDLC*)

Controller Pilot Data Link Communications (CPDLC)—uses FANS *ATC* data communication capability from the aircraft to the ATC Data Link system.
LOGON: (**CPDLC) e.g. KDFW**—ICAO Facility ID used to log on for obtaining CPDLC services only.
Departure Clearance (DCL – CPDLC)— FANS ATC CPDLC Departure Clearance service to obtain a pre-departure and/or revised clearance while on the ground, used with CPDLC services only

Also, Airport Diagrams should include text to highlight CPDLC services similar to the example below:



Adopting this recommendation would reduce confusion in the cockpit of available ATS services and with appropriate training enhance the benefits of NextGen services with improved flight crew and controller participation.

Comments:

Submitted by: David Cherry, Contract Support to DataComm
Organization: DataComm
Phone: 202-567-2514
E-mail: dcherry@thaneincorp.com
Date: 30 January 2015

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – April 28 - 30, 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-290

Subject: **VFR charting of airport symbol – services availability**

Background/Discussion:

The VFR chart symbol for an airport with services is a round symbol with “tick” marks

The Charting standard for this depiction is:

23 September 2014 IACC 2 3-51
3.9.2.3 Airport Symbology and Criteria
Airports shall be symbolized in accordance with **Appendix 5** and classified by the following criteria:
• Landplane or seaplane
• Civil, military or civil-military
• Services available – To qualify as an airport with “services available”, the minimum requirements are that fuel be readily available and the field tended at least during the normal working hours of each day. Normal working hours are Monday through Friday, from 10:00 AM to 4:00 PM. Military airports do not advertise services.

Many pilots believe that the tick marks indicate the airport has fuel.
Over the past 20 years, many airports have gone to self- service fueling, eliminating the need for an "attendant' to be on duty to provide fuel services.

Several airports have contacted us, requesting the tick marks be placed on their airport symbol because they have fuel.

Recommendations:

Revise the charting criteria to:
Services available – To qualify as an airport with "services available", the minimum requirement that fuel is readily available (self-service or via attendant) 24 hrs/day.

Eliminate the requirement for attendant hours.

Comments:

Submitted by: Randy L. Coller, Chief Airport Inspector
Organization: State of Michigan, MDOT-Aeronautics
Phone: 517-335-8521
E-mail: collerr@michigan.gov
Date: October 13, 2014

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – April 28 - 30, 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-291

Subject:
Charting and Evaluation of Departure Procedure Climb Gradients

Background/Discussion:

Order 8260.46E, Departure Procedure Program,

Paragraph 2-1-1d(2) states: "Flight Standards Service or appropriate Department of Defense (DoD) authority must approve DPs requiring a climb gradient (CG) in excess of 500 ft/NM (600 ft/NM for helicopters)."

Paragraph 2-1-1e(1)(b) Note states:
"**Note:** When establishing crossing altitudes for other that meeting obstacle clearance and/or lateral navigation (LNAV) engagement altitude requirements, stakeholders should give consideration to aircraft performance limitations based on the type of aircraft expected to be using the SID and whether those aircraft will be capable of meeting these altitude restrictions."

Paragraph 2-1-1e(2) states: "Charting a Minimum Climb Gradient. Establish a single minimum CG exceeding 200 ft/NM [400 ft/NM for helicopters beginning at the initial departure fix (IDF)] whenever required for obstruction clearance and include the altitude to which the gradient is required in the Takeoff Minimums." Additionally, it states: "Do not establish CGs for crossing altitudes used to support airspace, environmental, or ATC operational limitations."

Discussion: Pilots and Dispatchers are required to ensure all flights can make or exceed performance requirements for all procedures. Without an accurate climb gradient published on the chart whether the gradient be a ATC restriction or a TERPS requirement, the pilot cannot determine the performance requirements of the flight.

Recommendations:

Chart a maximum climb gradient based on a plane evaluated throughout the SID for the most restrictive ATC restriction or TERPS requirement.

Flight Standards Service should evaluate **all** SID climb gradients that exceed 500 ft/NM.

Comments:

Submitted by: Gary McMullin
Organization: **Southwest Airlines**
Phone: 469-603-0766
E-mail: gary.mcmullin@wnco.com
Date: March 23, 2015

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – April 28 - 30, 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-292

Subject: Removal of Grid variation from US Instrument Approach Procedure Charts

Background/Discussion: During the ongoing review of Magnetic Variation (MagVar) issues, questions were raised concerning the charting of Grid values on Instrument Approach Procedures. The origin of charting Grid comes from a 1953 document. The IACC specification specifies dual charting of Grid and Magnetic variation on instrument charts above 67 degrees North Latitude. At first this was thought to be an enroute charting requirement that was extended to include IAPs, however, Grid is not charted on IFR enroute charts. Procedures cannot be coded in Grid.

Research into the operational uses of Grid revealed that once the aircraft navigation systems were switched to Grid, they likely could not be switched back to magnetic in flight, so at some point in time, it was logical to chart the instrument approach procedure in Grid.

Continued discussion has not identified any current users of Grid on public charts. USAF uses Grid in Antarctica, but those charts are only for authorized users with special training. Grid navigation is no longer taught at USAF navigator training, which today includes Navy navigators as well. There is also very little information available concerning the use of Grid in FAA, or other documents, and during the discussions many pilots were confused that Grid was the same as True, based on how the definition is often written.

Due to these factors, publication of Grid variation appears to be a potential source of confusion on the charts, and is not being used. The crew could misread the Grid course as magnetic, or misinterpret it as True. Removal of the requirement will also reduce chart clutter, and eliminate the workload of adding unused information to the charts.

Recommendations: Take necessary action to remove requirements from the IACC specification, and any associated materials, mandating the charting Grid variation on US aeronautical charts. Guidance could be established by the DoD/NGA to support operations in Antarctica, or as needed.

