European Aviation Safety Agency

# Explanatory Note to Decision 2018/002/R

## Regular update of CS-ETSO

### CS-ETSO Amendment 13

RELATED NPA/CRD 2017-08 — RELATED RMT.0457


**EXECUTIVE SUMMARY**

This Decision introduces amendments to CS-ETSO taking into account the principles of efficiency and harmonisation.

It introduces into CS-ETSO new and updated and improved standards for parts and appliances, as follows:

— a number of ETSOs have been modified in order to harmonise them with the corresponding FAA TSOs;

— several new ETSOs (Index 1) have been introduced, which are - where possible - technically similar to existing FAA TSOs;

— one ETSO (ETSO-2C514) has been modified , which does not yet exist in the FAA TSO series (Index 2) ; and

— one ETSO has been deleted; it is considered obsolete, as it has never been used by industry.

The proposed changes are expected to reduce the regulatory burden for the validation of FAA TSO authorisations by EASA and vice versa, to increase cost-effectiveness, and reflect in CS-ETSO the technical state of the art.


| | | | |
|---|---|---|---|
| **Action area:** | Regular updates | | |
| **Affected rules:** | CS-ETSO | | |
| **Affected stakeholders:** | Manufacturers of parts and appliances | | |
| **Driver:** | Efficiency/Proportionality | **Rulemaking group:** | No |
| **Impact assessment:** | None | **Rulemaking Procedure:** | Standard |

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# 1. About this Decision

The European Aviation Safety Agency (EASA) developed ED Decision 2018/002/R in line with Regulation (EC) No 216/2008[1] (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure[2].

This rulemaking activity is included in the EASA 5-year Rulemaking Programme[3] under rulemaking task RMT.0457. The scope and timescales of the task were defined in the related Terms of Reference[4].

The text of this Decision has been developed by EASA under RMT.0457. All interested parties were consulted through NPA 2017-08[5]. 55 comments were received from 13 commentators, including industry, national aviation authorities, bilateral partners, and other associations.

EASA reviewed the comments received during the consultation process. The comments received and EASA's responses thereto are presented in comment-response document (CRD) 2017-08[6].

The final text of this Decision with the certification specifications (CSs) has been developed by EASA based on the comments received during public consultation.

The major milestones of this rulemaking activity are presented on the title page.

## 1.1. Structure of the document

Chapter 1 contains the procedural information related to this task.

Chapter 2 explains the core technical content.

The text of the amended CS-ETSO is annexed to the Decision as follows:

— Annex I (Preamble) lists the CS-ETSO Subparts and Indexes affected by this amendment.

— Annex II contains the updated and complete CS-ETSO Indexes as well as the amended and newly introduced ETSO articles.

[1] Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1) (http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1467719701894&uri=CELEX:32008R0216)

[2] EASA is bound to follow a structured rulemaking process as required by Article 52(1) of Regulation (EC) No 216/2008. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure).

[3] http://easa.europa.eu/rulemaking/annual-programme-and-planning.php

[4] https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0457

[5] In accordance with Article 52 of Regulation (EC) No 216/2008 and 6(3) and 7) of the Rulemaking Procedure.

[6] https://www.easa.europa.eu/document-library/comment-response-documents

# 2. In summary — why and what

## 2.1. Why we need to change the CS

The purpose of this Decision is to amend Decision 2003/010/RM of the Executive Director of the Agency of 24 October 2003 on certification specifications, including airworthiness codes and acceptable means of compliance, for European technical standard orders (ETSOs)[7].

ETSOs are defined by Article 1(2)(g) of Regulation (EU) No 748/2012 as 'detailed airworthiness specifications, issued by EASA to ensure compliance with the requirements of 'Part-21' as minimum performance standards for specified articles' (i.e. parts and appliances as defined by Article 3(d) of the Basic Regulation).

Article 5(6)(b) of the Basic Regulation requires the periodical update of EASA's rules by taking into account worldwide aircraft experience in service, and scientific and technical progress. This also applies to CS-ETSO for parts and appliances, which needs to be regularly updated.

