

GOVERNMENT / INDUSTRY AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
Meeting 97-01 April 7-8, 1997
NOS Headquarters/Washington, DC
(Transcribed/Reformatted)

1. **Opening Remarks:** Paul Best, AFS-420 and Dick Powell, ATA-100 Co-chairs of the ACF, Instrument Procedures Subgroup, opened the meeting at 1300 April 7, 1997. The meeting was held at the National Ocean Survey (NOS) Headquarters and welcoming comments were made by Capt. Terry Layden, NOS acting Director of Aeronautical Charting and Cartography. A listing of attendees is attached.

2. **Briefings:** None

3. **Review of Minutes of Last Meeting:** Minutes of the last meeting, which was held on October 7-8, 1996, were mailed on November 21, 1996. No comments were received and the minutes were accepted as distributed.

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

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

(1) Since the last meeting, an ad hoc group consisting of representatives of AFS, AAT and AVN met and drafted order (8260.PID) to combine IFR Departure Procedures and SIDs under a new title "Published Instrument Departures (PIDs). The proposed Order was briefed by Bill Mosley, ATOATO-120 who noted that the new method will completely revise the development, processing and charting of IFR departures, bringing them under the Flight Standards policy regime vice Air Traffic. The benefits include, but are not limited to standardized criteria, reduced development/processing time, charting of complex procedures and a better interface between procedure specialists and controllers. His target date for publication of the Order is August 1997. A lively discussion ensued with the following issues raised: Pilot education material needs to be addressed and AIM/AIP changes prepared - Tom Young, ALPA; There should be standard complexity criteria for required charting not left to analyst opinion- Steve Hickok, HAI; We should consider the international impact before we get too far along in eliminating the SID acronym and adopting PID - Bill Hammett, AFS-420; Any required cartographic changes must be staffed through IACC - Dalia Marin, NOS; The revised Form 8260-15 must be charting friendly - Wally Roberts, ALPA; Differentiation between an ATC altitude restriction vs. an obstacle clearance altitude should be addressed in the order - Charlie Guy, ASAP; The rule making aspects of departure procedures must be checked through AGC - Jim Nixon, AFS-440.

(2) No action was taken to address ALPA concerns over the disparity between SIDs vs. Standard IFR Departure procedures at Santa Barbara, Monterey, and San Francisco airports. Air Traffic felt that the new PID Order would provide a resolution. Wally stressed that these procedures need to be looked at now as coordination time for a new Order

could be considerable despite projected timelines. Bill Mosley, ATO-120 and Terry Deplois, AVN-160 took the previous IOU to jointly coordinate with LAX FPO and AWP-530 to resolve specific ALPA concerns at the aforementioned airports. Wally will provide the necessary input. (1) AFS-440 will circulate draft Order 8260.PID for comment. (2) ATO-120 and AVN-160 will jointly work to resolve specific ALPA SID vs. IFR Departure minimum concerns. **Action: Item Open (ATO-120, AFS-440 and AVN-160).**

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

Tom Young, ALPA researched the NASA ASRS data base and discovered there were 16 filings on departures, 5 of which related to the subject. Discussion indicates that there is still no consensus on this issue. ATC says "trust us to provide obstruction clearance"; pilots say "we do, but would like obstruction information on the charts". Bill Hammett, AFS-420 noted that the SID legend in the IAP booklets denote that an asterisk (*) may be used to denote a MOCA. Additionally, military SIDs use different icons to denote differences between ATC and minimum climb rates. As noted in ACF item 92-02-102, Charlie Guy, ASAP, emphasized that this issue should be addressed in the proposed 8260.PID Order. Pat Fair, ATA-130 and Bill Mosley, ATO-120 took an IOU to check IACC specifications and report at the next meeting. ATA-130 and ATO-120 will research the IACC specifications to determine charting applicability for MOCAs on SIDs. **Action: Item Open (ATA-130 and ATO-120).**

