

**GOVERNMENT / INDUSTRY AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
Meeting 96-01 April 29-30, 1996
ATA Headquarters/Washington, DC
(Transcribed/Reformatted)**

1. **Opening Remarks:** Paul Best, AFS-420 and Dick Powell, ATA-100 opened the meeting at 1300. The two day meeting was held at Air Transport Association (ATA) Headquarters offices in Washington, DC. and hosted by Bill Thomas, ATA. Welcome comments were made by Al Prest on behalf of ATA. A list of attendees is attached.

2. **Briefings:** None

3. **Review of Minutes of Last Meeting:** Minutes of the last meeting, which was held on September 19, 1995, were distributed on October 5. No comments or corrections were received; therefore, the minutes were accepted as presented.

4. **Old Business (Open Issues):**

a. **92-02-102** IFR Departure Procedures and Standard Instrument Departures (SIDs)

(Issue (95-01-142) Basic IFR Departures Should Follow the Least Onerous Obstacle Route now incorporated as of last ACF). Past minutes reflect that this issue was being worked by the Departure Working Group (a sub group of the TERPS working group). Discussion on this issue led to the conclusion that the original submittal did not request a change to the current departure criteria in TERPS Chapter 12, but requested clarification of two issues. The first issue requested clarification of how a SID could have higher ceiling/visibility minimums than the published IFR departure procedure. The second issue was that SID routes should follow the least onerous obstacle clearance route - not a route specified solely for air traffic flow. During the discussion, ALPA noted that coordination of SIDs with user groups prior to publication could reduce some concerns. They also presented the opinion that SID development should be the responsibility of AVN procedure specialists, not air traffic. The group recommended that an ad hoc group be formed to address the issues noting the comments made during the discussion. The group will be led by AFS-440 and made up of representatives of AVN-100, ATO-110, ATO-120, and ALPA. **Action: Item Open (AFS-440).**

b. **92-02-103** Minimum Crossing Altitude (MCA) on Obstacle Clearance SIDs.

This issue was originally submitted by ALPA who recommended that obstacle clearance requirements be published on SIDs. This is necessary to ensure pilot situational awareness when air traffic vectors aircraft off a SID route or deletes published ATC altitude restrictions. It was suggested that the aforementioned ad hoc group could also address this issue. L'Tayna

Talley, ATO-110 stated that air traffic had proposed a change to Order 7100.8 (SIDs), which is out for comments. **Action: Item Open (ATO-110)**

c. 92-02-104 TERPS Paragraph 323a, Precipitous Terrain Additives

Don Pate, AFS-450 presented a briefing on the FAA's on-going study of this issue. A three-phase program was presented outlining the proposed methodology to resolve the issue. Discussion followed concentrating on the American Airlines accident at Windsor Locks, CT. ALPA also expressed concerns that procedure specialists may not be coordinating sufficiently with air carriers and FBO's when designing approaches. **Action: Item Open (AFS-450)**

d. 92-02-105 Review of Adequacy of TERPS Circling Approach Maneuvering Areas and Circling at Airports With High Heights Above Airports (HAA's)

Don Pate, AFS-450 presented a status document reflecting FAA study efforts thus far. The next phase is Airspace Simulation and Analysis for TERPS (ASAT) modeling. In order for this effort to be successful and provide realistic data, it is necessary that the parameters used for testing (airspeeds, winds, bank angles, etc.) be agreeable to all. Don requested that the group review the paper and forward recommended parameter changes to him not later than May 17. Revised criteria, if necessary will be on ASAT modeling results. **Action: Item Open (AFS-450)**

e. 92-02-110 Cold Station Altimeter Settings

Lyle Wink, AFS-440 led discussion on this issue. Criteria development is in progress but not mature enough to be presented to the group. Every attempt will be made to present draft criteria at the next meeting. **Action: Item Open (AFS-440)**

f. 93-01-117 Inadequacy of Lateral Obstacle Clearance at Turning Facility FAFs

ALPA withdraws this issue pending implementation of the Terminal Arrival Airspace (TAA) concept. **Status: Item Closed.**

g. 93-01-120 Portrayal of Final Approach Segment descent Gradients on High Descent Gradient SIAPs

