November 18, 2009

Dear Forum Participant

Attached are the minutes of the Aeronautical Charting Forum, Instrument Procedures Group (ACF-IPG) held on October 27, 2009. The meeting was hosted by the FAA's National Aeronautical Navigation (AeroNav) Services (formerly NACO), 1305 East-West Highway, SSMC 4, Silver Spring, MD 20910. An office of primary responsibility (OPR) action listing (Atch 1) and an attendance listing (Atch 2) are attached to the minutes.

Please 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 two 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 Charting Group web site. We encourage participants to use these sites for reference in preparation for future meetings.

ACF Meeting **10-01** is scheduled for **April 27-29, 2010**, with the **Air Line Pilots Association (ALPA)**, 535 Herndon Parkway, Herndon, VA 20192 as host. Meeting **10-02** is scheduled for **October 26-28, 2010**, with the **MITRE Corporation**, 7515 Colshire Drive, Building II, Room 1N100, McLean, Virginia as host.

Please note that **meetings begin promptly at 8:30 AM** and dress is business casual. Please forward new issue items for the 10-01 IPG meeting to the above addressees not later than April 9th. 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 09-02 Silver Spring, MD.
October 27, 2009

1. Opening Remarks:

Mr. 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 27, 2009. The FAA's National Aeronautical Navigation Services, NANS, (a combination of the former NFPO and NACO organizations) hosted the meeting at their Silver Spring, MD facility. John Moore made welcoming and administrative comments on behalf of NANS. A listing of attendees is included as attachment 2.

2. Briefings: There were no briefings presented at this meeting.

3. Review of Minutes of Last Meeting:

Bill Hammett, AFS-420 (ISI) briefed that the minutes of ACF-IPG 09-01, which was held on April 28, 2009, were electronically distributed to all attendees as well as the ACF-IPG Master Mailing List on June 1, 2009. One comment was received from Mike Frank, AJT-28, regarding an editorial change to issue 09-01-284; however, the comment was received too late to correct the minutes distributed at the meeting. Bill advised that the history file for the issue would be revised to indicate Mike's desired correction.

4. Old Business (Open Issues):

a. 92-02-105: Review Adequacy of TERPS Circling Approach Maneuvering Areas and Circling at Airports with High Heights Above Airports (HAAs).

Bill Hammett, AFS-420 (ISI), briefed that TERPS Change 21, which contains the new circling criteria as briefed at the ACF, was signed and effective on August 27. AFS-420 and NANS are currently developing an implementation process that will address the most severely impacted airports first; e.g., high altitude, high HAA, etc. After 17 years on the agenda, Bill recommended this issue be closed. The group concurred. Also see Charting Group issue 09-01-213 regarding charting of revised circling area radii.

Status: Item Closed.

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

Catherine Majauskas, AFS-470, briefed that there is nothing new to report on this issue. John Swigart, AFS-470, added that the Branch has been understaffed (down three personnel) and two staffers are working RNP issues. Two recent new hires should prompt action. Tom Schneider, AFS-420, asked the status of the MITRE study. John responded that it is on-going.

Status: AFS-470 will continue to work the issue and report progress of the MITRE study. Item Open (AFS-470).

c. 96-01-166: Determining Descent Point on Flyby Waypoints (Originally: Definition of "On Course").

Al Herndon, MITRE, provided a briefing on a MITRE study that assessed FMS performance regarding descent at the waypoint bisector. The study included all FMS manufacturers and used a standard route for all systems. The route included a SID from Ontario, CA followed by flight through several en route points with altitude changes to connect with the RIIVR 2 STAR into Los Angeles. The tests confirmed that all aircraft were well within the TERPS lateral protected airspace for the turns. Additionally, all fully automated VNAV systems met the required altitude restrictions at the bisector. 91% of FMS units tested were within 150 feet of the calculated altitude at the course change bisector in a descending turn. The remaining 9% that were not within 150' were caused by early descent. Based on the study, Al recommended the issue be closed. Tom Schneider, AFS-420, stated that we have not satisfied the initial request and recommended that the issue remain open until AIM language has been published. A copy of the MITRE study is included here  .

Status: AFS-470 to develop AIM and other educational material. Item Open (AFS-470).

d. 98-01-197: Air Carrier Compliance with FAA-specified Climb Gradients.

Catherine Majauskas, AFS-470, briefed that Mark Steinbicker, Manager, AFS-470, brought the issue before the PARC. The PARC felt it did not have all of the necessary expertise for this discussion and recommended the ATA CNS Task Force as a good resource. The CNS Task Force was unable to work the issue; therefore, it is still in the PARC. Al Herndon, MITRE, reported that Grady Boyce from Delta is forming a working group to research the issue. Rich Boll, NBAA, stated that the issue is addressed in AC 90-105 and similar language should be incorporated into AC 90-100 as necessary measure to help close the issue. Catherine will take this information back to Mark.

Status: AFS-470 to monitor PARC progress and report. Item Open (AFS-470).

e. 02-01-238: Part 97 "Basic" Minima; ATC DP Minima, and DP NOTAMs.

There was no one from the ATO System Operations Service Unit, NOTAM group, AJR-32, in attendance to provide an update on the issue. Bill Hammett, AFS-420 (ISI), stated that he has been working with the ICAO NOTAM Working Group in re-writing Order JO 7930.2 to accommodate the planned Federal NOTAM System (FNS). Bill stated that he had spoken with Gary Bobik, AJR-32, who is the OPR for the current JO 7930.2. Gary said that there would be at least one, and perhaps two, updates to the current Order prior to the full re-write and he is agreeable to putting SIDs and STARs under the FDC process as an interim measure prior to implementing the ICAO Series.

Status: AJR-32 to continue to track efforts to revise Order 7930.2 to include all instrument flight procedure NOTAMs under a common format and continue to provide periodic updates on the NOTAM system upgrade. Item Open (AJR-32).

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

Dan Diggins, AJT-28, briefed that he has been drafting language for an Air Traffic Bulletin (ATB) article, which he hopes to have complete soon. Bill Hammett AFS-420 (ISI), offered to review the draft when complete

Status: AJT-28 will ensure controller training on impromptu climb-in-hold assignment. Item Open (AJT-28).

g. 03-01-247: Holding Pattern Criteria Selection and Holding Pattern Climb-in-Hold Issues.

