

GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
(Transcribed/Re-Formatted)
HISTORY RECORD

FAA Control # 92-02-102

SUBJECT: IFR Departure Procedures and Standard Instrument Departures (SIDs)

BACKGROUND/DISCUSSION: The TERPS IFR departure criteria were implemented at the end of the 1970s, well after the implementation of TERPS. These criteria are well intended but have not been uniformly applied in the field by the FAA. The criteria have never been formally reviewed since their implementation, thus the "kinks" have never been worked out. Also, pilots have never been provided with meaningful directive information in the proper application of departure procedures, especially where dual minimums (climb gradients) have been established. Thus, confusion amongst pilots is the rule. Further, SIDs generally replace departure procedures at busy airports, so the issue of dual minimums becomes still more confused. Also, climb gradients are established on SIDs for both air traffic and terrain clearance purposes, but no information is provided to the pilot in this regard.

RECOMMENDATION: TERPS, Chapter 12 should be reviewed and updated. Criteria for SIDs should be included therein. The SID criteria should become the province of Flight Standards service rather than the Air Traffic Service. And, the SID criteria should be formalized and made to be consistent with IFR departure procedure criteria. Where SIDs provide terrain clearance that should be their primary purpose. Criteria for describing SIDs as "radar vectored" or "pilot nav" should be formalized. SIDs that are described "pilot nav" and which have terrain clearance climb gradients should be inviolate from intermediate level-offs by ATC below the critical terrain clearance altitude. Where ATC desires to provide level-offs in such situations, the SID should be cancelled and radar vectors should be provided until the aircraft is above the minimum instrument altitude for the route. See related recommendation document "Minimum Crossing Altitude (MCA) on Obstacle Clearance SIDs."

COMMENT: This recommendation affects the United States Standard for Terminal Instrument Procedures (TERPS), FAA Handbook 8260.3B, FAA Handbook 8260.19B, and Air Traffic Service Orders pertaining to SIDs.

Submitted by: Charles K. Guy

May 13, 1992

AIR LINE PILOTS ASSOCIATION

INITIAL DISCUSSION (MEETING 92-02): APLA contends that TERPS IFR departure criteria have never been uniformly applied by the FAA. Further, pilots have not been given meaningful directives in the application of departure procedures. This is especially true where dual minimum climb gradients have been applied. Adding to the confusion is the fact that SIDs generally replace IFR departure procedures at busy airports creating a situation where dual minimums exist. Additionally, climb gradients exist for Air Traffic purposes as well as terrain clearance but none of this information is available to pilots.

The GALA3 departure from LAX was used to illustrate. ALPA believes that SID construction should be incorporated into Chapter 12 of the TERPS handbook and the FIFOs or TERPS specialist should develop SIDs in lieu of Air Traffic. Further, SID criteria should be formalized and made consistent with IFR departure criteria. At the very least, Air Traffic procedure specialists responsible for SID construction should be required to attend the TERPS class. AVN and AFS-420 will review Chapter 12 of the TERPS handbook, and AFS-420 will present to ATPAC for consideration. **Action: Item Open (AVN and AFS-420).**

MEETING 93-01: Unavailable

MEETING 94-01: (From Frank Parr AVN-210 notes) Chapter 12 is out of date, and SID/STAR criteria should go to FS. ALPA commented that taking a pilot off a SID for a radar vector, then advising him he is on his own, isn't "cricket". The forum set up a sub group to address the issue: APLA; AFS; ATC; and AVN. **Action: Item Open (ALPA, AFS, ATC and AVN)**

MEETING 94-02: The group agreed that this item should remain open pending the working group re-write of the criteria for SID's (Ch. 12). The next meeting of this working group is the last week in October, 1994, in Oklahoma City. Mr. Rudy Ruana stated that the general requirement is to make SIDs compatible with IFR departures and that he would review the guidance provided to the pilots. Mr. Ruana will report his findings at the next meeting November 21, 1994. **Action: Item Open. (Jeppesen)**