Bill Hammett, AFS-420 presented an AFS-400 coordinated position that the descent gradient from FAF to threshold would be included as a note on the appropriate 8260 procedure forms for those procedures that are published with circling minimums only due to the final descent gradient exceeding straight-in tolerances. The accepted verbiage is "FAF to threshold descent gradient, (###) Ft/NM". AFS-440 will provide AVN-100 with an interim policy letter pending publication in Order 8260.19. **Status: Item Closed.**

h. 93-01-121 Provision of Current IAP Procedural Directive Guidance to the Aviation Community (AC90-XX)

A draft copy of AC 90-X was provided to the group for informal comments at the last meeting. The project was put on temporary hold due to budget constraints. AFS-420 has confirmed that money is now available to complete the project. When approved, it will be incorporated into the Instrument Flying Handbook. **Action:** Item Open (AFS-420)

i. 94-02-131 Approved Radar Vectors to the So Called "Final Approach Course" and Compatibility With the SIAP

Air Traffic, ATO-120 has put much effort in resolving this issue. However, during discussion, it was noted that the problem still exists when aircraft are being vectored to an IAP that specifies holding-in-lieu of a procedure turn. When controllers provide a position relative to the holding fix and clear the aircraft for the approach from an altitude higher than the altitude specified for the fix, the pilot has no way of knowing when he/she is in the within the holding pattern airspace area protected for obstacle clearance and can begin descent. It was recommended by Paul Best, AFS-420 that ATO-120, AFS-820 and AFS-420 meet to jointly resolve the issue. After the discussion, ALPA expressed satisfaction that the FAA now fully understands the issue and that the issue may be closed. AFS-420, AFS-820 and ATO-120 will meet and resolve the issue. **Status:** Item Closed.

j. 94-02-133 SIAP Optimum Final Approach Segment Descent Gradient for Categories C and D Aircraft

Tom Young, ALPA led the discussion expressing their concern over IAPs with very shallow descent gradients. (Pullman, WA was offered as an example.) They would like 300 Ft/NM be established as a hard standard and IAPs with lesser gradients require waiver. The FAA does not support this hard line, waiver required approach. Al Prest, ATA advised that they were working similar issues and would look at this also. ATA will address this item and report at next meeting. **Action:** Item Open (ATA).

k. 95-01-138 Identification of Standard Instrument Approach Procedures (SIAPs)

AFS-440 has prepared the change to the TERPS Handbook. **Status:** Item Closed.

l. 95-01-139 The Use of the FMS VNAV Function as Sole Means of Executing Non Precision Approaches

ALPA still has concerns that if the FAA plans on allowing FMS VNAV to be used as the sole means of executing Non-Precision Approaches. They believe that the use of this equipment must be subject to the TERPS process to ensure adequate obstacle clearance. Don Pate, AFS-450, briefed the group that the FAA does not intend to approve VNAV without full evaluation and testing. Don also briefed a multi-phase project the FAA plans to follow in developing VNAV criteria. The tentative date for VNAV criteria is late 1986. Bill Thomas, ATA, stated that they support the effort and under American Airlines lead, they are also studying the VNAV issues.

