November 16, 2007

Dear Forum Participant

Attached are the minutes of the Aeronautical Charting Forum, Instrument Procedures Group (ACF-IPG) held on October 23, 2007, and sponsored by the Air Line Pilots Association (ALPA), Herndon, VA. 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:

Mr. Tom Schneider
FAA/AFS-420
P.O. Box 25082
Oklahoma City, OK 73125

Phone: 405-954-5852
FAX: 405-954-5270
E-mail: thomas.e.schneider@faa.gov

Copy to:

Mr. Bill Hammett
FAA/AFS-420 (ISI)
6 Pope Circle
Nashua. NH 03063

Phone: 603-521-7706
FAX: 603-521-7706 (Call first)
E-mail: bill.ctr.hammett@faa.gov or
isiconn@comcast.net

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 past meeting minutes 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. We encourage participants to use this site for reference in preparation for future meetings.

ACF Meeting 08-01 is scheduled for **April 22-24, 2008** with AMTI, Rosslyn, VA as host. Meeting 08-02 is scheduled for **October 21-23, 2008** with NACO, Silver Spring, MD tentatively scheduled as host.

Please note that the **meetings begin promptly at 8:30 AM**. Please forward new issue items for the 08-01 IPG meeting to the above addressees not later than April 4th. 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

Attachment: ACF-IPG minutes

GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
Meeting 07-02 Reston, VA
October 23, 2007

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 23, 2007. The Air Line Pilots Association (ALPA) hosted the meeting at their Herndon, VA headquarters. Kevin Comstock made welcoming and administrative comments on behalf of ALPA. A listing of attendees is included as attachment 2.

2. Review of Minutes of Last Meeting:

Bill Hammett, AFS-420 (ISI) briefed that the minutes of ACF-IPG 07-01, which was held on May 1st, were electronically distributed to all attendees as well as the ACF-IPG Master Mailing List on June 8th. No comments/corrections were received. The minutes were accepted as distributed.

3. Briefings:

Mark Steinbicker, AFS-470, provided a briefing on the AFS-400 re-organization. The Division has divided Branches 410/420/440, thus forming three additional Branches 450/460/470. These new Branches coupled with additional staffing should enable the Division to better manage its responsibilities and enhance responsiveness to issues. A copy of Mark's briefing slides is included as Attachment 3.

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) provided an update from Jack Corman, the AFS-420 lead criteria specialist, on the proposed new TERPS criteria for circling that was briefed at meeting 06-02. The new circling criteria will be contained in TERPS change 21 which will tentatively be circulated for coordination in the Dec/Jan time frame. The NBAA recommendation to re-evaluate the circling area when the initial evaluation using the assumed 1000' HAA results in a HAA greater than 1000' has been adopted. Evaluation is ongoing to determine if a maximum HAA value should be established where circling would not be authorized. Further comments on the new criteria are welcome and may be forwarded directly to Jack Corman at jack.corman@faa.gov.

Status: AFS-420 to keep the group apprised of progress on criteria coordination. Item Open – Pending Publication (AFS-420).

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

Mark Steinbicker, AFS-470, briefed that the contracted MITRE study to evaluate risk assessment is underway. On Thursday, during the ACF Charting Group meeting, Mike Cramer, MITRE provided a detailed briefing on the study parameters and the evaluation process MITRE will use. A copy of Mike's briefing slides is included as attachment 4. The plan is to analyze all airports with instrument flight procedures. Historical temperature data obtained from NOAA will be used to determine the representative coldest temperatures at an airport. These values will then be used to determine the greatest negative International Standard Atmosphere (ISA) deviation at an airport. Then, a calculated cold temperature altimetry error from the Vertical Error Budget will be used as a comparison against the required obstacle clearance (ROC) for each segment of the approach procedure. An error factor expressed in feet will be used to determine the potential operational risk. The resulting degree of risk from the study will be used to by Flight Standards to determine appropriate ways to address the matter within the United States. Options previously discussed include incorporating adjustments into procedure design (ROC), charted notes, use of conversion tables, pilot education and training, etc. Rich Boll, NBAA, asked whether the study would include radar minimum vectoring altitude charts. Mark responded that the study is initially focused on instrument approach procedures. Bill Hammett, AFS-420 (ISI), noted that standard TERPS ROC values from Order 8260.3 may not always be appropriate as basic ROC values are often increased; e.g., remote altimeter setting, precipitous terrain, etc. The only source for actual ROC used in a procedure is the associated Form 8260-9. AFS-470 will continue to monitor the study and provide an update at the next meeting.

Status: AFS-470 will continue to track the issue and report. Item Open (AFS-470).