MEETING 95-01: 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.**

MEETING 95-02: These issues are being addressed by the departure Working Group (DWG), a sub group of the TWG, which is chaired by the Naval Flight Information Group (NAVFIG). No representative of this sub group was in attendance at this meeting; therefore, an update was not available. Bill Hammett, AFS-420 volunteered to contact the DWG chair to ascertain status. AC 120-XXX addressing the two different departure criteria is still in work. This agenda item is expanded to include item 95-01-142. Bill contacted Joe Messina, NAVFIG DWG Chairman, who advised the DWG will submit radar, diverse, and VCOA criteria at the next meeting of the TWG. The date is unknown due to reorganization in AVN. A request was made to have a briefing at the next ACF, TERPS sub group meeting. **Action: Item Open.**

MEETING 96-01: *(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).

MEETING 96-02: (1) At the last meeting, it was agreed that AFS-440 would lead an ad-hoc group, made up of representatives of ATO-110/120, AFS-420/440, AVN-100 and ALPA. To resolve SID development issues. Jack Corman, AFS-440 circulated various proposals thru e-mail. The consensus is that AVN-100 procedure specialists will take over SID development in concert with Air Traffic design input. This should ensure that the least onerous route is assessed by AVN and the final design conforms with desired Air Traffic routings. Adoption of this concept will require changes to several Orders, including 7100.8 and 8260.19. AFS-440 will put the proposal on paper for circulation (2) The original issue paper was prompted by the fact that there were different take off minimums for SIDs vs. standard IFR departure procedures at some airports; notably Santa Barbara, Monterey, and San Francisco. All agreed that the same take off minimums should apply regardless of departure type. C.R. Bramble, ATO-120 and Terry Depolis, AVN-160 agreed to jointly coordinate with LAX FPO and AWP-530 to resolve specific ALPA concerns at the aforementioned airports. Wally Roberts, ALPA will provide necessary input. AFS-440 will circulate draft SID processing procedures for review. ATO-120 and AVN-160 will work jointly to resolve specific ALPA concerns. **Action:** Item Open: (AFS-440, ATO-120 & AVN-160).

MEETING 97-01: (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, ATO-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, AT0-120 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) AT0-120 and AVN-160 will jointly work to resolve specific ALPA SID vs. IFR Departure minimum concerns. **Action: Item Open (AT0-120, AFS-440 and AVN-160).**

MEETING 97-02: Since the 97-1 meeting, FAA Order 8260.DP was developed, circulated for comment, and is in coordination for signature. Expected effective date is 1 Jan 98. Departure procedures will take one of two formats: Textual or Graphic. Current SID's will become graphically published DP's. The departure procedures currently in FLIP are textually published DP's. There was much discussion on the subject of pilot training and education material needed. Recommendation to draft an FDC NOTAM was adopted. Develop and coordinate AIM/AIP changes for August 98 publication. Coordination of required cartographic changes must be staffed through IACC-Commander Eric Secretan (NOAA). Item remains open to be tracked till fully implemented. AFS-440 will circulate draft Order 8260.PID for signature. **Action: Item Open (AFS-440 & NOAA).**

MEETING 98-01: Howard Swaney, AFS-420 briefed that Order 8260.46, Instrument Departure Procedure (DP) Program has been signed effective 12/29/97; however, the Order has not been implemented. The program is on track, but several issues still need to be resolved. Paul Best, AFS-400 indicated some concerns have been raised in the international community reference the re-designation of SIDs to DP's. The U.S. launched a strong international effort to implement the term SID, and this change is apart from the previous position. Bill Mosley, AT0-120 has taken a number of preparatory actions to facilitate changing the designation to DP. The FAA is re-visiting the naming convention and a meeting of concerned parties is scheduled for the week of June 8th. There was much discussion on the subject of pilot training and education material needed. A recommendation to draft an FDC NOTAM was adopted during the 97-1 meeting; however, the NOTAM is being held for resolution of the naming issue. Development and coordination of AIM/AIP changes for August 98 publication must also be accomplished. Coordination of required cartographic changes must be staffed through IACC- Commander Eric Secretan, NOAA. Wally Roberts, ALPA re-addressed the least onerous route issue. Mike Werner, AVN-160

took the IOU to re-emphasizes this issue with procedure developers in AVN-100. Item remains open to be tracked till fully implemented. AFS-420 and ATO 120 will coordinate to resolve the naming issue. (2) NOAA will staff IACC changes. (3) AVN-160 will emphasize the 'least onerous route' issue to procedure developers in AVN-100. **Action: Item Open (AFS-420).**