## 2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation.

Article 2(1) of the Basic Regulation mandates EASA to establish and maintain a high uniform level of civil aviation safety in Europe. EASA responds to this legal provision through this draft Executive Director Decision by issuing updates to various equipment as further detailed.

Article 2(2)(e) of the same Regulation mandates EASA to promote the Union views regarding civil aviation safety standards and rules, with a view to not only establishing and maintaining a high uniform level of civil aviation safety, but also to promoting EU industry. It is hence necessary to constantly align CS-ETSO with the evolution of the state of the art worldwide.

This Decision will contribute to the achievement of the overall objectives by incorporating new standards and updated FAA TSO into CS-ETSO.

## 2.3. How we want to achieve it — overview of the amendments

This Decision:

— modifies a number of ETSOs in order to harmonise them with the corresponding FAA TSOs;

— introduces several new ETSOs (Index 1) which are, where possible, technically similar to existing FAA TSOs[8];

— modifies an ETSO (i.e. ETSO-2C514), which does not yet exist in the FAA TSO series (Index 2); and

— deletes one obsolete (and already superseded) ETSO.

The basis for the introduction, revision or deletion of each ETSO affected by this Decision and the main differences from the current ETSOs are specified hereinafter.

[7] Decision as last amended by Decision 2016/029/R of 16 December 2016.
[8] FAA TSOs are available at http://www.airweb.faa.gov

The following table 1 summarises the changes to Index 1 of CS-ETSO.

| Changes to Index 1 of CS-ETSO | | |
|---|---|---|
| **New ETSO ref** | **ETSO title** | **Type of Change** |
| ETSO-C1e | Cargo Compartment Fire Detection Instruments | amended |
| ETSO-C16b | Electrically Heated Pitot and Pitot-Static Tubes | amended |
| ETSO-C23f | Personnel Parachute Assemblies and Components | amended |
| ETSO-C30d | Aircraft Position Lights | amended |
| ETSO-C59b | Airborne Selective Calling Equipment | amended |
| ETSO-C63e | Airborne Weather Radar Equipment | amended |
| ETSO-C78a | Crewmember Demand Oxygen Mask | amended |
| ETSO-C96b | Anticollision Light System | amended |
| ETSO-C97 | Lithium Sulfur Dioxide Batteries | cancelled |
| ETSO-C115d | Required Navigation Performance (RNP) Equipment using Multi-Sensor Inputs | amended |
| ETSO-C118a | Traffic Alert and Collision Avoidance System I (TCAS I) | amended |
| ETSO-C123c | Cockpit Voice Recorder Systems | amended |
| ETSO-C124c | Flight Data Recorder Systems | amended |
| ETSO-C145e | Airborne Navigation Sensors Using the Global Positioning System Augmented by the Satellite-Based Augmentation System | amended |
| ETSO-C146e | Stand-Alone Airborne Navigation Equipment Using the Global Positioning System Augmented by the Satellite-Based Augmentation System | amended |
| ETSO-C155b | Recorder Independent Power Supply | amended |
| ETSO-C159c | Next Generation Satellite Systems (NGSS) Equipment | amended |
| ETSO-C166b A3 | Extended Squitter Automatic Dependent Surveillance-Broadcast (ADS-B) and Traffic Information Services-Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHZ) | amended |
| ETSO-C176a | Aircraft Cockpit Image Recorder Systems | amended |
| ETSO-C199 | Traffic Awareness Beacon System (TABS) | newly introduced |
| ETSO-C203 A1 | Fire containment cover (FCC) | amended |
| ETSO-C209 | Electronic Flight Instrument System (EFIS) Display | newly introduced |
| ETSO-C210 | Airborne Head Up Display | newly introduced |

Table 1

The following table 2 summarises the changes to Index 2 of CS-ETSO.

| Changes to Index 2 of CS-ETSO | | |
|---|---|---|
| **New ETSO ref** | **ETSO title** | **Type of Change** |
| ETSO-2C514a | Airborne Systems For Non-Required Telecommunication Services (In Non-Aeronautical Frequency Bands) (ASNRC) | amended |

Table 2

**Detailed description of proposed amendments to CS-ETSO**

**Subpart B**

**Index 1**

**ETSO-C1e: Cargo Compartment Fire Detection Instruments**

This update of ETSO-C1c is based on FAA TSO-C1e, issued on 19.8.2014.