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. He noted that the National Center for Atmospheric Research (NCAR) had responded to the FAA's request to develop a general model, with accompanying software that could be applied to an approach to a specific runway. Certain parameters such as wind and terrain characteristics along the approach would be specified and the model would identify if an adjustment is necessary and the amount of ROC increase needed. The FAA Weather IPT has indicated that, based on current commitments, the project will be added to the 1999 budget. Steve Hickok, HAI noted that helicopters should be included in the study. Details of Don's briefing are contained in the attached status document. Terry Deplois, AVN-160 briefed the current AVN policy to get user input on precipitous terrain activity in the interim. He also stated that the ROC has been doubled on the VOR/DME RWY 15 IAP at Bradley, CT as a result of the November 1995 American Airlines MD-88 landing accident. The revised IAP is scheduled for publication on May 22. **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 noting FAA study efforts thus far. The ASAT software has been upgraded and the circling model is in final development. As previously noted, industry inputs on circling techniques for various circling maneuvers would aid in completion of the model; however, no industry group has been forthcoming with comments. Tom Young, ALPA stated that his organization would provide inputs during a scheduled April meeting with AFS-440/450 in Oklahoma City. Don stated that he hopes to have graphic

depictions of test results vs. current criteria for presentation at the next meeting. Details of Don's briefing were distributed in a status document. **Action: Item Open: (AFS-450)**

e. 92-02-110 Cold Station Altimeter Settings

Jim Nixon, AFS-440 briefed that criteria development is progressing, albeit slowly. He noted that the impact on BARO-VNAV must now be addressed. Areas of concern are the possibility of a requirement for dual minimums and the impact on VDP's and descent angles. Jim stated that AFS-440 hopes to have criteria development completed by the end of the year. **Action: Item Open (AFS-440)**

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

Paul Best, AFS-420 briefed that AC90-XX was being circulated within FAA headquarters. All comments received from the circulation with members of the charting forum have been considered in this final version. Funds from the GPS office will not be available for the update to include the TAA and FMS procedures. Hopefully, funds may be available from an existing contract in Flight Standards to include these items. After this final coordination, the AC will go to printing. Jim Nixon, AFS-440 briefed that AFS-600 indicated that they hope to have the new AC61-27 published by the end of the year. **Action: Item Open (AFS-420 & AFS-440)**

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

The ATA representative working this issue resigned, therefore, a status briefing from the ATA Chart and Display Working Group was not available. Jim Nixon, AFS-440 briefed that TERPS change 17 contains improved criteria for a visual segment obstacle analysis. General consensus among those that have reviewed the draft criteria is that it is good and it will close the issue when published. The change should be out for formal coordination within the next month. Jim Terpstra, Jeppesen presented updated Jeppesen charts depicting various VNAV charting proposals. Bill Hammett, AFS-420 questioned if the VNAV angles greater than VASI/PAPI angles, as indicated on the charts, could cause cockpit confusion. If flown as depicted, aircrews will break out of weather with higher visual indications. Additionally, the VNAV path will place the aircrew at MDA after the VDP if one is charted. While not a critical issue, it deserves consideration. Also see ACF issue 96-02-170. AFS-440 will continue to process TERPS change 17 for publication. **Action: Item Open (AFS-440).**

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

Jack Corman, AFS-440 briefed that the basic 'T' IAP design and the TAA concept is continuing to develop. He stated that a draft order (8260.TAA) specifying TAA design criteria will be circulated for formal comments soon. TAA guidance is now published in the AIM. There is still discussion on controlled airspace issues, especially in the Western 15 states. As there was no AOPA representative at the meeting, the consolidated AOPA position on the TAA and controlled airspace was not available. Hopefully, this will be provided at the next meeting. Bill Mosley, ATO-120, again noted that if the local community is not in agreement with a standard "T" approach design with an associated TAA, then a standard "I"

approach design with conventional transitions from the en route structure would be the order of the day.