Submitted By: Steve Jackson
Organization: FAA/AFS-420
Phone: 405-954-6899
E-mail: Steve.E.Jackson@faa.gov
Date: 30 March 2015

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AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – April 28 - 30, 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-293

Subject: STAR Terminus Point Standardization

Background/Discussion:

As transition to the new area navigation National Airspace System continues, a large amount of new RNAV type STARS are being produced. It has become clear that standardization for the endpoint (terminus) to a STAR needs to be addressed. It has come to our attention that FMS entry of procedures and subsequent crosschecking the database (IPAD to FMS check) has become time consuming and increased the opportunity for pilot entry errors. The STAR terminus point is the vertical and lateral clearance limit to a normal full route clearance and should be easy to identify. Additionally, it should be easy to identify which transition goes to which arrival runway as well as easy to input the correct approach with no loss of waypoints. This all occurs in a critical phase of flight with little extra time to discover entry errors when changes occur or critical events occur, such as a loss of communications. Additionally, loss of communications procedures should not cause confusion or distraction on the procedure itself. They should be easy to follow to an IAF or IF. This assists in FMS preparation, briefing, and inflight planning. Also, it is important that the altitudes at the STAR terminus match the altitude on the corresponding IAP fix. In some (FMS) cases, if the altitude is other than “At”, a FMS will not be able to compute a vertical path to that point unless it is connected to a matching approach that continues the path. Additionally, any mismatch opens opportunity for misinterpretation of the procedure, entry input error, and dropped waypoints or constraints. Cockpit confusion on these issues with attempts to fix FMS issues are a distraction in a critical phase of flight. The problem has become widespread and the below examples should make the issues more clear:

1. KBOS OOSHN3: Note the octopus like amount of transitions with no easy way of identifying the applicable runway. No logical connection to approaches or any lost communication procedures. Most legs have MEAs, but a few do not on the Aeronav plate, such as the Pudjj to Aybee leg. Jepp version does place runway identifiers. This seems to be random (some plates do and some do not).

2. KELP SAMMR: Aeronav Plate has no runway ID but Jepp does. There is no logical connection to ILS22 or RNAV26L (commonly used), but the RNAV (RNP) does.

3. KSAN LYNDI3: LOC 27 connects nicely and flows well. However, RNAV(GPS)27 does not connect at an IAF or IF. When connecting this approach to the STAR (common), Honeywell FMS will drop OKAIN and CIJHI along with applicable constraints. They must be manually entered. The lost comm instructions for LYNDI3 are awkward due to these issues.

4. KSDF DAMEN2: Common on the KSDF arrivals for lost communcications. Lost comm pictures depicted are confusing and do not always logically connect to an expected

approach. Assumption is that new points will have to be entered into FMS at last minute in an awkward situation (comm out). Additonally, pictorial depiction of transitions confusing. Look at the triangle made by DAMEN- CESAR-HAUGHN. Note also a few missing MEAs (aeronav plate only) and confusing altitude at CHERI (at/above 11000 and EXPECT AT 11000 and 250 kts).

5. KSMF SLMMR1: Runway transitions are hard to discern in depiction. ILS16L/R have an IAF choice of TENCO. If an attempt to connect this transition (which seems logical upon reading the procedure), certain FMS will drop ZIMAM with its constraints.

6. KLAS TYSSN3: Terminus fix for 25L (straight in) does not match ILS25L. One is at/above 8000 and one is at 8000. Depending on your FMS will depend on which one gets loaded.

7. KSFO BDEGA1: neither transition is labeled and situational awareness is difficult (airport is under BRIXX). Logical connections to approaches or lost comm plans are not available.

Recommendations:

The differences in chart depiction of these elements is not the issue, as that should be left to the discretion of the chart company. This IPG entry is not intended to be a charting issue. However the information depicted should be standardized (required) and shown in some form in the plan view. Recommendation is to publish criteria in new STAR order for the terminus fix of a STAR to include the following:

1. Altitude should be published at last fix and match any corresponding IAP that it connects to. The intention is not to say it must be one or another- just that it match. There is a pilot preference for “at”.

2. Runway Identifier should be visible next to last fix, particularly on any procedure with multiple transition legs.

3. IAF or IF should be at terminus fix when possible to facilitate understanding of clearance, FMS entry, and lost comm plans.

4. Communication Lost instructions should be available if the STAR procedure does not logically connect to the IAP.

Comments:

Submitted by: Lev Prichard
Organization: Allied Pilots Association
Phone: 817-302-2150
E-mail: lprichard@alliedpilots.org
Date: 8APR15

WAAS CH **82527** **W27A**	APP CRS **272°**	Rwy Idg **7590** TDZE **17** Apt Elev **17**

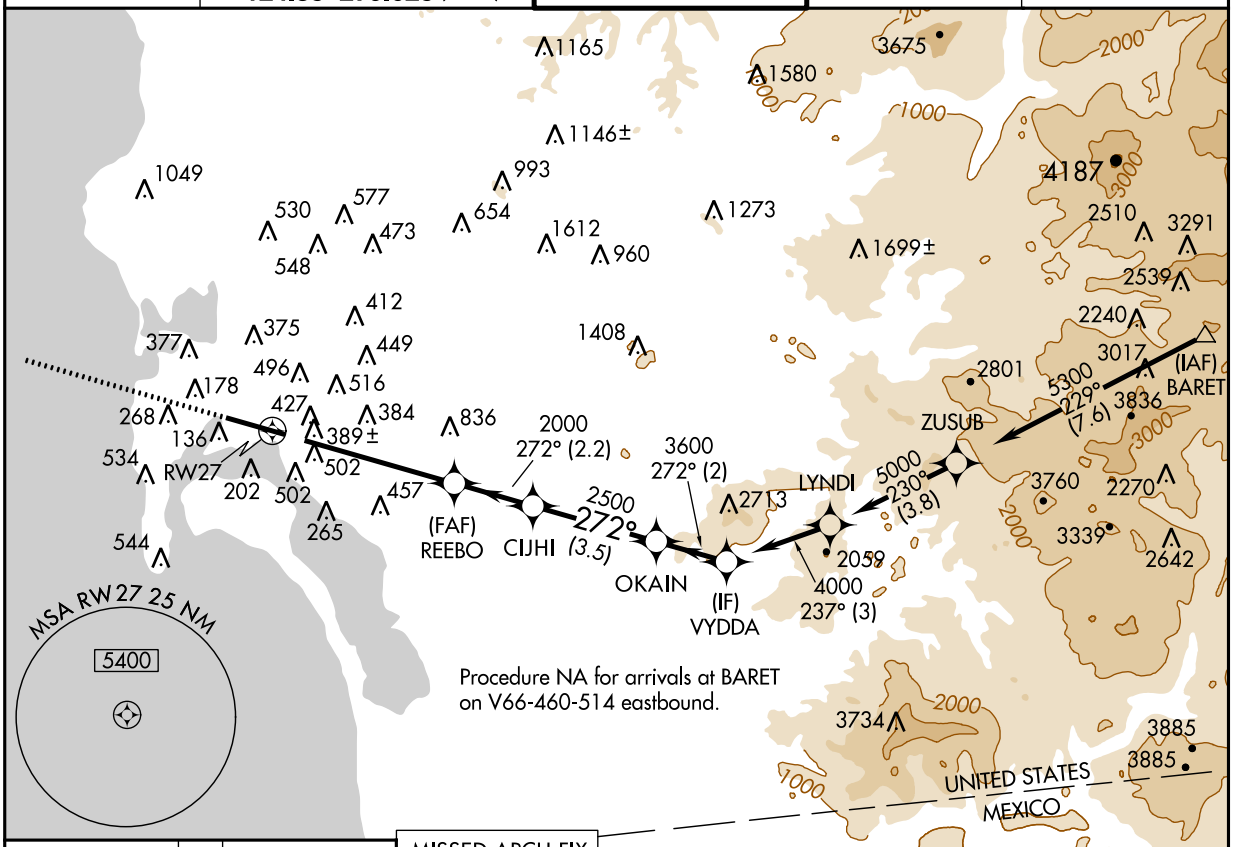
RNAV (GPS) RWY 27
SAN DIEGO INTL (SAN)

