

# Regulatory changes affecting ETSO authorisations

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# CS-ETSO Amendment 17

→ Approved on 31<sup>st</sup> August 2022.



<https://www.easa.europa.eu/en/downloads/137021/en>

# CS-ETSO Amendment 17

→ New ETSOs included:

ETSO-2C522: Helicopter Terrain Awareness and Warning System (HTAWS) Advanced Features

ETSO-2C208 Electrical Hoist Equipment (For Rotorcraft).

ETSO-2C521: Electronic Flight Bag (EFB) Software Applications Approval

ETSO-2C520: 406 Mhz Satellite Personal Locator Beacon

ETSO-C137a: Aircraft Portable Megaphones



<https://www.easa.europa.eu/en/downloads/137021/en>

# CS-ETSO Amendment 17- Updated ETSOs

ETSO-C55aA1	Fuel and Oil Quantity Instruments
ETSO-C63f	Airborne Weather Radar Equipment
ETSO-C96c	Anticollision Light Systems
ETSO-C106a	Air Data Computer
ETSO-C119e	Airborne Collision Avoidance System II (ACAS II) Version 7.1 with Hybrid Surveillance
ETSO-C127c	Rotorcraft, Transport Aeroplane, and Small Aeroplane Seating Systems
ETSO-C139aA1	Aircraft Audio Systems and Equipment
ETSO-C157c	Flight Information Services-Broadcast (FIS-B) Equipment
ETSO-C161b	Ground-Based Augmentation System Positioning and Navigation Equipment
ETSO-C162b	Ground-Based Augmentation System Very High Frequency Data Broadcast Equipment
ETSO-C178a	Aircraft Circuit Breakers

# CS-ETSO Amendment 18

- The contents of the next update to CS-ETSO has not yet been established;
- Next update cycle is expected to be finalised in 2 years time







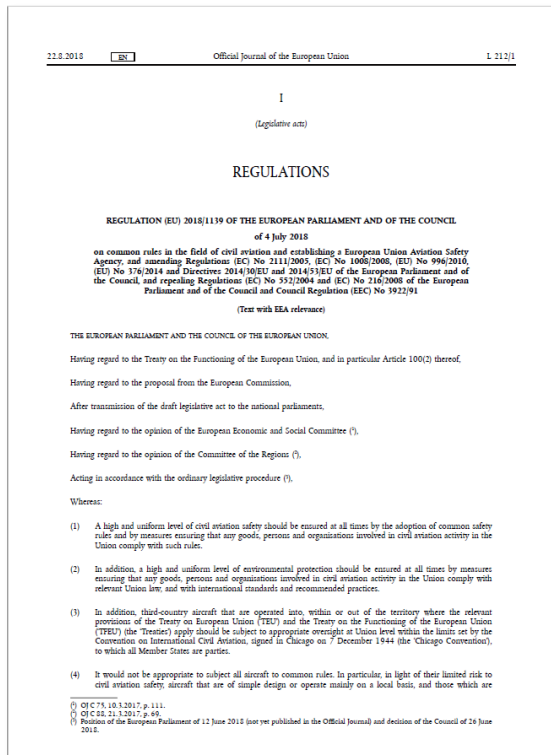
# Part 21 and AMC/GM Changes

- Due to numerous RMTs that have amended Part 21 the AMC and GM is being updated to reflect these changes;
- In addition, the next update cycle of the regular update to the AMC and GM to Part 21 is under preparation;
- NPA is expected Q2 2023;
- May include some changes to Subpart O for Declarations of Design and Performance (DDPs).





# NIE – a new entity in the Basic Regulation



Art. 13 – design of non-installed equipment  
‘[...] the design of non-installed equipment shall be subject to certification and shall be issued with a certificate.’

- previously, airworthiness was only ensured in view of the product (in particular the aircraft), including its parts and appliances
- now, also the airworthiness of equipment that is not installed in the aircraft shall be ensured

# What is an NIE?

Art 3 (29) provides a definition

- **any** instrument, equipment, mechanism, apparatus, appurtenance, software or accessory
- **carried** on board of an aircraft by the aircraft operator,
- which is **not a part\***, and
- which is **used** or intended to be used
  - in operating or controlling an aircraft,
  - supports the occupants' survivability, or
  - which could impact the safe operation of the aircraft

\* 'Part' is defined as 'any element of a product, as defined by that product's type design'.

- based upon this definition it is possible to consider a wide scope of examples of non-installed equipment
- but not all NIE have to be certified!

Art. 13 – design of non-installed equipment

'Where the delegated acts referred to in Article 19 so provide, the design of non-installed equipment shall be subject to certification and shall be issued with a certificate.'