Tom Schneider, AFS-420, briefed the following from Dr Sherri Avery, AFS-450: "AFS-450 is currently validating the ASAT holding software tool." No progress.

Status: AFS-450 to continue ASAT/simulator analysis and report. Item Open (AFS-450).

h. 04-01-250: RNAV and Climb Gradient Missed Approach Procedures.

Tom Schneider, AFS-420, briefed that since the last meeting, he again followed up his previous coordination with AFS-600 and 800. AFS-600 again confirmed that when funding is available, the practical test standards will be updated - target date is FY 2010. AFS-800 responded that the issue will be raised with management. Meredith Saini, AFS-820 (SAIC) reported that the issue is being looked at by AFS-800; however, there has been no progress.

Status: The Chair will continue to monitor action from AFS-600 and AFS-800 to address ACF-IPG concerns. Item Open (ACF-IPG Chair).

i. 04-02-258: Vertical Navigation (VNAV) Approach Procedures Using DA(H); OpSpec C073.

Catherine Majauskas, AFS-470, briefed that that the AC regarding Controlled Descent Final Approach (AC-CDFA) has been completed and is in FAA internal coordination.

Status: 1) AFS-470 to continue to develop guidance and keep the ACF-IPG updated. Item Open (AFS-470).

j. 05-01-259: Visual Climb Over Airport (VCOA).

Tom Schneider, AFS-420, briefed a presentation from Phil Prasse, the AFS-420 departure criteria specialist. A new concept is being considered to develop criteria that will allow VFR climb on a specified route to a fix where the VCOA maneuver may be accomplished to connect to an IFR departure. A copy of the slide presentation is included here  There was quite a discussion on the options for naming of the proposed new procedure. The IPG consensus is "Visual Climb to IFR Departure (VCTID). Rich Boll, NBAA, asked how far the VCOA fix would be from the airport. Tom responded that the concept is still developing and this will be determined as criteria are written. Roy Maxwell, Delta, stated that he liked the concept as it would give airliners flexibility to depart on course when weather was clear and visibility unlimited in lieu of flying an ODP that may take the aircraft 20 miles or more away from the desired routing. Since VCOA is considered an ODP, it satisfies Part 121/135 operator requirements to use an IFR departure procedure. Al Herndon, MITRE, stated that such a procedure is in effect on the

NAKED THREE SID at Valdez, Alaska. The procedure requires VMC flight for approximately 28 miles to a point where IFR climb may be initiated. Paul Eure, AJE-31, asked who would be given opportunity to review these procedures. Brad Rush, AJW-372, stated that coordination with all concerned ATC facilities would take place approximately 4-6 months prior to procedure development. Rich Boll, NBAA, asked whether ATC would know when an aircraft is opting to use the VCOA maneuver since it is an option on many ODPs. For example, many ODPs offer a specified route followed by "or (minimums) for climb in visual conditions." This prompted a lively discussion. Gary Fiske, AJT-28, stated that there should be a requirement for the pilot to request the VCOA so controllers know what to expect. Rich responded that the AIM guidance states that the pilot can use any ODP without ATC clearance (unless a SID or vector has been assigned) and the VCOA is included in the ODP. Many suggestions were offered. Roy emphasized that there is no current guidance for the pilot to advise ATC when a VCOA is used. Deke Abbott, AFS-220, suggested that perhaps a note in the ODP text requiring the pilot to advise ATC when the VCOA maneuver is used. Tom agreed to take this issue back to AFS-420 as the discussion indicates that policy (Order 8260.46), criteria (Order 8260.3), and AIM guidance are impacted.

Status: AFS-420 will continue to track the VCOA issue and report. Item Open (AFS-420).

Editor's Note: *Post meeting research reveals that the Air Traffic Terminal Service Unit published controller educational material relating to VCOA procedures in February 2006 in Air Traffic Bulletin 06-1. The following excerpt relates directly to comments that there should be a requirement for the pilot to request the VCOA so controllers know what to expect and is provided for review and possible discussion at the next meeting. Emphasis added.*

Visual Climb Over the Airport (VCOA)

/TREF/ "What the heck is this pilot doing?" are always good words to get a tower full of controllers to rapidly scan the sky. And, if the local controller (or watch supervisor) who just cleared the aircraft for takeoff is asking the question, perhaps all is not well. On the other hand, safety and traffic flow could well be under control. It all depends on if the controllers understand the VCOA clearance.

VCOA is a visual, IFR departure procedure. Similar to other instrument departure procedures, VCOAs are developed and published for individual locations with greater than the standard IFR (200 feet/nautical miles (NM)) climb gradients caused by obstacles more than 3 statute miles (SM) from the departure end of the runway.

The purpose of the VCOA is to provide an IFR departure procedure for aircraft that cannot meet the greater-than-standard climb gradient "specified" by the procedure. Imagine a Cessna 172 at an airfield in mountainous terrain. Having a VCOA allows the aircraft to visually spiral up to a specified altitude to cross a fix/location over the airport. Once the aircraft reaches this fix/location at the specified altitude, it can proceed on course in either visual meteorological conditions or instrument meteorological conditions via specific routing and altitude instructions to the en route structure.

The principle is a simplistic instruction: "See that obstacle? Don't hit it." Terminal Instrument Procedures (TERPS) specialists "build" the procedure by evaluating the airfield and the outlying areas. TERPS specialists not only determine the minimum altitude required to clear terrain, but also determine the minimum ceiling and visibility required (to "see and avoid the obstacle"). Unlike a graphic standard instrument departure (SID), the published VCOA procedure is in text format and found in the "Take-Off Minimums and (Obstacle) Departure Procedures" section of the appropriate Terminal Procedures volume. Additionally, airfields that have other than standard takeoff minimums or obstacle departure procedures (to include VCOAs) will have the symbol on the briefing strip section of their approach plates. One example is at Hemet-Ryan Airport, California. (The VCOA portion is in the underlined italics.)

"TAKE-OFF MINIMUMS: …**Rwy 5** std (standard) with a min climb of 526' per NM to 5200, or *1400-2 ½ for climb In visual conditions*."