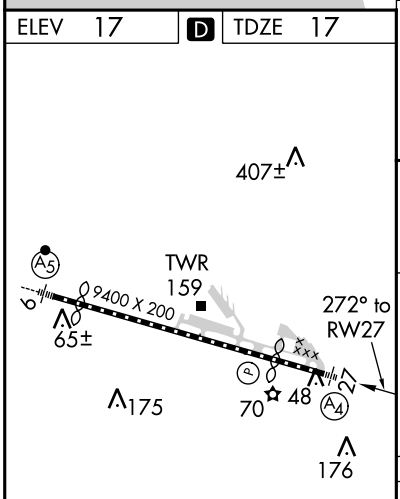
T A Inoperative table does not apply. DME/DME RNP-0.3 NA. Use of PAPI vertical guidance from MDA to threshold required at night. Helicopter visibility reduction below RVR 5000 NA. When Rwy 27 VGSI inoperative, Straight-in and Circling minimums NA at night.

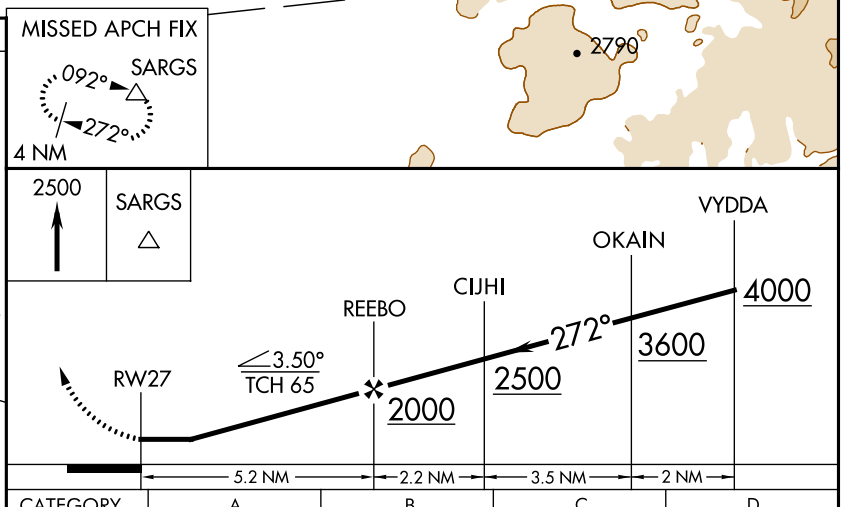
MALS (A4)

MISSED APPROACH: Climb to 2500 direct SARGS and hold.

ATIS	SOCAL APP CON	LINDBERGH TOWER	GND CON	CLNC DEL
134.8	**119.6 363.1** (WEST) **124.35 279.625** (EAST)	**118.3 338.225**	**123.9**	**125.9**







CATEGORY	A	B	C	D
LP MDA	680/55 663 (700-1¼)		680-1⅞ 663 (700-1⅞)	
LNAV MDA	760/55 743 (800-1¼)	760/60 743 (800-1¼)	760-2 743 (800-2)	
C CIRCLING	820-1 803 (900-1)	820-1¼ 803 (900-1¼)	860-2½ 843 (900-2½)	920-3 903 (1000-3)

TDZ/CL Rwys 9 and 27
HIRL Rwy 9-27

SW-3, 02 APR 2015 to 30 APR 2015
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CG Agenda
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IPG

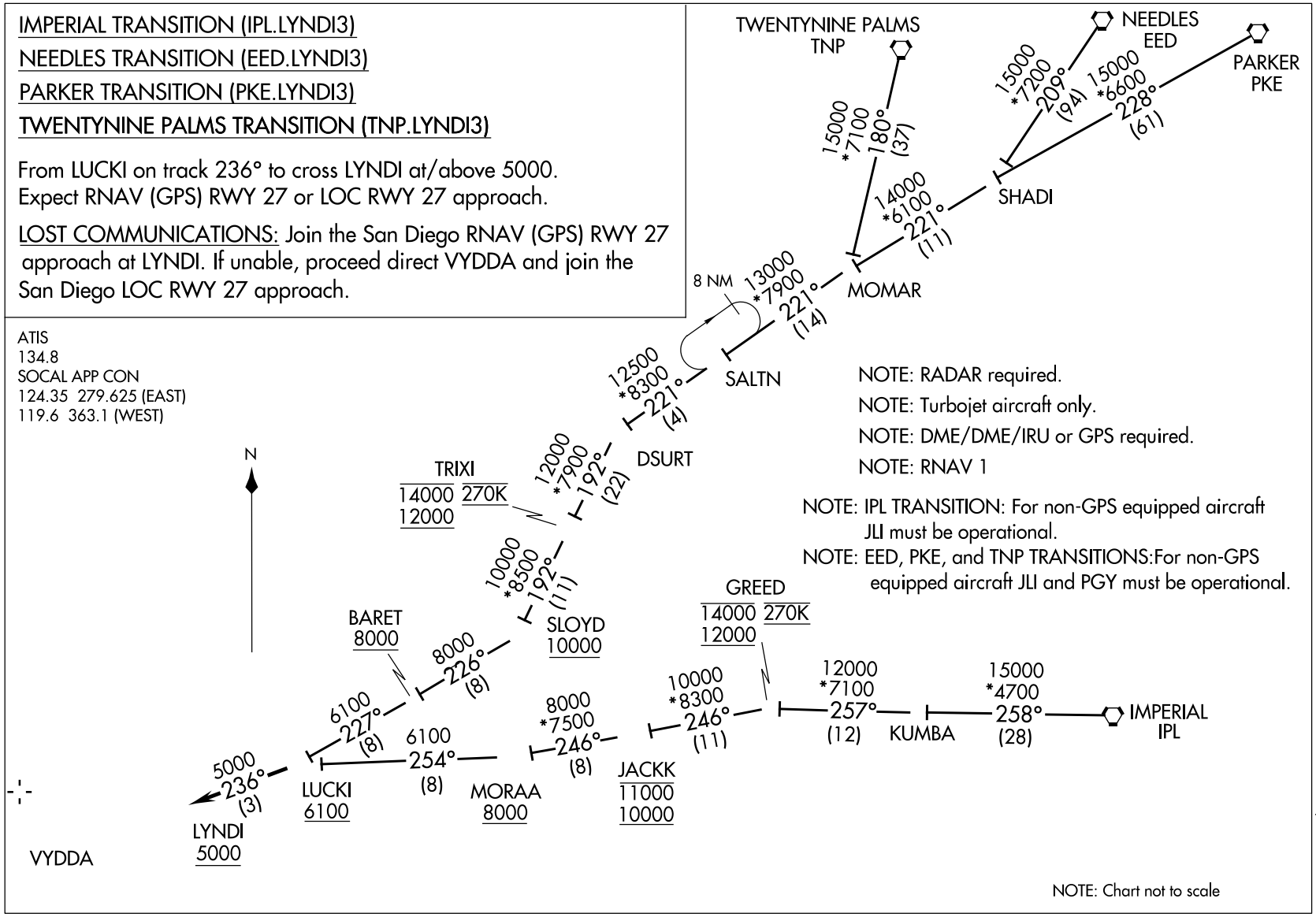
LYNDI THREE ARRIVAL (RNAV)
(LUCKI.LYNDI3) 12040

