



# Terms of Reference

for rulemaking task RMT.0400 (OPS.090)

## Amendment of requirements for flight recorders and underwater locating devices

ISSUE 3

### Issue/rationale

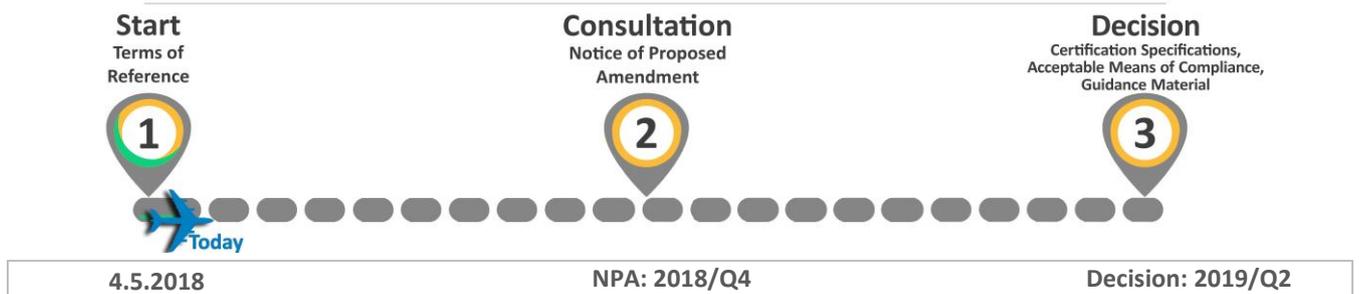
CAT.GEN.MPA.210 ‘Location of an aircraft in distress — Aeroplanes’ was introduced by Commission Regulation (EU) 2015/2338 into Annex IV (Part-CAT) of Regulation (EU) 965/2012 (Air OPS regulation) in order to enhance the localisation of accidents occurring in oceanic and remote areas. Given that this new rule only defines the applicability criteria and the general concept, related acceptable means of compliance (AMC) and guidance material (GM) are needed.

AMC and GM to the air operation rules addressing flight recorders and emergency locator transmitters may also have to be adapted for consistency with CAT.GEN.MPA.210.

In addition, initial airworthiness requirements should be defined for the aircraft systems used to comply with this rule.

<b>Action area:</b>	Aircraft tracking, rescue operations and accident investigation		
<b>Affected rules:</b>	<ul style="list-style-type: none"> <li>— Air operations: AMC/GM to Annex I (Definitions), Annex III (Part-ORO), Annex IV (Part-CAT), Annex VI (Part-NCC) and Annex VIII (Part-SPO)</li> <li>— Initial airworthiness: CS-25, CS-ETSO, CS-MMEL and their related AMC/GM</li> <li>— Air Traffic Management/Air Navigations Services: CS-ACNS</li> </ul>		
<b>Affected stakeholders:</b>	Aircraft operators and manufacturers		
<b>Driver:</b>	Safety	<b>Rulemaking group:</b>	No
<b>Impact assessment:</b>	Light	<b>Rulemaking Procedure:</b>	Standard

● EASA rulemaking process milestones



## 1. Why we need to change the rules — issue/rationale

### Safety issues already addressed under RMT.0400

The European Aviation Safety Agency (EASA) started this rulemaking task (RMT) to address the need for enhancing flight recorder technology and accident localisation: in particular, this RMT introduced requirements to discontinue obsolete recording technologies, to extend the minimum recording duration of the cockpit voice recorder (CVR) and to extend the minimum transmission time of the underwater locating device (ULD) attached to a flight recorder. It also introduced a requirement to equip some categories of large aeroplanes with a low-frequency underwater locating device which has a long underwater detection range.

EASA issued on 20 December 2013 Notice of Proposed Amendment (NPA) 2013-26<sup>1</sup> 'Amendment of requirements for flight recorders and underwater locating devices'. After a public consultation, Opinion No 01/2014<sup>2</sup> and Comment-Response Document (CRD) 2013-26<sup>3</sup> were published on 6 May 2014. The Annex to Opinion No 01/2014 contains draft implementing rules, while CRD 2013-26 contains draft AMC and GM.

Commission Regulation (EU) 2015/2338<sup>4</sup> of 11 December 2015, which is based on Opinion No 01/2014, introduced new air operation rules addressing the safety issues of obsolete recording technologies, insufficient recording duration of the CVR and insufficient performance of ULDs. Following the publication of Commission Regulation (EU) 2015/2338, EASA issued Decisions 2015/021/R and 2015/030/R, which provided AMC and GM for complying with these new rules.

