

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

FAA Control # 99-01-214

SUBJECT: Application of TERPS 1208 to RNAV DPs

BACKGROUND/DISCUSSION: See attached letters regarding this issue at Grants Pass, Oregon:

1. ALPA Letter to AVN-100;
2. ALPA Letter to AFS-400;
3. AFS-400 response, and
4. AVN-100 response.

RECOMMENDATION: When an RNAV DP is the only obstacle DP for a runway, and requires a climb gradient, Paragraph 1208 must apply for sake of safety and consistency in the NAS.

COMMENT: This recommendation affects:
8260.3B, United States Standard for Terminal Instrument Procedures (TERPS),
8260.38A, Civil Utilization of Global Positioning System (GPS), and
8260.44, Civil Utilization of Area Navigation (RNAV) Departure Procedures.

ATTACHMENTS:

February 10,
1999

Ms. Cheryl I. Austin, Manager
National Flight Procedures Office, AVN-100
Post Office Box 25082
Oklahoma City, OK 73125

Dear Ms. Austin:

This is in comment to the pending departure procedures (DPs) and IFR takeoff minimums, which are currently being coordinated for Grants Pass, Oregon Airport. According to your letter of transmittal, dated February 2, 1999, comments or objections are timely and will be considered if provided to you no later than March 2, 1999 ALPA objects to the takeoff minimums for Runway 12. These minimums state, "As specified in graphic DP." Further, the textual DP directive states that the PAPLE RNAV DP is the only departure procedure authorized for Runway 12. Reference to the PAPLE RNAV DP reveals that a climb gradient is required, but no alternative ceiling and visibility is provided.

ALPA further objects to the takeoff minimums for Runway 30, as they pertain to the KOLER RNAV DP. Because that is the only RNAV DP for this uncontrolled (non-control-towered) airport's Runway 30, it too should have a ceiling and visibility value as an alternative to a climb gradient requirement.

ALPA, and other groups, worked diligently with the FAA in the 1980 timeframe to assure that the basic instrument departure for any runway would include an alternative to a specified climb gradient of a ceiling and visibility value. This requirement was set forth in Chapter 12 of TERPS, and we believe it is implicitly required for an RNAV DP, when that RNAV DP is the primary, or only, obstacle clearance DP for a given runway. Following is the language from Chapter 12:

"1208. REQUIRED CEILING AND VISIBILITY MINIMUMS.

Procedures requiring a climb gradient in excess of 200 feet per NM shall also specify a ceiling and visibility to be used as an alternative for aircraft incapable of achieving the gradient. The ceiling value shall be the 100-foot increment above the

controlling obstacle or above the altitude required over a specified point from which a 40:1 gradient will clear the obstacle. Ceilings of

200 feet or less shall not be specified. The visibility value shall be at least one mile."

Further, in the RNAV DP order (Order 8260.44), the scope language states:

"1. PURPOSE. This order, in conjunction with Order 8260.38, United States Standard for Terminal Instrument Procedures (TERPS), and Order 8260.38A, Civil Utilization of Global Positioning System (GPS), provides criteria for constructing instrument flight rules (IFR) RNAV departure procedures."

We believe that the foregoing language implicitly requires the implementation of TERPS, Paragraph 1208, for an RNAV DP that is the primary, or only, obstacle clearance DP for a runway. We do agree that, in concern with the former SID concepts, the application of Paragraph 1208 would not be required for *additional* ATC-required DPs for a runway.

In the melding of IFR departure procedures and SIDs into the DP concept, ALPA's concurrence was with the understanding that the primary, or sole obstacle clearance for a runway would have the application of Paragraph 1208, irrespective of the type of navigation system used in the DP. The language of TERPS Paragraph 1208 should probably be moved to TERPS, Chapter 2, and Order 8260.44 should make specific reference to the ceiling/visibility requirement whenever an RNAV DP is the primary or sole DP for a runway. In the meantime, we hope you will concur with our assessment of the context and history of Paragraph 1208, in conjunction with the scope language of Order 8260.44, and correct the Grants Pass Runway takeoff minimums and RNAV DP, accordingly.