IMPERIAL TRANSITION (IPL.LYNDI3)
NEEDLES TRANSITION (EED.LYNDI3)
PARKER TRANSITION (PKE.LYNDI3)
TWENTYNINE PALMS TRANSITION (TNP.LYNDI3)

From LUCKI on track 236° to cross LYNDI at/above 5000.
Expect RNAV (GPS) RWY 27 or LOC RWY 27 approach.

LOST COMMUNICATIONS: Join the San Diego RNAV (GPS) RWY 27 approach at LYNDI. If unable, proceed direct VYDDA and join the San Diego LOC RWY 27 approach.

ATIS
134.8
SOCAL APP CON
124.35 279.625 (EAST)
119.6 363.1 (WEST)



SAN DIEGO, CALIFORNIA
SAN DIEGO INTL

(LUCKI.LYNDI3) 12040
LYNDI THREE ARRIVAL (RNAV)
ST-373 (FAA)
SAN DIEGO INTL
SAN DIEGO, CALIFORNIA

LOC/DME I-UBR	APP CRS	Rwy Idg	7590
110.9	272°	TDZE	17
Chan 46		Apt Elev	17

LOC RWY 27

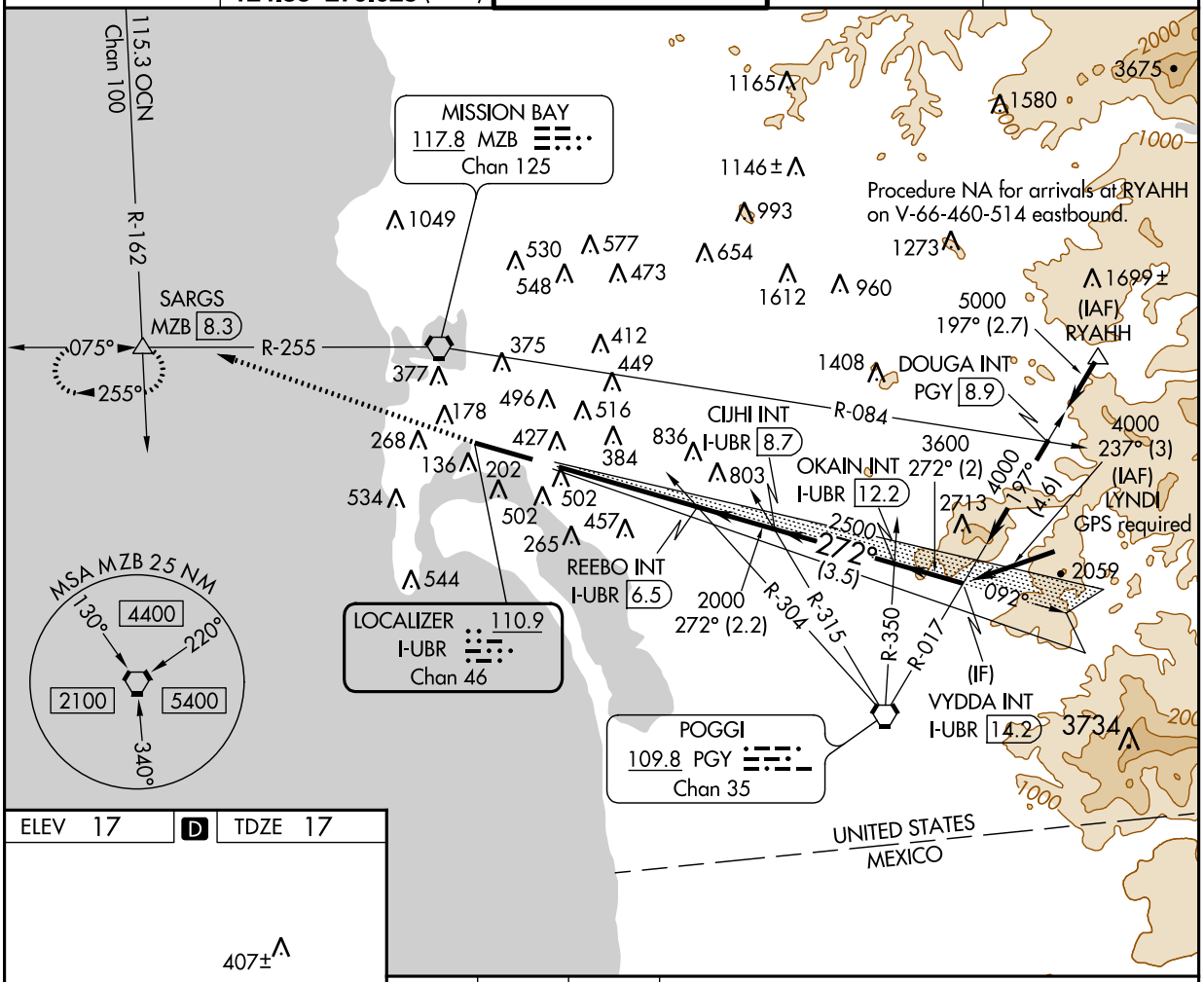
SAN DIEGO INTL (SAN)

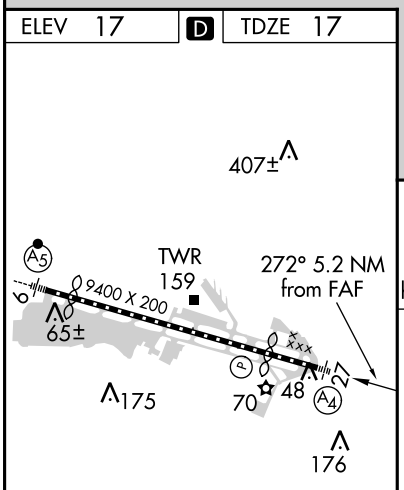
T A Inoperative table does not apply. Helicopter visibility reduction below RVR 5000 NA. Use of flight director, autopilot, or HUD is required at night. Circling NA north of Rwy 9-27.