In Commission Regulation (EU) 2015/2338, the air operation rule regarding the protection of CVR recordings was modified by the EASA Committee<sup>5</sup>. Decision 2016/012/R was then issued in order to provide, among others, AMC and GM for complying with this amended rule.

Commission Regulation (EU) 2015/2338 introduced a new air operation rule requiring some categories of large aeroplanes operated for commercial air transport to be tracked throughout the flight. Decision 2017/023/R was then issued in order to provide AMC and GM for complying with this rule.

### Safety issues which remain to be addressed

Commission Regulation (EU) 2015/2338 introduced a new air operation rule regarding location of an aircraft in distress (refer to point CAT.GEN.MPA.210 of Part-CAT). This new rule only defines the applicability criteria and the general concept of location of an aircraft in distress. Performance requirements are not specified and no particular solution is prescribed. Therefore, AMC and GM need to be adopted for this rule. In 2015, the EASA Advisory Bodies were consulted on such draft AMC and GM, but given that the International Civil Aviation Organization (ICAO) was still preparing standards on location of an aircraft in distress at that time, it was then decided to put this activity on hold until complete provisions would be delivered by ICAO.

<sup>1</sup> See [http://easa.europa.eu/document-library/notices-of-proposed-amendment?search=2013-26&date\\_filter%5Bvalue%5D%5Byear%5D=&=Apply](http://easa.europa.eu/document-library/notices-of-proposed-amendment?search=2013-26&date_filter%5Bvalue%5D%5Byear%5D=&=Apply)

<sup>2</sup> See [http://easa.europa.eu/document-library/opinions?search=01%2F2014&date\\_filter%5Bvalue%5D%5Byear%5D=&regulations=All&=Apply](http://easa.europa.eu/document-library/opinions?search=01%2F2014&date_filter%5Bvalue%5D%5Byear%5D=&regulations=All&=Apply)

<sup>3</sup> See [http://easa.europa.eu/document-library/comment-response-documents?search=2013-26&date\\_filter\\_1%5Bvalue%5D%5Byear%5D=&=Apply](http://easa.europa.eu/document-library/comment-response-documents?search=2013-26&date_filter_1%5Bvalue%5D%5Byear%5D=&=Apply)

<sup>4</sup> Commission Regulation (EU) 2015/2338 of 11 December 2015 amending Regulation (EU) No 965/2012 as regards requirements for flight recorders, underwater locating devices and aircraft tracking systems (OJ L 330, 16.12.2015, p.1-11) <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32015R2338>

<sup>5</sup> Committee established by article 65 of Regulation (EC) 216/2008, and composed of experts of the European Commission and EU Member States.



In the meantime, EASA identified the need to enlarge the scope of RMT.0400 to initial airworthiness requirements. This is because the conditions for approving some solutions to comply with CAT.GEN.MPA.210 need to be defined by certification specifications (CSs). Hence, the re-issuance of the Terms of Reference (ToR) of RMT.0400 aims to include also CSs and ATM/ANS rules (CS-ACNS, CS-25, CS-ETSO, CS-MMEL) in the scope of this task.

The following safety recommendations (SRs) issued by safety investigation authorities have already been addressed at rule level with the adoption of CAT.GEN.MPA.210. However, the circumstances of the accidents after which they were issued will be considered when developing AMC and GM for CAT.GEN.MPA.210. New SRs related to this task may also be considered after the publication of this ToR, where appropriate.

- FRAN-2011-018: ‘The BEA recommends that EASA and ICAO study the possibility of making mandatory, for airplanes making public transport flights with passengers over maritime or remote areas, the activation of the emergency locator transmitter (ELT), as soon as an emergency situation is detected on board.’ (Accident of an Airbus A330 registered F-GZCP, on 01/06/2009, at en route between Rio de Janeiro and Paris - North Atlantic Ocean).
- Safety recommendation issued by the Australian Transport Safety Bureau (ATSB): ‘Aircraft operators, aircraft manufacturers, and aircraft equipment manufacturers investigate ways to provide high-rate and/or automatically triggered global position tracking in existing and future fleets.’ (The operational search for MH370, 3 October 2017)

Note 1: There is no exemption<sup>6</sup> in accordance with Article 14 ‘Flexibility provisions’ or Article 22 ‘Air operation certification’ of Regulation (EC) No 216/2008<sup>7</sup> pertinent to the scope of this RMT.

Note 2: No alternative means of compliance (AltMoC) having an impact on the development of the content of this RMT is known to this date.

### ICAO and third countries references relevant to the content of this RMT

#### References considered

ICAO Annex 6, Part I.

