

**AERONAUTICAL CHARTING MEETING  
Instrument Procedures Group  
Meeting – October 25 - 26, 2021**

**RECOMMENDATION DOCUMENT**

**FAA Control # 21-02-360**

**Subject: Insufficient Guidance on How to Process Minima-Related Notes on IAPs**

**Background/Discussion:**

There are two related issues related to minima adjustments:

*Multiple Notes*

Some instrument procedures have multiple notes related to minima, as shown in Figure 1. The notes have three sections:

1. When local altimeter not received;
2. When inop MALSR and remote altimeter; and
3. Inop MALSR.

Condition 1 specifies an altitude and visibility adjustment; Condition 2 adds another visibility increase; and Condition 3 yet another visibility increase (albeit, some pilots would likely not apply condition 3 as conditions 1 & 2 address the situation). While the TERPS “Inoperative Components for Visual Aids Table” specifies “If more than one component is inoperative, each minimum is raised to the highest minimum required by any single component that is inoperative,” there is no such guidance for non-standard adjustments.

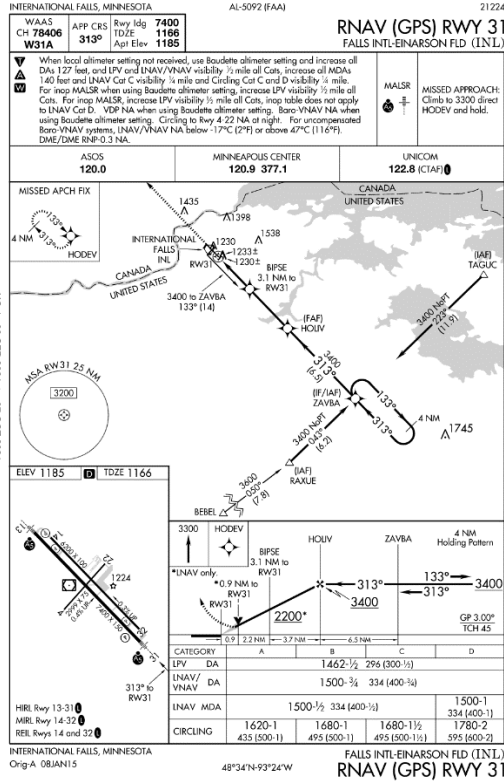


Figure 1. Example of long note (KINL RNAV 31).

Other examples similar to KINL RNAV 31 include: KBMI RNAV 29, KADH RNAV 18, PAGM RNAV 34, and KTCL RNAV 4.

### Units of Measure: Feet and Statute Miles

Many times minima visibilities are published in RVR (feet), yet adjustments are given for visibility in statute miles (SM) as shown in Figure 2. Consider the CAT A LPV with a remote altimeter adjustment.

The pilot can solve the problem in at least two ways:

1. Take the 1800 RVR and convert to 1/2 SM and then add 1/4 SM as indicated by the note. Then take this as 3/4 SM and convert back to 4000 RVR.
2. Take the 1/4 SM adjustment, convert it to 1600 RVR. Add 1600 RVR to 1800 RVR, get 3400 RVR. Take the 3400 RVR and convert back to 5/8 SM.



**Initial Meeting 21-02:** Bill Tuccio, Garmin, briefed the issue using the RD [slides](#). When a procedure has multiple notes for a remote altimeter source and inoperative approach lighting system, some of the notes can be confusing (shown on the [chart](#)) and increase the pilot workload. For comparison, the TERPS “Inoperative Components for Visual Aids Table” leaves no ambiguity, however non-standard situations result in the note as shown. On his example [slide](#), Bill showed the notes for a remote backup altimeter setting adjustment, then an inoperative approach lighting system, and then another note addressing the scenario of the backup altimeter setting with an inoperative approach lighting system. These notes address required adjustments for minimum descent altitude and/or minimum visibilities. Bill suggested these notes are confusing, and there is insufficient AIM guidance on how to interpret and apply them. Bill recommends either an update to the AIM language to explain how to process the notes, or a simplification of the notes. Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), went over the example chart and explained how the chart notes work in detail. He explained, for example, that an alternative of providing only the greatest visibility adjustment would simplify the note, however could negatively affect some operations by increasing minimum visibility greater than that required. Jeff acknowledged these notes can be complicated, and appreciated the suggestion of providing some clarifications within the AIM. Rich Boll, NBAA, said the FAA should clean up these confusing notes, adding that multiple lines of minima make it difficult to review and brief the procedure if the approach is assigned late. Rich thinks work in the Chart Modernization Working Group could address this, but added that a review of inoperative components adjustments to either simplify or reduce the number published could be necessary. Jeff added the challenge would be to keep notes and adjustments as simple as possible without negatively affecting operations. Jeff asked if the chart modernization effort would propose changing some of the notes to numeric values associated with the procedure minimums. Rich said the work of the working group is not yet complete, but they feel they have an opportunity to help simplify some of the adjustment publication. Jeff likes the chart modernization effort moving forward, with an eye on simplifying wherever possible without unnecessarily limiting operations. He suggested that once the chart modernization effort is complete, then it might be sensible to consider simplifying or removing notes where possible. Bennie Hutto, NATCA, asked about combining the altimeter adjustment and inoperative component notes in the example, and Jeff pointed out the altimeter adjustment notes increase altitude, and might therefore result in an increase to visibility, where the inoperative component adjustments only result in an increase in minimum visibility. Mike Stromberg, UPS, pointed out this meeting discussion, comprised of experienced and knowledgeable participants seemed to have difficulty interpreting the notes, and suggested that reinforced the idea that this issue should be addressed. The group expressed broad support for the RD, while acknowledging ongoing efforts on similar RDs, as well as the ongoing chart modernization effort. Jeff acknowledged that the Agency will consider possible action on this RD and will report decisions and status at the next meeting.

