

May 28, 2009

Dear Forum Participant

Attached are the minutes of the Aeronautical Charting Forum, Instrument Procedures Group (ACF-IPG) held on April 28, 2009. The meeting was hosted by the National Geospatial-Intelligence Agency (NGA) and held at the US Geological Survey, 12201 Sunrise Valley Drive, Reston, VA 20192. 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/](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 meetings as well as a chronological history of open and closed issues to include the original submission, a brief synopsis of the discussion at each meeting, the current status of open issues, required follow-up action(s), and the OPR for those actions. There is also a link to the Charting Group web site. We encourage participants to use these sites for reference in preparation for future meetings.

ACF Meeting 09-02 is scheduled for **October 27-29, 2009** with the FAA National Aeronautical Charting Office, Silver Spring, MD as host. NACO will also tentatively host meeting 10-01, which is scheduled for **April 27-29, 2010**.

Please note that **meetings begin promptly at 8:30 AM** and dress is business casual. Please forward new issue items for the 09-02 IPG meeting to the above addressees not later than October 9<sup>th</sup>. 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 09-01      Reston, VA.  
April 28, 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 April 28, 2009. The National Geospatial-Intelligence Agency (NGA) hosted the meeting, which was held at the US Geological Survey in Reston, VA. Lance Christian made welcoming and administrative comments on behalf of NGA. A listing of attendees is included as attachment 2.

**2. Briefings:**

**a. Fly Visual to Airport.** Bruce McGray, AFS-410 presented a briefing on “Fly Visual to Airport”. The briefing provided detailed information on completing a published instrument approach procedure (IAP) with a fly visual segment. The briefing addressed TERPS fly visual criteria, 14 CFR Part 91.175 requirements, charting and verbiage, as well as pilot procedures and options when reaching the fly visual point on final approach. A key issue is the charting of multiple missed approach points for different types of final approach guidance, i.e., LPV, LNAV/VNAV, LNAV. Bruce also presented proposed charting methodologies using both Jeppesen and FAA charts. A brief discussion followed the briefing. A copy of Bruce’s briefing slides is included here .

**b. Flight Procedures and Aeronautical Charting Re-Organization.** Brad Rush, AJW-321, provided a briefing on a Technical Operations, AJW-32, re-organization, which will combine the National Flight Procedures Office (NFPO) and the National Aeronautical Charting Office (NACO). The new organization will be titled National Aeronautical Navigation (AeroNav for short) Services and be operated under the government “High Performance Organization” concept. It is believed that combining procedure development and charting under a single manager will eliminate duplication of effort and streamline procedure development, processing, and charting. A copy of the new organizational structure, which is targeted for implementation on August 2<sup>nd</sup>, is included as attachment 3.

**3. Review of Minutes of Last Meeting:**

Bill Hammett, AFS-420 (ISI) briefed that the minutes of ACF-IPG 08-02, which was held on October 28, 2008, were electronically distributed to all attendees as well as the ACF-IPG Master Mailing List on November 26, 2008. No comments were received; therefore, the minutes are accepted as distributed.

#### 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 has completed formal coordination and comments received are being addressed. No negative comments were received regarding the new circling criteria; however, there was a non-concur from the Terminal Service Unit relating to the minimum vectoring altitude criteria that is also included in Change 21 and must be mitigated prior to it being forwarded for signature. Rich Boll, NBAA, asked whether the items under contention could be removed and the rest of the change go-forward. Harry Hodges, AFS-420, responded that such an option will be considered. Dan Diggins, AJT-22, asked what was the MVA non-concur issue. Tom Schneider, AFS-420 responded that it related to the adverse assumption obstacle (AAO) additive. Tom stated he believes the concern has been mitigated; however, the document cannot go forward until the non-concur is lifted by the Terminal Service Unit.

**Status:** AFS-420 to keep the group apprised of status of TERPS Change 21.

**Item Open – Pending Publication (AFS-420).**

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

Catherine Majauskas, AFS-470, briefed that MITRE is still conducting analysis and there is nothing to report at this time. Bill Hammett, AFS-420 (ISI) noted that at the last meeting it was briefed that the initial MITRE study only indicated a problem when ROC was totally lost. One of the ALPA representatives questioned this methodology and recommended the study provide details whenever any portion of ROC was compromised and the group agreed. Bill asked whether the study was revised to address this concern. Catherine responded that it was and hoped to present the results at the next meeting.

**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”).

Catherine Majauskas, AFS-470, briefed that MITRE has also been accomplishing a study of this issue, which should be complete in June. After the study is complete AFS-470 will develop applicable AIM guidance. The goal is to have the AIM language and AC90-RNP completed in the Fall of 2009. John Swigart, AFS-470, stated a full briefing would be provided at the October ACF-IPG meeting.