Note 1: There are several differences between CAT.GEN.MPA.210 and Standards in ICAO Annex 6 Part I (on the concept and the applicability criteria). However, the aim of this RMT is only to facilitate the implementation of CAT.GEN.MPA.210 and to ensure consistency with flight recorder rules and ELT rules. Hence this rulemaking activity will not address these differences.

Note 2: There are yet no equivalent requirement in the federal aviation regulations (FAR) of the United States.

<sup>6</sup> Exemptions having an impact on the development of the content of this RMT and referring to:

- Article 14.1: Measures taken as an immediate reaction to a safety problem
- Article 14.4: Exemptions from substantive requirements laid down in the Basic Regulation and its implementing rules in the event of unforeseen urgent operational circumstances or operational needs of a limited duration;
- Article 14.6: Derogation from the rule(s) implementing the Basic Regulation where an equivalent level of protection to that attained by the application of the said rules can be achieved by other means; and
- Article 22.2(b): Individual flight time specifications schemes deviating from the applicable certification specifications which ensure compliance with essential requirements and, as appropriate, the related implementing rules.

<sup>7</sup> 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. What we want to achieve — objective

The overall objectives of the EASA system are defined in Article 2 of Regulation (EC) No 216/2008. This project will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 1.

The main specific objective of this RMT is to ensure that the industry implements solutions which are compliant with CAT.GEN.MPA.210 and which enhance the localisation of large aeroplanes operated for commercial air transport so that if an accident occurs in an oceanic or a remote area:

- search and rescue operations can be more effective; and
- the collection of evidence by safety investigation authorities is accelerated.

Another specific objective is to ensure the consistency with existing requirements on flight recorders and ELTs. Indeed some candidate solutions to comply with CAT.GEN.MPA.210 rely on an ELT or a flight recorder. In addition, low frequency ULD carriage requirement and ELT carriage requirements applicable to aeroplanes in the rules for air operations include a link to CAT.GEN.MPA.210 (see CAT.IDE.A.280, CAT.IDE.A.285, NCC.IDE.A.215, SPO.IDE.A.190).

## 3. How we want to achieve it

This RMT intends to amend applicable CSs and AMC/GM, thus allowing to certify design solutions compliant with CAT.GEN.MPA.210 by:

- creating new CSs (and when necessary AMC) for some selected design solutions so that they meet the intent of CAT.GEN.MPA.210;
- creating AMC and GM, both in the initial airworthiness requirements, ATM/ANS and in the air operation rules, to support compliance with CAT.GEN.MPA.210; and
- amending where necessary the existing AMC and GM to air operation rules related to the ELTs (in particular CAT.IDE.A.280, NCC.IDE.A.215, SPO.IDE.A.190), the low-frequency ULD (CAT.IDE.A.285) and flight recorders.

## 4. What are the deliverables

The following deliverables may be issued:

- an NPA proposing changes and/or new (CS), as well as new or amended AMC and GM both in the initial airworthiness requirements, ATM/ANS and in the air operation rules, to support compliance with CAT.GEN.MPA.210; and
- a comment-response document (CRD) and Executive Director Decision(s).

## 5. How we consult

For this RMT, an NPA is planned, which means a public consultation will take place. In addition, a few technical workshops are planned to ensure that the new CSs and AMC can be implemented by the industry in time for the mandate and that they do not adversely affect Search and Rescue (SAR) operations.



The role of the technical workshops will be to comment on EASA's proposals. For example, criteria regarding robustness need to be coordinated with aircraft manufacturers, and accuracy criteria need to take into account the needs of the end users (SAR services and investigation authorities).

## 6. Interface issues

The ongoing RMT.0249 'Recorders installation and maintenance thereof – certification aspects' deals with CSs for deployable flight recorders, among other issues. The deployable flight recorder has been identified as one possible solution to comply with CAT.GEN.MPA.210.

In addition, equipment-level performance aspects are usually better addressed by an amendment to CS-ETSO. Regular updates of CS-ETSO are performed in the framework of RMT.0457.

Finally, aspects related to the minimum equipment list could be addressed either in the current RMT.0400 or through a regular update of CS-MMEL (RMT.0499).

## 7. Reference documents

### 7.1. Related regulations

- Commission Regulation (EU) 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p.1).
- Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 221, 21.8.2012, p.1).