- (1) AFS-440 will continue to track the TAA program and provide status reports until implemented.
- (2) Bill Hammett, AFS-420 will ensure that AOPA is reminded of their IOU for a consolidated AOPA position on the TAA and controlled airspace issues prior to the next meeting. **Action: Item Open (AFS-440 & AFS-420/AOPA).**

i. 95-01-141 Multiple DME ARC IAFs

Jim Nixon, AFS-440 briefed that this subject is still in work. Draft criteria is now approximately 90% complete. Charting specifications need to be reviewed to ensure there is no conflict. AFS-440 will continue to work the issue and provide periodic updates. **Action: Item Open (AFS-440).**

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

Don Pate, AFS-450 briefed FAA analysis results thus far. His staff has concluded that the existing Procedure Turn (PT) area will only accommodate a maximum airspeed of 200 Kts through 6000 MSL in extreme adverse wind condition. Above 6000 MSL, the area will only accommodate airspeeds up to 165Kts (See the attached status report for further details). The question was put to the forum as to the direction to proceed. Wally Roberts, ALPA recommended specifying a 200 Kt maximum airspeed as an immediate safety improvement pending completion of the study. If additional airspace must be consumed, then publish the maximum speed on the chart to maintain containment. The group consensus favors a two phased approach: First, publish pilot guidance restricting airspeed to 200 Kts for PT maneuvers as an interim safety measure (documents include the AIM, AIP, IAP booklets and the Instrument Flying Handbook). Bill Hammett, AFS-420 and Wally will jointly take on this task. Second, AFS-450 will continue assessing the airspace required for PTs above 6000 MSL and make a determination whether or not new criteria development is warranted. AFS-420/ALPA will prepare a change for the AIM/AIP. AFS-450 will continue testing and report progress at the next meeting. **Action: Item Open (AFS-420/ALPA & AFS-450).**

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

Bill Mosley, ATO-120 reported that his office is still working the issue in consort with ATO-110; however, there has been no further progress on this issue pending resolution of the supplemental navigation status of GPS. **Action: Item Open (ATO-110/120)**

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

Don Pate, AFS-450 presented a briefing paper on this issue. Research and coordination with Dr. Young Lee, MITRE who is a recognized expert on RAIM and GPS integrity issues, indicate that using GPS for en route navigation on existing airways will not compromise obstruction clearance. Errors associated with GPS fix positioning are considerably less than those associated with conventional NAVAIDs. AFS-450 will continue to consult with Dr. Lee to arrive

at a final solution that can be used to revise Order 8260.38A. The consensus was that this issue can be closed. **Status: Item Closed.**

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

A group discussion was led by Wally Roberts, ALPA. They believe a ceiling should be required for all IAPs that have a HAA/HAT of 700' or greater. The premise is that approaches with such high minimums must also have high obstructions in the final/circling areas that must be seen and avoided once leaving the MDA. Requiring a ceiling for the approach will enhance safety. Jim Nixon, AFS-440 noted that this would require a change to the CFRs. Wally noted that as long as the requirement was on the FAA 8260 series form, part 97 would be satisfied. Major Mike Miller, AFFSA noted that the USAF currently only requires visibility to conduct an approach, but is re-visiting the ceiling and visibility requirement. Rudy Ruana, Jeppesen noted that this is an issue currently being addressed by the JAA, and their position should be considered before making U.S. policy changes. Jim asked if applying this requirement at Part 139 airports would satisfy ALPA concerns. The response was yes. AFS-420 will research this issue through legal and try to get AOPA, AGC & NBAA inputs for the next ACF meeting. **Action: Item Open (AFS-420).**

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

Paul Best, AFS-420 briefed that it is the FAA position that the current guidance provided in the AIM is sufficient. Paul also provided ALPA a draft of the AFS response to their previous letter on this issue. Wally Roberts, ALPA requested that guidance be published in the Instrument Flying Handbook. Paul agreed and Jim Nixon, AFS-440 took the IOU to work this through AFS-600. Once published in AC61-27, the issue may be closed. **Action: Item Open (AFS-440 & AFS-600)**

