

Deviation Request #118 for an ETSO approval for CS-ETSO applicable to Airborne Navigation Sensors Using the Global Positioning System Augmented by the Satellite Based Augmentation System (ETSO-C145c) and Stand-Alone Airborne Navigation Equipment Using the Global Positioning System Augmented by the Satellite Based Augmentation System(ETSO-C146c) Consultation Paper

1 Introductory Note

The hereby presented deviation requests shall be subject to public consultation, in accordance with EASA Management Board Decision No 7-2004 as amended by EASA Management Board [Decision No 12-2007](#) products certification procedure dated 11th September 2007, Article 3 (2.) of which states:

“2. Deviations from the applicable airworthiness codes, environmental protection certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency.”

2 Deviation Request

2.1 ETSO-C145c#5 -Airborne Navigation Sensors Using the Global Positioning System Augmented by the Satellite Based Augmentation System & ETSO-C146c#12 -Stand-Alone Airborne Navigation Equipment Using the Global Positioning System Augmented by the Satellite Based Augmentation System

2.1.1 Summary of Deviation

Deviate from RTCA DO-229D that refers to GPS SPS Performance Standard, 3rd Edition, October 2001, to use instead GPS SPS Performance Standard 4th Edition, September 2008.

2.1.2 Original Requirement

GPS SPS Performance Standard is called in the following sections of DO-229D:

§1.2.2.1 and §1.8.1.1: “Detailed GPS Standard Positioning Service (SPS) information is provided in the GPS SPS Performance Standard, October 2001, and IS-GPS-200D, “Navstar GPS Space Segment / Navigation User Interfaces”, December 2004.”

§2.1.1.2: “The equipment shall be designed to process the GPS signals and necessary data described in the latest GPS SPS Performance Standard, October 2001, and IS-GPS-200D, “Navstar GPS Space Segment / Navigation User Interfaces”, December 2004, under interference conditions described in Appendix C and under the minimum signal conditions defined in Section 2.1.1.10.”

§2.5: “The GPS/SBAS simulator shall operate in accordance with the GPS SPS Performance Standard, Navstar GPS Interface Specification (IS-GPS-200D), specification for Wide Area Augmentation System (FAA-E-2892B, Change 2), and Appendix A.”

2.1.3 Industry

It is proposed to use GPS Performance Standard, 4th Edition, dated September 2008 on the entire DO-229D, instead of GPS Performance Standard, 3rd Edition, dated October 2001, as it reflects the up-to-date performance of broadcast signal parameters and GPS constellation design.

2.1.4 Equivalent Level of Safety

For the use of GPS Performance Standard, 4th Edition, equivalent level of safety is demonstrated since, as explained in the document, “This version of the SPS PS revises and supersedes the previous version, published 4 October 2001, and meets or surpasses all the performance commitments of the previous version”.

2.1.5 EASA position

We accept the deviation.