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

Mark Steinbicker, AFS-470, briefed they are still assessing how different avionics systems operate as not all use the same methodology; e.g., some FMS systems recognize and begin descent at the bisector of the turn, others operate in a different manner. Mark briefed that the operational expectation in ACs 90-100 and 90-101 is for pilots to be contained within .5 of the required accuracy for straight segments and within 1 times the required accuracy during turns. Tom Schneider, AFS-420, asked whether AC 90-94, would also address the issue. Mark replied that AC 90-94 may go away to be replaced by a new AC that would incorporate all RNAV and RNP procedures. Brad Rush, AJW-321, cautioned on changing criteria as some boxes cannot accommodate the current design; e.g., wings-level prior to ramping down. Rich Boll, NBAA, asked if there was intent for a pilot to have to switch in/out of VNAV mode and whether VNAV systems approved IAW AC 20-129 will meet the new requirements. Mark replied that the pilot should not have to switch modes and that he sees no problem with existing AC 20-129 VNAV systems complying with the proposed changes. Kevin Comstock, ALPA, said .5 of the required accuracy (or ½ the RNP required) was chosen in AC90-100 for straight segments, but he didn't think the same applied for turns. Mark replied that systems that generate a path around a turn need to ensure containment within 1 times the required accuracy. If the system does not generate a path, pilots must minimize overshoot or undershoot and return to the course as soon as possible. Descent upon waypoint sequencing should be OK as long as deviation is within the aforementioned limits. All agree that updated guidance must be written; AFS-470 will continue working the issue.

Status: AFS-470 to continue efforts to develop AIM material. Item Open (AFS-470).

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

At the last meeting, AFS-410 had an IOU to coordinate with the AFS-400 Manager for a decision on how to address the issue; however, little progress has been made. Al Herndon, MITRE, briefed that since three-dimensional RNP operations will require space projection, perhaps a study on trajectory based operations should be developed and presented to the PARC in lieu of a rulemaking effort. Mark Ingram, ALPA, asked whether any strong effort had been made to have John McGraw take the issue to the PARC. Rich Boll, NBAA, stated that this is no longer an air carrier issue as it also affects Part 91 operators. He further stated that NBAA is concerned that FAA is pumping out procedures with specified climb gradients when pilots do not know whether they can meet performance requirements. As a result, NBAA is on record as strongly supporting ALPA's position to have performance information provided by the original equipment manufacturer (OEM). Kevin Comstock, ALPA, asked the status of ALPA's recommendation to have AC 90-100 be updated to include the language in AC 90-101 regarding performance data in the cockpit. Mark Steinbicker, AFS-470, responded that AC 90-101 is applicable to RNP missed approach climb gradients only and he prefers to approach the requirement from a Terminal perspective. Tom Schneider, AFS-420, added that publication in an Advisory Circular or FAA Order doesn't force the requirement. Kevin agreed; however, he noted that publication in the ACs would provide an emphasis to elevate the issue. Kevin also recommended that the Chair of the ACF-IPG elevate this issue to the PARC as a consolidated Flight Standards/Industry ACF recommendation for incorporation of the AC90-101 language into AC90-100. Tom accepted the tasking.

Status: ACF-IPG Chair to write a memo to the PARC requesting action on the issue. Item Open (ACF-IPG Chair).

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

Dan Reese, ATO-R (OST), briefed that a change to Order 7930.2 has been drafted and is in coordination. This change is only addressing the replacement of "L" NOTAMs as "D" NOTAMs. The Order is also scheduled for a total re-write to accommodate the change to the ICAO NOTAM format by Aug 2009. The long-term goal is to have a "Federal NOTAM system" which would allow "one-stop shopping" for all terminal procedural NOTAMs. Bill Hammett, AFS-420 (ISI), added that AFS-420 is working with the System Operations NOTAM specialists to ensure all FDC NOTAM policy is included in the re-write. Bill stated the goal is to remove all FDC NOTAM policy from Order 8260.19 and use Order 7930.2 as the sole source for NOTAM policy. Moving SID and STAR NOTAMs to the FDC process is progressing.

Status: AJR-32 to revise Order 7930.2 to include SIDs and STARs with all other instrument flight procedure NOTAMs. Item Open (AJR-32).

f. 02-01-239: Minimum Vectoring Altitude (MVA) Obstacle Accountability; Lack of Diverse Vector Area (DVA) Criteria.

Bill Hammett, AFS-420 (ISI) briefed that the Sector Design Automation Tool (SDAT) software enhancement for MVA and MIA chart development has been successfully field tested at all ARTCCs and several TRACONs. Both AVN and AFS-400 have officially supported the MVA/MIA software and recommend mandating its use by all AT facilities. The AFS-400

concerns regarding Air Traffic application of controlled airspace policy and the lack of an AAO additive in MIA computations have been mitigated. The NFPO is ensuring controlled airspace requirements are met during the approval process as required by Order 8260.19D. The Air Traffic System Operations Service Unit non-concur to Order 8260.19D has been lifted. Additionally, the adverse assumed obstacle (AAO) additive required for MVAs has also been included in draft Order 7210.37 for MIA charts. The following synopsis of major accomplishments since the last ACF-IPG was provided by the SDAT Team:

- In May, SDAT version 5.11, which contains the SDAT project repository, was released. The repository is a centralized database for storing MVA/MIA projects, and it includes a web interface that allows electronic review of MVA/MIA charts.

- On-site visits to field facilities were accomplished to provide hands-on training in using SDAT to design and publish their MVA/MIA charts. By the end of October, the Team will have visited and completed work for all En Route centers and fourteen terminal facilities.

- Several enhancements to SDAT were implemented, including the ability to display USGS topographical maps for terrain contours. The MVA/MIA calculations were updated to consider vegetation height, and to automatically include the adverse assumed obstacle (AAO) in MIA charts.