MALS

MISSED APPROACH: Climb to 2500 on heading 275° and MZB VORTAC R-255 to SARGS INT/8.3 DME and hold.

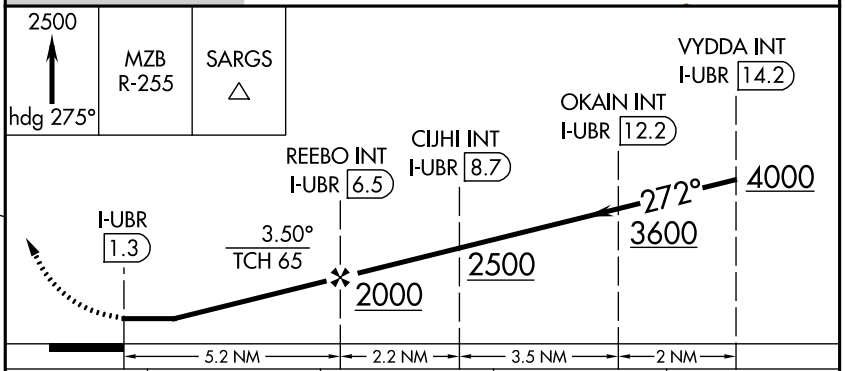
ATIS	SOCAL APP CON	LINDBERGH TOWER	GND CON	CLNC DEL
134.8	119.6 363.1 (WEST) 124.35 279.625 (EAST)	118.3 338.225	123.9	125.9





TDZ/CL Rwys 9 and 27
HIRL Rwy 9-27

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44



CATEGORY	A	B	C	D
S-27	680/50 663 (700-1)		680-1⅞ 663 (700-1⅞)	
C CIRCLING	820-1 803 (900-1)		820-2¼ 803 (900-2¼)	880-2¾ 863 (900-2¾)

SW-3, 02 APR 2015 to 30 APR 2015
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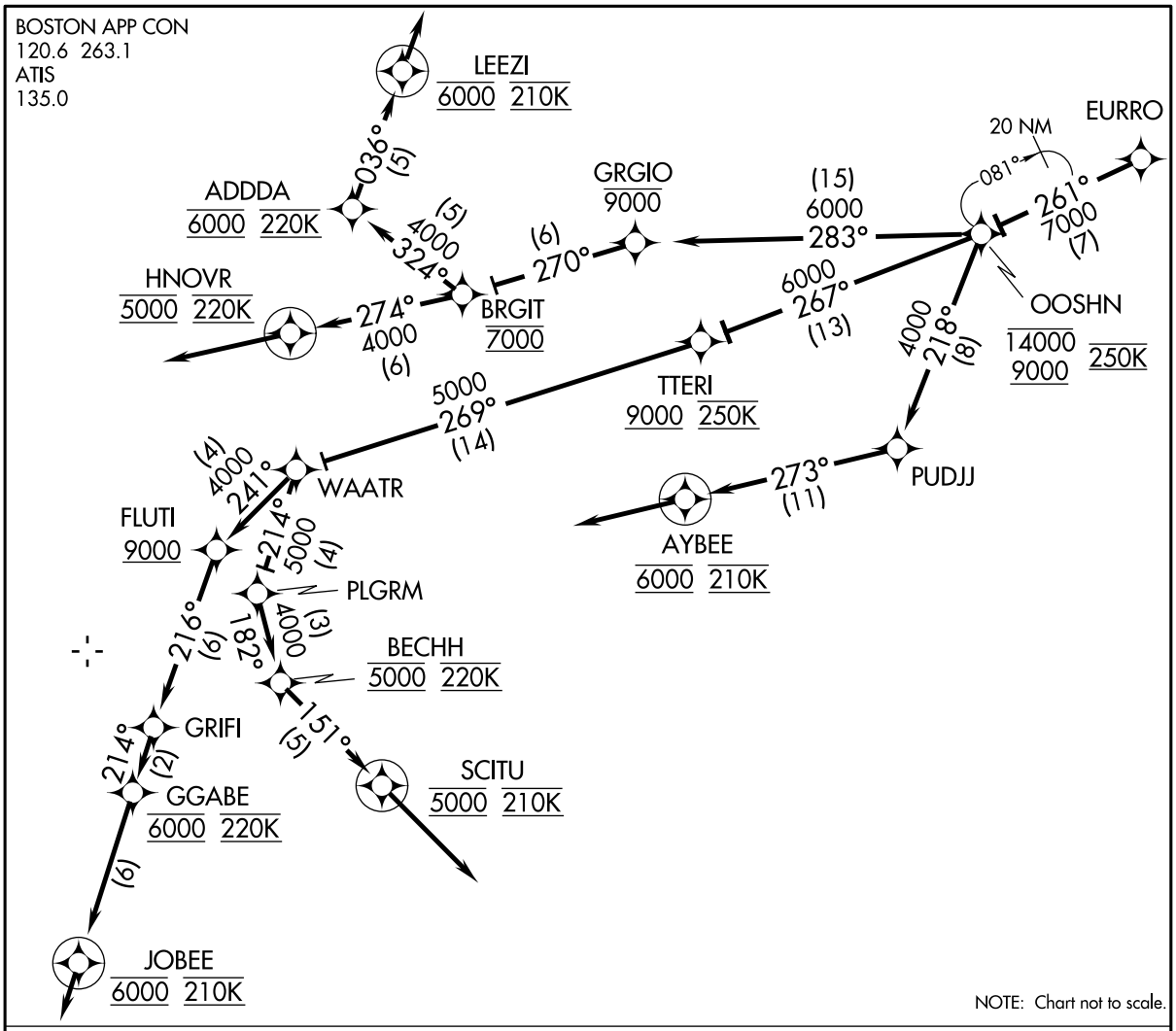
(EURRO.OOSHN3) 14317

GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

OOSHN THREE ARRIVAL (RNAV) Arrival Routes

BOSTON, MASSACHUSETTS



NE-1, 02 APR 2015 to 30 APR 2015

NE-1, 02 APR 2015 to 30 APR 2015

ARRIVAL ROUTE DESCRIPTION

From over EURRO on track 261° to cross OOSHN between 9000 and 14000 and at 250K.

Landing Rwys 4L/R: From OOSHN on track 267° to cross TTERI at or above 9000 and at 250K, then on track 269° to WAATR, then on track 241° to cross FLUTI at or above 9000, then on track 216° to GRIFI, then on track 214° to cross GGABE at 6000 and at 220K, then on track 214° to cross JOBEE at 6000 and at 210K, then on track 214°. Expect radar vectors to final approach course.

