

**GOVERNMENT / INDUSTRY AERONAUTICAL CHARTING FORUM
INSTRUMENT PROCEDURES GROUP
Meeting 95-01 March 27-28, 1995
NOAA Headquarters/Washington, DC
(Transcribed/Reformatted)**

1. **Opening Remarks:** Paul Best, AFS-420 and Dick Powell, ATP-120 opened the meeting at 0900. The two day meeting was held at the NOAA offices in Washington, DC, and hosted by John Moore. A list of attendees is not available.

2. **Briefings:** None

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

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

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

The group agreed that this item remain open pending reports and the completion of an Advisory Circular (AC) 120-XXX addressing the two different departure criteria. **Action: Item Open.**

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

ALPA expressed concern over the way aircraft are handled on Pilot Navigation and Radar Navigation SIDs. When vectored off the Pilot Navigation SID can ATC guarantee the pilot can meet the 40:1 climb gradient and any crossing restrictions? ALPA stated that restrictions should be annotated so the pilot will know that obstacle clearance can be met during the climb. Also ALPA is looking for guidance on obstacle clearance once Air traffic clears a pilot off a 40:1 obstacle clearance SID.

The SID order has been updated in part but there was still a requirement for a minimum crossing altitude flag for SIDs. Dan Hanlon, ATP-20 was to check with ATP-130 and, if necessary, establish the requirement for the SID Order. Dick Powell, ATP-120 could then place the flag on the appropriate charts.

Tom Young, ALPA will write a letter to ATP-130 requesting a flag be annotated on minimum crossing altitudes on SIDs and request if ATC vectors a pilot on a SID to clear the aircraft to a specific fix. **Action: Item Open (ALPA/Tom Young)**

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

Remote Altimeter Setting Source (RASS) in precipitous terrain formula (.14 x elevation differential) is a recent change to RASS. A similar type formula is also desirable for a precipitous terrain addition. Item remains open. Chuck Everest, AVN-210, will report at the next meeting. ALPA agreed to provide information to AVN-210 on this item. **Action: Item Open (AVN-210 and ALPA).**

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

International Civil Aviation Organization (ICAO) circling minima is higher than the US in some categories. AFS-420 and AVN-210 has action and will report at the next meeting. **Action: Item Open (AFS-420 and AVN-210)**

e. 92-02-110 Cold Station Altimeter Settings

Lyle Wink, AVN-220 agreed to research this on-going problem, pending a study by AVN-100. He will also look into the possibility of a conversion chart. **Action: Item Open (AVN-220).**

f. 92-02-112 Procedure Turn Maneuvering Area and FAA Directive Information

Group agreed this is an ATPAC issue. **Status: Item Closed (submitted to ATPAC)**

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

Group agreed to leave this item open pending future address by ALPA. **Action: Item Open (ALPA)**

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

Group agreed to leave item open pending further study from ALPA. i.e.: "3 degree descent", "420 feet per KM" degree vs. rate etc. **Action: Item Open (ALPA)**

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

The group agreed to leave this item open pending publication of AC 90-1A, which is almost done but not ready for distribution, also pending a re-write to the Instrument Flying Handbook. **Action: Item Open (AFS-420)**

j. 93-01-122 Use of Mandatory Altitudes on SIAPs

Group agreed to close this item. **Status: Item Closed**

k. 93-01-123 Symbolic Depiction of Holding Pattern Authorization and Limitations in a Common Manner; Update of Holding Pattern Criteria

Group agreed this item needs to be referred to the charting portion of the ACF. Moved and combined with CG ACF # 94-01-037. **Status: Item Closed.**

l. 94-01-126 Widths of Feeder and Initial Approach segments in New Criteria

The group agreed to leave this item open, specifically regarding FAA 8260.38A GPS narrowing the en route width to the approach. **Action: Item Open**

m. 94-02-130 Charting Stand-Alone GPS SIAPs to Ensure Compliance with IAF Requirements

ATP-130 provided change to the AIM and .38A so that in a non-radar environment, pilots will go to the IAF. Group agreed to close item. **Status: Item Closed.**