- certain equipment may qualify as 'parts' and as 'NIE' depending on its use
- the Delegated Act (e.g. Part 21) will define the NIE for which a certification is necessary



# Why is it necessary to address airworthiness of NIE?

- Equipment carried on-board the aircraft could affect safety
- The risks from this equipment are varied and include:  
electromagnetic emissions, providing incorrect flight information, uncontained fire, leakages and non-provision of intended function in an emergency

- Previous BR lacked a means to assess airworthiness of equipment which will never be “installed” on an aircraft
- The ETSO process was sometimes (ab)used for this kind of equipment (e.g. parachutes (ETSO-C23F) or Containers (ETSO-C90d))
- EASA received requests to approve or certify equipment which were clearly not parts (e.g. Electronic Flight Bags)
- EASA FS under pressure to address lack of regulatory system for the continuing airworthiness of NIE.

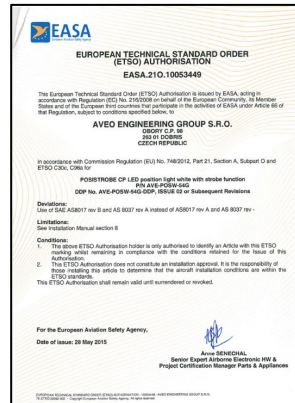
# NIE- Way forward

- EASA is exploring the way forward for Non-Installed Equipment (NIE) which could include:
  - A link to the Air Operations Regulation (965/2012) for which NIE need to be certified;
  - EASA providing an optional certification for 'non-required' NIE;
  - The Certification process being included in the update to the ETSO process (see next slides);
  - Articles being classified as NIE or Parts when they are certified.



# Current ETSO process

- An ETSO authorisation is optional but provides an easier route to the integration of the article;
- ETSO process is contained in Part 21 (Regulation 748/2012);
- Technical requirements are contained in CS-ETSO which is updated as new articles are included.





# Current ETSO process

- There is currently limited proportionality in the ETSO process;
- Organisational requirements are the same for most articles regardless of the risk of the article.

## APU ETSO



Design Organisation  
Approval Required



Production Organisation  
Approval Required

## All other ETSO articles



**Alternative procedures** to a Design  
Organisation Approval



Production Organisation  
Approval Required

# Current ETSO process- identified issues

- ✈ The lack of proportionality in the ETSO process results in:
  - ✈ Over stringent organisational requirements for lower risk products;
  - ✈ High regulatory burden for smaller organisations manufacturing low risk products;
  - ✈ Difficulties in the approval of higher risk ETSO articles (e.g. FMS, IMA) or integrating these articles during type certification due to issues with the design organisation;
  - ✈ Challenges to EASA's resources due to focussing on high number of lower risk ETSO articles.

# Initial considerations for a proportionate ETSO process



- Different categories of ETSO articles based upon risk and complexity (using defined criteria);
- Different organisational requirements and oversight based upon the category;
- Not necessarily requiring an organisation approval depending on the nature and risk of the activity;
- Consider the use of a declaration of compliance instead of a certificate;
- Include Non-Installed Equipment in the process;
- Regulatory requirements contained in Part 21 and certification requirements in a CS.

# Initial thoughts on a proportionate ETSO process

## 'Advanced' ETSO



Most stringent  
organisational  
requirements



ETSO authorisation  
issued by EASA

## 'Standard' ETSO



No significant changes to  
current organisational  
requirements (possible  
alleviations)



ETSO authorisation  
issued by EASA

## 'Lower risk' ETSO



Possible alleviations to  
organisational  
requirements



Possible use of  
alternatives to EASA  
issued ETSO Authorisation  
(i.e. declarations)



# Next steps for NIE and updated ETSO process

- Opportunity to make the ETSO system more proportionate and risk based;
- EASA intends to work collaboratively with industry to evolve the concept before making a regulatory proposal;
  - Dedicated workshops will be arranged to discuss proposals with stakeholders
- Depending upon stakeholder feedback and subject to a regulatory impact assessment, provide a regulatory proposal in an EASA Opinion.

# Thank you for your attention!

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# Options for ETSO proportionality

Option	Certificate issued by EASA	Certificate issued by Organisation	No certificate, declaration by Organisation	Approved Design Organisation	Alternative Procedures to a Design Org approval	Declared Design Organisation	Approved Production Organisation	Declared Production Organisation
Current ETSO								
A	✓	X	X	✓	X	X	✓	X
B	✓	X	X	X	✓	X	✓	X
C	✓	X	X	X	✓	X	X	✓
D	✓	X	X	X	X	✓	X	✓
E	X	✓	X	✓	X	X	✓	X
F	X	X	✓	✓	X	X	✓	X
G	X	X	✓	X	X	✓	X	✓

These are possible options available within the Basic Regulation.

# Options for ETSO proportionality

Option	Certificate issued by EASA	Certificate issued by Organisation	No certificate, declaration by Organisation	Approved Design Organisation	Alternative Procedures to a Design Org approval	Declared Design Organisation	Approved Production Organisation	Declared Production Organisation
Advanced ETSO	✓	X	X	✓	X	X	✓	X
Standard ETSO	✓	X	X	X	✓	X	✓	X
C	✓	X	X	X	✓	X	X	✓
D	✓	X	X	X	X	✓	X	✓
E	X	✓	X	✓	X	X	✓	X
F	X	X	✓	✓	X	X	✓	X
Declarations	X	X	✓	X	X	✓	X	✓