Landing Rwy 15R: From OOSHN on track 283° cross GRGIO at or below 9000, then on track 270° to cross BRGIT at 7000, then on track 274° to cross HNOVR at 5000 and at 220K, then on track 274°. Expect radar vectors to final approach course.

Landing Rwys 22L/R: From OOSHN on track 283° to cross GRGIO at or below 9000, then on track 270° to cross BRGIT at 7000, then on track 324° to cross ADDDA at 6000 and at 220K, then on track 036° to cross LEEZI at 6000 and at 210K, then on track 036°. Expect radar vectors to final approach course.

Landing Rwy 27: From OOSHN on track 218° to PUDJJ, then on track 273° to cross AYBEE at 6000 and at 210K, then on track 273°. Expect radar vectors to final approach course.

Landing Rwys 32, 33L: From OOSHN on track 267° to cross TTERI at or above 9000 at at 250K, then on track 269° to WAATR, then on track 214° to PLGRM, then on track 182° to cross BECHH at 5000 and at 220K, then on track 151° to cross SCITU at 5000 and at 210K, then on track 151°. Expect radar vectors to final approach course.

OOSHN THREE ARRIVAL (RNAV) Arrival Routes

BOSTON, MASSACHUSETTS

(EURRO.OOSHN3) 14317

GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

(EURRO.OOSHN3) 14317

GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

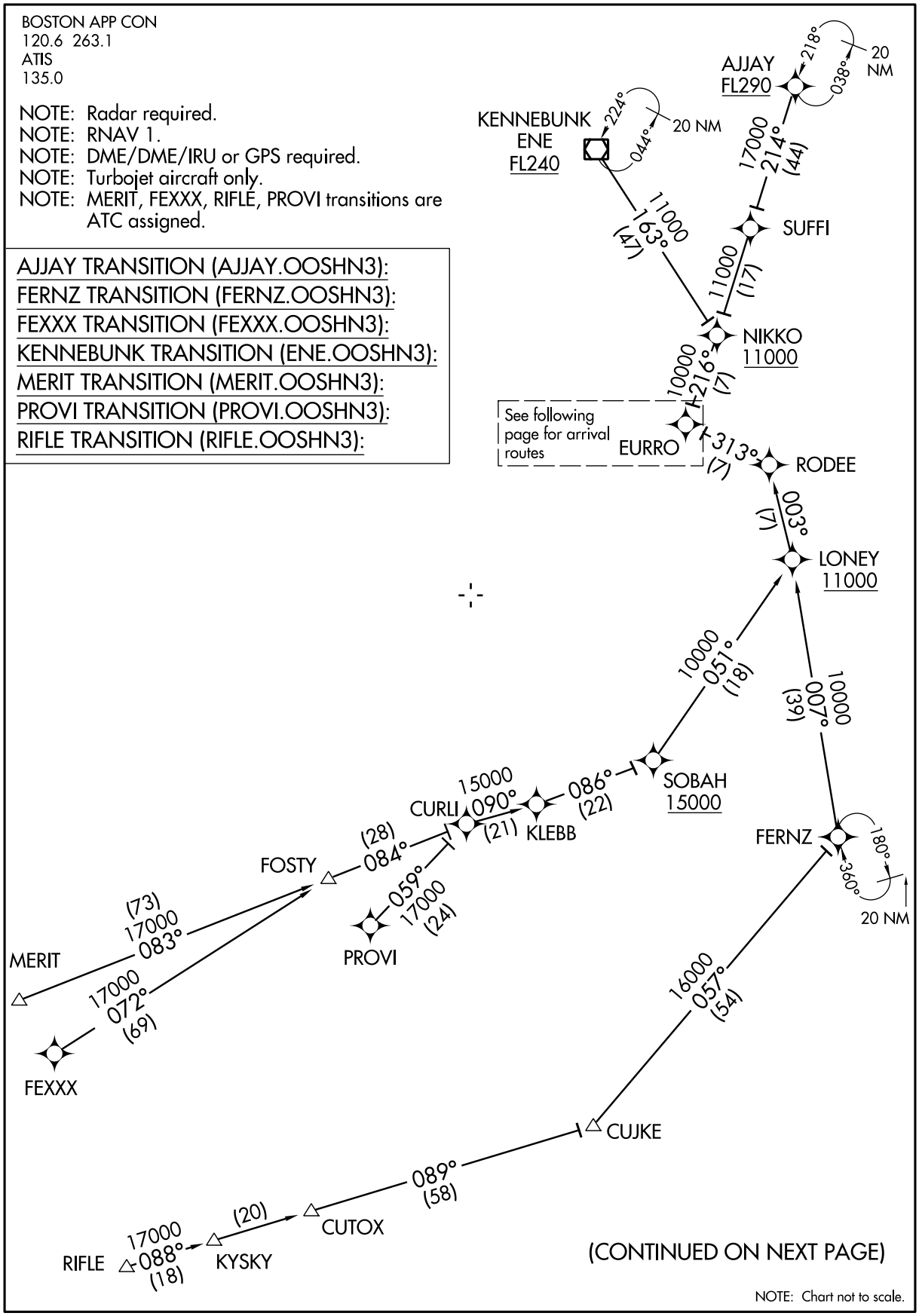
OOSHN THREE ARRIVAL (RNAV) Transition Routes

BOSTON, MASSACHUSETTS

BOSTON APP CON
120.6 263.1
ATIS
135.0

NOTE: Radar required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet aircraft only.
NOTE: MERIT, FEXXX, RIFLE, PROVI transitions are ATC assigned.

AJJAY TRANSITION (AJJAY.OOSHN3):
FERNZ TRANSITION (FERNZ.OOSHN3):
FEXXX TRANSITION (FEXXX.OOSHN3):
KENNEBUNK TRANSITION (ENE.OOSHN3):
MERIT TRANSITION (MERIT.OOSHN3):
PROVI TRANSITION (PROVI.OOSHN3):
RIFLE TRANSITION (RIFLE.OOSHN3):



(CONTINUED ON NEXT PAGE)

NOTE: Chart not to scale.