**Status:** AFS-470 to continue to work the issue, develop AC 90-RNP, AIM and other educational material and provide periodic updates. **Item Open (AFS-470).**

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

Catherine Majauskas, AFS-470, briefed that her manager, Mark Steinbicker, was successful in presenting the issue to the Performance-based Aviation Rulemaking Committee (PARC). The PARC has formed an ad-hoc working group under Frank Alexander, Northwest Airlines. No details of the group's activities are available; however, Catherine will try to get minutes from the group's meetings and provide a more comprehensive update at the next meeting. Tom asked whether the PARC will pursue regulatory guidance. Catherine responded it is unknown at the present time. Rich Boll, NBAA, added that the publication of AC 90-105 prompted some progress. The AC requires operators to meet climb gradients on RNAV departures and missed approaches. Hopefully, this requirement will prompt aircraft manufacturers to provide all-engine performance data.

***Editor's Note:*** *During preparation of the minutes, Catherine Majauskas, AFS-470, provided the following update: "At the 7 May 09 PARC telecon, Mark Steinbicker, Manager, AFS-470, discussed Air Carrier Compliance of FAA Climb Gradients with 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. This issue will be raised and discussed with the ATA CNS Task Force. The goal is for the ATA CNS Task Force to reach closure on this issue by their August 2009 meeting. A coordinated PARC-CNS Task Force recommendation could then be sent to the FAA and briefed at the October ACF-IPG Meeting."*

**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 representative from AJR-32 to update the issue. Bill Hammett, AFS-420 (ISI) briefed that work is progressing to re-write Order 7930.2 and to develop a federated NOTAM system using the ICAO series format vice the current D and FDC NOTAMs. A joint FAA-NAVCANADA ICAO NOTAM Working Group (INWG) is making good progress in standardizing US-Canadian NOTAM Series and re-writing the Order. Completion is targeted for 2010 and once implemented, all terminal instrument flight procedure NOTAMs will be under Series P. Bill added that he requested the manager of Aeronautical Information Management Group, AJR-32, to consider an interim measure of including SIDs and STARs under the FDC process to satisfy industry concerns on this issue until the new NOTAM policy and system are developed.

**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-22, briefed there has been no progress on this issue. Tom Schneider, AFS-420, offered AFS assistance in closing this long-standing issue.

**Status:** AJT-22 will ensure controller training on impromptu climb-in-hold assignment. **Item Open (AJT-22).**

**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: "There has been no progress on the holding pattern study. AFS-450 has received information regarding holding pattern logic from Garmin and is awaiting the same from Honeywell." Tom thanked Rich Boll for soliciting information from FMS manufacturers.

**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 he followed up his previous requests to AFS-600 and 800. AFS-800 responded that no action had been taken; however, the issue will be raised with management. AFS-600 responded that when funding is available, the practical test standards will be updated - target date is 2010. Tom recommended the issue be closed. Kevin Comstock, ALPA, responded that past ACF history has proven that closing issues prior to all actions being completed does not ensure the issue gets resolved. Tom responded that this is not an operational issue, but policy. Rich Boll, NBAA, stated that his organization supports leaving the issue open until AFS-600 and 800 actions are complete. Tom agreed to keep it open until fully concluded to everyone's satisfaction.

**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.

Tom Schneider, AFS-420, briefed that he forwarded the FMS vs. GPS question to the US-IFPP. The US-IFPP response, which was prepared by Jack Corman, AFS-420, is quoted: *"the intent of the memo was actually independent of the means of vertical guidance; therefore, GPS is acceptable. AFS-410 reacted to the US-IFPP memo of concerns by adding verbiage to alleviate turning missed approach concerns (using any means of vertical guidance). Visual segment evaluation discussions are still underway."* Catherine Majauskas, AFS-470, briefed that there are no new developments to report out of AFS-470. Rich Boll, NBAA, stated that it is almost impossible for corporate aircraft to assess the 34:1 surface requirements in the US-IFPP memorandum and asked if it would be possible for the NFPO to perform a 34:1 assessment on all US IAPs, not just new RNAV IAPs. This would support expanded use of the CFDA technique and the corresponding use of 'DA in lieu of MDA' maneuver for suitably equipped and trained operators. Tom responded that there is an initiative to preclude operators having to determine whether there is a clear 34:1 surface, but it is currently limited to RNAV approaches. FAA RNAV IAPs indicate whether the 34:1 surface is clear or not on the source 8260-3. If the surface is clear, FAA charts indicate this by depicting a 'stipple' in the profile view. Jeppesen publishes this information via a chart note. Brad Rush, NFPO, stated there are over 16,000 IAPs in the US NAS, and the effort to perform a 34:1 obstacle assessment to ensure clearance on all IAPs (RNAV and conventional) would be immense. The workload and current resources in the NFPO will not allow this to happen anytime soon. Tom also briefed the criteria for performing a 'DA in lieu of MDA maneuver' previously contained in FAA HBAAT 99-08 have since been incorporated into FAA Order 8900.1, *All Weather Operations in Terminal Areas*.