We also note the 180 knot speed limit set forth for the initial portion of the PAPLE RNAV DP. Our reading of 8260.44 leads us to conclude that a minimum speed of 200 knots is required. Although only Categories A and Bare authorized in this airport's approach procedures, some small jet aircraft are in Approach Category B and could have difficulty with the 180 knot speed restriction. We request that the specified speed limit in the PAPLE RNAV DP be brought into compliance with the Order. Where only Category A is authorized, we could see justification for 180 knots, or even less, but not where Category B, or higher, operations are authorized.

Finally, unrelated to our comments on Grants Pass, we bring to your attention that the Internet URL shown in your new cover letter is incorrect, "jccib" should be "jccbi."

Thank you for your consideration of our comments. In the event you do not concur with our objections, we request formal review with our participation, and that these procedures be withheld from publication pending final review.

Tom Young, Chairman

February 10, 1999

Mr. Robert A. Wright
Manager, Technical Programs Division, AFS-400
Federal Aviation Administration, Room 835
800 Independence Ave., SW
Washington, DC 20591

It has come to our attention that AVN-100 is issuing RNAV departure procedures (DPs) without a ceiling and visibility takeoff minimum alternative for aircraft that cannot comply with the DP's specified climb gradient. We believe this to be an oversight in application of criteria, because of a lack of correct editorial and directive content in FAA Order 8260.44, the RNAV DP criteria order and supplement to TERPS.

Please consider the attached letter to AVN-100, which pertains to Grants Pass, Oregon, but has national application and significance, as an integral part of this letter. This is the first application of RNAV departure criteria we have seen where there is no ceiling and visibility option to a specified climb gradient for the primary obstacle clearance DP for the airport.

ALPA and other aviation interests worked hard to get the concepts contained in TERPS, Paragraph 1208. It was understood that the primary obstacle clearance IFR departure procedure for an airport would always have "dual" takeoff minimums where a route departure procedure was specified with a climb gradient requirement. It was further understood that additional departure procedures, then known as SIDs, could have climb gradients without specifying an alternative ceiling and visibility, because poor performing aircraft could reject such SIDs, and instead use the basic "minimum performance" IFR departure procedure.

The use of RNAV in a DP does not affect climb performance. Thus, the primary or sole obstacle departure procedure for any runway must meet the requirements of TERPS, Paragraph 1208 under all circumstances. This is what ALPA thought it had agreed to when we agreed to the change from IFR departure procedures and SIDs to the DP concept.

We request that AVN-100 be immediately directed to comply with the requirements of TERPS Paragraph 1208 for the primary or sole DP for any runway, even though that DP is predicated on RNAV. If the DP is predicated on navigation other than RNAV, Paragraph 1208 clearly applies.

The Paragraph 1208 concepts of necessity need to apply to an RNAV DP that is the primary or sole DP for a runway, and where a climb gradient is required.

Paragraph 1208 needs to be moved to Chapter 2 of TERPS, and Order 8260.44 needs to tie to that requirement as a matter of consistent application of departure criteria safety concepts. We believe the requirement to apply the concepts of Paragraph 1208 are implicit in the scope paragraph of Order 8260.44, but not set out with the required specificity. We stand ready to discuss any implementation issues and details by telephone.

Tom Young, Chairman
Charting and Instrument Procedures Committee

Flight Technologies and Procedures Division
Mar 8, 1999

Captain Tom Young
Chairman, CFIT Committee
Airline Pilots Association, International
535 Herndon Parkway
Herndon, VA 20172, 1169

Dear Captain Young:

Thank you for your letter dated February 10 concerning R&AV departure procedures (DP's) published without ceiling and visibility takeoff minimum for aircraft unable to comply with a specified climb gradient. You stated in your letter that you believe FAA Order 8260.44, Civil Utilization of Area Navigation (RNAV) Departure Procedures, and Order 8260.3B, United States Standard for Terminal Instrument Procedures (TBRPS), paragraph 1208, require a ceiling and visibility be published where a climb gradient is required. Appropriate implementation of this criterion to the Grants Pass DP is at the present time under discussion with the National Flight Procedures Office (AVN-100).

The application of this policy to the proposed RNAV DP's at Grants Pass and similar sites can result in very high ceiling and visibility requirements. This condition may occur on DP's in mountainous areas, since the offending obstacle(s) may be several miles from the airport, such as at Grants Pass. In those situations, applying paragraph 1208, TERPS, which primarily addresses close-in obstacles can result in large ceiling and visibility values and yet not fully address the operational problem.

