

**AERONAUTICAL CHARTING MEETING  
Instrument Procedures Group  
Meeting – April 23, 2019**

**RECOMMENDATION DOCUMENT**

**FAA Control # 19-01-343**

**Subject: Clarify text of notes that affect minima**

**Background/Discussion:**

U.S. Government (FAA) instrument approach charts contain notes that affect minima and are often difficult to interpret. ACM recommendation #18-02-327 in part addressed the difficulty to interpret notes and set up the Chart Modernization Working Group. This recommendation seeks to clarify notes that are ambiguous as to which line or lines of minima they affect.

**Example:** KNEW RNAV (GPS) RWY 36L

The portion of the note “increase LPV DA to 369 feet, LNAV/VNAV DA to 460 feet and all visibilities 1/8” is not clear. The way this is currently written, it is vague as to whether the visibility change affects only LNAV/VNAV DA or both LPV DA and LNAV/VNAV DA.

<b>▼</b>	For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 49°C (120°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Louis Armstrong New Orleans Intl altimeter setting: increase LPV DA to 369 feet, LNAV/VNAV DA to 460 feet and all visibilities 1/8 mile; increase all MDA 40 feet and Circling Cat D visibility 1/4 mile. VDP and Baro-VNAV NA when using Louis Armstrong New Orleans Intl altimeter setting.
<b>▲</b>	

Jeppesen interprets this note as affecting both LPV and LNAV/VNAV lines of minima.

<b>TERPS</b>		<b>STRAIGHT-IN LANDING RWY 36L</b>			<b>CIRCLE-TO-LAND</b>	
		With Local Altimeter Setting			With Local Altimeter Setting	
		LPV DA(H) <b>340'</b> (332')	LNAV/VNAV DA(H) <b>431'</b> (423')	LNAV MDA(H) <b>600'</b> (592')	Max Kts	MDA(H)
A				1	90	<b>600'</b> (592') - 1
B					120	
C	1 1/8		1 3/8		140	<b>600'</b> (592') - 1 3/4
D				1 1/4	165	<b>660'</b> (652') - 2
		With Armstrong New Orleans Intl Altimeter Setting			With Armstrong New Orleans Intl Altimeter Setting	
		LPV DA(H) <b>369'</b> (361')	LNAV/VNAV DA(H) <b>460'</b> (452')	LNAV MDA(H) <b>640'</b> (632')	Max Kts	MDA(H)
A				1	90	<b>640'</b> (632') - 1
B					120	
C	1 1/4		1 1/2		140	<b>640'</b> (632') - 1 3/4
D				1 3/4	165	<b>700'</b> (692') - 2 1/4

**Example:** 2V5 RNAV (GPS) RWY 17

The portion of the note “increase LPV DA to 4020, and LNAV/VNAV DA to 4088 and visibility all Cats 3/8 SM” is not clear. The way this is currently written, it is vague as to whether the visibility change affects only LNAV/VNAV DA or both LPV DA and LNAV/VNAV DA.

	<p>For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -22°C (-7°F) or above 53°C (127°F). Baro-VNAV and VDP NA when using Imperial altimeter setting. DME/DME RNP-0.3 NA. When local altimeter setting is not received use Imperial altimeter setting: increase LPV DA to 4020, and LNAV/VNAV DA to 4088 and visibility all Cats 3/8 SM, increase all MDA 160 feet and LNAV Cat C/D visibility 5/8 SM and Circling Cat C 1/2 SM, Cat D 1/4 SM.</p>
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Jeppesen interprets this note as only affecting the LNAV/VNAV line of minima.