- The team worked with NACO to have SDAT export MVA charts in a shape file format that they are using for the generation of radar video maps.

- The Team began building a web service that will query the SDAT obstacle clearance calculation to determine whether a proposed obstacle would require an increase to an existing MVA or MIA. The OE/AAA program will use this service in evaluating proposed new obstructions.

Future plans include the following:

- Continue to assist field facilities in using SDAT for MIA and MVA chart design; multi-facility site visits are scheduled for October and November. A training program for terminal facilities is under development.

- Finalize and implement the obstacle clearance checking system that OE/AAA will use to evaluate proposed obstructions for impact on existing MVA/MIA areas.

- Work with the USGS to increase the speed of the query we use to identify the controlling terrain point for each MVA/MIA area.

- Work with the NFPO to establish the electronic chart review process, including integrating the SDAT project repository with the NFPO procedure tracking system

Bill recommended the issue be closed. The group agreed.

Status: Item Closed.

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

Pam Coopwood, AJT-2300, briefed there has been no effort to publish an ATC Bulletin in some time. She questioned the rationale behind the request. Bill Hammett, AFS-420 (ISI) provided a history on the issue. Basically, the intent of the ACF's request is to require refresher training to ensure controllers are aware of which holding patterns may be used to accomplish a climb-in-hold (CIH) maneuver. FAA Form 8260-2 is the source document for all holding patterns. Rich Boll, NBAA, questioned how this information reached controllers. Brad Rush, AJW-321, responded that copies of all Forms 8260-2 are distributed to the appropriate ATC facilities. This prompted Pam to state that the information should be briefed when new instrument flight procedures are introduced into a facility. She believes it is a management responsibility to ensure controller awareness and perhaps better addressed via Order 7210.3. Bill stated that the ACF was not hard fast on using the ATC Bulletin to accomplish the training; a policy memorandum or other means that will accomplish the goal is acceptable. Pam stated that the FAA is forming a new Planning and Procedures Group under System Operations, AJR-5000 to jointly work procedural policy. She introduced Tim Swope, a contractor from Joint Venture Solutions (JVS) who will work in the new office, will be the ATO representative to the ACF, and will follow up the issue.

Status: AJR-5000 (JVS) to follow up the issue and determine the best methodology to ensure controller awareness. Item Open (AJR-5000 (JVS)).

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

Tom Schneider, AFS-420, briefed the following progress report as received from AFS-450, the office now responsible for the study. On October 16th, AFS-450 reported that they have changed lead analysts on the project; however, Dr. Richard Greenhaw will still be involved in the project. The new Lead, Dr. Sherri Avery, reports that the Branch is still waiting on a new version of ATSI's Holding Simulation Software containing a more accurate pilot response model. ATSI has been reminded of the need for the updated software to complete the analysis. AFS-420 will update Order 7130.3 as necessary after the study is complete.

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

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

Tom Schneider, AFS-420, briefed that policy has been updated in Order 8260.19D to require rate-of-climb annotation. Additionally, the following change to AIM paragraph 5-4-21-b has been jointly developed by AFS-420, AFS-410 and NBAA and forwarded for publication in the February, 2008 AIM (revised/added text is shown in red):

"Obstacle protection for missed approach is predicated on the missed approach being initiated at the decision altitude/height (DA/H) or at the missed approach point and not lower than minimum descent altitude (MDA). A climb gradient of at least 200 feet per nautical mile is required, (except for Copter approaches, where a climb of at least 400 feet per nautical mile is required), unless a higher climb gradient is published in the notes section of the approach procedure chart. When higher than standard climb gradients are specified, the end point of the non-standard climb will be specified at either an altitude or a fix. Pilots must preplan to ensure that the aircraft can meet the climb gradient (expressed in feet per nautical mile) required by the procedure in the event of a missed approach, and be aware that flying

at a higher than anticipated ground speed increases the climb rate requirement (feet per minute). Tables for the conversion of climb gradients (feet per nautical mile) to climb rate (feet per minute), based on ground speed, are included on page D1 of the U.S. Terminal Procedures booklets. Reasonable buffers are provided……Rest of paragraph is unchanged".

Kevin Comstock, ALPA, stated that the charting changes and AIM revision are good steps; however, they don't go far enough. He recommended climb gradient requirements be emphasized in various other mediums including the Instrument Flying Handbook, Practical Test Standards, and various pilot proficiency exams, to name a few. Kevin forwarded a list of recommended mediums to Tom Schneider, the ACF-IPG Chair, who will ensure these needed educational efforts are provided to AFS-600 and 800 and other as appropriate for implementation.

Status: ACF-IPG Chair to forward ACF's suggested educational efforts to AFS-600, 800 and others. Item Open – (Chair ACF-IPG).