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

ALPA agreed they owe a letter addressing this item. Wally Roberts, ALPA previously stated that Wilkesbury, PA, was an example where terminal instrument procedures could be constructed to allow the approach altitude to be compatible with the minimum vectoring altitude (MVA). Jerry Dudley, ATP-120 read a prepared letter addressing the issue from ATP-120 stating that it was not feasible to design all instrument approach procedures to always be compatible with the MVA. ALPA commented on the complete correctness of the letter. ALPA requested that the letter be re accomplished to ensure correctness of the data presented. **Action: Item Open (ALPA)**

o. 94-02-132 Public Access to US FAA Terminal Radar Area ATC Minimum Vectoring Altitude (MVA) Charts

ATP-100 said there was no need for the release of these charts to the public. **Status: Item Closed.**

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

Tom Young, ALPA did not elaborate on this issue, but did say that Pullman, WA Airport was of interest to Horizon Air. ALPA will address the issue with Horizon Air. **Action: Item Open (ALPA)**

q. 94-02-136 Publish True vs. Magnetic on GPS Procedures

The group agreed to close this item. **Status: Item closed.**

5. New Business:

a. 95-01-137 GPS Approach Design Guidance

Charles Guy, ASAP recommends the FAA should publish standards or criteria that other than FAA personnel would have to meet in order to comply with certification standards for instrument approach procedure design up to the point that a flight inspection is required. This is in addition the normal guidance available from 8260.3/19/38 and other Handbooks, Orders and Advisory Circulars used for design purposes. Paul Best, AFS-420 and Lyle Wink agreed to discuss the possibilities of this item. Also, Charles will be pursuing the possibility of this item with appropriate personnel. **Action: Item Open (All three will report progress at next ACF).**

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

Jim Nixon, AVN-210 discussed FAA Order 8260.3B, TERPS section 6, Para 161, Straight In Procedure Identification, states in part: 'When the same final approach guidance is used to the same runway, the procedure shall be identified as follows: TACAN 1 RWY36, TACAN 2 RWY36, VOR 1 RWY18, VOR 2 RWY18, etc.' The group agreed that a proposal to change paragraph 161 which states that: When multiple approaches using the same final approach guidance are developed to the same runway, all subsequent approaches after the first procedure developed for that runway/navigation aid combination shall be identified with pronounceable name, not to exceed twelve letters as follows: BAY ILS/DME RWY 28L, GLACIERLDA/DME RWY 8, etc. **Action: Item Open (AVN/AFS-400 develops criteria)**

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

Tom Young, ALPA has concerns 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. ALPA recommends: Apply the TERPS process to the use of FMS VNAV prior to allowing it to be used for non-precision approaches in IMC conditions. This recommendation affects the FAA Order 8260.19B. **Action: Item Open (to be researched for next meeting).**

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

Tom Young, ALPA, discussed the limited use of “NoPT arrival sector” zones where a VOR facility is properly located so that it can be an appropriate IAF. This concept could be applied to all GPS SIAPs, and should include minimum sector operational altitudes for a prescribed uniform distance, as well as thorough evaluation of protection expected turns over either the IAWP or IWP, as appropriate. ALPA recommended FAA Order 8260.38A should be revised to provide for “NoPT” arrival zones to the intermediate waypoint (IWP) whenever possible. Where it is not possible to designate such arrival zones at the IWP, it should be established at the relevant IAWP wherever possible. Criteria should be established to evaluate and publish minimum operational altitudes for these zones to a reasonable distance. Further, any turn that will result at the zone-end IWP/IAWP should be evaluated for lateral obstacle protection. Finally, directive information to pilots should indicate that diverse arrivals beyond the boundaries of the zones are not permitted. This recommendation affects Order 8260.38A, Civil Utilization of Global Positioning System (GPS) and related directive information to pilots. **Action: Item Open (The group agreed to research the item).**