**Status:** 1) AFS-470 to continue to evaluate the US-IFPP memorandum and develop guidance, and 2) AFS-420 to continue to follow the issue through the US-IFPP and report. **Item Open (AFS-470 and AFS-420).**

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

Tom Schneider, AFS-420, briefed this issue has taken a back seat to higher priorities. Harry Hodges, AFS-420, briefed that after TERPS Change 21 is published, the Order will be revised as Order 8260.3C to meet the new FAA formatting requirements. This re-publication will only contain minor changes to accommodate simultaneous operations. The VCOA issue will be addressed in Change 1, which is approximately 18 months away.

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

**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: "There has been no progress on the holding pattern study. AFS-450 has received information regarding holding pattern logic from Garmin and is awaiting the same from Honeywell." Tom thanked Rich Boll for soliciting information from FMS manufacturers.

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

**l. 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. As requested at the last meeting several airports were re-evaluated. Scottsdale, AZ does qualify for a graphic depiction and has been added to the production schedule, a copy of which is attached here  Brad recommended the issue be closed and the group concurred.

**Status:** **Item CLOSED.**

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

Dan Diggins, AJT-22, briefed that a DVA Order specifying procedures for air traffic facilities to request a DVA and the NFPO approval process is in coordination. Tom Schneider, AFS-420, added that the criterion for the DVA obstacle assessment is in TERPS. Dan Further stated that they have been working for over a year to apply minimum vectoring altitude (MVA) criteria through automation (SDAT) and tie it to the DVA development process. There are three options available for IFR departures: 1) an ODP (if published), 2) a SID, or, 3) radar vectors. If ATC intends to use radar vectors in lieu of a published ODP or SID, an assessment must be made to determine whether a DVA is necessary. Dan added that discussions are still ongoing to determine how far the TERPS DVA analysis must be conducted. Brad Rush, NFPO, stated that a NFPO, AJT-22, AFS-420, and AOV-330 meeting is scheduled for May 6<sup>th</sup> to address DVA issues. Tom briefed that one issue being addressed within AFS-420 and the NFPO is how to develop a DVA that allows continued climb to a higher MVA sector. Dan stated that controllers are good at ensuring sector boundaries are crossed at the higher altitude. Roy Maxwell, Delta, stated that when ATC issues vectors, they own the aircraft and asked how

ATC can assure obstacle clearance when assigning vectors and issuing a level off altitude. Gary Fiske, AJT-22, responded that FAA Order 7110.65, paragraph 5-6-3 applies. As long as an aircraft is assigned an altitude at or above the MVA and provided 3 miles lateral separation from obstacles depicted on the scope, clearance is assured. Bill Hammett, AFS-420 (ISI) responded that unless all obstacles that penetrate a 40:1 surface or are less than 1000/2000 feet below the MVA within a sector are depicted, then paragraph 5-6-3 does not assure safety. There could be many obstacles slightly more than three/five miles inside a sector's boundary that are the same height or only a few feet lower than the "controlling" obstacle for the MVA sector. It is doubtful that all these obstacles would be depicted on the scope. A heated discussion followed before Gary stated that he and Bill were in agreement that an aircraft had to be at the next higher MVA when crossing the sector boundary. Steve Serur, ALPA, asked whether paragraph 5-6-3 would be revised for clarity. Tom responded that AFS-420 is developing a draft that would be forwarded to the ATO for consideration. James Taylor, AFFSA, presented a scenario where the ODP says to climb runway heading to 5000 before turning. The pilot reports airborne and the air traffic controller advises, "radar contact, turn left heading 180, climb and maintain 4000". This type instruction creates confusion for the pilot, e.g., am I clear of obstacles if I turn contrary to the ODP, has a DVA been established, should I refuse the turn until reaching 5000, etc. Dan responded that some controllers assume they can turn the aircraft and they are wrong. This is the crux of the DVA educational process ATC is currently undergoing. Rich Boll, NBAA, asked who decides which obstructions are depicted on radar scopes. Gary responded that it is the facility manager's responsibility. Rich stated concern over the initial climb; if obstacles are not depicted, how do pilots know they are clear when given a turn by ATC that is contrary to the ODP. Dan responded that this issue is what is being addressed in the DVA Order. Gary expressed concern that far too many ODPs were developed by procedure specialists without any facility input. Bill responded that ODPs must be designed using the least onerous route and Order 8260.46 requires that all ODPs must be coordinated with ATC [*Editor's Note: Order 8260.46C, paragraph 10b(4)*]. Tom asked whether a GENOT is needed to clarify procedures for assigning headings off an ODP; however, there was no response, which was presumed to be "no".

**Status:** 1) AJT-22 will jointly with AJE-31 ensure controller guidance is developed for radar vectoring departures at airports where an ODP is established; and, 2) AFS-420 will continue to monitor ATO developments and revise 8260-series Orders as necessary.