OOSHN THREE ARRIVAL (RNAV) Transition Routes

BOSTON, MASSACHUSETTS

(EURRO.OOSHN3) 14317

GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

NE-1, 02 APR 2015 to 30 APR 2015

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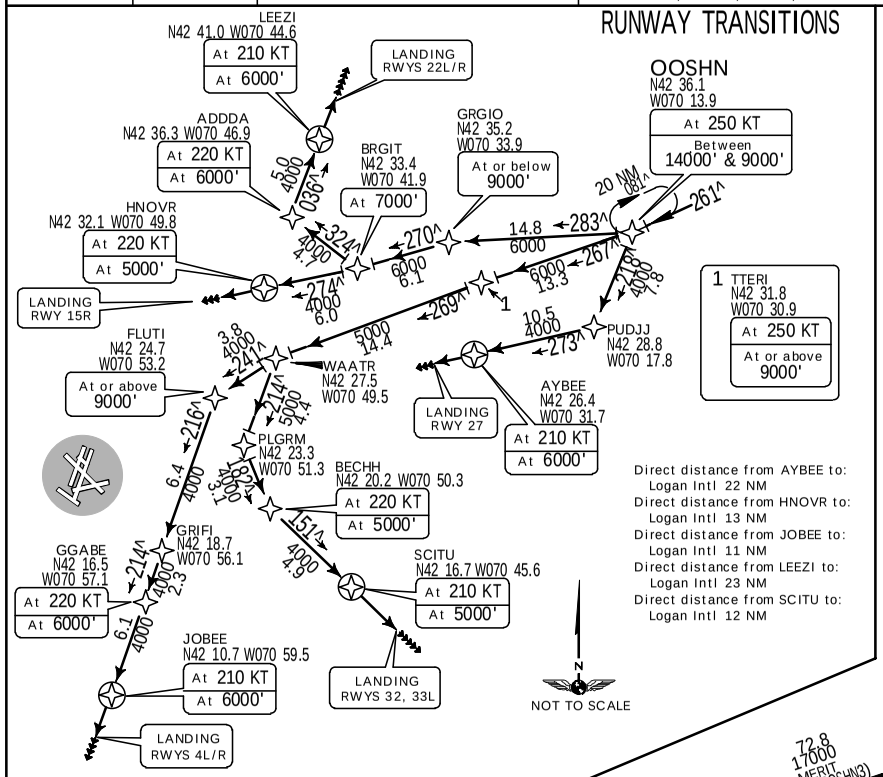
KBOS/BOS
LOGAN INTL

JEPPESEN BOSTON, MASS
19 DEC 14 10-2B .RNAV.STAR.

D-ATIS Arrival	Apt Elev	Alt Set: INCHES Trans level: FL180 Trans alt: 18000'
135.0	19'	

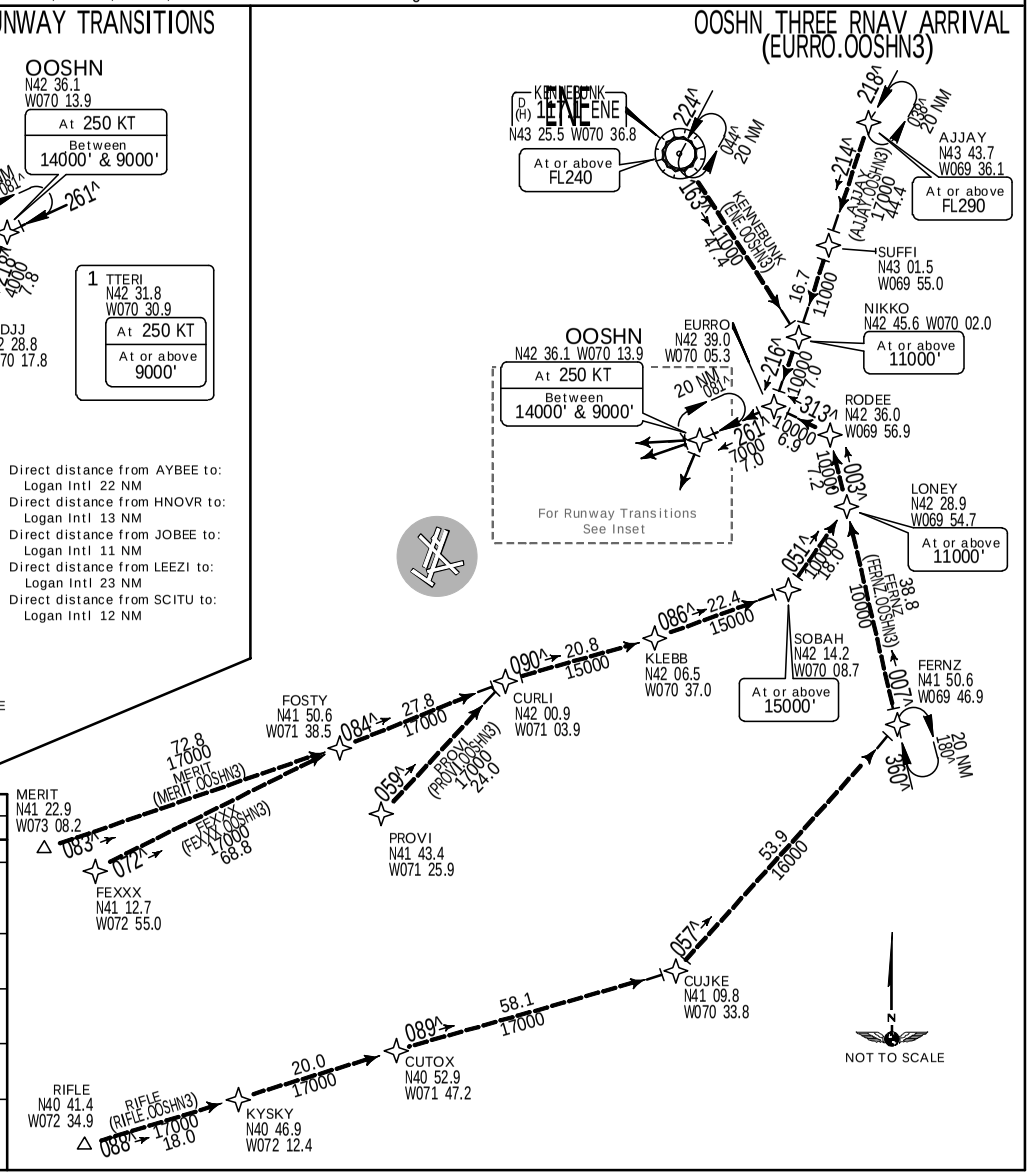
1. DME/DME/IRU or GPS required. 2. RADAR required.
3. RNAV 1.
4. Turbojet aircraft only.
5. MERIT, FEXXX, RIFLE, PROVI transitions are ATC assigned.