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

Mark Steinbicker, AFS-470, briefed that there has been no progress on this issue since the last meeting due to related issues that must be resolved first. TERPs change 20, which will allow some operators visibility reductions for constant descent final approach (CDFA) must be finalized prior to addressing HBAT 99-08 and developing pilot educational material. Ted Thompson, Jeppesen, stated that since CDFA will allow use of baro-VNAV to use DA in-lieu-of MDA, Jeppesen would like a listing of what CDFA methods are acceptable to gain the visibility reduction. Mark said that AFS is planning an Advisory Circular (AC) to address DA vs. MDA and CDFA techniques. Rich Boll, NBAA, asked whether Part 91 operators would be included. Mark responded that Part 91 operators are excluded from the DA vs. MDA; however CDFA will apply except for CATs A and B. Rich responded that there are many corporate jets that are CAT B and NBAA does not want to see CAT B excluded. Tom Schneider, AFS-420, stated that HBAT 99-08 does not apply to Part 91. Part 91 was excluded because of training requirements; however, Part 91 operators could get approval through their FSDO. Mark suggested that FAA should start considering possible charting specification changes as soon as possible. John Moore, NACO, recommended that the issue not be brought before the Charting Group until all ops issues are resolved. Mark stated that he did not want charting implications to delay any initiatives. John replied that early consideration is acceptable; however, charting personnel must be involved in the initial policy. Ted Thompson, Jeppesen, stated that perhaps an ad hoc sub group would be the way to approach the issue. No conclusions were reached. The issue will be jointly worked by AFS-410 and 470.

Status: AFS-410 and AFS-470 to jointly work the issue and revise HBAT 99-08. Item Open (AFS-410 and AFS-470).

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

Tom Schneider, AFS-420, briefed that Phil Prasse, the AFS-420, departure criteria specialist has developed new VCOA criteria for TERPS Volume 4, Chapter 4, which will be included in change 21 or 22. Bill Hammett, AFS-420 (ISI), briefed that AFS-420 was exploring new methods of coordinating TERPS changes to expedite the process. Tom added that he is

planning on establishing a 6-month update cycle for 8260.19 similar to the process used for air traffic publication updates. Rich Boll, NBAA, asked the status of the revision to Order 8260.46. Tom replied that he is awaiting forms revisions, which are being prepared by the NFPO.

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

l. 06-01-262: More Flexible Hold-in-Lieu (HIL) Alignment Options For Public RNAV IAPs.

Tom Schneider, AFS-420, briefed an update from Jack Corman, the AFS-420 RNAV criteria developer. Order 8260.54 will be forwarded to AFS-400 for processing for AFS-1 signature during the week of 22 October. It contains the requested 90 degree offset maximum.

> ***Editor's Note:*** *Post meeting comments from Jack indicate that although all AVN non-concur comments have been mitigated, AFS-420 has not received the "official" lifting of the non-concur. This must be accomplished prior to forwarding the Order for signature.*

Status: AFS-420 track criteria publication. Item Open – Pending Publication (AFS-420).

m. 06-02-264: Uniform Standard for Use of Climb Gradients in Public IAPs

Tom Schneider, AFS-420, briefed the consensus of the AFS-400 Technical Review Board (TRB) was to publish only one line of minima that requires a non-standard climb gradient (CG) to support lower minimums. . A line of minima will also be published to support the 200 Ft/NM standard climb gradient. All TRB participants agreed that the NBAA recommendation to publish three lines of minimums would create excessive chart clutter and increase NFPO workload. Jeff Struyk, NGA, stated that his office is against multiple lines of minima with differing CGs. NGA prefers separate procedure charts. Rich Boll, NBAA, asked what would be the maximum allowable CG. Tom replied 425 Ft/NM. Kevin Comstock, ALPA, stated that Ft/NM is satisfactory for FAA, and requested what Jeppesen would chart. Ted Thompson, Jeppesen, agreed to provide an answer to ALPA, noting that it would probably agree with the procedure source. Ted noted that Jeppesen does publish a conversion table similar to NACO. Brian Townsend, ALPA, stated that having the table on the chart provides the pilot a quick, easy reference. A Ft/NM CG note will require aircrew training. Brad Rush, AJW-321, briefed that procedure amendments are in work for San Francisco (scheduled for February, 2008) and Burbank (scheduled for June, 2008.

Status: AJW-321 to track procedure amendments at KSFO and KBUR.
Item Open (AJW-321).

n. 06-02-265: Retention or Development of Lowest Possible RNAV LNAV and/or VNAV Minimums.

Brad Rush, AJW-321, briefed that the amendment for the RNAV approach at French Valley, CA (F70) will be effective on December 20th. Brad also briefed that the NFPO has established internal operating procedures that should clarify the intended objective and assist procedure developers in repeating situations like those described in the original NBAA recommendation. Additionally, this issue has been made a "special interest" item for QC.

Tom Schneider, AFS-420, stated that the NFPO internal guidance makes an Order 8260.19 policy change unnecessary and recommended the issue be closed. The group agreed.

Status: Item Closed.

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

Tom Schneider, AFS-420, briefed that using standard timing in-lieu-of specified leg lengths for RNAV holding has been included in the AFS-450 holding pattern study initiated under related issue 03-01-247.

Status: 1) AFS-450 to include timing for RNAV holding in the study, and 2) AFS-420 to monitor study results and report. Item Open (AFS-450 and 420).

p. 06-02-268: Lack of Graphic Obstacle Departure Procedures (ODPs).