Tom Young, ALPA, also supports the effort and offered ALPA concerns. The discussion expanded to include visual descent point (VDP) criteria. Wally Roberts, ALPA, emphasized that pilots are not aware of visual segment obstacle clearances, noting that this information should be available. ALPA expressed satisfaction with the way the VNAV issue is being handled and agreed to close the item. **Status: Item Closed.**

m. 95-01-140 Sector Arrival Zones for GPS SIAPs and Turning Protection Over Such Fixes

Lyle Wink, AFS-440, provided an update on the TAA concept. The concept and implementation strategy will be a discussion item at the next satellite Procedures Implementation Meeting, May 13-16. It is hoped that the TAA can be implemented next year. Doug Helton, AOPA expressed concern over the impact on uncontrolled airspace, especially in the Western U.S. Bill Mosley, ATR-110, briefed on airspace proposals to include the potential impact on "free flight", OROCA, etc. His bottom line was that the TAA is not designed to be a controlled airspace grab; however, there's no free lunch. Airports desiring a GPS or other IFR approach must understand that controlled airspace must be designated. AFS-440 will continue to track the TAA program and provide status reports until implemented. **Action: Item Open (AFS-440).**

n. 95-01-141 Multiple DME ARC IAFs

Discussion centered around those instances where airways intersect initial approach arc segments. ALPA is willing to accept these points as "pseudo IAFs" providing descent gradient requirements are met. They request that those airway arc interceptions that violate descent gradient criteria be flagged as not allowed. AFS-440 will review this issue recommend a solution at the next meeting. **Action: Item Open (AFS-440)**

o. 95-01-143 Establish and Publish Procedural Maximum Speeds for Terminal Instrument Procedures

Wally Roberts, ALPA led the discussion noting that the maximum airspeed for each segment of instrument approaches should be specified. Their greatest concern is turns over the IAF from the en route structure. PANS-OPS specifies speed tables for each procedure segment and ALPA believes this information could be useful to pilots using U.S. criteria and should be published in the AIM. Don Pate, AFS-450, noted that maximum airspeeds were considered in FMS criteria (Order 8260.40A). The discussion was expanded to include procedure turn maneuvers and maximum airspeeds for various type course reversals. ALPA desires that the holding and teardrop course reversal maneuvers not be allowed unless they have been specifically charted on the procedure and specific course guidance is provided. They believe that aircraft should be required to track outbound on the reciprocal of the inbound course then make a 45/180, 80/260, 90/270 course reversal maneuver. None of the other participants were in favor of eliminating the holding and teardrop maneuvers. AFS-450 stated that they would conduct ASAT modeling to determine maximum airspeeds and evaluate various course reversals against the TERPS procedure turn area. AFS-450 will report the test results when complete. **Action: Item Open (AFS-450)**

p. 95-01-147 ALPA Currently Active ATPAC TERPS/AIM/ATC submissions

All the ALPA items have been resolved except two: Item #7 (procedure turn methods and maximum airspeed) is being addressed and will be resolved under ACF agenda item 95-01-143; Item #8 (AIM language for holding-in-lieu of procedure turn). All agreed that AIM paragraph 5-4-8 a-4 should be revised. Bill Hammett, AFS-420 took the IOU to make the AIM change happen. ALPA agreed to close the item. **Status: Item Closed.**

q. 95-02-150 TERPS Paragraphs 613c (1) and 713c (1); Proposal to Reduce Required Obstacle Clearance (ROC) for NDB SIAPs by 50ft.

This issue was discussed and it is the consensus of the group that the current ROC should not be reduced. **Status: Item Closed.**

r. 95-02-153 Flight Procedures Designer Designee Program. GPS Approach Design Guidance.

Off line discussions between Charlie Guy, Aviation Safety And Procedures (ASAP), and AVN-100 have satisfied ASAP's request for the status of the program. FAA's current position is that there is no current need for a designee program; however, the issue is still undergoing study for possible implementation in the future. **Status: Item Closed.**

5. New Business:

a. 96-01-154 Requirement to Show Descent Angle on Approach

Tom Young, ALPA presented this issue. Most airlines have procedures for pilots to compute descent gradients on final approaches at 300 Ft/NM or approximately 3° in order to arrive at the MDA at a "pseudo VDP". This methodology is faulty when the actual final descent gradient on an IAP is significantly higher/lower than 300 Ft/NM. ALPA believes that the computed descent angle from FAF altitude to 50' above threshold should be depicted on IAP charts. Bill Thomas, ATA, stated that they have a charting group addressing this issue. He volunteered to provide a report at the next meeting. If adopted, this item could require a change to charting specs. ATA will provide a report at the next meeting. **Action: Item Open (ATA)**

b. 96-01-155 Operational Status for OROCAs and Implementation of GPS TAAs.