TERPS			STRAIGHT-IN LANDING RWY 17 With Local Altimeter Setting			CIRCLE-TO-LAND With Local Altimeter Setting	
	LPV DA(H) 3877' (200')	LNAV/VNAV DA(H) 3945' (268')	LNAV MDA(H) 4040' (363')	Max Kts	MDA(H)		
A				90	4100' (423') - 1		
B	1	1	1	120	4140' (463') - 1		
C				140	4540' (863') - 2 1/2		
D				165	4540' (863') - 2 3/4		
			With Imperial, Nebr Altimeter Setting			With Imperial, Nebr Altimeter Setting	
	LPV DA(H) 4020' (343')	LNAV/VNAV DA(H) 4088' (411')	LNAV MDA(H) 4200' (523')	Max Kts	MDA(H)		
A				90	4260' (583') - 1		
B	1	1 3/8	1	120	4300' (623') - 1		
C				140			
D			1 5/8	165	4700' (1023') - 3		

Procedures with stepdown fixes often include notes with minima adjustments that are not clear.



Stepdown fix notes:

Current Note:

“For inop MALSR when using Jackson Medgar Wiley-Evers Intl altimeter setting increase S-LOC Cats C/D visibility 3/8 mile.”

Recommendation:

“For inop MALSR when using Jackson Medgar Wiley-Evers Intl altimeter setting increase S-LOC and UTUWI fix S-LOC Cats C/D visibility 3/8 mile.”

**Comments:**

As the FAA moves forward with the Chart Modernization project, these notes will be used to create additional lines of minima. Ensuring these notes leave no room for individual interpretation will be the best way to ensure quality moving forward.

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**Date:** 04/04/2019

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**Initial Discussion Meeting 19-01:** Andrew Lewis, Garmin briefed the issue from [slides](#). This issue is related to Charting Group Issue 18-02-327, but is more specific to chart notes that raise minimums (DA/MDA and/or visibility). Andrew displayed and discussed specific examples of notes from the presentation where the intent of the increases are unclear. Rich Boll, NBAA, pointed out the grammar could be interrupted differently. Gary McMullin, SWA, indicated pilots should not be required to perform math while flying to determine the correct minimums; increases to minimums should instead state the final intended values. Valerie Watson, AJV-A, indicated that regardless of what changes are made, procedure designers will need to annotate the correct minimums that are required; chart developers should not be required to calculate adjustments. Andrew then discussed procedures with step down fixes and displayed another confusing example, where it is unclear whether an increase applies to just the step down fix minimums, or to both sets of minimums. John Bordy proposed following the Charting Group Issue 18-02-327 if changes are not made with that issue then look at possible changes (clarification) from this RD accordingly. Michael Stromberg, UPS, reiterated Gary McMullin’s earlier point, that he would prefer to see just the final value (as opposed to required increases that pilot’s must add). Item is accepted.

**Action Items:**

- John Bordy will monitor the progress of ACM-CG Issue 16-02-327.
- John Bordy will review Order 8260.19I to identify any policy that could be improved to remove ambiguity of chart notes related to minimum increases.

**Status:** Item open.

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**Meeting 19-02:** John Bordy, FAA Flight Procedures and Airspace Group, briefed the issue summary and current status from the [slide](#). This effort will be targeted for the next change after Order 8260.19I and the plan is to have draft language available for the next meeting. Flight Procedures and Airspace Group will continue to watch ACM Charting Group issue 18-02-327.

Though related, 18-02-327 may be obviated by the outcome of this issue. Valerie Watson, FAA/AJV-A25 recalled a comment from the previous meeting suggesting it is desirable to not require the pilot to do math to determine the new visibility from the visibility adjustment notes, but John pointed out this has yet to be decided.

**Action Items:**

- FAA Flight Procedures and Airspace Group develop possible draft language for a version following 8260.19I and brief at ACM 20-01.

**Status:** Item open.

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**Meeting 20-02:** Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and current status from the [slide](#). Diane Adams-Maturo, FPAG, advised this was not included in Order 8260.19I. Jeff said FPAG will make sure this is added as an issue in the issue tracking system to be addressed for a future revision.

**Action Items:**

- Flight Procedures and Airspace Group develop possible draft language for a future version of Order 8260.19 and brief at ACM 21-01.

**Status:** Item open.

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