**Item Open (AJT-22, AJE-31, and AFS-420).**

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

Tom Schneider, AFS-420, briefed that he forwarded the issue to the US-IFPP Chair on August 22, 2008. As stated at meeting 08-02, changes to TERPS Volume 1 Chapters 15 & 17 will not occur until at least the 2010 time frame. Jack Corman, AFS-420, Executive Director of the US-IFPP stated that workload and staffing levels prevent more timely accommodation of this request and suggested tabling this agenda item until late 2010.

**Status:** AFS-420 to address the issue when workload and resources permit.

**Item Open (AFS-420).**

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

Tom Schneider, AFS-420, briefed that after the last meeting, revised AIM language was again developed jointly between NBAA and AFS-420 to resolve all concerns. The revised language, which follows below, was again coordinated through AFS-400, AFS-200, AFS-800, AJT-22,

AJE-31, AJR-32, as well as the other key industry interested parties, ALPA and Delta Airlines. Only one requested revision was received from AJT-22 and accepted. Believing everyone was in agreement, AFS-420 forwarded the following revised language to AFS-400 for formal coordination and inclusion in the August 2009 AIM change.

**Proposed AIM language for AIM paragraph 5-4-21h (03-31-2009)**

Initiating a go-around after passing the Missed Approach Point (MAP) (for example, a balked landing) may result in total loss of obstacle clearance because the aircraft flight path may not fall within published missed approach procedure protected area and the pilot becomes responsible for obstacle clearance. To compensate for this situation, consider the airport operating environment, including known natural (trees/vegetation) and man-made obstacles when choosing a path to fly. Title 14, Code of Federal Regulations Part 91.175(e) recognizes this possibility and intentionally uses the word “appropriate” when describing the missed approach procedure. Therefore, at some airports, pilots should 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 US TERMINAL PROCEDURES publication. Depending on the airport operating environment, characteristics of the published missed approach procedure, overall aircraft performance capability, and other relevant considerations, pilots may choose to take one or more of the following actions when initiating a go-around after passing the published MAP:

1. Where practical, re-establish the aircraft laterally and vertically on the published missed approach procedure, (i.e., straight ahead climb as rapidly as possible, may be all that is necessary to re-join the missed approach segment. Re-joining a turning missed approach segment 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 re-attempt landing, if practicable.
4. Where available, consider executing the published Obstacle Departure Procedure (ODP) (or operator established one engine inoperative departure procedure per 14 CFR Part 91.175(f)(4)) for the relevant runway.

**NOTE:** *ATC applies separation between an aircraft making an instrument approach (including the corresponding published missed approach procedure, and the missed approach holding pattern and altitude) and other subsequent arrivals and other known IFR aircraft. A published ODP for the relevant runway does not always correspond with the published missed approach procedure. Additionally, the published ODP does not always specify an altitude and/or fix at which to hold. Pilots must be aware that separation between the aircraft and other traffic may not be maintained regardless of the procedure chosen if the pilot executes a go-around from a point beyond the MAP. Therefore, it is imperative that pilots advise ATC as soon as possible of his or her intended actions if a landing cannot be completed.*

However, once again, at the last minute, an ATO non-concur was received, this time from the Terminal Service Unit, AJT-22. Dan Diggins, AJT-22, briefed that his office was responsible for the non-concur. Although their request to have “contact ATC” as the number 1 option removed, was granted, they now believe that all approaches should have a missed approach