Tom Young, ALPA presented the issue on behalf of ALPA. Bill Mosley, ATO-110 stated that his office has already started work on this issue and that they have sent a letter to AFS-400 requesting approval to use the OROCA for IFR obstruction clearance. Air Traffic is still studying the "radar required" for off-route RNAV issue. Tom questioned whether the OROCA can guarantee communications (required for MIA). This subject will be discussed at the next Satellite Procedures Implementation Team (SPIT) meeting. The GPS TAA issue is being addressed separately in item 95-01-140. **Action: Item Open (AFS-420 and ATO-110)**

c. 96-01-156 Along Track Distance (ATD) Error Assumption in GPS SIAP Criteria

Wally Roberts, ALPA presented the question as to why the along track (ATRK) fix displacement tolerance for GPS approaches, as specified in Order 8260.38A is greater than that allowed for DME. This poses concern that obstacle clearance requirements may not be satisfied when pilots are flying an overlay approach. Don Pate, AFS-450 stated that the ATRK errors originally specified for GPS may be overly conservative. This issue is currently undergoing study by AFS-440/450. AFS-440/450 will provide study results the next meeting. **Action: Item Open (AFS-440/450).**

d. 96-01-157 Secondary, Published, but not Charted Missed Approach Procedures

Tom Young, ALPA presented the position that although secondary missed approach instructions may meet TERPS obstruction clearance standards, pilots have no way of knowing what the alternate procedures are until issued by ATC. Publication will make the information available during pre-flight preparation. C.R. Bramble, ATO-120 stated that controllers are required to provide this information to pilots prior to approach clearance. All agreed that the solution may require a change to charting specs and that the issue should be addressed during the charting portion. **Status: Item Closed.**

e. 96-01-158 Jet Aircraft Maneuvering Speed Limits for Operations Below the OROCA

Discussion led to the conclusion that this issue will be addressed by AFS Agenda Item # 95-01-143. ALPA agreed to close the item. **Status: Item Closed.**

f. 96-01-159 Specified Ceiling Requirement for High HAA/HAT MDAs

Wally Roberts, ALPA led the discussion over procedures that allow pilots the flexibility to commence an approach as long as the airport has the required visibility minimums. They believe a ceiling should be required before a pilot may attempt an approach when the HAT/HAA value is 700' or greater. This is already a requirement by some airlines at some locations. Discussion led to the conclusion that this requirement could be addressed in Ops Specs or may require a change to CFR 14, Parts 97 & 121. All agreed to study the issue further for discussion at the next meeting. **Action: Item Open (All Parties)**

g. 96-01-160 Requirements for the IAFs to be tied to the EN Route Structure

Tom Young, ALPA presented the issue that some GPS stand-alone IAPs have "dangling IAFs", not tied to the en route structure. The current FAA policy is that, in a radar environment, procedures must have at least one IAF tied to the en route structure. All agreed that the TAA concept will resolve this issue. Flight Standards agreed to provide formal guidance to tie all future IAFs to the en route structure pending TAA implementation. IAPs specifically identified by ALPA would be addressed separately. AFS-400 will provide necessary guidance to AVN-100. **Status: Item Closed**

h. 96-01-161 Use of Mandatory Altitudes on SIAPs

Discussion on issue led by Paul Best, AFS-420 and he stated this did not appear to be a trend, rather only applied when absolutely necessary. AFS-440 agreed to strengthen and revise language in the next revision of FAA 8260.19C. **Status: Item Closed**