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

Paul Best, AFS-420 coordinated with ARM and determined that the change to Part 91.175(k) has been written. He has a verbal agreement that they will increase the priority on processing this rule change. AFS-420 will continue to track the status of the CFR change and brief at the next meeting. **Action: Item Open (AFS-420).**

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

Jim Nixon, AFS-440 stated that the guidance in Order 8260.19C and criteria in TERPS, paragraph 161 are satisfactory. This, coupled with increased quality control by AVN-160 resolves the issue. **Status: Item Closed**

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

Don Pate, AFS-450 briefed that a Telcon was held on March 14 to discuss this issue. Representatives of AFS-440, AFS-450 and ALPA participated. The discussion transcended to

“when may descent begin on flyby waypoints”. ALPA had an IOU to prepare a paper on defining “on course” for ACF 97-1; however, it was not presented. This issue will be a subject of discussion at a scheduled meeting between ALPA and AFS-440/450 on April 25. It was agreed to change the issue title to Read: “Determining Descent Point on Flyby Waypoints”. It was suggested that AFS-410 be a part of the solution. AFS-450 will continue working the issue and report results of the April 25 meeting at the next ACF. **Action: Item Open (AFS-450)**

r. 96-02-170 Visibility/RVR Issues in VNAV/RNAV IAPs

This issue was discussed in conjunction with ACF agenda item # 94-02-133. There seems to be disagreement within the ATA working group over mandating a missed approach at the VDP. The program is alive, but in flux. Ben Rich, APA, emphasized that under current rules, the MDA must remain inviolable. Tom Young, ALPA stated that they had no problem with the concept of using a MDA as a DH provided there was an accompanying obstacle analysis; i.e., an underlying ILS, PAPI, VASI or charted VDP. General consensus is that the proposed criteria in TERPS change 17 do provide a good visual segment obstacle assessment. Jim Enias, AFS-410 stated that AFS-1 has made the policy decision to support the VNAV enhancements for non-precision approaches. He expanded to state that an order containing the requisite criteria for air carriers to be authorized to use MDAs as a DA (similar to reaching a DA on a precision approach), in a VNAN environment, is being coordinated within the FAA. Jim noted that initial application will be via tailored charts. MAP-to-THLD distance as it relates to required visibility was also discussed. Wally Roberts, ALPA, stated that TERPS table 6 should be corrected to bring Category C visibility requirements in line with a 300ft/NM descent gradient (same as Cat D). AFS-410 will continue to track this issue and oversee cleanup of existing IAPs for air carrier VNAV use. AFS-440 will evaluate TERPS Table 6 for possible change. **Action: Item Open (AFS-410/440)**

s. 96-02-171 Temporary vs. Permanent FDC NOTAMs

Jim Nixon, AFS-440 stated that they were still working methods of expediting changes to IAPs, and will report on progress at next meeting. **Action: Item Open (AFS-440)**

t. 96-02-172 Lack of Seamless Transition From STARs to SIAPs

Bill Mosley, ATO-120 briefed on several initiatives at Seattle and Las Vegas. All agreed that the seamless arrival concept of STARs to corner posts or IAFs is the best methodology and the intent of the STAR Order. The issue is also being addressed in ACF agenda item # 92-02-102. **Status: Item Closed**