e. 95-01-141 Multiple DME ARC IAFs

Tom Young, ALPA discussed the FAA’s Chief Counsel’s letter of legal interpretation, dated Nov 28, 1994, interprets that intercepting a DME ARC anywhere along its published length is not in accordance with procedural requirements. Also many states in the international aviation community publish along a DME ARC all courses that are authorized to intercept and continue inbound on the ARC. ALPA recommends that TERPS criteria should be revised to require evaluation of all published airways that intersect an ARC along its published segment. This evaluation should be for both descent gradient compliance and minimum ARC segment length for maneuvering and transitioning from the airway to the ARC, then onto the intermediate segment. Related AIM information should be revised to inform pilots that only these published points may be used to enter the ARC initial approach segment. This recommendation affects handbook 8260.19C and relevant directive information in the Airman’s Information Manual. ATP-100 and AFS-420 will research and report at the next meeting. **Action: Item Open (ATP-100 and AFS-420)**

f. 95-01-142 Basic IFR Departure Procedures Should Follow the Least Onerous Route

Tom Young, ALPA discussed how IFR departure procedures are typically established where TERPS, Chapter 12 diverse zones are not 40:1 clear. At many mountain airports, these procedures are quite complex. As ALPA understands the intent of Chapter 12 criteria, IFR departure procedures should always be established to follow the least demanding climb gradient route from take-off to the MEA. The only consideration other than obstacle clearance should be by navigational facility siting and reception (which should not be an issue with GPS). ATC traffic flow requirements should not enter into the equation, except where climb gradients will not be increased as a result of specific ATC request. SIDs are the departure vehicle that meet ATC requirements at busy airports for those aircraft that can comply with a SID’s climb gradient requirements. ALPA recommended that HB 8260.19C be revised to instruct procedure specialists to make minimum possible climb gradient the primary consideration in the design and publishing of the basic IFR departure procedure along a route simply to satisfy air traffic requirements if that will result in higher climb gradients. SIDs can be established, in addition the basic IFR departure procedure, where necessary for routine ATC operations. This

recommendation affects handbook 8260.19C, "Flight procedures and Airspace". The group agreed that several issues need to be looked into such as SID and Departure procedure compatibility, ie: Obstructions, SIDs, normal, Engine out, OpSpecs, -10A and separate cases by airport. Lyle Wink AVN-210 will examine the present policy. **Action: Item Open (AVN-210)**

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

Tom Young, ALPA, discussed how instrument Approach and Departure Procedure criteria assume certain maximum aircraft speed in order to assure containment within protected airspace. It is essential that pilots not exceed these implicit speeds in order to make containment assumptions valid. This will become more critical with GPS procedures because siting flexibility will tend to place procedural segments in closer proximity to higher terrain. Also, emerging, tighter RNP concepts will only be valid within certain speed limits. ALPA recommended evaluation of all existing and future terminal instrument procedure criteria to determine maximum allowable ground speeds for each procedural segment. Convert these values to conservative indicated airspeed values and notify the aviation community on a continuing and effective basis of the limits. In the case of air carrier operations, this should include positive directive material to the air carrier operations inspectors. This also affects Handbook 8260.19C "Flight procedure and Airspace", the Airman's Information Manual, Handbook 8400.10, Air Transport Operations Inspector's handbook," and possibly the charting of terminal instrument procedures, per se. AFS-420/800 will evaluate and report next ACF. **Action: Item Open (AFS-420/800).**

h. 95-01-144 Mandatory, Uniform Charted Notes for Certain SIAP Initial and Intermediate Segments that Require Airborne Equipment that is not Mandated by the Procedure's Title

Status: Group consensus this item be submitted to the Charting portion of the charting Forum.

i. 95-01-145 SIAP Final Approach Segment Optimum Descent Gradient for Jet Aircraft

Status: Item Closed (Group consensus)

j. 95-01-146 Meaningful Coordination of Original and Amended SIAPs

Status: Item Closed (Group consensus)

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

Action: Unavailable

6. Attachments:

The official attendance roster is unavailable.

This is a list of participants as noted specifically (comment attributed) in the meeting minutes, so not all attendees are listed.

Attendee	Organization
Paul Best	AFS-420
Dick Powell	ATP-220
Dan Hanlon	ATP-20
Tom Young	ALPA
Chuck Everest	AVN-210
Lyle Wink	AVN-220
Wally Roberts	ALPA
Jerry Dudley	ATP-120
Charles Guy	ASAP
Jim Nixon	AVN-210
John Moore	NOS