Other airports with VCOA procedures include: Luray Caverns Airport, Virginia; Napa County Airport, Charles M. Schulz-Sonoma County Airport, and Fullerton Municipal Airport, California; Meeker Airport, Colorado; and Gastonia Municipal Airport, North Carolina.

Knowing that the local procedure exists is part of the situational awareness; knowing what the aircraft will do is the critical part. While terrain and weather may determine the prudent course of flight, controllers should query aircrews if there are concerns of potential traffic conflict. As VCOA is an IFR procedure, IFR separation is required from inbound (and overflight) traffic. Be aware that an aircraft may fly the obstacle departure procedure (ODP), including a VCOA, WITHOUT a specific ATC clearance. For example, an aircraft "cleared to ABC airport, direct XYZ VOR, as filed, maintain 6000….." may, in fact, need to fly the textual departure route (including a VCOA) for obstruction clearance. Bottom line: If controllers are unsure of the aircraft's departure path, they should confirm it with the pilot.

Thus, the three points of this article are:

1) Controllers should be aware of VCOA procedures if they are published at their location or at an uncontrolled airfield for which they provide IFR service.

2) Controllers should know that an ATC clearance is not required nor is the pilot required to notify controllers if the intent is to execute the ODP or VCOA.

3) Pilots are authorized to execute the ODP unless specific navigational guidance is provided by the controller via vectors or a SID.

FAAO 7110.65, Paragraph 4-3-2c, Departure Procedures, discusses departures for both controlled and uncontrolled airfields and IFR alternate takeoff minimums. The following definition will be published in the February 2006 pilot controller glossary:

VISUAL CLIMB OVER AIRPORT
(VCOA)- A departure option for an IFR aircraft, operating in visual meteorological conditions equal to or greater than the specified visibility and ceiling, to visually conduct climbing turns over the airport to the published "climb-to" altitude from which to proceed with the instrument portion of the departure. VCOA procedures are developed to avoid obstacles greater than 3 SM from the departure end of the runway as an alternative to complying with climb gradients greater than 200 feet per nautical mile. These procedures are published in the "Take-Off Minimums and (Obstacle) Departure Procedures" section of the Terminal Procedures Publications [See AIM].

Additional information can be found in the Aeronautical Information Manual, Chapter 5; the Instrument Procedures Handbook, FAA-H-8261-1, Chapter 2; and the guidance for developing VCOA procedures is in FAAO 8260.3B, United States Standards for Terminal Instrument Procedures (TERPS), Change 19, Volume 4, Chapter 4. **(ATO-T)**

Air Traffic Bulletins may be seen at: http://www.faa.gov/air_traffic/publications/bulletins/

k. 06-02-267: Pilot Option to Use Standard Timing for RNAV IAP Holding Patterns

Tom Schneider, AFS-420, briefed the following from Dr Sherri Avery, AFS-450: "Further discussion is needed (e.g. with pilots, ACF reps). AFS-450 would like to continue with the study given the restriction that standard timing leg lengths be less than or equal to the current RNAV leg lengths." No progress. Rich Boll, NBAA, stated that he had previously provided input to Dr. Avery but has heard nothing since then. He added that if AFS-450 will advise him what they need, he will try to obtain it for them. Tom agreed to pass this information to AFS-450.

Status: AFS-450 to include timing in lieu of ATD for RNAV holding in the study.
Item Open (AFS-450).

l. 07-01-269: Diverse Vector Areas (DVAs).

Tom Schneider, AFS-420, briefed that there has been no move to change any 8260-series orders pending ATO action. Dan Diggins, AJT-28, briefed that he had spoken with Brad Rush and they are in agreement that the current criteria are not suitable. Additionally, NANS is not in a position to develop DVAs on a national level, for example, it took over a year to get one accomplished at Santa Monica. A DVA is needed at Burlington, VT; however, as noted above, the criteria are unsuitable. Tom responded that DVA criteria are under development and asked the status of the ATO DVA Order. Dan responded the Order has been finalized; however, it would not be released until criteria are acceptable and FAA is able to process DVAs. He is reluctant to publish an Order that will make ATC facilities non-compliant as soon as it hits the street. Bill Hammett, AFS-420 (ISI) noted that once the ATO Order is published, everyone realizes there will be a phase in period for implementation. DVA requests should be coordinated and prioritized through the RAPT. Brad Rush, AJW-372, stated that his office needs the criteria first, and then facilities may request DVAs. Harry Hodges, AFS-420, stated that the US-IFPP would be used to develop DVA criteria. Paul Eure, AJE-31 stated that the current criteria require ASR; however, some ARTCCs have ARSR radar systems of equal accuracy. Tom responded that there is no intent to exclude ARTCCs. Tom took the IOU to request DVA criteria development through the US-IFPP. Once the criteria are developed, AJT-28, jointly with AJE-31, will ensure controller guidance is developed for radar vectoring departures at airports where an ODP is established.

Status: 1) AFS-420 will ensure DVA criteria are developed through the US-IFPP, and 2) AJT-28, jointly with AJE-31, will ensure controller guidance is developed for radar vectoring departures at airports where an ODP is established.
Item Open (AFS-420, AJT-28, and AJE-31.

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

Tom Schneider, AFS-420, briefed that there is no change in status for this issue. As noted at previous meetings, Jack Corman, AFS-420, Executive Director of the US-IFPP stated that due to workload and staffing levels changes to TERPS Volume 1 Chapters 15 and 17 will not occur until at least the 2010 time frame.

Status: AFS-420 to address the issue when workload and resources permit.
Item Open (AFS-420).

n. 07-01-272: Using an ODP in lieu of the Published Missed Approach Procedure.