**Actions:** Issue accepted for continuation on the agenda. The Agency will report decisions and status at the following meeting.

**Status:** Item open

---

**Meeting 22-01:** Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue ([slide](#)). There are already two open issues being worked in the ACM regarding notes, so no ACM Recommendation Review Group (ARRG) review was necessary. The Chart Modernization Working Group proposal has been completed but not yet reviewed, and those review outcomes could impact this RD. Jeff proposes the ACM hold work on this RD, it remain open, and be addressed when the other issues are resolved. In the interim, the FPAG will investigate possible AIM changes that might partially address the issue.

**Actions:** FPAG will report on any results from the review of the Chart Modernization Working Group proposal. FPAG will determine if any AIM changes can be accomplished to partially address this issue.

**Status:** Item open.

---

**Meeting 22-02:** Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue ([slide](#)). Jeff discussed an element of the proposal from the chart modernization proposal (CG RD 18-02-372) relates to this issue. Once that improvement is in place there will be a separate area on the approach chart showing the adjusted visibility values for inoperative components. FPAG will also be reviewing the possibility of AIM changes to address some of the concerns raised by this RD. Valerie Watson, FAA Charting Products Integration Team (AJV-A250), reinforced that the related point of the chart modernization effort is to take inoperative component adjustment notes and translate them into tabular form. Since it will take many years for these changes to be reflected on a significant number of approach charts Valerie recommends creating enhanced AIM guidance for pilots to better understand minima-related notes.

**Actions:** FPAG will work with the Flight Operations Group to consider possible AIM revisions.

**Status:** Item open

---

**Meeting 23-01:** Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the summary, actions, and status from the ([slide](#)). Recognizing other efforts related to minima-related notes such as publication of inoperative component minima in tabular form as part of the Chart Modernization plan, Jeff suggested closure of this RD at this time. Andrew Lewis, Garmin, said they would prefer publication of AIM guidance, and Jeff voiced that internal discussions reached the conclusion that AIM guidance would not be clarifying. Joshua Fenwick, Garmin, commented that as notes are removed, the problem will begin to resolve itself.

Mark Mentovai, Manhattan Flight Club, also wondered why no AIM guidance is being considered, as discussed at a previous meeting. Jeff said internal discussions concluded that with so many possible iterations, including old notes persisting after criteria revisions, AIM guidance would not provide adequate clarification.

Pat Mulqueen, FAA Instrument Flight Procedures Group (AJV-400), advised procedure amendments to revise all the existing notes will take some time, and did not feel there would be

any appropriate AIM guidance. Pat added that not all backup altimeter notes will be removed since some will still be required by criteria, but most will be.

Andrew pointed out that one of the elements of the RD was that there were potentially two different ways to adjust visibility minimums with RVR dependent on the point in the process where the pilot would convert to and from RVR values and asked which would be correct. Andrew suggested that closing the RD at this time would leave that element unanswered.

After a review of the RD and Andrew's point, Jeff clarified that the RD would remain open at this time to address that element.

**Actions:** FPAG and FAA Flight Operations Group will reconsider the possibility of AIM guidance to clarify how to adjust visibility minimums when the procedure utilizes RVR.

**Status:** Item open

---