Brad Rush briefed that the NFPO is still addressing the complex ODP lists submitted by NBAA and Continental Airlines as well as correcting the discrepancies noted in the AFS-420 memorandum of September 15, 2006. Brad estimates all work will be complete by July 2008. Rich Boll, NBAA, noted that the lists only contained the airports of high interest by NBAA and Continental; there are many other complex ODPs that should be published graphically under current policy. Brad responded that other complex ODPs will be addressed as workload permits. In the interim, he requested NBAA contact the NFPO if there are other airports that require priority. Rich also noted there are some discrepancies between Jeppesen and NACO charts as to labeling of ODPs and SIDs. The distinction is important to pilots. For example, the Grand Junction Four Departure at Grand Junction, CO (KGJT) is labeled as an "OBSTACLE" DP while the NACO publishes it as a SID. He questioned whether this is an isolated occurrence, or are there others. Brad Rush, NFPO, replied several SIDs that incorrectly included (OBSTACLE) in the title were identified in the AFS-400 memorandum and corrections were forwarded to NFDC. Valerie Watson, AJW-321, (who responded as there was no NFDC representative in attendance) briefed that several SID titles were corrected in the NFDD add-on page relating to the reclassification of RNAV DPs from Type A/B to RNAV-1/2. Ted Thompson, Jeppesen, agreed to check the Jeppesen charts against the locations on the FAA's spreadsheet and the NACO charts. Brad agreed to resend the information to Ted. Brad will provide an update briefing on actions to resolve the issue.

Status: 1) The NFPO continue efforts to graphically chart complex ODPs and report progress; 2) Jeppesen to compare SID titles with the NFDD add-on page.
Item Open (AJW-321 and Jeppesen).

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

Tom Schneider, AFS-420, briefed that the issue and an extract from the ACF-IPG minutes were forwarded to the ATO Terminal Safety and Operations Support Office (AJE-2) on June 20th requesting they respond directly to NBAA with an info copy to the ACF-IPG Chair. No response has been received to date. Pam Coopwood, AJT-2300, stated that nothing has been done to respond to the letter. Rich Boll, NBAA, stated that this issue needs to be elevated within Air Traffic. There is increasing pilot concern regarding obstruction clearance when issued a heading and/or initial altitude that contradicts the published ODP - he provided several "real-world" examples. Pam responded that controllers know the area they provide

service in. Rich questioned whether Air Traffic has the tools and expertise to locate and evaluate obstacles below the MVA. Bill Hammett, AFS-420 (ISI), stated that when a DVA is established, the AT facility cannot do it alone; it must be accomplished jointly with the Flight Procedures Office (FAA Order 7210.3, paragraph 3-9-5). This will ensure TERPS expertise in evaluating the 40:1 departure obstacle identification surface. Paul Ewing, AJR-37 (AMTI), stated that just because a departure vector is issued it does not mean that a DVA has not been established. Rich added that the language in the AIM leads pilots to believe when they receive a vector on departure, a DVA has been established. He believes pilots should know what locations have DVAs established and perhaps this information could be included as a chart note; e.g. "DVA assessed." Tom Schneider, AFS-420, stated that information regarding DVAs could possibly be included with other information relating to ODPs and documented on FAA Form 8260-15A. This would drive NACO and Jeppesen to chart the information. Tom will consider this during the re-write of Order 8260.46. Pam or Tim Swope, AJR-5000 (JVS), will ensure the Terminal Service Unit addresses Air Traffic facility awareness of DVA policy and report at the next meeting.

Status: 1) AJR-5000 (JVS) to ensure the Terminal Service Unit is aware they must address the issue and respond; 2) AFS-420 consider DVA documentation and charting during the re-write of Order 8260.46. Item Open (AJR-5000 (JVS) / AJT-2300, and AFS-420.

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

Tom Schneider, AFS-420, briefed that this issue is still under discussion within AFS-420. Feeder fix protection is still under review and en route criterion is being assessed to see whether it covers the issue.

Status: AFS-420 to study issue and report. Item Open (AFS-420).

s. 07-01-271: ADF or DME Required on Alternate Missed Approach.

Tom Schneider, AFS-420, briefed that new AIM language was developed in concert with AFS-410 and NBAA and has been submitted for publication in the February, 2008 AIM. The change adds new paragraph h 5-4-21-e as follows (in red):

"e. Some locations may have a preplanned alternate missed approach procedure for use in the event the primary NAVAID used for the missed approach procedure is unavailable. To avoid confusion, the alternate missed approach instructions are not published on the chart. However, the alternate missed approach holding pattern will be depicted on the instrument approach chart for pilot situational awareness and to assist ATC by not having to issue detailed holding instructions. The alternate missed approach may be based on NAVAIDs not used in the approach procedure or the primary missed approach. When the alternate missed approach procedure is implemented by NOTAM, it becomes a mandatory part of the procedure. The NOTAM will specify both the textual instructions and any additional equipment requirements necessary to complete the procedure. Air traffic may also issue instructions for the alternate missed approach when necessary, such as when the primary missed approach NAVAID fails during the approach. Pilots may reject an ATC clearance for an alternate missed approach that requires equipment not necessary for the published approach procedure when the alternate missed approach is issued after beginning the approach. However, when the alternate missed approach is issued prior to beginning the approach the pilot must either, accept the entire procedure (including the alternate missed

approach), request a different approach procedure, or coordinate with ATC for alternative action to be taken, i.e. proceed to an alternate airport, etc."

Tom recommended the issue be closed and the group concurred.