Rich Boll, NBAA, briefed that at the last meeting he agreed to chair a sub group to address this issue; however, the group did not meet because one of the air traffic representatives stated that they wanted to pursue this issue at a higher level within the FAA. Dan Diggins, AJT-28, stated that he was the individual that elevated the issue. The ATO Terminal and En Route Service Units both are concerned over the smorgasbord of pilot options the proposed language provided. Dan stated that although the original proposed AIM revision appeared satisfactory at first, upon a further more detailed review, they believe it doesn't appear necessary. Dan added that AJT-2 had written a memorandum to AFS-1 and AJW-1 to determine exactly where problems exist. Roy Maxwell, Delta, advised that as a result of the Delta/Northwest merger, it was noted that each carrier had a different procedural application of AC 120-91. Delta specified the ODP for a balked landing, whereas Northwest did not. Noting that Air Traffic preferred pilots to fly the published missed approach, Delta Operations reviewed over 200 airports where Delta and Northwest service. There were a limited number (approximately 10%) where there were problems. John Blair, AFS-260, cautioned that the group must not get locked in to viewing this is a carrier problem at major airports. It is a problem at many smaller airports. Tom Schneider, AFS-420, emphasized that the proposed guidance specifies to use the published missed approach first and only use the ODP as a last ditch maneuver. Paul Eure, AJE-31, asked Roy whether ATC was advised of those airports deemed to have a problem. Roy responded, no; it is a carrier responsibility. Rich stated that there is nothing new here and no new guidance is required. He added that the final draft that was presented to the ACF included verbatim text from the preamble of the Notice of Final Rule for Part 91.116 (now 91.175). On behalf of NBAA, Rich stated he cannot understand how the ATO can non-concur with the proposed AIM language since it is based on the following explanatory guidance material published in the Federal Register on this subject, unless they want to take the matter to General Counsel. The following is an excerpt of the Federal Register preamble for the Final Rule for Part 91.116, *Take off and landing under IFR*, (now 91.175) which was published on January 8, 1981. The entire Preamble may be accessed here 

> "Another subject on which comments were received relates to the § 91.116(e) requirement to immediately initiate an "appropriate" missed approach if visual reference is lost. The commenters correctly note that it is unsafe in some cases to initiate an immediate missed approach which strictly follows the published procedure. This, however, is the reason why the word "**appropriate**" missed approach is used. Under § 91.116(e) pilots must continue to be aware that the published missed approach procedure provides obstacle clearance only when the missed approach is conducted on the missed approach segment from or above the missed approach point. If the aircraft initiates a missed approach at a point prior to the missed approach point, from below MDA or DH, or on a circling approach, obstacle clearance is not necessarily provided by following the published missed approach procedure. **In this situation obstacle clearance is the pilot's responsibility**. When a missed approach is initiated in this situation, the pilot must consider other factors such as the aircraft's geographical location with respect to the prescribed missed approach point, direction of flight and/or minimum turning altitudes in the prescribed missed approach procedure, aircraft performance, visual climb restrictions, charted obstacles, **IFR departure procedures**, takeoff visual climb requirements as expressed by nonstandard takeoff minima, or other factors not specifically expressed by the approach procedures. During a missed approach, the aircraft must be on, or must re-intercept, a published segment of the procedure at or above the altitude specified in the procedure, and must maintain a climb gradient equal to or greater than the standard (1:40 or 2.5%) unless otherwise published, for obstacle clearance to be ensured by the published missed approach procedure alone. For these

reasons the wording of former § 91.117(b)(2) with respect to an "**appropriate**" missed approach is retained in § 91.116(e). (Emphasis added)

Gary Fiske, AJT-28, asked does the final rule mean that the options must be in the AIM. Roy stated again that it is the pilot/operator responsibility to determine what to do after passing the MAP. Action at that point is outside the presumptions of procedure designers and ATC; it is a performance issue. Gary asked how is the controller to know what the pilot is doing. Rich responded that in this instance, the situation is a de facto emergency and it is incumbent on the pilot to advise ATC. John Blair, AFS-260, reminded everyone that the primary goal is to keep the aircraft from hitting the rocks. The AIM provides guidance and ATC is secondary. Dan Diggins closed by saying that the request for airport evaluations may be a moot point if the rule is in place. Rich provided the following proposed language for AIM paragraph 5-4-21h, which he revised to be more closely based on the preamble language provided above and requests AFS-410 consider it for inclusion in the AIM:

Proposed AIM language for AIM paragraph 5-4-21h (Rv 12, NBAA, 10-27-2009)

A clearance for an instrument approach procedure includes a clearance to fly the published missed approach procedure, unless otherwise instructed ATC. The published missed approach procedure provides obstacle clearance only when the missed approach is conducted on the missed approach segment from or above the missed approach point. If the aircraft initiates a missed approach at a point prior to the missed approach point, from below MDA or DH, or on a circling approach, obstacle clearance is not necessarily provided by following the published missed approach procedure. During pre-approach planning, the pilot should assess the actions to be taken in the event of a balked landing beyond the missed approach point or below the MDA or DA(H) based on the anticipated weather conditions and available aircraft performance. If balked landing occurs at a position where **it is no longer possible** to fly the published missed approach and alternative missed approach instructions are not available from ATC, obstacle clearance is the pilot's responsibility. 14 CFR 91.175 authorizes the pilot to fly an **appropriate** missed approach procedure. When a missed approach is initiated in this situation, the pilot must consider other factors such as the aircraft's geographical location with respect to the prescribed missed approach point, direction of flight and/or minimum turning altitudes in the prescribed missed approach procedure, aircraft performance, visual climb restrictions, charted obstacles, **takeoff obstacle departure procedure**, takeoff visual climb requirements as expressed by nonstandard takeoff minima, or other factors not specifically expressed by the approach procedures. If the pilot executes any procedure other than the published missed, they should advise ATC as soon as possible with current actions and intentions.

Status: 1) AFS-410 evaluate and coordinate the NBAA recommended AIM change; and, 2) AJT-28 evaluate the preamble language for Part 91.116 (now 91.175) and re-assess the need for the requested airport review. Item Open - (AFS-410 and AJT-28).

o. 07-01-274: AIM Information Regarding ODP Minimum Crossing Altitudes

Tom Schneider, AFS-420, briefed that policy revisions recommended by the ad-hoc DP Working Group have been made to Order 8260.46D and the AIM. The changes were published on August 27. Gary Fiske, AJT-28 stated that corresponding changes to JO 7110.65 have been coordinated and will be published on February 11, 2010. Tom recommended the issue be closed and the Group concurred.

Status: Item Closed.

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

Tom Schneider, AFS-420, briefed the following from Dr Sherri Avery, AFS-450: "AFS-450 is continuing analysis of FMS/GPS information. AFS-420 (Steve Jackson) has been assisting in obtaining problem statement information, including, to what extent does RNAV Holding exist?