protected to touchdown. Tom Schneider, AFS-420, responded that the current AIM guidance, which directs the pilot to fly the ODP, applies to all approaches today. This is not the intent, as is explained in the Preamble, of Part 91.175(e) which directs an “**appropriate** missed approach procedure”. Rich Boll, NBAA, agreed that the currently published AIM language is not appropriate; however, at some airports, chasing the published missed approach is not the best course of action either. He agrees that TERPS should protect to touchdown. Tom responded that applying Category II/III missed approach criteria to all approaches is ludicrous. Bill Hammett, AFS-420 (ISI) agreed and cautioned the proponents to be careful of what they ask for. Applying missed approach protection to touchdown will raise minimums to the point where it would severely impact the NAS. Mike McGinnis, APA, noted that commercial operators have one engine inoperative (OEI) procedures available. Roy Maxwell, briefed that Part 121 operators have an obligation to assess take off obstacles and consider OEI. It appears we are trying to assess two scenarios with one topic and the group is having a problem trying to separate the two issues. In the event of an engine failure during go-around, most air carriers will revert to the takeoff OEI procedures or the published ODP. In this instance flying a normal missed approach is way down on the pilots list. Many carriers will also fly the OEI or ODP after a balked landing if the missed approach point is some distance from the runway or the missed approach procedure turns before the runway. Roy added that the number of airports that are impacted is probably limited. It is a mistake for the FAA to try and protect for abnormal operations through TERPS. Carriers need to solve the problem and then ensure ATC is advised. Kevin Comstock, ALPA, agreed with Roy and added that he had coordinated with several ALPA member airlines. He stated that the proposed AIM guidance is similar to what is already included in many carriers’ manuals and carried out by crews as part of the approach briefing. Additionally, changing TERPS to protect for baulked landings by putting all missed approach points at the departure end of the runway was discussed during the development of Order 8260.52 and it was determined that this was not a good course to follow. Mike Frank, AJT-22, stated that the phrase “appropriate missed approach” is what is causing problems in the ATC world. ATC needs to know exactly what a pilot will do rather than publishing a smorgasbord of options. Mike suggested guidance for various scenarios be developed, e.g., controlled vs. uncontrolled airfield, IMC vs. VMC, etc. This guidance would then be used to develop a list of options in the order to be used so ATC will be aware of what the pilot will do in a given scenario. Roy Maxwell, Delta, briefed that Delta was currently merging with Northwest and both airlines’ procedures are undergoing review to develop a single set of policies and procedures for both carriers. The first priority is to “miss the rocks” when that is the biggest danger, and then advise ATC to avoid potential traffic conflicts. Roy recommended that the proposed AIM change move forward as previously drafted and re-structure it later if necessary. Tom asked the question, what does ATC expect a pilot to do in the event of a balked landing today, Gary Fiske, AJT-22, responded ATC expects the aircraft to execute the published missed approach and communicate with ATC. Dan stated that the ATO believes the proposed AIM language is a half-baked solution and the issue needs to be fully vetted. The guidance needs more structure. Tom disagreed again stating that the current AIM guidance directs the ODP be used and all agree this is not the intent. Jim Ryan, AFS-200, asked whether it is the ATO’s intent to prioritize pilot actions in the event of a balked landing. Paul Ewing, AJR-37(AMTI) stated this would be good and remove all doubt for controllers. Tom re-capped the discussion again emphasizing that the current AIM guidance is misleading pilots to believe they must fly the ODP and this is not what is intended. The group consensus agrees this is true. Tom offered that there are only two options: 1) do nothing and let the current incorrect AIM guidance stand or 2) change the AIM wording as proposed. Rich Boll, NBAA stated that the current guidance is not adequate and something must be done. Additionally, this issue is not addressed in the instrument procedures handbook (IPH) or practical test standards (PTS). Dan Diggins, AJT-22 again stated the AIM

guidance needed 'structure' and recommended an ad hoc group be formed to fully vet the issue. Tom responded that an ad-hoc group would be OK provided that all interested parties participate in the discussion and agree that the group's consensus would be final. He has personally vetted this issue through all the players for the past 1.5 years only to have someone continually non-concur at the last minute after an agreement had been supposedly reached. Tom also stated that he would not chair the group. Rich Boll agreed to chair the group and volunteers are listed below. Others who wish to participate are encouraged to contact Rich directly.

Hal Becker	AOPA	703-560-3588	<a href="mailto:hal.becker@att.net">hal.becker@att.net</a>
Rich Boll (Chair)	NBAA	316-655-8856	<a href="mailto:richard.boll@sbcglobal.net">richard.boll@sbcglobal.net</a>
Dick Clark	FAA/AFS-220	202-493-5581	<a href="mailto:richard.clark@faa.gov">richard.clark@faa.gov</a>
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Status: Rich Boll to lead an ACF ad hoc group to finalize language for AIM paragraph 5-4-21h and develop recommendations for changes to associated ATC Orders, the IPH, etc. to resolve the issue. **Item Open - (NBAA)**.

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

Tom Schneider, AFS-420, briefed that after the last meeting, the ad hoc DP working group met via telcon in Dec, Feb and Mar. A copy of the meeting minutes was included in the meeting handout material and is included here  The ad-hoc group consensus is that ATC altitude restrictions on SIDs will be annotated "(ATC)". Other altitude restrictions that are required for obstacle clearance or procedure design will not be annotated. It was agreed that anytime an ATC restriction is published, a second altitude will also be published to provide pilots awareness of what altitude restrictions must be complied with when ATC lifts an "(ATC)" crossing restriction. Mike McGinnis, APA, asked whether there is a time limit for ATC facilities to review SIDs to determine which currently published minimum altitudes are for ATC. Tom responded that the guidance is not final yet as formal coordination must be accomplished. Valerie Watson, AJW-352, stated that she has been coordinating the IACC spec change and has concurrence from Jim Arrighi, AJR-37, to apply the same standard to Standard Terminal Arrivals (STARs). Dan Diggins, AJT-22, asked if there is a SID review requirement. Tom responded that Order 8260.19 requires a biennial review of all instrument flight procedures.

**Status:** AFS-420 will revise policy and documentation requirements in Order 8260.46D. **Item Open - (AFS-420)**.

q. **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: “There has been no progress on the holding pattern study. AFS-450 has received information regarding holding pattern logic from Garmin and is awaiting the same from Honeywell.” Tom thanked Rich Boll for soliciting information from FMS manufacturers.