i. 96-01-162 GPS NoPT Terminal Routes and PT Required Terminal Routes

The issue was introduced by Tom Young, ALPA. ALPA's position is that there should be a change to charting specs to indicate "PT required" on the chart when a course reversal is required as well as indicating "NoPT" when no procedure turn is required. ALPA believes this will provide better information to the pilot especially in those cases where a procedure is aligned straight-in, appears to be straight-in, but for some reason such as excessive descent gradient does not qualify as a straight-in approach without a TERPS required course reversal. The group was unable to reach a conclusion and it was agreed that all would study the issue for discussion at the next meeting. **Action: Item Open (All Attendees)**

j. 96-01-163 Purpose of ILS Fix Inside the Precision FAF

Tom Young, ALPA led the discussion as to the purpose of the charted FAF and glide slope altitude at the FAF on ILS IAPs, with the key issue being whether a gross error check of the glide slope is required to fly a precision approach. Paul Best, AFS-420, has volunteered to look into the issue and report at next meeting. AFS-420 will report back at next meeting. **Action: Item Open (AFS-420).**

k. 96-01-164 Step-down Fixes In Procedure Turn (or Hold-In-Lieu-Of) Maneuvering Area

ALPA expressed concern that some procedure turn IAPs have step-down fixes in the intermediate segment. The procedure that prompted the concern is the ILS RWY 20R at Nashville International (BNA). Discussion led to the conclusion that the TERPS criteria are satisfactory and that the problem does not appear to be a trend. The BNA IAP was discussed and all agreed that there appears to be several questionable items. The group recommended that AVN-100 should review the IAP for conformance with criteria. AVN-100 will have the BNA procedure evaluated. **Status: Item Closed.**

l. 96-01-165 Radar or DME Fixes on SIAPs

Wally Roberts, ALPA led the discussion stating that ALPA has concerns over IAPs identified as being capable of being flown with a single NAVAID, yet require radar or DME for missed approach course guidance. Recent IAP revisions at BWI precipitated the questions. CR Bramble, ATO-120 agreed to research the issue. ATO-120 will report back at next meeting. **Action: Item Open (ATO-120)**

- m. 96-01-166** Determining Descent Point of Flyby Waypoints (Originally Submitted as Definition of “On Course” – title changed at ACF 97-01)

Wally Roberts, ALPA presented the issue stating that the current definitions in the pilot/controller glossary were inadequate. Paul Best, AFS-420, stated that Flight Standards had studied this issue in the past to no definitive conclusion. He recommended that the ALPA group conduct a study and present a recommendation at the next meeting. ALPA accepted. **Action:** Item Open (ALPA)

- n. 96-01-167** AIM TERPS-Related Changes returned From ATPAC

See comments in ACF agenda item # 95-01-147. **Status:** Item Closed.

- o. 96-01-168** FMS 90dg Turn Warning

ALPA agreed to withdraw this item. It will be addressed by the ATA FMS Working Group. **Status:** Item Closed.

6. Attachments:

ACF 96-01
Attendance Roster

Attendees	Organization
Paul Best	AFS-420
Dick Powell	ATP-220
Mike Miressa	AVN-110
Terry DePlois	AVN-160
Don Pate	AFS-450
C.R. Bramble	ATO-120
L'Tanya Talley	ATO-110
Dan Schillaci	ATA
Al Priest	ATA
Tom Young	ALPA
Wally Roberts	ALPA
Dave English	ALPA
Charles Guy	ALPA
Andy Peck	ALPA
Marie Tapscott	ATA-110
Dalia Marin	NOS
Kevin Comstock	ALPA
Paul H. Smith	NBAA
Stephen Issaca	AFS-820
Rudy Ruana	Jeppesen
George Lutz	EAA
Lyle G. Wink	AVN-220
Bill Frenz	AFFSA
Bill Thomas	ATA
Charles Branch	NOS/ACB
Robert Beatty	AFFSA IFC/AI
Bill Parshall	USAASA
Bob Hall	ALPA
Ken Fiveash	ATM-600
Doug Helton	ALPA
Bill Mosley	ATR-110
Bill Hammett	AMT-613
Dick Johnson	NAVFIG