Status: AFS-450 to continue to work the issue and provide updates. Item Open (AFS-450).

q. 08-01-279: Expected Airplane Performance on Instrument Departure Procedures

Bruce McGray, AFS-410, was absent when this issue was discussed; however, Bill Hammett, AFS-420 (ISI), briefed that the recommended AIM changes presented by Rich Boll, NBAA, at meeting 08-01 were included in the August 27 AIM Change - See AIM paragraphs 5-2-8b2 and 5-2-8e1(d). Since all action is complete, Bill recommended the issue be closed and the Group concurred.

Status: Item Closed.

r. 09-01-282: Glide Slope Intercept Altitudes on ILS Parallel Approaches

Editor's Note: *This issue and 09-01-283 were discussed simultaneously. The minutes are written to reflect and clarify pertinent points regarding each issue. This issue relates primarily to ILS approaches with multiple glide slope intercept altitudes.*

Tom Schneider, AFS-420, briefed that, as recommended at the last ACF-IPG meeting, guidance to revise the chart note for multiple glide slope (GS) intercept altitudes was included in Change 3 to Order 8260.19 under paragraph 852f(1) - see below, change in red text:

"…..If more than one GS/GP intercept altitude is necessary to support ATC operations, the GS/GP intercept point closest to the threshold is the PFAF and the additional intercept altitudes will be specified in a profile view note. Document the additional glidepath intercept information in the Notes block as follows:

Chart profile note: *When assigned by ATC, intercept and track glidepath."

Brad Rush, AJW-372, stated that this issue was also a topic of discussion at the PARC the previous week. The PARC is looking at reducing separation between runway centerlines and perhaps reducing the vertical separation between glide slope intercept altitudes to save fuel. Gary Fiske, AJT-28 asked whether glide slope intercept altitudes were temperature corrected. The answer is no. Bruce McGray, AFS-410, suggested that on ILS approaches with multiple GS intercept altitudes, perhaps the ILS "feather" should be extended to the highest altitude intercept point. Additionally, Bruce suggested ATC phraseology should include "fly glideslope" with the approach clearance indicating that stepdown altitude restrictions after glide slope intercept are not applicable. This suggestion was not well received. Rich Boll, NBAA, noted that the original recommendation document requested the addition of a note to AIM paragraph 5-4-5-b to clarify early glidepath intercept procedures and PFAF identification. He requested this addition be given consideration by AFS-410. The group consensus is that the issue may be closed when the AIM is updated.

Status: 1) AFS-410 to evaluate the NBAA recommendation to update AIM paragraph 5-4-5-b. Item Open (AFS-410).

s. 09-01-283: Intermediate Fix Altitudes & ILS Glide Slope

Editor's Note: *This issue and 09-01-282 were discussed simultaneously. The minutes are written to reflect and clarify pertinent points made regarding each issue. This issue addresses pilots intercepting and tracking the glide slope (GS) prior to the PFAF with ATC clearance to do so.*

The discussion centered primarily on the Teterboro, NJ ILS RWY 6 IAP. The procedure has a minimum intermediate fix (IF) (VINGS) altitude of 2000 and specifies a mandatory IF stepdown fix (DANDY) altitude of 1500, prior to the 1300 GS intercept altitude. Pilots routinely, upon receiving clearance for the approach, intercept and fly the GS at 2000, thus missing the mandatory 1500 restriction, which is established to provide vertical separation with aircraft arriving Newark. Various chart notes and ATC clearance phraseology were discussed. Gary Fiske, AJT-28, stated that most controllers at Newark include the phrase "cross DANDY at 1500" in the approach clearance; however some pilots still opt to fly the GS and miss the restriction. Ted Thompson, Jeppesen, stated that his research indicated the procedure coding is correct. Ted added that Jeppesen's representation of the ILS GS intercept in the profile illustrates the unique 1500 foot mandatory crossing altitude below the GS at DANDY. This charting methodology received favorable comment. The Jeppesen depiction was the direct result of a Non-Standard Special Revision Order requested separately, by a representative of the FAA. Brad Rush, AJW-372, mentioned that the problem could possibly be resolved by revising the IAP lateral track and profile and he will have the procedure developers for Teterboro check into it. Dan Diggins, AJT-28, stated that he believes an FAA safety inspection to review Teterboro is scheduled. Tom Schneider recommended that AFS-410 review the NBAA original recommendation document that requested the addition of another subparagraph AIM paragraph 5-4-5-b to clarify pilot responsibilities when intercepting the GS prior to the PFAF or as assigned by ATC (see issue 09-01-282).

Status: 1) AFS-410 to review proposed new AIM paragraph 5-4-5-b-5 and 2) AJW-372 to study possible procedure re-design for the ILS RWY 6 at Teterboro.
Item Open (AFS-410 and AJW-372).

t. 09-01-284: Question of TERPs Containment with Late Intercepts

Bruce McGray, AFS-410, briefed that the issue was discussed at ATPAC and a DCP was being developed for a change to Order 7110.65. The DCP will allow radar vectors to a point inside the IF for RNAV GNSS IAPs provided the turn on would be within 30 degrees of the final approach course and at least 3 NM prior to the FAF. They are still awaiting data collection on avionics equipment performance to determine whether a turn on at or within 3 NM will allow equipment to ramp down. Tom Schneider, AFS-420, asked if there was any update on the proposal to allow non radar clearances direct to a fix inside the IF. Gary Fiske, AJT-28, stated that this is being considered and quoted a proposed DCP change. Rich Boll, NBAA, stated that this issue was discussed in another meeting yesterday and NBAA would non-concur with such a change pending verification of FMS performance. He understood the issue is in a HIA status pending this verification. Rich added that NBAA supports direct-to-IF clearances for both RNAV and conventional IAPs, but will not support clearances inside the IF until it is determined how FMSs will perform. Paul Ewing, AJR-37 (AMTI), stated that ATPAC AOC 102-2 will close the direct-to-IF issue for conventional approaches.