According to this revision, newly designed cargo compartment fire detection instruments shall meet the minimum performance standard (MPS) qualification and documentation requirements in SAE, Inc., Aerospace Standard (AS) Document No. AS8036 'Cargo Compartment Fire Detection Instruments,' Revision A, dated December 17, 2013, except for paragraphs 4.9, 4.10 and 4.11.

**ETSO-C16b: Electrically Heated Pitot and Pitot-Static Tubes**

This update of ETSO-C16a is based on FAA TSO-C16b, issued on 27.1.2017.

According to this revision, newly designed electrically heated pitot and pitot-static tubes shall meet the qualification and documentation requirements set forth in SAE International (SAE) Aerospace Standard AS8006, Revision A, Minimum Performance Standard for Pitot and Pitot Static Probes, and SAE AS5562, Ice and Rain Minimum Qualification Standards for Pitot and Pitot-Static Probes.

In line with the FAA TSO, some modifications to the referenced standards are introduced into the ETSO within Appendices 1 and 2.

**ETSO-C23f: Personnel Parachute Assemblies and Components**

This update of ETSO-C23d is based on FAA TSO-C23f, issued on 21.9.2012.

According to this revision, newly designed personnel parachute assemblies shall meet the minimum performance standard (MPS) qualification and documentation requirements in Parachute Industry Association (PIA) Technical Standard 135 (TS-135), Revision 1.4, issued April 22, 2010, 'Performance Standards for Personnel Parachute Assemblies and Components' as modified by Appendix 1 of this ETSO.

**ETSO-C30d: Aircraft Position Lights**

According to this revision, newly designed aircraft position lights should meet the requirements of the latest version of SAE Aerospace Standard AS8037C, 'Minimum Performance Standard for Aircraft Position Lights', dated 9 July, 2013.

Currently the FAA TSO corresponding to ETSO-C30d is at revision c.

This update introduces more adequate requirements for LED technology but does not introduce any significantly different requirements.

**ETSO-C59b: Airborne Selective Calling Equipment**

This update of ETSO-C59 is based on FAA TSO-C59b, issued on 27.6.2016.

According to this revision, newly designed SELCAL (selective calling) equipment shall meet the MPS qualification and documentation requirements in RTCA, Inc. document RTCA/DO-93A, Minimum Operational Performance Standards (MOPS) for Airborne Selective Calling (SELCAL) Equipment, dated March 17, 2016.

**ETSO-C63e: Airborne Weather Radar Equipment**

This update of ETSO-2C63c is based on FAA TSO-C63e, issued on 1.10.2016.

According to this revision, newly designed airborne weather radar equipment shall meet the standards set forth in RTCA DO-220A, Minimum Operational Performance Standards for Airborne Weather Radar Systems, dated 17.3.2016.

Harmonisation with the latest FAA standard includes the classification of failure conditions.

This revised ETSO is now technically consistent with the corresponding FAA TSO and therefore it is moved from Index 2 to Index 1.

To keep consistency with the FAA TSO, EASA decided to skip revision 'd' and publish directly revision 'e'.

**ETSO-C78a: Crewmember Demand Oxygen Mask**

This update of ETSO-2C78 is based on FAA TSO-C78a, issued on 27.5.2008.

According to this revision, newly designed crewmember demand oxygen masks shall meet the MPS qualification and documentation requirements in SAE International (SAE) Aerospace Standard (AS) 8026A, Crewmember Demand Oxygen Mask for Transport Category Aircraft, dated October 2001, as modified by Appendix 1 of this ETSO.

Additionally this ETSO introduces four types of crewmember oxygen masks.

This revised ETSO is now technically harmonised with the corresponding FAA TSO and, therefore, it is moved from Index 2 to Index 1.

