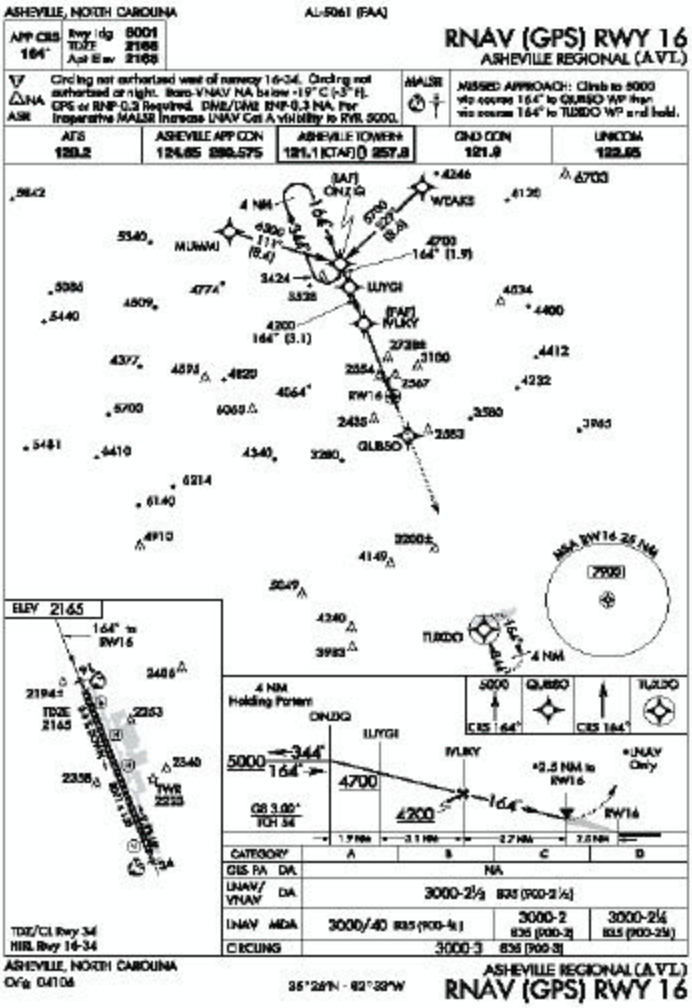
AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 04-02 – October 25-26, 2004
HISTORY RECORD

FAA Control # <u>04-02-257</u>

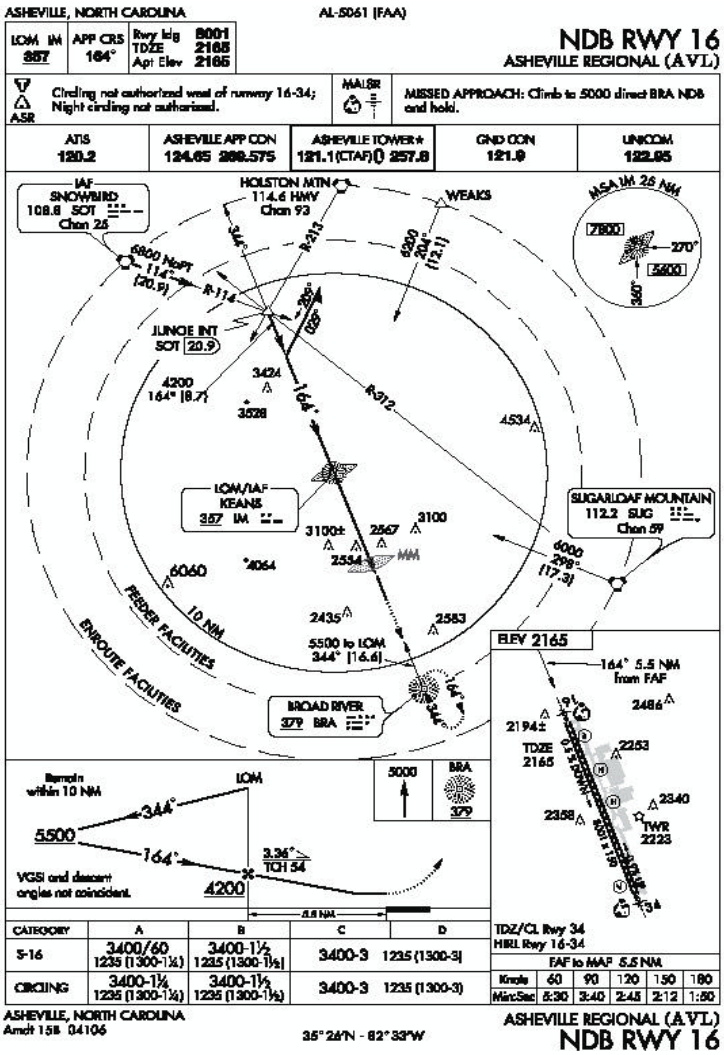
<u>Subject</u>: Circling Visibility and LNAV/VNAV straight in minima