Status: AFS-410, with support from AJR-37and NBAA to continue to track the issue and report result of FMS performance evaluations. Item Open (AFS-410, AJR-37 and NBAA).

u. 09-01-285: U.S. RNAV Routes Coincident with Conventional Airways

Paul Ewing, AJR-37 (AMTI), briefed that he checked into the issue. The T-Routes in Alaska were re-published; however, in so doing, the problem was made worse by an increase in overlapping routes. Alaska routes are being re-addressed. He also affirmed that AFS guidance allows T-Routes to overlap Victor airways. Paul added that the RNP Office is staffing T and Q route policy through the SMRD process. Bill Hammett, AFS-420 (ISI), stated he believed the original intent of the guidance for RITTRs (now T-Routes) was to allow overlap within the route to allow for logical route continuations, but not intended to arbitrarily extend (overlap) the routes beyond the point necessary to re-join the airway structure. Paul responded that the overlaps are usually for ATC convenience to simplify clearances. Ted Thompson asked that once the T-Route connects with the airway structure, what is to stop continued overlapping. Paul responded that Victor airways overlap and T routes should be treated the same. It should be up to ATC. Peter Pasquale, AJR-37 (AMTI), stated that one route simplifies flight plan filing and ATC clearances. Gary Fiske, AJT-28, also supported T-Route overlap for controller convenience. Ted commented that the ATC issues are understood and acknowledged, but there will be a negative consequence if the number of RNAV routes duplicating conventional routes is allowed to increase. The negative consequences would be increased overhead for maintenance (system wide), increased chart congestion, chart readability and interpretation by pilots; in short, increased requirements = increased scale = increased charts. Valerie Watson, AJW-372, supported Ted's concern over chart complexity. Paul then stated that when the RITTR program was first started, policy guidance required the ATC proposals to be forwarded to NACO for prototype charting and review. This advance peek at the charts prompted many useful suggestions from cartographers to simplify routes and reduce chart complexity. He will coordinate to see if that process can be re-started as well as ensure that new policy will emphasize minimizing overlap. Paul recommended the issue be closed. Ted commented that Jeppesen made the recommendation to raise attention, at this early stage of implementation, so that informed decisions could be made and possibly avoid similar RNAV-related chart congestion concerns affecting RNAV RNP approach charts. He agreed to close the agenda item with the request that the official minutes about the closure include mention of the inherent "acceptance" of the negative consequences that will likely become evident in the future. This request will provide a record for future reference in case the general subject of en route chart or display congestion is raised again sometime in the future.

Status: Item Closed.

5. New Business:

a. 09-02-286: Initial "Climb & Maintain" Altitude on Standard Instrument Departure Procedures

New issue presented by Rich Boll, NBAA. Rich stated that there have been numerous occasions where pilots are issued an IFR clearance with a SID assigned. Either in conjunction with the takeoff clearance or immediately after departure, the aircraft is subsequently assigned "climb and maintain ….." Many pilots consider this an amended ATC clearance that voids all SID altitude restrictions unless the SID restrictions are restated or the pilot is advised to comply with published restrictions. This has led to many pilots breaking at-or-below and mandatory altitude restrictions that are becoming more common on RNAV departures, especially in the western states. Bill Hammett, AFS-420 (ISI), noted that there were discussions at some former ACF meetings regarding "climb via" phraseology similar to

the “descend via” term used for arrivals. He doesn’t know the current status of the proposal, but suggested that this phraseology would solve the issue by standardizing procedures. Mike Hilbert, AJR-37, responded that “climb via” was intended only for those instances where an aircraft was taken off (i.e., vectored) a SID by ATC and then cleared back on it. Al Herndon, MITRE, stated that this issue was before the Charting Group previously as a “Top Altitude” for SIDs. John Blair, AFS-260, stated that when ATC issues an altitude, pilots don’t usually know the reason for it; e.g., noise abatement, terrain clearance, traffic separation, etc. Dan Diggins, AJR-28, stated that he would form a group with representatives of the Terminal (AJT-28), En Route (AJE-31), and System Operations (AJR-37) Service Units to study the issue to determine whether it is related to charting, procedure design policy, or ATC procedures.

Status: AJT-28, with support from AJE-31 and AJR-37, to form a sub group to study the issue and report. Item Open (AJT-28, AJE-31, and AJR-37).

b. 09-02-287 Operator Training Concerning One Engine Inoperative (OEI) Contingency Planning For IFR Departure Procedures

New issue presented by Rich Boll, NBAA. AC 120-91, *Airport Obstacle Analysis,* was published in 2007 and is referred to by the AIM for guidance in developing one engine inoperative (OEI) procedures. AC 120-91 guidance is emphasized to operators under Part 121. However, Rich stated that NBAA is concerned that prior to the AC’s release, many Part 135 operators and Part 142 training centers had developed ad hoc methods for takeoff obstacle avoidance based on complying with ODP or SID climb requirements under OEI. While this methodology may appear acceptable, it does not account for critical differences between TERPS criteria, Part 25 OEI takeoff certification rules, and the operating rules for OEI takeoff obstacle avoidance contained in the Part 135, Subpart I - see the full Recommendation Document for additional details. NBAA is requesting the FAA notify operators and Part 142 training centers of the requirement to apply the performance data provided in the Airplane Flight Manual (AFM) using the procedures specifically described within the AFM when meeting the OEI takeoff obstacle avoidance rules of Subpart I, Part 121 or Part 135 as applicable. It must be further emphasized that the use of other procedures, techniques, or other work-arounds are **not** authorized unless specifically approved by the FAA. Further, Flight Standards should re-enforce that operators and training centers refer to AC 120-91 for guidance on OEI takeoff obstacle procedure development and alternative procedure approval. Since this guidance concerns regulatory compliance and safety, NBAA requests that it be published though a SAFO to all Part 135 operators and Part 142 training centers. Lastly, Rich recommended that the Instrument Procedures Handbook on IFR departures be expanded to include a discussion on OEI takeoff obstacle avoidance planning for airplanes subject to the 91.175(f)(4) requirements with specific reference to AC 120-91. Harry Hodges, AFS-420, briefed that he is the AFS representative to the Airport Obstruction Standards Committee (AOSC). The AOSC is not only looking at OEI surfaces, but also has initiated a pilot program at 5 airports under OE/AAA to try to develop a common surface for both TERPS and airport design standards. Official action has been tasked for the ATO, AVS, and Airports Division to work together to resolve differences. Roy Maxwell, Delta, added that the required policy guidance is already in place and supports the objective to provide notification and education to affected performance engineering organizations about the accurate application of the latest guidelines. Rich volunteered to lead a small ad hoc working group consisting of himself, Roy Maxwell, and representatives of AFS-200 and 400 to address the issue presented before the ACF-IPG.