We are examining the criteria and would welcome your input as it is apparent that the ceiling and visibility options need to be addressed for RNAV DP's.

We look forward to working with you for an early resolution. If you have questions or additional information contact Chuck Everest, Flight Procedure Standards Branch, AFS-420, at (405) 954-5811.

Sincerely,

Robert A Wright
Manager, Flight Technologies and Procedures Division

Mr. Tom Young, Chairman
Charting and Instrument
Procedures Committee
AirLine Pilots Association International
P.O. Box 1169 Herndon, VA 20172-1169

Dear Mr. Young

This letter is in response to your letter dated 2/10/99 addressing the proposed departure procedures for Grants Pass, Oregon. The review of these departure procedures, in addition to a review of the new DP concept. Was completed with the participants from AFS-420.

To address your concerns about the takeoff minimums for RWY 12, we have completed the following actions: The "as specified on DP" language will not be used until associated issues are taken through the charting specifications process. Runway 12 does not have a "default" textual DP; therefore, your concerns that the paragraph 1208 ceiling and visibility alternative should be on the PAPER RNAV DP has merit. We have made a significant effort to resolve and refine the application of paragraph 1208 as it applies to this DP. However, this will involve more than computing an elevation at which the departure can be commenced, and then computing the resultant ceiling required. We must ensure that the instructions provided to the pilot are clear and concise, with full consideration given to transition from the visual maneuver to initiation of the RNAV DP.

Your letter includes a concern that the paragraph 1208 ceiling and visibility alternative applies to an RNAV DP that is the sole, primary obstacle clearance DP for a runway, and that the ceiling and visibility alternative is not required for "additional" ATCDPs. We have reached consensus with AFS-420 on this aspect; and given that a textual obstacle DP exists for runway 30, the KOLER RNAV DP will be re-designated as an ATCDP.

In regard to your concerns about the propriety of a 180-knot speed restriction, we offer the following:

The 180-knot criteria had been set forth by AFS-420, as site-specific criteria needed to address difficulties with the development of the PAPER RNAV DP. We will forward your concerns to AFS-420 about the capability of this speed restriction as it applies to Category B airplanes.

We give full, serious consideration to all comments received from our customers. Your organization has provided many meaningful recommendations, and we share in your concerns about the safety of the NAS. We value your input and sincerely appreciate the interest you have in our activities.
Manager, National Flight Procedures Office, AVN-100

Submitted by: Captain Simon Lawrence.
Organization: AIR LINE PILOTS ASSOCIATION
PH: (703) 689-4176 FAX: (703) 689-4370
E-mail: comstockk@alpa.org
DATE: 4/8/99

INITIAL DISCUSSION (MEETING 99-01): Wally Roberts, ALPA, briefed this issue stating ALPA's concern that RNAV criteria do not require application of TERPS Paragraph 1208 (ceiling/visibility in lieu of climb gradient). Don Pate, AFS-420 responded stating that this concept is under development and will be worked with issue 92-02-102 and resolved upon publication of new departure criteria in TERPS and a revised Order 8260.44. Wally then recommended that AFS-420 promulgate interim policy requiring application of paragraph 1208 when an RNAV departure is the only departure available, pending final resolution. Don is reluctant to do this pending better AIM information for pilot actions to climb VMC to an altitude over an airport prior to proceeding on course. Wally then read a proposed GENOT for AFS consideration. AFS-420 has the IOU to work this issue and report at the next meeting. AFS-420 will report at the next meeting. **Action: Item Open (AFS-420).**

MEETING 99-02: Bill Hammett, AFS-420 presented a status update paper prepared by Chuck Everest, AFS-420. Order 8260.44A is in formal coordination and a publication date is expected in early 2000. The issue of visual climb over the airport (VCOA) is not included. However, VCOA procedures are being included in TERPs Chapter 12 and will be generic to all types of departures (conventional navigation and RNAV). It is expected that Chapter 12 will be circulated for formal comment in December. The status of TERPs chapter 12 will be tracked under issue 97-02-189. He proposed the issue be closed, with group concurrence. **Status: Item Closed.**