



Terms of Reference

for rulemaking task RMT.0709

Prevention of catastrophic accidents due to rotorcraft hoist issues

ISSUE 1

Issue/rationale

The current certification specifications relating to the certification of rotorcraft hoists do not provide sufficient clarity on what is required to achieve certification and are not being appropriately applied. In addition, some failure modes are not consistently taken into consideration, and this is reflected in in-service experience. A significant number of safety occurrences have been reported that are attributed to rotorcraft hoist issues.

Improved industry standards that are being developed will address some of the existing design shortfalls that have been identified. This rulemaking task (RMT) will consider how best to integrate these industry standards into the certification specifications for rotorcraft hoists. The improvements in the standards relating to the certification of rotorcraft are expected to significantly reduce the risk of catastrophic accidents in human external cargo operations.

Action area:	Rotorcraft		
Affected rules:	CS-ETSO (European Technical Standard Orders)		
Affected stakeholders:	Design organisation approval (DOA) holders; production organisation approval (POA) holders; helicopter operators		
Driver:	Safety	Rulemaking group:	No
Impact assessment:	Yes	Rulemaking Procedure:	Standard

● EASA rulemaking process milestones



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

The certification requirements for external loads for rotorcraft conducting human external cargo (HEC) and non-HEC (NHEC) operations were developed and introduced into Federal Aviation Regulations (FARs) 27 and 29 in 1999. These were later incorporated into the EASA Certification Specifications for Small Rotorcraft (CS-27) and Large Rotorcraft (CS-29). However, most hoist designs are derived from models that predate the change in the certification specifications for external loads, and their compliance is potentially questionable. A recent review of in-service incidents/accidents by EASA has highlighted that the introduction of some design improvements could potentially mitigate some of the catastrophic occurrences. These occurrences have been happening with a probability of an order of magnitude lower than the safety level required by the CSs. The current CSs and acceptable means of compliance (AMC) require that such occurrences should have a probability lower than 1×10^{-9} per flight hour (FH).

In light of the essential requirements contained in Regulation (EU) 2018/1139¹ (the Basic Regulation), the approach to the certification of hoists and external loads should now be revisited, as some failure modes are not consistently taken into consideration, and this is reflected in in-service experience.

There are no:

- safety recommendations (SRs) that are pertinent to the scope of this RMT;
- exemptions that are pertinent to the scope of this RMT;
- direct references to ICAO Standards and Recommended Practices (SARPs); or
- references to European Union (EU) regulatory material that is relevant to this RMT.

2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 1 of the Basic Regulation. This RMT will contribute to the achievement of the overall objectives by addressing the issues outlined in Section 1.

The primary objective of this RMT is to reduce the likelihood of catastrophic occurrences during rotorcraft hoisting operations through improved designs and eliminating design features that have been shown to contribute to these in-service occurrences on the existing hoist models.

The specific objective of this proposal is to reduce the number of helicopter accidents and incidents caused by rotorcraft hoist issues.

¹ Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (<https://eurlex.europa.eu/legal-content/EN/TXT/?qid=1535612134845&uri=CELEX:32018R1139>).

3. How we want to achieve it

The objective in Section 2 can be achieved by:

- improving the current designs of rotorcraft hoists through the development of improved standards to reduce the likelihood of some of the most significant failure modes, which are not considered in current designs; the possibility of developing a European technical standard order (ETSO) will be taken into account;
- taking into account the current development of industry standards for rotorcraft hoists when establishing the appropriate certification requirements for hoists; and
- considering the feasibility of introducing improvements to helicopter hoist standards to require a reduction in the probability of known failure modes or elimination of the failure modes.

4. What are the deliverables

The expected deliverables of this RMT are:

- a notice of proposed amendment (NPA) that proposes amendments to CS-ETSO; and
- an ED Decision that amends CS-ETSO based on the proposal consulted in the NPA and considering the comments received.

5. How we consult

A public consultation will take place through an NPA in accordance with Article 7 of the Rulemaking Procedure².

² EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. 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 the Agency for the issuing of opinions, certification specifications, acceptable means of compliance and guidance material (<https://www.easa.europa.eu/sites/default/files/dfu/EASA%20MB%20Decision%2018-2015%20on%20Rulemaking%20Procedure.pdf>).



6. Reference documents

6.1. Affected decisions

- Executive Director Decision 2003/10/RM of 24 October 2003 amending Certification Specifications, including airworthiness codes and Acceptable Means of Compliance, for European Technical Standard Orders (« CS-ETSO »)