Status: Rich Boll to form and lead an ad hoc working group to address the issue. Item Open (NBAA).

c. 09-02-288 VNAV Minimums vs. Circle to Land

New issue presented by Rich Boll, NBAA. Rich stated that traditionally TERPS does not allow circling minimums lower than straight-in minimums. However, many new RNAV approaches with LPV, LNAV/VNAV, and VNAV straight-in lines of minima published do have a circling minimum descent altitude (CMDA) lower than the LNAV/VNAV decision altitude (DA). This can cause confusion for pilots equipped for LNAV/VNAV but not LPV. Tom Schneider, AFS-420, stated that this has been an item of discussion between the AFS-420 staff and the National Aeronautical Navigation Services (NANS). One option is to publish separate charts. Brad Rush, NANS, stated that this is an old issue. When LNAV/VNAV minimums were first added to LNAV approaches, minimums were being raised. Many users, AOPA in particular, were concerned that minimums were being raised and LNAV minimums deleted. It was decided to publish both lines of minima to provide greater flexibility for all users. Tom Schneider, AFS-420, explained that TERPS criteria specified that "….the CMDA must not be above the FAF altitude or below the straight-in MDA of the highest nonprecision approach (NPA) line of minima published on the same chart…."(See 8260.3, Volume 1, paragraph 3.2.1b). LNAV/VNAV is considered APV; therefore, the LNAV MDA is the default when establishing the CMDA. Rich noted that lots of industry cannot fly LPV; however, they can fly the approach to the LNAV minima using baro-VNAV for vertical guidance. Therefore, he questions the need to publish LNAV/VNAV minima when these minima are significantly higher than the LNAV minima. NBAA supports retaining LNAV/VNAV minima when these minima are at or near the LNAV minima. Lev Prichart also suggested that perhaps we should get rid of LNAV/VNAV. Brad responded that establishing LNAV/VNAV procedures at Part 139 airports was a CAST initiative and he doubted whether NBAA and AOPA would support losing the option. The issue was raised that perhaps LNAV/VNAV minimums should be eliminated when the DA(H) is calculated to be higher than LNAV MDA. Ted Thompson, Jeppesen, stated that he is not in favor of publishing separate Z,Y,X approaches as not all boxes can accommodate multiple procedures of the same type to the same runway. Tom recommended that Rich take the issue back to NBAA and determine whether there is a set value difference between the LNAV MDA and the LNAV/VNAV DA where LNAV/VNAV should not be published. Rich agreed to do so.

Status: NBAA to further assess the issue and report. Item Open (NBAA).

d. 09-02-289 Use of Leg Combinations and Altitude Constraints on RNAV Departure Procedures

New issue presented by Rich Boll, NBAA. Rich stated that many new RNAV departures are designed using leg types and altitude restrictions that are incompatible with many FMSs. For example a VA-to-CF leg does not provide a static turn point, altitude restrictions in a VI-to-CF present problems, and many FMSs cannot handle mandatory altitudes. Rich provided several examples using current SIDs; the DUUKE ONE RNAV SID at John Wayne Airport-Orange County (KSNA) and the RUUDY ONE RNAV SID at Teterboro, NJ (KTEB). Tom Schneider, AFS-420, stated that some 'legacy FMSs' are not capable of flying a VI leg. Accordingly, changes to FAA Order 8260.46D specify documenting the desired leg type (VI) and allowing use of a VA leg instead. Brad Rush, AJW-372, stated that he doesn't support eliminating all the available options for SID design, rather limit the application of the various options. Brad added that the VA-CF combination is rarely used, but is necessary to support certain situations. Dan Diggins, AJT-28, agreed with the recommendation and added that recent incidents at Dallas/Fort Worth prove that VA-to-CF legs don't work as planned. He also

agreed that a Letter to Airmen published by John Wayne Tower provided incorrect guidance. Gary Fiske, AJT-28, stated the letter was corrected. Tom agreed to forward this issue to the US-IFPP for consideration.

Status: The ACF-IPG Chair to forward the issue to the US-IFPP for response. Item Open (ACF-IPG Chair and US-IFPP).

e. 09-02-290 Call for Review and Revision of ARINC Leg Types Used in Construction of RNAV Departure Procedures

New issue presented by Rich Boll, NBAA. Rich stated that although closely related to Issue 09-02-289, this recommendation is a long term effort. NBAA believes it time to take a comprehensive look at how RNAV SIDs are designed under DO-236B, *Minimum Aviation System Performance Standards: Required Navigation Performance for Area Navigation*. The FAA needs to more carefully evaluate current design criteria as we move more into the RNP world. RNP DP design must be based on leg types that provide repeated ground tracks - specific leg types and associated altitude restriction limitations are included in the Recommendation Document. Ted Thompson, Jeppesen, commented that the use of point-to-point leg types for RNAV departures represents a larger, long range policy that has to be addressed. The use of 'air mass' leg types is suited to 'overlaying' ground tracks of conventional departures, but include the inherent complications. Also, the ICAO IFPP is moving toward point-to-point RNAV departures. Along with that comes the need to address system alignment on the ground prior to take-off (i.e. Quick Alignment QA waypoints). Al Herndon, MITRE, stated that MITRE has been tasked with investigating RNP at 50 feet off the runway. He also pointed out that RNAV RNP will be based on GPS, not DME/DME, and Quick Alignment waypoints might not be necessary; however, the question remains as to aircraft alignment necessary to support the tighter, more precise ground tracks available by the use exclusive use of point-to-point leg types for RNAV departures. Tom Schneider, AFS-420, agreed to forward this issue to the US-IFPP for consideration.

