



Halon — Update of Part-26 to comply with ICAO Standards

RELATED NPA/CRD 2014-26 — RMT.0560 — 29.7.2016

EXECUTIVE SUMMARY

This Opinion addresses an environmental issue related to the replacement of halon in lavatory waste receptacles and handheld (portable) fire extinguishers for use in cabins and crew compartments. It applies to large aeroplanes (CS-25) and large rotorcraft (CS-29).

This Opinion is linked with amendments to International Civil Aviation Organization (ICAO) Annex 6, applicable as from 15 December 2011, but not yet transposed into common European Union (EU) rules:

- Amendment 35 to Part I (International Commercial Air Transport — Aeroplanes);
- Amendment 30 to Part II (International General Aviation — Aeroplanes); and
- Amendment 16 to Part III (International Operations — Helicopters).

The specific objective of this Opinion is to gradually mitigate the environmental impact that halon extinguishing agents in firefighting equipment have on the atmosphere and climate change, and to progressively achieve a 'halon-free' aviation, which balances the environmental concerns with safety-enhancing and cost-efficient rules.

This Opinion proposes an amendment to Annex I (Part-26) to Regulation (EU) 2015/640 — Additional airworthiness specifications, laying out the framework for the replacement of halon in lavatories and in handheld fire extinguishers on newly produced aircraft (i.e. 'forward fit') based on existing type certificates (TCs).

Although the dates for halon replacement proposed in this Opinion are later than those of ICAO Annex 6, the proposed changes are expected to ensure compliance therewith in the long term.

Applicability		Process map	
Affected regulations and decisions:	— Annex I (Part-26) to Regulation (EU) 2015/640; — ED Decision 2015/013/R (CS-26)	Terms of reference (ToR), Issue 2:	18.9.2014
Affected stakeholders:	Large aircraft operators and manufacturers	Concept paper (CP):	No
Driver/origin:	Environment/legal requirements	Rulemaking group (RMG):	Yes
Reference:	— ICAO State Letter AN 11/1.3.24-11/44 (Amendment 35 to Annex 6, Part I); — ICAO State Letter AN 11/6.3.24-11/45 (Amendment 30 to Annex 6, Part II); — ICAO State Letter AN 11/32.3.8-11/46 (Amendment 16 to Annex 6, Part III)	Regulatory impact assessment (RIA) type:	Light
		Technical consultation during notice of proposed amendment (NPA) drafting:	No
		NPA publication date:	18.11.2014
		NPA consultation duration:	3 months
		Review group (RG):	Yes
		Focused consultation:	No
		Decision expected publication in:	2017/Q3



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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Opinion in line with Regulation (EC) No 216/2008¹ (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure².

This rulemaking activity is included in the [5-year Rulemaking Programme](#), under RMT.0560. The scope and timescales of the task were defined in the related [ToR](#).

The *draft* text of this Opinion has been developed by the Agency, based on the input of RMG RMT.0560. All interested parties were consulted through [NPA 2014-26](#)³. 15 comments were received from interested parties, including industry, national aviation authorities (NAAs) and social partners.

The Agency has addressed and responded to the comments received on the NPA. The comments received and the Agency's responses thereto are presented in Comment-Response Document (CRD) 2014-26⁴.

The *final* text of this Opinion and the draft regulation have been developed by the Agency, based on the input of RG RMT.0560.

The process map on the title page summarises the major milestones of this rulemaking activity.

1.2. The structure of this Opinion and related documents

Chapter 1 of this Opinion contains the procedural information related to this task. Chapter 2 'Explanatory Note' explains the core technical content. The draft rule text proposed by the Agency is published on the Agency's website⁵.

1.3. The next steps in the procedure

This Opinion contains proposed amendments to European Union (EU) regulations. It is addressed to the European Commission to be used as a technical basis in order to prepare a legislative proposal.

The Decision containing the related certification specifications (CS) and acceptable means of compliance (AMC)/guidance material (GM) will be published by the Agency when the related regulation is adopted by the European Commission.

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).

² The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such a process has been adopted by the Agency's 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 and guidance material.

³ In accordance with Article 52 of the Basic Regulation and Articles 6(3) and 7 of the Rulemaking Procedure.