Status: Item Closed.

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

Tom Schneider, AFS-420, briefed that new AIM language was developed in concert with AFS-410 and has been submitted for publication in the August, 2008 AIM. The change revises paragraph 5-4-21-g as follows (revised/added text is shown in red):

"5-4-21-g. Missed approach obstacle clearance is predicated on beginning the missed approach procedure at the Missed Approach Point (MAP) from MDA or at the DA. Some missed approach procedures require commencement of an immediate turn and/or climb of 200 ft/nm **or more** at the MAP. In these instances, initiating a go-around after passing the published MAP (for example, a balked landing) may result in total loss of obstacle clearance because the aircraft flight path may not fall within missed approach procedure protected area. To compensate for the possibility of reduced obstacle clearance during a balked landing/go-around, a pilot should consider the airport operating environment, including known natural (trees/vegetation) and man-made obstacles. At some airports, pilots may wish to refer to airport obstacle and departure data prior to initiating an instrument approach procedure. Such information may be found in the "TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES" section of the U.S. TERMINAL PROCEDURES publication. Depending upon the airport operating environment, characteristics of the published missed approach procedure, overall aircraft performance capability, and other relevant considerations, pilots may wish to take one or more of the following actions after initiating a balked landing/go-around beyond the published MAP:

1. Where practical, re-establish the aircraft laterally and vertically on the published missed approach procedure (for example, a straight-ahead climb, as rapid as possible, may be all that is necessary to re-join the missed approach segment; re-joining a turning missed approach may also be possible if the turn point has not yet been reached.).

2. Adjust aircraft climb performance as necessary for the local environment (i.e., climb as rapidly as possible to avoid obstructions that were not a factor in the design of the published missed approach procedure).

3. Maintain visual conditions and reattempt landing, if practicable.

4. Where available, fly a published obstacle departure procedure (ODP) for the relevant runway.

5. Comply with ATC instructions when Radar vectors have been issued or can be requested.

NOTE: As soon as possible, pilots should coordinate with and/or inform ATC of his or her intended actions.

Editor's Note: *Because this proposed change was not available for discussion at the meeting, the issue will remain open until published in the August 2008 AIM.*

Status: AFS-420 will track the AIM submission. Item Open - (AFS-420).

u. 07-01-273: Timely Rectification of Significant NFPO Errors.

Brad Rush, AJW-321, briefed that he doesn't see a problem. If NBAA or any proponent has comments on procedures, they can contact his office directly. Additionally, the NFPO's procedure production plan is available at: http://avn.faa.gov/acifp.asp. Tom Schneider reminded that the proper process through the RAPT should be followed for new procedures and revisions to existing procedures. Brad recommended the issue be closed; all agreed.

Status: Item Closed.

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

Tom Schneider, AFS-420, briefed that new AIM language was developed in concert with AFS-410 and NBAA and has been submitted for publication in February, 2008. The change revises paragraphs 5-2-7-e-7, to emphasize "ATC" altitude restrictions, and 5-2-7-e-8, to emphasize application to SIDs only, as follows (revised/added text is shown in red):

5-2-7, e 7. If an altitude to "maintain" is restated, whether prior to or after departure, previously issued "ATC" altitude restrictions are cancelled. All minimum crossing altitudes which are not identified on the chart as ATC restrictions are still mandatory for obstacle clearance. If an assigned altitude will not allow the aircraft to cross a fix at the minimum crossing altitude, the pilot should request a higher altitude in time to climb to the crossing restriction or request an alternate routing. ATC altitude restrictions are only published on SIDs and are identified on the chart with "(ATC)" following the altitude. When an obstruction clearance minimum crossing altitude is also published at the same fix, it is identified by the term "(MCA)".

5-2-7-e-8: Change "DP" to read "SID" in lines 3, 6, and 14.

Rich Boll, NBAA reminded the group that both ODPs and SIDs are designed based on all engines operating. He used the Teterboro 5 ODP as an example of a procedure where ATC sometimes holds aircraft at an altitude below what is specified on the chart. Bill Hammett, AFS-420 (ISI), noted that the Teterboro 5 does not comply with policy as radar is not authorized as a navigation source for ODPs. Ted Thompson, Jeppesen, stated that there have been many concerns with this DP; however, re-design is pending re-configuration of the New York Terminal airspace. During discussion, it was agreed that the AIM material closes one portion of the issue; however, Air Traffic must ensure controllers are aware that they cannot hold aircraft below an obstacle clearance crossing altitude. The newly formed System Operations Planning and Procedures Group, AJR-5000, has the IOU to ensure controller training material regarding altitude restrictions on ODPs is developed.

Status: AJR-5000 to ensure controller training material regarding altitude restrictions on DPs is developed. Item Open - (AJR-5000).

w. 07-01-275: Radar Required for Missed Approach.

Brad Rush, AJW-321, briefed that a P-NOTAM amending the "ADF or RADAR REQUIRED" note on the Wilmington, NC ILS RWY 35 IAP has been issued. He recommended the issue be closed. Rich Boll, NBAA, concurred.

Status: Item Closed.

x. 07-01-276: RNAV Hold-in-Lieu (HIL) Prior to the Intermediate Fix.