MEETING 98-02: Howard Swaney, AFS-420 briefed that Order 8260.46, *Instrument Departure Procedure (DP) Program*, has been implemented and that the first DP's will be published on December 3rd. Eric Secretan, NOAA noted that it was originally understood that there would only be one obstacle DP per runway (replacing the current IFR Departure Procedure). It now appears that there will be multiple obstacle DP's per runway. Wally Roberts, ALPA then noted that there are many ATC DP's that require climb gradients, weather minima, and crossing altitude restrictions to achieve obstacle clearance. Mike Werner, AVN-160 stated that his organization also understood that the concept was to have a default obstacle clearance DP, using the least onerous route, for each runway. Wally noted that pilots need to be aware of three possible DP scenarios (obstacle, ATC/obstacle, and ATC). The group consensus is that the military charting methodology of depicting dual climb gradients (ATC and obstruction clearance), where required, should be considered for civil procedures. Bill Hammett, AFS-420 consultant, suggested that these issues be studied and incorporated into Order 8260.46. The group agreed. AFS-420 will take the lead in resolving the issues and incorporate/clarify policy in revising Order 8260.46. **Action: Item Open (AFS-420).**

MEETING 99-01: Howard Swaney, AFS-420, briefed that Order 8260.46, *Instrument Departure Procedure Program*, is currently under revision with a target completion date of September, 1999. Don Pate, AFS-420, noted that policy will be expanded for clarification. Don requested comments from the group and encouraged everyone to provide inputs to Dave Eckles, POC for the re-write. Wally Roberts (ALPA) noted that there is pilot confusion when there are multiple obstacle departures from the same airport. Art Dodds, NOAA, noted that Miami International is a prime example of a case where there is a single graphic obstacle departure serving five different airports in the Miami area; however, there are also textual obstacle departures serving some of the airports. Eric Secretan, NOAA, emphasized that the original plan called for a single default obstacle departure; all others were to be ATC departures (formerly SID's). The discussion highlighted the confusion on this issue. Don Pate recommended the newly formed AIS Working Group address this issue and provides a consolidated position to AFS-420 for consideration. Wally Roberts (ALPA) noted that new issue 99-01-214 (relating to TERPS, Paragraph 1208 for RNAV departures) should also be addressed. A core group from the AIS Working Group will provide a consolidated input to AFS-420 for consideration for the re-write of Order 8360.46 and report at the next meeting. The consolidated inputs will also be circulated informally for comment. **Action: Item Open (AFS-420).**

MEETING 99-02: Dave Eckles, AFS-420 briefed that Order 8260.46, *Instrument Departure Procedure (DP) Program*, has been re-written and is undergoing internal review. It should be released for formal coordination by the end of November. He noted that there was no input

from the Aeronautical Information Service Work Group (AISWG) as indicated in the previous minutes; however, the circulation for formal comment will provide all a final opportunity to provide input. The re-write clarifies and resolves several issues including: 1) a definition of "least onerous route" which was developed in concert with ALPA and AVN-160; 2) policy that there be only one default obstacle avoidance DP per runway; 3) criteria for textual vs. graphic publication. Bill Hammett, AFS-420 (ISI) added that interim policy guidance has also been included in Change 2 to Order 8260.19 which has been coordinated and is awaiting AFS-1 signature. Howard Swaney, AFS-420 recommended the issue be closed. Wally Roberts, ALPA responded that these initiatives satisfy their concerns and concurred with the recommendation to close the issue. **Status: Item Closed**