**Status:** AFS-450 to continue to work the issue with input from AFS-470 and provide updates.  
**Item Open (AFS-450 and AFS-470).**

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

Bruce McGray, AFS-410, briefed that the recommended AIM changes presented by Rich Boll, NBAA, at meeting 08-01 were coordinated through AFS-400 and with slight modifications forwarded for publication in the August 27, 2009 AIM change. However, there was a last minute objection from with the ATO. Bruce reported that the change has been sitting within the ATO since November. Rich Boll, NBAA, author of the change asked what was the objection. Bruce responded there were no specifics to the objection, just that it may be inappropriate at this time. He will continue to track the change.

**Status:** AFS-410 will track the requested AIM change.  
**Item Open – Pending Publication (AFS-410).**

***Editor’s Note:*** Post meeting follow-up coordination with the AFS-400 AIM OPR reveals that the change was, in fact, forwarded for publication and will be included in the August AIM change

5. **New Business:**

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

New issue presented by Rich Boll, NBAA. The issue expresses three concerns relating to publishing multiple glide slope intercept altitudes to accommodate simultaneous parallel operations: 1) Chart clutter, 2) the applicability of adhering to minimum altitudes after glide slope intercept, and 3) the definition of the “beginning of the final approach” as it applies to 14 CFR Parts 121.651 and 135.225. Valerie Watson, AJW-352, asked why pilots are not aware that published minimum altitudes are not applicable when flying a precision approach. James Taylor, AFFSA, responded it is because AIM guidance is not explicit. Tom Schneider, AFS-420 added that it also depends how far the glide slope is evaluated. Brad Rush, NFPO, stated that the procedure is evaluated and the glide slope flight inspected to the highest requested intercept altitude/distance. The NBAA recommendation document suggests the current note for these procedures be amended to read “When assigned by ATC, intercept and track glidepath. Disregard subsequent step-down altitudes.” The second part of the note created much discussion, after which the consensus was that the second part of the note is not necessary. Bruce McGray, AFS-410, stated that many approaches are becoming far too complex and controllers are too busy to provide complete monitoring. For example, there were 3 deviations in 12 minutes associated with a mandatory altitude on an ILS approach at Teterborough. (***Editor’s Note:*** the Teterborough approach example does not apply to this issue as only one intercept altitude is published. It is a better example for issue 09-01-283). Mike Frank, AJT-22 stated that the notes should be standardized as they are not consistent.

He added that all stepdown altitudes after glide slope intercept should be below the glide slope. Tom Schneider, AFS-420, responded that all the stepdown fixes and associated altitudes for the Localizer on the KLAX approaches were calculated to be at the ATC assigned altitude glide slope intercept point. He further stated that Order 8260.19 specifies verbiage for the note and that inconsistencies between charts may be because some older IAPs have not been brought up to the current standard. Kevin Comstock, ALPA, stated that an informal ALPA survey indicated that many pilots believe that once established on the glide slope from the ATC assigned intercept altitude, they are on “the final approach segment” and therefore could continue if the weather dropped below minimums. As a result of the discussion and group consensus, Tom agreed to take an IOU to revise the note in Order 8260.19 to read “When assigned by ATC, intercept and track glidepath”. The NBAA recommended expanded AIM guidance for paragraph 5-4-5b will be forwarded to AFS-410 for consideration.

**Status:** 1) AFS-410 to update AIM paragraph 5-4-5b to clarify early glidepath intercept and PFAF identification and 2) AFS-420 to revise chart note requirements in Order 8260.19. **Item Open (AFS-410 and AFS-420).**

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

New issue presented by Rich Boll, NBAA. This issue is closely tied to issue 09-01-282; however, it relates to pilots intercepting and tracking the glide slope prior to the specified precise final approach fix (PFAF)(identified by a lightning bolt on FAA charts) without ATC clearance. Many pilots believe that flying the glide slope at the earliest point will ensure that all altitude restrictions will be met. This is not the case as is demonstrated by the Teterboro, New Jersey ILS RWY 6 IAP, which has a mandatory altitude restriction in the intermediate segment. Lance Christian, NGA asked if this issue didn’t contradict the previous issue (09-01-282). Rich responded no, because the pilot in this case was not assigned a glide slope intercept altitude. Rich provided a recommended new sub-paragraph 5 for AIM paragraph 5-4-5b that will provide better pilot guidance. The proposal will be forwarded to AFS-410 for action.

**Status:** AFS-410 to review proposed new AIM paragraph 5-4-5b5. **Item Open (AFS-410)**

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

New issue presented by Rich Boll, NBAA. NBAA has received reports that pilots are being cleared direct to fixes inside the intermediate fix (IF) for RNAV approaches. This practice has been also noted via review of pilot comments on the AOPA Forum. While all agree that TERPS and Part 91.175(i) permit radar vectors to a final approach course, NBAA is concerned over “direct to” clearances to other than the IF for RNAV approaches. Rich stated that they are requesting a full system analysis to assess the safety of ad hoc clearances to fixes inside the IF. Paul Ewing, AJR-37, suggested that perhaps controllers were not applying the provisions 7110.65 correctly. There are three ways to get aircraft on an approach; 1) a clearance to the IAF, 2) a clearance direct to the IF for an RNAV approach, and 3) radar vectors to the final approach course. Paul suggested that perhaps #3 is being misapplied. Tom Schneider, AFS-420, stated that the issue was addressed at the US-IFPP and deemed to be an ATC procedural issue. He also noted the issue is on the ATPAC agenda as Area of Concern (AOC) 102. Mike Frank, AJT-22, stated that the phraseology in 7110.65 is based on TERPS and Part 91.175(i) allows vectors to final. It is a semantics issue, not a safety issue. Mike’s position is that if controllers can vector to the FAF, they can issue a non-radar clearance to the FAF emulating the same track. Rich responded that during the SRMD