**ETSO-C96b: Anticollision Light Systems**

According to this revision, newly designed aircraft anticollision light systems shall meet the requirements of the latest version of SAE Aerospace Standard AS8017C, 'Minimum Performance Standard for Anticollision Light System', dated June, 2011.

Currently the FAA TSO corresponding to ETSO-C96b is at revision a.

This update introduces more adequate requirements for LED technology but does not introduce any significantly different requirements.

**ETSO-C97: Lithium Sulfur Dioxide Batteries**

This obsolete ETSO has been cancelled because, as already stated in ETSO-C142a, EASA cannot accept applications to demonstrate compliance with its MPS. Additionally, EASA has never received any application for this ETSO.

Applicants for lithium sulphur dioxide batteries (LiSO2), or for major design changes thereof, must comply with ETSO-C142a.

**ETSO-C115d: Required Navigation Performance (RNP) Equipment using Multi-Sensor Inputs**

This update of ETSO-C115c is based on FAA TSO-C115d, issued on 7.3.2016.

According to this revision, newly designed required navigation performance equipment using multi-sensor inputs shall meet the standards set forth in RTCA DO-283B, Minimum Operational Performance Standards for Required Navigation Performance for Area Navigation, dated December 15, 2015, Section 2, as modified by Appendix 1 of this ETSO.

**ETSO-C118a: Traffic Alert and Collision Avoidance System I (TCAS I)**

This update of ETSO-C118 is based on FAA TSO-C118a, issued on 27.10.2014.

According to this revision, newly designed TCAS I equipment shall meet the MPS qualification and documentation requirements in Sections 2.1 and 2.2 of RTCA Document No. RTCA/DO-197A, Minimum Operational Performance Standards for An Active Traffic Alert and Collision Avoidance System I (ACTIVE TCAS 1), dated September 12, 1994, Section Two (2), as modified by Change 1 dated July 29, 1997.

**ETSO-C123c: Cockpit Voice Recorder Systems**

This update of ETSO-C123b is based on FAA TSO-C123c, issued on 19.12.2013.

According to this revision, newly designed cockpit voice recorder (CVR) systems shall meet the standards set forth in the updated EUROCAE document ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, that pertain to the CVR type.

An obsolete requirement on optional marking has been removed.

**ETSO-C124c: Flight Data Recorder Systems**

This update of ETSO-C124b is based on FAA TSO-C124c, issued on 19.12.2013.

According to this revision, newly designed flight data recorder (FDR) systems shall meet the standards set forth in the updated EUROCAE document ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, that pertain to the FDR type.

An obsolete requirement on optional marking has been removed.

**ETSO-C145e: Airborne Navigation Sensors Using the Global Positioning System Augmented by the Satellite-Based Augmentation System**

This update of ETSO-C145c is partially aligned with FAA TSO-C145e, issued on 5.5.2017.

The main difference is that the concept of taking credit from the certification of circuit card assemblies according to FAA TSO-C204a, introduced by FAA TSO-C145d, is not introduced into ETSO-C145e.

Newly designed airborne navigation sensors using the Global Positioning System augmented by the Satellite-Based Augmentation System (SBAS) shall meet the standard set forth in RTCA document DO-229E, Minimum Operational Performance Standards for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment, dated December 15, 2016, as modified by Appendices 2 and 4 of this ETSO.

The implementation of these new standards is essential to support the latest development of SBASs augmenting GPS L1C/A.

**ETSO-C146e: Stand-Alone Airborne Navigation Equipment Using the Global Positioning System Augmented by the Satellite-Based Augmentation System**

This update of ETSO-C146c is partially aligned with FAA TSO-C146e, issued on 5.5.2017.

The main difference is that the concept of taking credit from the certification of circuit card assemblies according to FAA TSO-C205a, introduced by TSO-C146d, is not introduced into ETSO-C146e.

Newly designed stand-alone airborne navigation equipment using the Global Positioning System (GPS) augmented by the Satellite-Based Augmentation System (SBAS) shall meet the standard set forth in RTCA document DO-229E, Minimum Operational Performance Standards for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment, dated December 15, 2016, as modified by Appendices 2 and 4 of this ETSO.