Tom Schneider, AFS-420, briefed that Order 8260.54 will not eliminate access to IAPs from airways and suggested that an arrival holding pattern or "Proc NA" may be appropriate in cases where the turn from the airway is greater than 120 degrees. Brad Rush, AJW-321, briefed that a HIL (or any other course reversal maneuver) is not applicable if the IAF is on an airway. The NFPO leaves it up to the controlling ATC facility. If access is desired from the airway, an arrival holding pattern is warranted. Offset holding up to 90 degrees from the intermediate course is acceptable. Tom recommended the issue be closed and the group concurred.

Status: Item Closed.

y. 07-01-277: Routine Charting of Remote Altimeter Setting Source (RASS).

Tom Schneider, AFS-420, briefed that policy in Order 8260.19D resolves the issue. The Order has been signed and is effective on November 26. Tom recommended the issue be closed and the group agreed.

Status: Item Closed.

5. New Business:

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

New issue introduced by Rich Boll, NBAA. An NBAA member, flying an advanced RNAV aircraft was assigned RNAV holding with 20 mile legs. Because the FMS was programmed to provide a wings-level rollout on a 20 NM inbound leg, the aircraft far exceeded the outbound holding airspace protected area (actually flew a 29 NM outbound leg). This programming logic is contrary to the guidance provided in AIM figure 5-3-7. Rich added that following conversations with various FMS manufacturers, the problem appears to be resulting from the application of the underlying ARINC holding pattern record (fix, inbound course, & leg length) within the FMS's holding pattern logic. Tom Schneider, AFS-420, stated the problem has been known to FAA Flight Standards for at least one year. It was identified during their work in re-evaluation holding pattern criteria. Ted Thompson, Jeppesen, noted that the problem extends beyond the United States. John Moore, AJW-351, added the subject is also being discussed in the ICAO IFPP. Tom concluded that this issue will be added to the AFS-450 holding pattern study. There was some disagreement; however, no one could recommend what other group would/should work the issue? It was noted during discussion that changing the AIRNC coding methodology would require changing all avionics boxes. Ted stressed that the issue needs to be fixed at the root cause, AIRNC Specifications, not various work-arounds. John Moore, AJW-351, briefed that the ICAO IFPP is considering publishing the diagonal distance where the turn inbound should be made. Brad Rush suggested that an easy solution would be to specify all RNAV holding be time-referenced. Tom will ensure the issue is included in the AFS-450 holding pattern study. Mark Steinbicker, AFS-470, stated they will also review the issue and provide comments/recommendations to AFS-450 for inclusion in the study.

Status: 1) AFS-420 to ensure the issue is included as a part of the AFS-450 holding pattern study; 2) AFS-470 to review the issue and provide input to the study; 3) AFS-450 to provide updates on the study progress. Item Open (AFS-420, AFS-470 and AFS-450).

6. Next Meeting: ACF Meeting 08-01 is scheduled for scheduled for **April 22-24, 2008** with AMTI, Alexandria, VA as host. Meeting 08-02 is scheduled for **October 21-23** with NACO, Silver Spring tentatively scheduled 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 4, 2008 - a reminder notice will be provided.

7. Attachments (4):

1. OPR/Action Listing.
2. Attendance Listing.
3. AFS-400 Re-organization Briefing Slides
4. MITRE Briefing Slides

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
OPEN AGENDA ITEMS FROM MEETING 07-02

OPR	AGENDA ITEM (ISSUE)	REQUIRED ACTION
AFS-420	**92-02-105** (Circling Areas)	Provide update on draft criteria coordination.
AFS-470	**92-02-110** (Cold Weather Altimetry)	Track issue and report progress on MITRE study.
AFS-470	**96-01-166** (Descent Point on Flyby Waypoints. Originally "on course")	Develop AIM material.
ACF-IPG Chair	**98-01-197** (Air Carrier Compliance With Climb Gradients)	Write memorandum requesting PARC action on the issue.
AJR-32	**02-01-238** (Departure Minimums and DP NOTAMs)	Revise Order 7930.2 to include SID/STAR NOTAMs under the FDC process.
AJR-5000	**02-01-241** (Non-radar Level and Climbing Holding Patterns)	Ensure controller awareness and education on the issue is accomplished.
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)	Forward request for development of pilot educational to AFS-600 and AFS-800.
AFS-410 and AFS-470	**04-02-258** (VNAV IAPs using DA(H) and OpSpec C073)	Jointly address the issue and re-write HBAT 99-08.
AFS-420	**05-01-259** (Visual Climb Over Airport)	Continue working the issue and report.
AFS-420	**06-01-262** (HIL Alignment Options for Public RNAV Approaches)	Track change to Order 8260.54.
AJW-321	**06-01-264** (Uniform Standard for Climb Gradients on Public SIAPs)	AJW-321: Track procedure amendments.
AFS-450 AFS-420	**06-02-267** (Option to Use Standard Timing for RNAV Holding Patterns)	AFS-450: Add to holding pattern study. AFS-420: Monitor progress and report.
AJW-321 Jeppesen	**06-02-268** (Lack of Graphic Depiction of Complex ODPs)	AJW-321: Continue efforts to correct DP discrepancies and chart complex ODPs. Jeppesen: Review accuracy of SID titles.
AJT-2300 AFS-420	**07-01-269** (Diverse Vector Areas)	AJT-2300: Work issue and report. AFS-420: Consider DVA policy for Order 8260.46
AFS-420	**07-01-270** (Course Change Limitation Notes on IAPs	Study issue and report.