5. New Business:

a. **97-01-173** STAR/Missed Approach Procedures at DFW

Prior to the meeting, Bill Hammett, AFS-420 suggested to ALPA that the problems associated with the DFW Metroplex Project appeared to be Air Traffic issues and perhaps should have been addressed first to the Air Traffic Division at the Southwest Region headquarters, then to ATPAC. Tom Young, ALPA briefed the issue was being brought before the ACF because of an inability to achieve a positive response from the regional office. Ben Rich, APA/AA briefed the problems in detail (2 STARs thru parachute jump areas, DME readings from other than the primary NAVAID, missed approach holding fixes outside the en route environment, etc.) and stated that the issue would be addressed at ATPAC. It was agreed to give ATPAC a chance at resolving the problem; if there is no satisfaction, it will be returned to the ACF. Issue will be referred to ATPAC. **Status: Item Closed.**

b. **97-01-174** AVN-100 Letter re: FPO/Pilot Interface

A discussion was led by Tom Young, ALPA noting that AVN-100 had sent a letter to user groups advertising regional FPO telephone numbers. The objective is to have line pilot input concerning problems associated with SIAPs. ALPA believes this information should be published in the AIM. Terry Deplois, AVN-160 noted that the impact on FPO workload in getting calls from all pilots as opposed to receiving consolidated input from user groups must be considered. **Action: Item Open (AVN-160/100)**

c. **97-01-175** Pilot Duties to Confirm GPS Data Base.

Discussion was led by Wally Roberts on behalf of ALPA. ALPA believes that the FAA needs to clearly define the responsibility of the pilot in flying GPS IAP's from a manufactured database. Jim Enias, AFS-410 stated that there is an AFS-200 bulletin stating that flight crews are responsible for verifying databases. The intent was for the crew to accomplish a reasonableness check to validate that charted points match databases, not to verify geographic coordinates. Database integrity is not an issue due to checks and balances in the ARINC and RTCA documentation. AFS-410 took the IOU to create a FSIB through AFS-200 on this issue. Jim Terpstra, Jeppesen agreed to publish the FSIB as a Jeppesen briefing bulletin when completed. **Action: Item Open (AFS-410).**

d. **97-01-176** NoPT Considerations in GPS IAPs with Course Reversal

Wally Roberts, ALPA presented the issue paper noting ALPA concerns AVN-100 procedure designers were not taking full advantage of the capabilities of GPS in designing NoPT routes. Terry Deplois, AVN-160 expressed agreement and stated that internal QC initiatives should resolve the problem. **Status: Item closed.**

e. **97-01-177** Non Collocated DME use at/inside FAF

Position paper presented by Wally Roberts, ALPA. ALPA believes that FAA is abusing the TERPS criteria in routinely designing IAP's with a non-collocated DME source vice only "where

a unique operational requirement exists". Industry policy, supported by AFS-200, is that both air carrier pilots must display the primary NAVAID from the FAF inbound. Jim Terpstra, Jeppesen volunteered to check their database to determine the number of approaches with this design. This will help indicate the magnitude of the problem. Paul Best, AFS-420 will then forward the list to Airways Facilities for F&E. **Action: Item Open (Jeppesen and AFS-420)**

f. 97-01-178 JFK VOR RWY 13L/R Waivers/LDIN Lights

Position paper presented by Tom Young, ALPA. Key issue is contradiction between the pilot/Controller Glossary which lists LDIN lights as an approach light system, whereas TERPs Order lists the as VFR aid. Discussion also centered the value of LDIN lights in VFR and IFR arenas. Wally Roberts, ALPA has done some research in this arena and provided a draft of a proposal letter to AFS-420/440. ~~A copy is attached.~~ Jim Nixon, AFS-440 will research the issue and ensure applicable documents are in agreement; AFS-440 will research applicable directives and ensure continuity. **Action: Item Open (AFS-440)**

g. 97-01-179 Operational Problems with Charted Visual Flight Procedures (CVFP)