The implementation of these new standards is essential to support the latest development of SBASs augmenting GPS L1C/A.

**ETSO-C155b: Recorder Independent Power Supply**

This update of ETSO-C155a is based on FAA TSO-C155b, issued on 21.4.2015.

According to this revision, newly designed recorder independent power supplies (RIPSs) shall meet the standards set forth in the updated EUROCAE document ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, that pertain to RIPS.

**ETSO-C159c: Next Generation Satellite Systems (NGSS) Equipment**

This update of ETSO-C159b is based on FAA TSO-C159c, issued on 9.9.2016.

Although there are no changes in the MPS to be met by the NGSS, this revision introduces an important note regarding failure condition classification.

According to this new note, the use of NGSS equipment for primary voice or data communication may trigger the allocation of a higher design assurance level than the minimum one specified in paragraph 3.2.1 ‘Failure condition classification’.

**ETSO-166b A3: Extended Squitter Automatic Dependent Surveillance-Broadcast (ADS-B) and Traffic Information Services-Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHZ)**

This update of ETSO-C166 A2 is intended to correct a typo in the failure classification guidance in paragraph 3.2.1 of the ETSO.

The existing revision letter is, however, kept to ensure synchronisation with the revision letter of the FAA TSO. This is possible since there are no changes in the technical content. An amendment number is added to highlight the change.

**ETSO-C176a: Aircraft Cockpit Image Recorder Systems**

This update of ETSO-C176 is based on FAA TSO-C176a, issued on 19.12.2013.

According to this revision, newly designed cockpit image recorders (CIRs) shall meet the standards set forth in the updated EUROCAE document ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, that pertain to CIRs.

An obsolete requirement on optional marking has been removed.

**ETSO-199: Traffic Awareness Beacon System (TABS)**

This new ETSO is based on FAA TSO-C199, issued on 10.10.2014.

This ETSO provides the requirements for the applicable equipment class defined by this ETSO which traffic awareness beacon systems (TABSs) that are designed and manufactured on or after the date of this ETSO shall meet in order to be identified with the applicable ETSO marking.

According to this revision, newly designed TABSs shall meet the MPS qualification and documentation requirements for the applicable equipment class defined by this ETSO.

**ETSO-C203 A1: Fire Containment Cover (FCC)**

This update of ETSO-C203 is intended to correct editorial typos in Appendix 1.

The existing revision letter is, however, kept to ensure synchronisation with the revision letter of the FAA TSO. This is possible since there are no changes in the technical content. An amendment number is added to highlight the change.

**ETSO-C209: Electronic Flight Instrument System (EFIS) Display**

This new ETSO is based on FAA TSO-C209, issued on 29.9.2016.

According to this revision, each newly designed EFIS shall meet the standards set forth in SAE AS6296, Electronic Flight Instrument System (EFIS) Displays, dated March 2016, and AS8034B, Minimum Performance Standard for Airborne Multipurpose Electronic Displays, dated 27 June, 2011.

**ETSO-C210: Airborne Head Up Display**

This new ETSO gives the requirements that airborne head up displays designed and manufactured on or after the date of this ETSO must meet in order to be identified with the applicable ETSO marking.

According to this revision, newly designed airborne head up displays shall meet the standards set forth in SAE AS8055A, Minimum Performance Standards for Airborne Head Up Display (HUD), dated 28 July 2015.

This ETSO standard does not address sensor imaging systems, displays worn by the pilot (goggles, helmet-mounted displays) or specific symbology to be displayed.

This new ETSO is harmonised with FAA TSO-C210, issued on 25.10.2017.

**Index 2**

**ETSO-2C514a: Airborne Systems For Non-Required Telecommunication Services (In Non-Aeronautical Frequency Bands) (ASNRC)**

This update of ETSO-2C514 is intended to impose improved standards for equipment providing non-required telecommunication services.