conducted last July for clearances direct to the IF for RNAV approaches, the recommended procedure was clearances could be issued to a charted IF. Rich added that this issue addresses TERPS containment for obstruction clearance. RNAV procedures begin ramping down from the en route/initial containment areas of 2-4-4-2 NM at the IF. Clearances to intercept the final approach course inside the IF may not assure correct lateral containment whether the aircraft uses a fly-by lead or fly-over turn to re-intercept the final approach course. The practice also raises concern that the aircraft may be too close to the airport by the time they are back on course and unable to safely start a descent. If ATC is going to be allowed to clear RNAV aircraft to points inside the IF, then NBAA wants assurance that AFS has evaluated the operation for avionics performance and obstacle containment. Gary Fiske, AJT-22, asked what is the difference between “Fly heading 330” as a radar vector and “Fly heading 330 direct JOCPI”. Bill Hammett, AFS-420 (ISI) stated that the question of radar vectors vs. an RNAV direct clearance while being radar flight followed has been before the ACF before. Some ATO representatives in the past have stated the two operations are the same; however, this position is not supported by the Pilot/Controller Glossary. Gary responded that “Cleared direct XXXX” is not a radar vector; “directing the pilot to “fly an assigned heading” is. Tom Schneider, AFS-420 summed up by stating the discussion indicates there is a difference of opinion of whether ATC can vector or clear RNAV aircraft to the FAF or anywhere between the IF and FAF at any angle due to 91.175 as compared to the apparent more restrictive language in Order 7110.65 that seems to limit ATC vectors to final to 20-30 degrees 2 miles outside the FAF, or a clearance direct to the IF for RNAV approaches (no more than 90-degrees off final approach course), or a vector/clearance to an IAF. Tom added there are two issues involved, 1) the ATC procedural issue before ATPAC (AOC-102) and 2) the TERPS containment issue. The ATPAC issue must be resolved before it can be determined whether any AFS action is required. Rich re-affirmed that in the unlikely event that ATPAC agrees that application of Part 91.175 without consideration of the 7110.65 associated limitations, then the issue must come back to the ACF. Tom agreed the issue would remain on the agenda pending ATPAC action.

**Status:** Bruce McGray, AFS-410, (the AFS-400 representative to ATPAC) will track the issue and report. [Item Open \(AFS-410\)](#)

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

New issue presented by Ted Thompson, Jeppesen, to express concern that there are many RNAV routes, especially in Alaska that overly conventional ATS routes. The primary purpose of RNAV routes is to provide operational benefits not available when using the established Jet or Victor airway structure predicated on ground based NAVAIDs. Additionally, the establishment of RNAV routes is not necessarily to provide lower operating altitudes along a conventional airway. This can be achieved by establishment of a GPS MEA; therefore, there is no need for RNAV routes to duplicate or overlie conventional airways. Ted provided several examples of unnecessary overlap using an excerpt from an Alaska en route chart. Additionally, unnecessary duplication serves to complicate maintenance and handling of all the related flight information – not only from the FAA source origination standpoint but also as it affects navigation database content and sizing, as well as chart clutter. Bill Hammett, AFS-420 (ISI) provided a brief summary in the development of low altitude T-Routes (formerly RNAV IFR Terminal Transition Routes). The intent of the initial development policy was that a T-Route would originate and end at a fix on an established airway. Overlap would be allowed within the origin and end points; however, it was not intended to overlap entire airways. Paul Ewing, AJR-37(AMTI), stated they have been corresponding with Alaska. The Alaska T-Routes were developed under SFAR 71 in support of the CAPSTONE project. They have a

follow-on project underway to correct the problem with a target date for completion in 2010. Paul agreed to work with the Airspace and Rules Group, AJR-33, to address both aspects of the issue; 1) overlap of conventional airways, and 2) developing T-routes to allow lower operating altitudes.

