

# Deviation Request ETSO-C115c#5 for an ETSO approval for CS-ETSO applicable to Airborne Area Navigation Equipment Flight Management Systems (FMS) Using Multi-Sensor Inputs (ETSO-C115c)

## 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 ETSO-C115c#5 Airborne Area Navigation Equipment Flight Management Systems (FMS) Using Multi-Sensor Inputs

#### 2.1 Summary of Deviation

Deviates from RTCA DO-283A section 2.2.4.1.2 by scaling the approach deviation against RNP value (full scale deviation – 2 dots) instead of the discrete scale value defined in table 2-2.

#### 2.2 Original Requirement

RTCA DO-283A

##### 2.2.4.1.2 Non-Numeric Display/Output Requirements:

*The equipment shall provide either a non-numeric display output or an electrical output to support an external non-numeric display as described in the following subsections.*

*Display and electrical outputs defined in the following subsections shall be scaled based on the currently selected RNP type, as defined in the following table.*

**Table 2-2 Cross-Track Deviation Full Scale Deflection**

Currently Selected RNP Type	Full Scale Deflection (2 Dots)
0.3 to 0.99	0.3 NM
1.0 to 1.99	1.0 NM
2.0 to 3.99	2.0 NM
4.0 and greater	4.0 NM

## 2.3 Industry

The display electrical output scaling (digital and non-approach analog) for RNP types 0.3 to 3.99 is simply 1 dot =  $\frac{1}{2}$  RNP. For RNP 4.0 and greater, the scaling is 4.0 NM IAW the MPS.

The display electrical output scaling (digital and non-approach analog) sensitivity is therefore compliant with the MPS for standard RNP values (0.3, 1.0, 2.0, and 4.0 and greater), and less sensitive for the non-standard values between 0.3 and 4.0.

RTCA DO-283 requirement		Deviation Implementation
Currently selected RNP Type	Full Scale Deflection (2 dots)	Full Scale Deflection (2 dots)
0.3 to 0.99	0.3 NM	RNP
1.0 to 1.99	1.0 NM	
2.0 to 3.99	2.0 NM	
4.0 and greater	4.0 NM	4.0 NM

## 2.4 Equivalent Level of Safety

An Equivalent Level of Safety is provided by the more straightforward and better implementation which facilitates crew monitoring of RNP containment for non-standard RNP values such as 0.5, because there is a simple relationship where 1 dot =  $\frac{1}{2}$  RNP.

## 2.5 EASA position

We accept the deviation.