Status: The ACF-IPG Chair to forward the issue to the US-IFPP for response. Item Open (ACF-IPG Chair and US-IFPP).

f. 09-02-291 Straight-in Minimums NA at Night

New issue presented by Rich Boll, NBAA. Rich stated that NBAA members have raised questions concerning certain instrument approach procedure (IAP) charts that contain the statement "**Straight-in minimums NA at night**"; however, circling minimums for the same approach are authorized. Additionally, in some cases a circle-land maneuver to that runway is authorized if using another IAP that serves the airport - Several charted examples were provided in the Recommendation Document. NBAA believes this scenario introduces confusion for the pilot and also encourages pilots to conduct the much riskier circle-to-land approach at night in lieu of conducting a stabilized, straight-in approach. This perceived contradiction might actually increase the risk of a low altitude encounter with unlighted low, close-in obstacles since the circling maneuver by nature is more likely to encounter obstacles at the fringes of the visual obstacle assessment area. This is especially true for those obstacles that lie between the lateral limits of the Standard area and the Straight-in or Offset areas. TERPS paragraph 251 specifies 3 different visual obstacle assessment areas: Standard, Straight-in, and Offset; however, there seems to be a contradiction between TERPS paragraph 251 and the required actions of TERPS Chapter 3, paragraph 3.3.2d. Brad Rush, AJW-372, stated that in some cases, minimums are restricted due to survey accuracy. He

questioned whether we should ever allow circling to a runway where an IFR straight-in approach is not authorized at night. Tom Schneider, AFS-420, concluded that this is a TERPS criteria issue and must be worked through the US-IFPP.

Status: The ACF-IPG Chair will forward the issue to the US IFPP for review and consideration. Item Open (ACF-IPG Chair and US-IFPP).

6. Next Meeting: ACF meeting **10-01** is scheduled for **April 27-29, 2010** with the **Air Line Pilots Association** (ALPA), 535 Herndon Parkway, Herndon, VA 20192 as host. Meeting **10-02** is scheduled for **October 26-28, 2010** with the **MITRE Corporation**, 7515 Colshire Dr., McLean, VA 22012 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 (with an information copy to Bill Hammett), a written status update on open issues not later than April 10 - 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 09-02

OPR	AGENDA ITEM (ISSUE)	REQUIRED ACTION
AFS-470	**92-02-110** (Cold Weather Altimetry)	Continue to track issue and develop consolidated recommendation for PARC. Also, report results of MITRE study.
AFS-470	**96-01-166** (Descent Point on Flyby Waypoints. Originally "on course")	Develop AIM and other pilot educational material based on MITRE study.
AFS-470	**98-01-197** (Air Carrier Compliance With Climb Gradients)	AFS-470: Monitor PARC actions and report progress.
AJR-32	**02-01-238** (Departure Minimums and DP NOTAMs)	Report progress on re-write of Order 7930.2 to include SID/STAR NOTAMs with all other instrument flight procedure (IFP) NOTAMs. Report progress on development of the Federal NOTAM System (FNS).
AJT-22	**02-01-241** (Non-radar Level and Climbing Holding Patterns)	Ensure controller awareness and education on what holding patterns are authorized for CIH.
AFS-450	**03-01-247** (Holding Pattern Selection Criteria)	Continue research/evaluation on the issue and report.
ACF-IPG Chair	**04-01-250** (RNAV and Climb Gradient Missed Approach procedures)	Monitor actions by AFS-600 and AFS-800 to address ACF-IPG concerns.
AFS-470	**04-02-258** (VNAV IAPs using DA(H) and OpSpec C073)	AFS-470: Continue to develop operational guidance (AC-CDFA).
AFS-420	**05-01-259** (Visual Climb Over Airport)	Continue working the issue through the USIFPP and report.
AFS-450	**06-02-267** (Option to Use Standard Timing for RNAV Holding Patterns)	Assess use of timing in lieu of ATD for RNAV in holding pattern study.
AFS-420 AJT-22 AJE-31	**07-01-269** (Diverse Vector Areas)	AFS-420: Ensure DVA criteria are developed through the US-IFPP. AJT-22 and AJE-31: Jointly develop controller guidance for vectoring departures at airports with an ODP.
AFS-420	**07-01-270** (Course Change Limitation Notes on IAPs)	Address issue through the US-IFPP when workload permits.
AFS-410 AJT-28	**07-01-272** (Use of ODP in Lieu of Published Missed Approach)	AFS-410: Evaluate NBAA proposal for AIM 5-4-21h. AJT-28: Review preamble for Part 91.116 and re-assess the need for the requested airport review.

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
OPEN AGENDA ITEMS FROM MEETING 09-02

OPR	AGENDA ITEM (ISSUE)	REQUIRED ACTION
AFS-450 AFS-470	**07-02-278** (Advanced RNAV (FMS/GPS) Holding Patterns Defined by Leg Length)	AFS-450: Address the issue in conjunction with the holding pattern study. AFS-470: Provide input on the issue for the study.
AFS-410	**09-01-282** (Glide Slope Intercept Altitudes on ILS Parallel Approaches)	AFS-410: Evaluate NBAA recommendation to add explanatory note to AIM paragraph 5-4-5b to clarify early glidepath intercept
AFS-410 AJW-372	**09-01-283** (Intermediate Fix Altitudes & ILS Glide Slope)	AFS-410: Review NBAA proposed new AIM paragraph 5-4-5b5. AJW-372: Study feasibility of re-desing to ILS RWY 6 IAP at Teterboro.
AFS-410 AJR-37 NBAA	**09-01-284:** (Question of TERPs Containment with Late Intercepts)	AFS-410, with support from AJR-37and NBAA, continue to track the issue and report.
AJT-28 AJE-31 AJR-37	**09-02-286:** (Initial "Climb & Maintain" Altitude on SIDS)	AJT-28, with support from AJE-31 and AJR-37, to form a sub group to address the issue.
NBAA	**09-02-287:** (Operator Training Concerning OEI Contingency Planning For IFR Departure Procedures	Form and lead an ad-hoc working group to address the issue.
NBAA	**09-02-288:** (VNAV Minimums vs. Circle to Land)	Re-assess the issue to determine whether there is a set value difference between minimums where LNAV/VNAV should not be published.
US-IFPP	**09-02-289:** (Use of Leg Combinations and Altitude Constraints on RNAV Departure Procedures)	Study issue and respond.
US-IFPP	**09-02-290:** (Call for Review and Revision of ARINC Leg Types Used in Construction of RNAV DPs)	Study issue and respond
US-IFPP	**09-02-291:** (Straight-in Minimums NA at Night)	Study issue and respond

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
ATTENDANCE LISTING - MEETING 09-02

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AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
ATTENDANCE LISTING - MEETING 09-02

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