According to this revision, newly designed ASNRC manufacturers shall consider aircraft information security risk mitigation strategies in their equipment design, particularly when the equipment is responsible for an interface between the aircraft and aircraft-external systems.

Additionally, if the ASNRC equipment contains a memory retention device which is a rechargeable lithium battery, the flammability risk must be addressed.

## 2.4. What are the stakeholders' views

The commentators were in general supportive of the proposed amendments to CS-ETSO.

None of the comments was against the proposal or gave rise to significant controversy. The nature of the comments received ranged from specific technical comments, to observations aimed to improve the wording.

In some cases, the commentators focussed on the differences between the proposed ETSOs and the corresponding FAA TSO. The majority of these misalignments have been corrected in consideration of the comments received, and in some cases, the wording proposed by the NPA 2017-08 has been improved for clarification purposes.

Hereafter is a summary of the main changes introduced as a result of the consultation, however, it does not represent an exhaustive list.

Reference to CS-ETSO Subpart A paragraph 4

One commentator reported that some ETSOs were not consistent with the others since the statement 'see CS-ETSO Subpart A, paragraph 4' was not present in Section 3.2.1 of the ETSO.

EASA agreed to add this sentence to all the affected ETSOs.

Additional requirement in ETSO-C115d Appendix 1

One commentator reported that the proposed Appendix 1 to ETSO-C115d contained an incorrect requirement. This incorrect requirement may cause different RNP system implementations to execute different transition path turn radii. The FAA will issue a policy letter to manufacturers to add the recommended change for TSO-C115d.

EASA accepted this comment and a new requirement on fixed radius transitions has been added in Appendix 1.

Additional requirement in TSO-C146e Appendix 2

One commentator reported that the proposed Appendix 2 to TSO-C146e was not complete and, therefore, not aligned with corresponding FAA TSO. EASA agreed to introduce the following points into that appendix:

…

— 2.2.1.3.13 Hold to Altitude (HA);

— 2.2.1.3.14 Hold to Fix (HF);

— 2.2.1.3.14 Hold to Clearance (manual termination) (HM);

— Table 2-14 through Table 2-20.

Alignment between ETSO-C210 and FAA TSO-C210

At the time of NPA 2017-08 publication, the newly proposed ETSO-C210 did not have a corresponding FAA TSO. The FAA subsequently published TSO-C210 on 25 October 2017.

EASA coordinated with the FAA during the comment processing phase in order to achieve full technical harmonisation on this standard.

Transitory period

Some commentators asked for an extension of the effectivity of some ETSOs in line with the FAA provisions. EASA accepted and introduced a transition period.

## 2.5. What are the benefits and drawbacks

Technology and its related requirements are continuously changing, and thus new standards have been developed or existing standards (on which the already published ETSOs had been based) have been updated and improved. As a result of this continuing update, new ETSOs and revised ETSOs need to be introduced.

This will contribute to ensuring that parts and appliances to be used on aircraft correspond to the latest (and safer) standards and technological solutions.

This practice is expected to bring benefits to the industry, and no specific drawbacks have been identified.

## 2.6. How do we monitor and evaluate the rules

EASA has created a specific webpage[9] within the EASA website in order to simplify the identification and the download of the current ETSO articles.

For consultation purposes, EASA has also created a specific webpage[10] listing all (current & historic) ETSOs.

No additional actions are foreseen to support the implementation of the new and amended ETSO articles.

[9] https://www.easa.europa.eu/easa-and-you/aircraft-products/etso-authorisations/list-of-current-etso
[10] https://www.easa.europa.eu/easa-and-you/aircraft-products/etso-authorisations/list-of-all-etso

# 3. References

## 3.1. Related regulations

N/a

## 3.2. Affected decisions

— Decision No. 2003/10/RM of the Executive Director of the Agency of 24 October 2003 on certification specifications, including airworthiness codes and acceptable means of compliance, for European Technical Standard Orders ('CS-ETSO').

## 3.3. Other reference documents

N/a

# 4. Appendix

Appendix to Decision 2018/002/R CS-ETSO Amendment 13 — CRD 2017-08