

EASA

Comment Response Tool

You can save this page as HTML and then open it in Microsoft Word for further editing.

Title	Systematic review and transposition of existing FAA TSO standards for parts and appliances into EASA ETSOs
NPA Number	NPA 2012-16

UK CAA (European.Affairs@caa.co.uk) has placed 1 unique comments on this NPA:

Cmt	Segment description	Page	Comment	Attachment
5	B. Draft Decision – I. Draft Decision ETSO – EASA European Technical Standard Order (ETSO) (ETSO-C115c) – Subject: AIRBORNE AREA NAVIGATION EQUIPMENT FLIGHT MANAGEMENT SYSTEMS (FMS) USING MULTI-SENSOR INPUTS	55 - 56	<p>Page No: 56</p> <p>Paragraph No: ETSO-C115c Para 3.2.1 Failure Condition Classification</p> <p>Comment: The principle of specifying Failure Conditions on equipment is flawed. Failure Conditions have to be assessed at the aircraft installation level and should take into account other factors such as aircraft system architecture, Human Factors, Operational factors etc as considered within CS 25.1309. The practice of including Failure Conditions for a specific equipment appears to be common amongst a number of ETSOs, not just ETSO-C115c, but the complex nature of equipment such as FMS, which by its design is highly integrated with other airborne functions, makes it just one of a number of contributors to the overall aircraft level failure condition classification.</p> <p>Justification: It is not necessarily appropriate to apply an ETSO to equipment such as FMS which (at the OEM level) is invariably tailored to the aircraft design and envisaged operational capability. TSO/ETSO for Buyer Furnished Equipment (BFE) such as radios is fine. It takes the Minimum Operational Performance Standards/Specifications (MOPS) and ensures interoperability in terms of performance, functionality and design assurance. Trying to justify the same for large air transport FMS is not so obvious and does not remove the need for additional Part 25 requirements such as those invoked through the CS and the AMC. It is therefore not appropriate to apply an ETSO to complex equipment such as FMS, nevertheless industry (Honeywell, Rockwell Collins and CMC) pursued RTCA DO-283A, which will be amended by RTCA SC-227/ EUROCAE WG-85.</p> <p>Proposed Text: Notwithstanding the above, an ETSO does need to provide some indication or guidance as to the "expected" aircraft level Failure Condition that will be derived from installing an FMS within an aircraft to perform certain operations. How else would the FMS equipment designer know what level of software and electronic hardware design assurance</p>	

		<p>to apply in their equipment development? However, UK CAA would not support making prescriptive statements as to the Software and Hardware Design Assurance Level (DAL) that should be applied, but the Functional Hazard levels that are mentioned could be indicated as the "expected" aircraft level events when installing an FMS in a large air transport aircraft be it for operations of RNP ≥ 0.3 or RNP <0.3. The risk therefore falls to the equipment manufacturer and the aircraft installer if the DAL is insufficient to support the aircraft level classification.</p>	
--	--	---	--