Federal Aviation Administration

Memorandum

Date:

To: Charles Huber, Manager, Operational Oversight Policy Branch, AIR-140

From: Lou Volchansky, Acting Manager, Systems and Equipment Standards Branch, AIR-130

Prepared By: Charisse R. Green, Aerospace Engineer, Navigation and Flight Deck Technologies, AIR-131

Subject: Aircraft Certification Office (AIR-131) requests to add information the RGL along with TSO-C151c

The Aircraft Certification Office (AIR-131) identified an issue within TSO-C151c specific to the Mode 5 requirement. There is a need for clarification on the Mode 5 requirement. Current wording may lead TAWS manufacturers to assume TAWS units need to generate Mode 5 alerts from the signal-in-space for both Ground Based Augmentation System (GBAS) and Space Based Augmentation System (SBAS) approaches.

AIR-131 requests the attached Note to Manufacturers be placed alongside TSO-C151c, Terrain Awareness and Warning System in the FAA Regulatory and Guidance Library (RGL).

If you have any questions, please contact Charisse R. Green, AIR-131 at (202) 267-8551 or via email at Charisse.Green@faa.gov.

Note to Manufacturers Clarifying the TAWS Mode 5 Excessive Downward Deviation Requirement
May 5, 2016

TSO-C151c, Terrain Awareness and Warning System (TAWS), currently implies Localizer Performance with Vertical Guidance (LPV) and Ground Based Augmentation System (GBAS) Landing System (GLS) approaches need to meet the Class A Mode 5 Excessive Downward Deviation requirement in Appendix 1, Section 1.e., and in Appendix 1, Section 3.3.e. However, the vertical deviation alerting requirements in RTCA/DO-161A, Appendix B, T-7, were written to test the Mode 5 TAWS alert for Instrument Landing Systems (ILS) approaches. There was no intent by the FAA for the Mode 5 alert to directly apply in the manner described in the appendix to any other approach operation.

It was not the FAA's intent to require the TAWS unit to generate a Mode 5 alert from the signal-in-space for both Ground Based Augmentation System (GBAS) and Space Based Augmentation System (SBAS) approaches, but instead to offer consistent vertical deviation alerting regardless of the source of the navigation guidance. The source triggering the alerting does not need to be the TAWS or the signal-in-space for the approach operations navigation source. The goal is to provide consistent alerts to pilots during instrument approach operations. The FAA recommends providing vertical deviation alerting anytime the aircraft's navigation system offers vertical path guidance during any instrument approach.

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