### 7.2. Affected decisions

- Decision 2014/017/R of the Executive Director of the European Aviation Safety Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part ORO of Regulation (EU) No 965/2012 and repealing Decision 2012/017/R of the Executive Director of the Agency of 24 October 2012, 'AMC and GM to Part-ORO — Issue 2'.
- Decision 2014/015/R of the Executive Director of the European Aviation Safety Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-CAT of Regulation (EU) No 965/2012 and repealing Decision 2012/018/R of the Executive Director of the Agency of 24 October 2012, 'AMC and GM to Part-CAT — Issue 2'.
- Decision N°2013/021/Directorate R of the Executive Director of the European Aviation Safety Agency of 23 August 2013 on adopting Acceptable Means of Compliance and Guidance Material for non-commercial operations with complex motor-powered aircraft (Part-NCC).
- Decision 2014/018/R of the Executive Director of the European Aviation Safety Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-SPO of Regulation (EU) No 965/2012, 'AMC and GM to Part-SPO'.

- Decision 2013/031/R of the Executive Director of the Agency of 17 December 2013 adopting Certification Specifications for Airborne Communications Navigation and Surveillance (CS-ACNS), CS-ACNS - Initial Issue.
- Decision 2014/004/R of the Executive Director of the Agency of 31 January 2014 adopting Certification Specifications and Guidance Material for Master Minimum Equipment List 'CS-MMEL – Initial issue'.
- Executive Director Decision 2013/002/RM of 17 October 2003 on certification specifications, including airworthiness codes and acceptable means of compliance, for large aeroplanes (CS-25).
- Executive Director Decision 2016/029/R of 15 December 2016 amending Certification Specifications for European Technical Standard Orders (CS-ETSO), 'CS-ETSO – Amendment 12'.

### 7.3. Reference documents

- ICAO Annex 6, Operation of Aircraft, Part I - International Commercial Air Transport – Aeroplanes, Amendment 41, July 2016 (<https://store.icao.int/>).
- Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004, laying down the framework for the creation of the single European sky (OJ L96, 31.3.2004, p.1), (<https://eur-lex.europa.eu/homepage.html>)
- Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011, laying down common requirements for the provision of air navigation service providers and amending Regulations (EC) No 482/2008 and No 691/2010 (OJ L271, 18.10.2011, p.23, (<https://eur-lex.europa.eu/homepage.html>))
- ICAO Working paper - Multidisciplinary meeting regarding Global tracking, Montreal, 12 to 13 May 2014 (<https://www.icao.int/safety/globaltracking/Pages/Homepage.aspx>).
- Global Aeronautical Distress & Safety System (GADSS) Concept of Operations, version 6.0, 7 June 2017 (<https://www.icao.int/safety/globaltracking/Pages/Homepage.aspx>).
- BEA report - Triggered transmission of flight data working group, 18 March 2011 ([https://www.bea.aero/uploads/tx\\_elyextendttnews/triggered.transmission.of.flight.data.pdf](https://www.bea.aero/uploads/tx_elyextendttnews/triggered.transmission.of.flight.data.pdf))
- ATSB Transport Safety Report - MH370 - Definition of underwater search areas, 18 August 2014 (<https://www.atsb.gov.au/mh370/>).
- ATSB Transport Safety Report - MH370 - Definition of underwater search area, update, 3 December 2015. (<https://www.atsb.gov.au/mh370/>).
- ATSB Transport Safety Report - MH370 - Flight path analysis, update, 8 October 2014. (<https://www.atsb.gov.au/mh370/>).
- ATSB Transport Safety Report - The operational search for MH370, 3 October 2017. (<https://www.atsb.gov.au/mh370/>).
- BEA sea search operations - Accident on 1st June 2009 to the Airbus A330-203 registered F-GZCP (<https://www.bea.aero/en/investigation-reports/notified-events/detail/event/accident-de-lairbus-a330-203-immatricule-f-gzcp-et-exploite-par-air-france-survenu-le-01062009-da/>).

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- EUROCAE Document 112A - Minimum operational performance specification for crash protected airborne recorder systems, September 2013 (<https://eshop.eurocae.net/eurocae-documents-and-reports/>).
  - EUROCAE Document 237 - Minimum aviation system performance specification for criteria to detect in-flight aircraft distress events to trigger transmission of flight information, February 2016 (<https://eshop.eurocae.net/eurocae-documents-and-reports/>).
  - COSPAS-SARSAT C/S T.001 Specification for COSPAS-SARSAT 406 MHz Distress Beacons (<https://www.cospas-sarsat.int/en/documents-pro/system-documents> )
  - COSPAS-SARSAT C/S T.007 COSPAS-SARSAT 406 MHz Distress Beacon Type Approval Standard (<https://www.cospas-sarsat.int/en/documents-pro/system-documents> )
  - COSPAS-SARSAT C/S T.018 Specification for Second-Generation COSPAS-SARSAT 406-MHz Distress Beacons (<https://www.cospas-sarsat.int/en/documents-pro/system-documents> )