⁴ <https://www.easa.europa.eu/document-library/comment-response-documents>

⁵ <http://easa.europa.eu/document-library/opinions>



2. Explanatory Note

2.1. Issues to be addressed

Given the considerable time gap between the 'end dates' for the replacement of halon from newly manufactured aircraft in Regulation (EU) No 744/2010⁶ (i.e. 2020 for lavatories, and 2025 for handheld fire extinguishers, respectively) and in the ICAO Standards (i.e. 2011 for lavatories, and 2016 for handheld fire extinguishers, respectively), it is necessary to align Part-26/CS-26 with ICAO Annex 6 in relation to halon matters:

- Amendment 35 to Part I (International Commercial Air Transport — Aeroplanes);
- Amendment 30 to Part II (International General Aviation — Aeroplanes); and
- Amendment 16 to Part III (International Operations — Helicopters),

are all applicable as from 15 December 2011, have not yet been transposed into EU regulations.

2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2.

The specific objective of this proposal is, therefore, to amend Part-26 in order to comply with the ICAO Standards of ICAO Annex 6 for lavatory waste receptacles and handheld fire extinguishers in cabins and crew compartments on newly produced (i.e. forward-fit) large aeroplanes and large helicopters. These amended rules are proposed to apply from the date specified in the foreseen Regulation and do not foresee to be applied retroactively.

2.3. Outcome of the consultation

The individual comments received on NPA 2014-26, as well as the responses thereto, are contained in CRD 2014-26. The comments received did not lead to a change in the RIA.

2.4. Summary of the RIA

2.4.1 General

The RIA focused on '**forward fit of lavatory and handheld fire extinguishers**' because:

- halon has already been removed from the Agency's CSs that cover new applications for TCs (in compliance with ICAO Annex 8 and with the 'cut-off' dates in Regulation (EU) No 744/2010);
- retrofit is not mandated by ICAO, but already established in the EU by said Regulation; and
- ICAO has adopted Standards in its Annex 6 that, for the time being, cover only handheld and lavatory fire extinguishers.

⁶ Commission Regulation (EU) No 744/2010 of 18 August 2010 amending Regulation (EC) No 1005/2009 of the European Parliament and of the Council on substances that deplete the ozone layer, with regard to the critical uses of halons (OJ L 218, 19.8.2010, p. 2)



2.4.2 Handheld fire extinguishers

For handheld fire extinguishers, 3 options have been identified and compared in [NPA 2014-26](#), using the multi-criteria analysis (MCA):

- Option 0 (i.e. ‘do nothing’) is not a viable option although market forces will eventually impose transition anyway due to the decreasing halon supplies, and even though the ‘end dates’ in Regulation (EU) No 744/2010 still apply. In fact, Option 0 would not transpose the existing ICAO Standards, which are mandatory according to ICAO Doc 7300 — Convention on International Civil Aviation⁷ unless a difference is notified. Furthermore, it would contravene Article 2(2)(d) of the Basic Regulation, which mandates the Agency to take in due account the ICAO provisions, including the amendments to the Annexes to the Chicago Convention.
- Option 1 (i.e. forward fit on large aircraft from 31 December 2016 onwards, date as standardised by ICAO), although being slightly positive for regulatory harmonisation, is, however, overall almost as negative as Option 0, and, in particular, significantly negative in economic terms and highly negative from the environmental perspective.
- Option 2 (i.e. forward fit on large aircraft, however as from 2018 and not 2016) is the only one having a clearly positive overall score, while all options are equivalent and neutral in terms of safety. Option 2 is the best from the environmental perspective.

In conclusion, Option 2 (i.e. forward fit on large aircraft, as standardised by ICAO, however as from 2018 and not 2016) is the proposed one.

2.4.3 Lavatory fire extinguishers

For fixed fire extinguishers installed in lavatory waste receptacles, 4 options have been identified and compared in [NPA 2014-26](#), using the MCA:

- Option 0 (‘do nothing’) is not a long-term viable option due to the decreasing halon supplies and the non-harmonisation with ICAO and the Federal Aviation Administration (FAA) since no action would be taken. Overall, this Option has a negative score.
- Option 1 (minimum performance standard (MPS)-based rules to mandate forward fit as from 2015, which is 4 years later than required by ICAO) is nevertheless positive from the regulatory harmonisation point of view since it is based on the FAA MPS. It is the only Option having a positive overall score although minimal.
- Option 2 (forward fit of HFC-236fa or HFC-227ea) has a significantly negative overall score and is in particular negative from the economic and harmonisation point of view.
- Option 3 (retrofit on aircraft delivered on or after 31 December 2011), although prescribing a corrective action to comply ex post with the ICAO SARP, is the most negative one in particular from the economic point of view.