Issue paper presented by Tom Young, ALPA relating to design problems with CVFP at LAX. Bill Hammett, AFS-420 noted that the CVFP program was under the prevue of Air Traffic Order 7100.79C. He suggested this issue be addressed through ATPAC first, then if no success, bring before the ACF. ALPA agreed to pursue this process. **Status: Item Closed.**

h. 97-01-180 Charting Complex IFR Departure Procedures

Tom Young, ALPA stated they would defer the issue, pending results of draft Order 8260.PID. **Status: Item Closed.**

i. 97-01-181 Non-Precision Missed Approach Turns

Issue paper presented by Wally Roberts, ALPA. It is ALPAs opinion that any non-precision IAP that has a HAT/HAA of 400' or greater need not have a straight ahead segment when an immediate turn could provide obstruction relief and lower minima. Additionally, all non-precision IAPs with a HAT/HAA of less than 400' should have a straight climb segment prior to any turns greater than 15dg. The consensus of the group is that this issue warrants consideration. AFS-440 will take the IOU for this issue and report back at next meeting. **Action: Item Open (AFS-440)**

j. 97-01-182 Charted Fixes on SIAPs that Have No Apparent Purpose (originally ACF-CG issue 97-01-093)

This new issue, transferred from the Charting Portion, was presented by Wally Roberts, ALPA. Using the VOR or GPS RWY 6 approach at Napa, CA as an example, Wally noted that there is a fix (DYKEE) that is charted in the plan view, yet has no apparent procedural use for the approach. Discussion revealed that DYKEE is the alternate missed approach fix and it is not published on any other chart. Alternate missed approach instructions are not charted, but

issued by ATC when necessary. It was noted that having the fix and its associated makeup and holding pattern published on the chart provides pilots a visual depiction of the fix and negates the necessity of ATC verbally describing the fix makeup and issuing detailed holding instructions. ALPA prefers that a separate section of the TPP booklet be devoted to alternate non-radar missed approach instructions even though this may impact on charting specifications. **Action: Item Open: (AFS-440 and ATA-130)**

k. 97-01-183 VDPs on SIAPs w/Part Time Altimeter

Issue paper presented by Wally Roberts, ALPA. ALPA's position is that a VDP should be on every IAP that meets obstruction clearance criteria. Jim Nixon, AFS-440 noted that on part-time altimeter IAPs, this would require two VDPs which could present a human factors issue. Paul Best, AFS-420 noted that perhaps a note could resolve the charting of dual VDPs "...use xxx altimeter and change VDP to x.x DME". AFS-400 will consider the issue and report at the next meeting. **Action: Item Open (AFS-410/420/440/450).**

l. 97-01-184 Clarity of Missed Approach Procedure Verbiage

Issue paper presented by Wally Roberts, ALPA. ALPA believes that the language used for the missed approach text used by some AVN-100 procedure specialists is sometimes ambiguous. It was felt by FAA that the example quoted was an anomaly; however, AFS-440 and AVN-160 will jointly review current guidance to ensure that it is adequate. Terry Deplois, AVN-160 stated that he will emphasize quality control in this area. AFS-440 and AVN-160 will jointly review current the guidance in Order 8260.19C. **Action: Item Open (AFS-440/AVN-160)**

6. Attachments:

ACF 97-01
Attendance Roster

Attendees	Organization
Dick Powell	ATA-100
Paul Best	AFS-420
Bill Hammett	AFS-420
Jack Corman	AFS-440
Don Pate	AFS-450
Jim Enias	AFS-410
Jim Nixon	AFS-440
Terry Deplois	AVN-160
Jim Terpstra	Jeppesen
Rudy Ruana	Jeppesen
Pat Fair	ATA-130
Mike Dugan	ATA
Ben Rich	APA/AA
Bill Mosley	ATO-120
Tom Schneider	AFFSA
Tom Young	ALPA
Wally Roberts	ALPA
Maj. Mike Wilson	AFFSA
Bill Parshall	USAASA
Kevin Comstock	ALPA
Charles Guy	ASAP
Dick Johnson	NAVFIG
Dan Norman	STI
Scott DiBiasio	HAI
Dalia L. Marin	NOS
Dick McKinney	AAL
Tom Grove	NASAO
David Catey	AFS-200
Steve Hickok	HAI