**Status:** AJR-37, in concert with AJR-33 to address the issue and report.

**Item Open (AJR-37 and AJR-33)**

**6. Next Meeting:** ACF 09-02 is scheduled for **October 27-29, 2009** with NACO as host at their Silver Spring Facility. Meeting 10-01 is scheduled for **April 27-29, 2010** with NACO 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 October 9, 2009 - a reminder notice will be provided.**

- 7. Attachments (2):**
1. OPR/Action Listing.
  2. Attendance Listing.
  3. NFPO/NACO Re-Organization Chart

Aeronautical Charting Forum - Instrument Procedures Group  
Office of Primary Responsibility (OPR) Listing for Open Items from Meeting 09-01

<b><u>OPR</u></b>	<b><u>AGENDA ITEM (ISSUE)</u></b>	<b><u>REQUIRED ACTION</u></b>
AFS-420	<b>92-02-105</b> (Circling Areas)	Provide update on status of TERPS, Change 21.
AFS-470	<b>92-02-110</b> (Cold Weather Altimetry)	Continue to track issue and develop consolidated recommendation for PARC. Also, report results of MITRE study.
AFS-470	<b>96-01-166</b> (Descent Point on Flyby Waypoints. Originally "on course")	Develop AIM and other pilot educational material. Also, provide status report on draft AC 90-RNP.
AFS-470	<b>98-01-197</b> (Air Carrier Compliance With Climb Gradients)	AFS-470: Monitor PARC actions report progress.
AJR-32	<b>02-01-238</b> (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 NOTAM system upgrade.
AJT-22	<b>02-01-241</b> (Non-radar Level and Climbing Holding Patterns)	Ensure controller awareness and education on what holding patterns are authorized for CIH.
AFS-450	<b>03-01-247</b> (Holding Pattern Selection Criteria)	Continue research/evaluation on the issue and report.
ACF-IPG Chair	<b>04-01-250</b> (RNAV and Climb Gradient Missed Approach procedures)	Monitor actions by AFS-600 and AFS-800 to address ACF-IPG concerns.
AFS-470 AFS-420	<b>04-02-258</b> (VNAV IAPs using DA(H) and OpSpec C073)	<u>AFS-470</u> : Continue evaluation of the US-IFPP memorandum and develop operational guidance. <u>AFS-420</u> : Continue to follow the issue through the US-IFPP and report.
AFS-420	<b>05-01-259</b> (Visual Climb Over Airport)	Continue working the issue through the USIFPP and report.
AFS-450	<b>06-02-267</b> (Option to Use Standard Timing for RNAV Holding Patterns)	Assess use of timing in lieu of ATD for RNAV in holding pattern study.
AJT-22 AJE-31 AFS-420	<b>07-01-269</b> (Diverse Vector Areas)	<u>AJT-22</u> and <u>AJE-31</u> : Jointly develop controller guidance for vectoring departures. <u>AFS-420</u> : Monitor ATO activity and revise 8260-series if necessary.

Aeronautical Charting Forum - Instrument Procedures Group  
Office of Primary Responsibility (OPR) Listing for Open Items from Meeting 09-01

<u>OPR</u>	<u>AGENDA ITEM (ISSUE)</u>	<u>REQUIRED ACTION</u>
AFS-420	<b>07-01-270</b> (Course Change Limitation Notes on IAPs)	Address issue through the US-IFPP when workload permits.
NBAA	<b>07-01-272</b> (Use of ODP in Lieu of Published Missed Approach)	Lead an ad-hoc group to develop a consensus for recommended changes to the AIM, associated ATC rules, and other pilot guidance material.
AFS-420	<b>07-01-274</b> (AIM Information Regarding ODP Minimum Crossing Altitudes). Also includes Issue <b>08-01-280</b> (Minimum Obstruction Clearance Altitudes Depicted on SIDs)	Revise policy and documentation requirements in Order 8260.46D.
AFS-450 AFS-470	<b>07-02-278</b> (Advanced RNAV (FMS/GPS) Holding Patterns Defined by Leg Length)	<u>AFS-450</u> : Address the issue in conjunction with the holding pattern study. <u>AFS-470</u> : Provide input on the issue for the study.
AFS-410	<b>08-01-279</b> (Expected Airplane Performance on DPs)	Track the NBAA recommended AIM changes targeted for publication in August 2009
AFS-410 AFS-420	<b>09-01-282</b> (Glide Slope Intercept Altitudes on ILS Parallel Approaches)	<u>AFS-410</u> : Update AIM paragraph 5-4-5b to clarify early glidepath intercept <u>AFS-420</u> : Update chart note requirements in Order 8260.19.
AFS-410	<b>09-01-283</b> (Intermediate Fix Altitudes & ILS Glide Slope)	Review NBAA proposed new AIM paragraph 5-4-5b5
AFS-410	<b>09-01-284</b> : Question of TERPs Containment with Late Intercepts	Track ATPAC action on the issue and keep AFS-420 apprised whether further action is required.
AJR-37	<b>09-01-285</b> : U.S. RNAV Routes Coincident with Conventional Airways	Address the issue in concert with AJR-33 and report.

**AERONAUTICAL CHARTING FORUM  
INSTRUMENT PROCEDURES GROUP  
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**AERONAUTICAL CHARTING FORUM  
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ATTENDANCE LISTING - MEETING 09-01**

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# AeroNav Services Organizational Structure