Hence, Option 1 is the proposed one. However, since the 2015 deadline could not be met, a mandate date for one year after the entry into force of the new Regulation has been set in the proposal.

⁷ See <http://www.icao.int/publications/pages/doc7300.aspx>



2.5. Overview of the proposed amendments

The proposed amendments to Regulation (EU) 2015/640⁸ (Part-26) are:

- insertion of a new definition in Article 2 to extend the applicability of this Regulation from large aeroplanes to large helicopters;
- addition of new 26.170 Fire extinguishers in Subpart B to mandate the use of halon alternatives in newly produced large aeroplanes, based on existing TCs, for fire extinguishers located in lavatories, cabins and crew compartments; and
- addition of a new Subpart C (26.400 Fire extinguishers) to mandate the use of halon alternatives in newly produced large helicopters for fire extinguishers located in lavatories, cabins and flight crew compartments.

The proposed changes to ED Decision 2015/013/R (CS-26) are:

Book 1

- New CS 26.170 Fire extinguishers has been added to Subpart B to detail the CSs for the fire-extinguishing agents used in newly produced large aeroplanes for fire extinguishers located in lavatories, cabins and flight crew compartments.
- New CS 26.400 Fire extinguishers has been added to Subpart C to detail the CSs for the fire-extinguishing agents used in newly produced large helicopters for fire extinguishers located in lavatories, cabins and flight crew compartments.

Book 2

- New GM1 26.170(b) Fire extinguishers has been added to Subpart B to complement CS 26.170.
- New GM1 26.400(b) Fire extinguishers has been added to Subpart C to complement CS 26.400.

Done at Cologne, on 29 July 2016.

Patrick KY
Executive Director

⁸ Commission Regulation (EU) 2015/640 of 23 April 2015 on additional airworthiness specifications for a given type of operations and amending Regulation (EU) No 965/2012 (OJ L 106, 24.4.2015, p. 18).



3. References

3.1. Affected regulations

Commission Regulation (EU) 2015/640 of 23 April 2015 on additional airworthiness specifications for a given type of operations and amending Regulation (EU) No 965/2012 (OJ L 106, 24.4.2015, p. 18)

3.2. Affected decisions

ED Decision 2015/013/R of 8 May 2015 adopting Certification Specifications for additional airworthiness specifications for operations 'CS-26 — Issue 1'

3.3. Reference documents

The Agency/European Commission

- Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer (OJ L 286, 31.10.2009, p 1)
- Commission Regulation (EU) No 744/2010 of 18 August 2010 amending Regulation (EC) No 1005/2009 of the European Parliament and of the Council on substances that deplete the ozone layer, with regard to the critical uses of halons (OJ L 218, 19.8.2010, p. 2)

ICAO

- ICAO Doc 7300 – Convention on International Civil Aviation, Chicago, 7 December 1944, and subsequent editions
- ICAO Resolution A38-9 — Halon replacement, adopted at the 38th Session of the Assembly, provisional Edition, November 2013
- ICAO State Letter AN 11/1.3.24-11/44 on adoption of Amendment 35 to ICAO Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, regarding halon replacement, 11 July 2011
- ICAO State Letter AN 11/6.3.24-11/45 on adoption of Amendment 30 to ICAO Annex 6 — Operation of Aircraft, Part II — International General Aviation — Aeroplanes, regarding halon replacement, 11 July 2011
- ICAO State Letter AN 11/32.3.8-11/46 on adoption of Amendment 16 to ICAO Annex 6 — Operation of Aircraft, Part III — International Operations — Helicopters, regarding halon replacement, 11 July 2011

Halons Technical Options Committee (HTOC)

- Halons Technical Options Committee Progress Report, Vol 1, May 2012
- United Nations Environment Programme (UNEP), Report of the Halons Technical Options Committee — 2010 Assessment, March 2011