<u>Background/Discussion</u>:

FAA Order 8260.3 paragraph 330e requires "Circling landing minimums shall not be lower than the straight-in landing minimums" associated with an instrument approach. With the development of LNAV/VNAV instrument procedures this requirement severely impacts operations at many general aviation airports. The use of the VNAV minima (often based on Category D) to determine the minimum circling visibility causes the prevailing visibility to exceed the operational advantages associated with the technology. Additionally, this requirement is inconsistent to the statement in the Foreword of the order stating, "Our overall objective is to *<u>assure that credit is allowed for improvements made in the ground and airborne environment and to assure that maximum safe use of airspace is realized</u>* ". Does the addition of VNAV to a procedure impact the safety of the procedure requiring the increased visibility for circling minimums?



<u>ISSUE</u>: Consider the GPS Runway 16 approach at Asheville N.C. (left). In this procedure the prevailing visibility for the LNAV procedure (Cat A and B) is 3/4 miles. However, the Circling visibility is 3 miles with the same HAA/HAT. The circling visibility appears to be derived from the LNAV/VNAV development for Category D aircraft. This is a case where a second evaluation of the VNAV should be conducted to provide greater access and capacity



to the airport for Category A and B aircraft. If an evaluation based on Category A and B was accomplished the circling visibility could be reduced (see NDB Runway 16 approach below). TERPS Volume 3, Chapter 4, paragraph 4.5 states, "to determine visibility minimums, refer to TERPS Volume 1, Chapter 3 for Localizer procedures." So one question is why was a single VNAV evaluation (based on Category D) made when the visibility required reached the level of VFR operations? Another question to be asked is why are the VNAV minima driving circling minimums? It is incumbent on the agency to establish the minimums for an airport as the lowest permitted by the criteria in the order (FAA Order 8260.3, Volume 1, Chapter 3, paragraph 310 paraphrased).

RECOMMENDATION: AOPA recommends that the IPG-ACF advise the FAA it must make every attempt to publish the lowest possible circling minimums for at least Category A and B aircraft on all RNAV approaches. This may require additional, separate evaluations of the VNAV path, and/or changes to policy that divorces circling minimums from the VNAV related minimums of the approach. An alternative is to publish a separate chart.

Other approaches with similar issues:
KHBI RNAV (GPS) RWY 3
KCHS RNAV (GPS) RWY 15, 21, 33

Comments: The proposed changes likely required changes to FAA TERPS as well as processes used by procedures designers on RNAV instrument approaches.

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INITIAL DISCUSSION (Meeting 04-02): New issue introduced by Randy Kenagy, AOPA. AOPA is concerned that LNAV circling minimums are excessively penalized on LNAV/VNAV IAPs by application of the TERPS criteria that requires that circling minima not be lower than straight-in minima. In cases of high MDAs, the VNAV MAP-to Threshold distance requires a much higher visibility than that required for a LNAV approach with the MAP at (or within 1 SM) of the threshold (also see issue 04-01-253). The obvious solution is to publish separate approaches; however, the group unanimously was opposed to this. Bill Hammett, AFS-420 (ISI), recommended the issue be brought before the AFS-400 Technical Review Board (TRB). ACTION: AFS-420.

MEETING 05-01: Tom Schneider, AFS-420, briefed that the issue has been addressed, and an AFS-400 policy memorandum, dated March 15, 2005, was sent to AVN-1 stating that circling minimums must not be lower than the highest straight-in nonprecision landing minimums. This eliminates the consideration of LNAV/VNAV minimums. A copy of the memo was provided all attendees and may also be viewed at the AFS-420 policy memo page at the following web site address: http://av-info.faa.gov/terps/Policy%20Memo%20Page.htm. Randy Keangy, AOPA, stated that under the current AFS-600 Practical Test Standards, "…unless ILS, all vertically guided approaches are non-precision". Tom took the IOU to coordinate the issue with AFS-600. Bill Hammett, AFS-420 (ISI) added that AFS-420 would ensure that the NFPO understands that the intent of the memorandum is to use the highest straight-in nonprecision, non vertically guided, landing minimums when developing circling minimums.

Editor's Note: *This issue was discussed at the May 23 NFPO Criteria Coordinating Committee meeting, which included AFS-420 participation. Brad Rush, NFPO, fully explained the intent of the policy memorandum is to base circling minimums on the highest straight-in nonprecision, non vertically guided, landing minimums.* Issue Closed.