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
OPEN AGENDA ITEMS FROM MEETING 07-01

AFS-420	**07-01-272** (Use of ODP in Lieu of Published Missed Approach.	Track AIM change proposed for Aug, 2008 publication.
AJR-5000	**07-01-274** (AIM Information Regarding ODP Minimum Crossing Altitudes).	Ensure controller training is accomplished regarding DP altitude restrictions
AFS-420 AFS-470 AFS-450	**07-02-278** Advanced RNAV (FMS/GPS) Holding Patterns Defined by Leg Length)	AFS-420: Forward request to include issue in the Holding Pattern Study AFS-470: Review issue & provide input to the study AFS-450: Include issue in the Holding Pattern Study

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
ATTENDANCE LISTING - MEETING 07-02

Behrns	Ann	FAA/AOV-040	202-385-4958	ann.m.behrns@faa.gov
Boll	Richard	NBAA	316-655-8856	richard.boll@sbcglobal.net
Camvongcau	Christa	FAA/AFS-410	202-385-4887	christa.camvongcau@faa.gov
Cloutier	Pascale	DND Canada	613-248-4129	cloutier.phcc@forces.gc.ca
Comstock	Kevin	ALPA	703-689-4176 FAX:4370	kevin.comstock@alpa.org
Coopwood	Pamela	FAA/AJT-2300	202-385-8607	pamela.coopwood@faa.gov
Criswell	Chris	FAA/AJW-352	301-713-2932	christopher.criswell@faa.gov
Ewing	Paul	AJR-37 (AMTI)	850-678-1060	pewing4@cox.net
Foster	Mike	USAASA	703-806-4869	james.m.foster1@conus.army.mil
Funk	Adrienne	FAA/AJW-352	301-713-2631	adrienne.l.funk@faa.gov
Fuson	Kristin	Alaska Airlines	206-392-6173	kristin.fuson@alaskaair.com
Graham	Ron	Transport Canada	613-993-5522	grahamr@tc.gc.ca
Graham	Jim	Filght Safety Int'l	972-534-3200	jimmy.graham@flightsafety.com
Hammett	Bill	FAA/AFS-420 (ISI)	603-521-7706	bill.ctr.hammett@faa.gov
Herndon	Al	MITRE/CAASD	703-983-6465 FAX: 6608/1911	aherndon@mitre.org
Ingram	Mark	ALPA	417-442-7231	markt@mo-net.com
Ingram	John	NGA/PVA	314-263-8021	john.r.ingram@nga.mil
Kuhnhenn	Juergen	Lufthansa (LIDO)	41448286546	juergen.kuhnhenn@zrh.lido.net
Lehmann	Pete	AOPA	301-695-2207	pete.lehmann@aopa.org
Levan	Sherri	NGA/OMSF	703-735-2861	sherri.j.levan@nga.mil
Maxwell	Roy	Delta Airlines	404-715-7231 FAX: 7202	roy.maxwell@delta.com
Moore	John	FAA/AJW-352	301-713-2631 FAX: 1960	john.a.moore@faa.gov
Myers	Janet	FAA/AJW-3532	301-713-2961	janet.m.myers@faa.gov
Paul	Andreas	Lufthansa (LIDO)	41448281927	andreas.paul@zrh.lido.net
Reese	Dan	ATO-R (OST)	703-904-4578	dan.ctr.reese@faa.gov
Rush	Brad	FAA/AJW-321	405-954-3027 FAX: 4236	brad.w.rush@faa.gov

AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
ATTENDANCE LISTING - MEETING 07-02

Schneider	Tom	FAA/AFS-420	405-954-5852 FAX: 2528	thomas.e.schneider@faa.gov
Shelton	Danny	NGA/PVAG	314-263-8021	danny.l.shelton@nga.mil
Skiver	Ernie	FAA/AFS-410	202-385-4616	ernie.skiver@faa.gov
Smet	Michael	NAVFIG	202-433-3541 FAX: 3458	michael.smet@navy.mil
Steinbicker	Mark	FAA/AFS-470	202-385-4613	mark.steinbicker@faa.gov
Struyk	Jeffrey	NGA/PVB	314-263-8021	jeffrey.c.struyk@nga mil
Swigart	John	FAA/AFS-470	202-385-4601	john.swigart@faa.gov
Swope	Timothy	FAA/AJR-5000/JVS	202-385-8436	tim.ctc.swope@faa.gov
Thompson	Ted	Jeppesen	303-328-4456 FAX: 4111	ted.thompson@jeppesen.com
Townsend	Brian	ALPA	702-204-0007	brian.townsend@alpa.org
Ward	Ken	FAA/AJW-41	202-267-9080	ken.ward@faa.gov
Ward	Edward	Southwest Airlines	214-792-1023	edward.ward@wnco.com
Watson	Valerie	FAA/AJR-352	301-713-2631x179 FAX:1960	valerie.s.watson@faa.gov
Wiseman	Larry	FAA/AOV-040	202-385-4959	larry.wiseman@faa.gov