RUNWAY TRANSITIONS



ROUTING	
From EURRO on track 261^ to OOSHN.	
RWY	LANDING
4L/R	From OOSHN on track 267^ to TTERI, then on track 269^ to WAATR, then on track 241^ to FLUTI, then on track 216^ to GRIFI, then on track 214^ to GGABE, then on track 214^ to JOBEE, then on track 214^. EXPECT RADAR vectors to final approach course.
15R	From OOSHN on track 283^ to GRGIO, then on track 270^ to BRGIT, then on track 274^ to HNOVR, then on track 274^. EXPECT RADAR vectors to final approach course.
22L/R	From OOSHN on track 283^ to GRGIO, then on track 270^ to BRGIT, then on track 324^ to ADDDA, then on track 036^ to LEEZI, then on track 036^. EXPECT RADAR vectors to final approach course.
27	From OOSHN on track 218^ to PUDJJ, then on track 273^ to AYBEE, then on track 273^. EXPECT RADAR vectors to final approach course.
32, 33L	From OOSHN on track 267^ to TTERI, then on track 269^ to WAATR, then on track 214^ to PLGRM, then on track 182^ to BECHH, then on track 151^ to SCITU, then on track 151^. EXPECT RADAR vectors to final approach course.

OOSHN THREE RNAV ARRIVAL (EURRO.OOSHN3)



CHANGES: Reissue.

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AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – April 28 - 30, 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-294

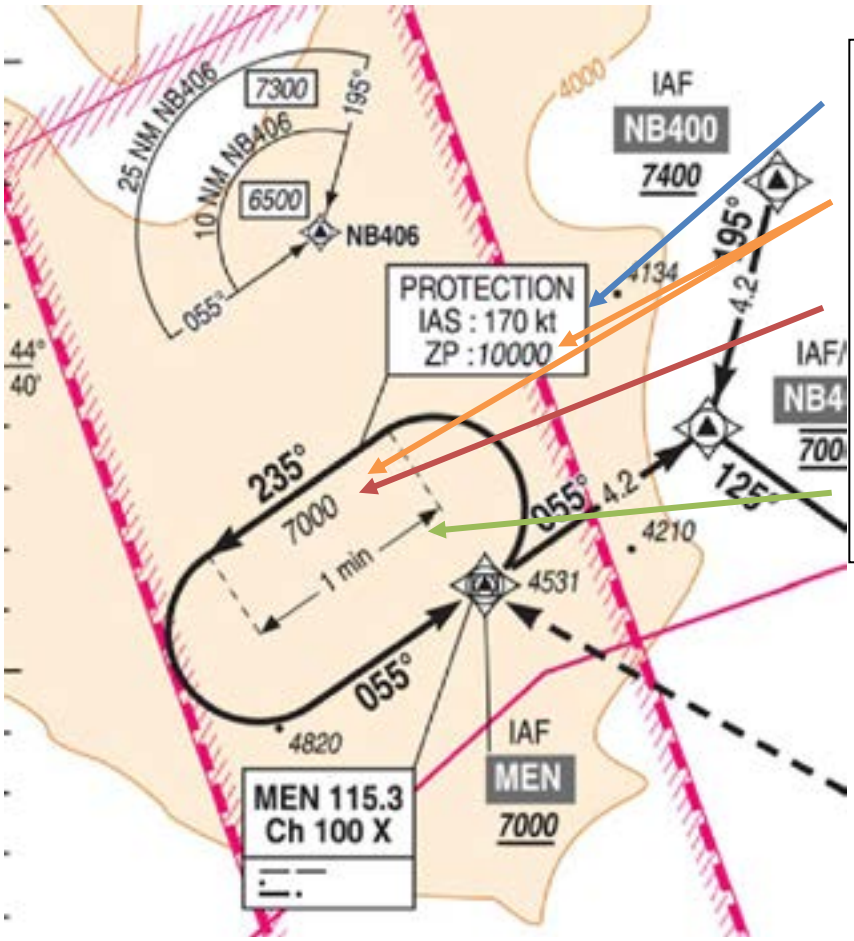
Subject: Charting Maximum Assessed Holding Altitude, and Associated Speed

Background/Discussion:

ACF discussions of holding containment issues, particularly with RNAV holding equipment, have brought to light related issues with holding. No statement about containment can be made without knowing if the aircraft is at or below the maximum assessed altitude for the holding pattern. In many cases, the holding pattern is only assessed to two thousand feet or so above the MVA or minimum holding altitude. When the aircraft is holding above the assessed altitude, the pattern size that was applied may be several sizes smaller than the area which would be applied at the actual holding altitude The intention is not to preclude holding above the maximum assessed altitude if mitigations such as RADAR monitoring are applied, since in most cases the issue is aircraft to aircraft separation. The intent is to make both pilots and controllers aware of the maximum altitude at which containment can be assumed based on the standard holding assumptions. Other countries have already published an upper altitude for holding patterns, and the information is already documented on the 8260 forms. Publication could be in the form of an icon within the holding pattern depiction or as a “box” or “flag” outside the pattern as implemented by some countries.

Additionally, when the airspeed is based on the current altitude rather than the assessed altitude, the aircraft may be holding at airspeeds above those considered in the procedure design, due to a combination of increased IAS, TAS, and wind. The speed parameters assumed by some of the automated holding functionality are based on ICAO holding speeds, which are faster at some altitudes, also contributing to exceeding the holding area containment and possibly requiring manual correction by the crew if it is not charted and therefore coded. Even if the airspeed is not charted on all charts, the provision for charting must be considered in the chart design since non-standard holding speeds are currently charted. Future RNP holding, if implemented, would likely use a specified speed as one of the parameters to control the area size.

Figure 1 - ICAO Depiction of Maximum Assessed Holding Altitude, Holding Altitude and Speed



-Assessed speed is depicted in the flag in this example
-Add max assessed altitude via a flag or inside the holding icon
-Min altitude is inside the holding icon here
-RNAV leg length preferred. Time depiction should be on the inbound leg, if depicted this way.

Recommendations:

Publish the maximum assessed holding altitude and the associated airspeed on all charts, to ensure crews and controllers are aware of the maximum altitude where containment is assured based on compliance with current holding guidance and holding assumptions.

Comments:

Submitted by: Steve Jackson
Organization: FAA/AFS-420
Phone: 405-954-6899
E-mail: Steve.E.Jackson@faa.gov
Date: April 2015

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 15-01 – 28 - 30 April 2015

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 15-01-295

Subject: Charting of VORs for the Minimum Operating Network (VOR MON)

Background/Discussion:

The VOR MON program (AJM-324) is discontinuing the service of approximately one third of the VOR facilities in the NAS. The VOR MON Concept of Operations includes the use of "Safe Landing Airports" now referred to as "MON Airports" where ILS or VOR instrument approach procedures will be retained to provide a safe recovery for aircraft in the event of a GPS outage event. Pilots will need to identify MON Airports for their intended route during preflight planning as well as during flight. Therefore, MON airports should be uniquely identified on the charts.

Recommendations:

The ACF should establish appropriate standards to chart MON Airports to enable pilots to easily identify the closest airport where they can safely recover, in the event of a GPS outage.

Comments:

Submitted by: Leo Eldredge, Contract Support, TetraTech, for Rowena Mendez, FAA
Organization: **FAA/AJM-324**
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Date: November 12, 2014