



Comment-Response Document 2013-11

Regular update of CS-25

CRD TO NPA 2013-11 — RMT.0500 — 15.7.2015

Related Decision 2015/019/R

EXECUTIVE SUMMARY

The specific objective of Notice of Proposed Amendment (NPA) 2013-11 (published on 10.7.2013) was to propose an amendment to CS-25 based on the selection of non-complex, non-controversial, and mature subjects. The ultimate objective is to increase safety.

NPA 2013-11 proposed amendments to existing and the creation of several new cabin safety-related Acceptable Means of Compliance (AMC), the creation of new security specifications and AMC for chemical oxygen generators, and the creation of two new appendices to AMC 25-11 'Electronic Flight Deck Displays'.

This Comment-Response Document (CRD) contains the comments received on NPA 2013-11 and the responses provided thereto by the Agency.

Based on the comments and the responses, Decision 2015/019/R was developed.

Summary:

Cabin safety: Only one comment was received which did not lead to changes to the proposed text. Two slight changes were made by the Agency to the proposed AMC 25.793 and AMC 25.809.

Chemical oxygen generators: No comments received. Some changes were made by the Agency to the proposed text in order to achieve harmonisation with the FAA final rule and Advisory Circular.

Avionics: The proposed new appendices to AMC 25-11 (Appendix 6 'Head-Up Display' and Appendix 7 'Weather Display') attracted most of the comments. These comments, together with the consideration of the final FAA AC 25-11B, were used to bring some clarifications and improvements to the proposed text. Few differences still remain compared to the FAA AC, which reflect some rule differences.

Applicability		Process map	
Affected regulations and decisions:	ED Decision 2003/02/RM of 17 October 2003 (CS-25)	Concept Paper:	No
Affected stakeholders:	Large aeroplane manufacturers; large aeroplane modifiers; avionics equipment suppliers; cabin safety equipment suppliers; and operators	Terms of Reference:	26.6.2013
Driver/origin:	Safety; EASA Rulemaking Procedure (EASA MB Decision 01-2012): Article 3.5. on 'systematic tasks'	Rulemaking group:	No
Reference:	N/A	RIA type:	Light
		Technical consultation during NPA drafting:	No
		Publication date of the NPA:	10.7.2013
		Duration of NPA consultation:	3 months
		Review group:	No
		Focussed consultation:	No
		Publication date of the Opinion:	N/A
		Publication date of the Decision:	2015/Q2



Table of contents

1. Procedural information 3

1.1. The rule development procedure..... 3

1.2. The structure of this CRD and related documents 3

2. Summary of comments and responses 4

3. Individual comments and responses..... 6



1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this CRD 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 Agency's [2013–2016 Rulemaking Programme](#) under RMT.0500. The scope and timescale of the task were defined in the related Terms of Reference (see process map on the title page).

The draft Certification Specifications (CS)/Acceptable Means of Compliance (AMC) have been developed by the Agency. All interested parties were consulted through NPA 2013-11³, which was published on 10 July 2013. 22 comments were received from interested parties, including industry and national aviation authorities.

The text of this CRD has been developed by the Agency.

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

1.2. The structure of this CRD and related documents

This CRD provides a summary of the comments and responses, as well as the full set of individual comments and responses thereto received on NPA 2013-11. The resulting rule text is provided together with ED Decision 2015/019/R on 'CS-25 Amendment 17'.

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 process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

³ https://www.easa.europa.eu/document-library/notices-of-proposed-amendment?search=2013-11&date_filter%5Bmin%5D%5Bdate%5D=&date_filter%5Bmax%5D%5Bdate%5D=&=Apply



2. Summary of comments and responses

22 comments were received from 7 organisations (Embraer, EUROCONTROL, Garmin International, LBA, Swiss International Airlines, Thalès Avionics, and UK CAA).

The comments were distributed as follows:

Category	General	Cabin safety: AMC 25.809 Emergency exit arrangement	Security provisions: Chemical oxygen generators	Avionics: Appendices 6 and 7 to AMC 25-11
Number of comments	4	1	0	17

Cabin safety items

Only one comment was received on the proposed update of AMC 25.809 (Emergency exit arrangement). This comment is not directly linked to the NPA proposal. No change was made following this comment.

However, the following changes were made by the Agency:

- (a) The Agency became aware of the following required change after the publication of NPA 2013-11, concerning the proposed new AMC 25.562 which refers to the FAA AC 25.562-1B as an AMC to CS 25.562. The intent of CS 25.562(c)(5) is to protect the range of occupants from severe head injury in an emergency landing. According to paragraph 5.e.(5)(d) of the FAA AC 25.562-1B, performing a dynamic test using the 50 % male Hybrid II Anthropomorphic Test Device (ATD) on a seat equipped with a head path reducing feature (such as articulating seat pans, rate sensitive foams, low elongation restraints) and having no contact is acceptable to demonstrate compliance with CS 25.562(c)(5) for the range of occupants. The Agency has accepted in the past that for front row seats, compliance with CS 25.562(c)(5) must only be demonstrated for the 50 % male occupants. However, for row-to-row seat installations, compliance with the Head Injury Criterion (HIC) must be demonstrated for the range of occupants, even if the seat is equipped with a head path reducing feature. Therefore, the proposed AMC 25.562 is amended to exclude paragraph 5.e.(5)(d) of the FAA AC 25.562-1B.
- (b) The title of the proposed AMC 25.793 has been amended to read 'AMC to CS 25.793 and CS 25.810(c)', because the same means of compliance can be used with regard to the slip resistance surface requirement provided in CS 25.810(c) for over-wing emergency exits. The text of the AMC is also amended to make reference to CS 25.810(c).



Chemical Oxygen Generators (COGs)

No comment was received regarding the proposed new COG security provisions (CS 25.795(d), CS 25.1450(b)(3), and AMC 25.795(d)).

The Agency reviewed the FAA final rule on the *Requirements for Chemical Oxygen Generators Installed on Transport Category Airplanes* [Docket No. FAA-2012-0812; Amendment No. 25-138], dated 11 March 2014. The final rule is unchanged compared to the corresponding FAA Notice of Proposed Rulemaking (NPRM) and, therefore, is harmonised with the Agency's proposed text of NPA 2013-11. Thus, no change was made to the proposed CS 25.795(d) and CS 25.1450(b)(3).

The FAA AC 25.795-9, dated 11 March 2014, has also been reviewed with the aim of harmonising the proposed AMC 25.795(d). Therefore, several changes were made to AMC 25.795(d); the main ones are the following:

- Definition of terms: the definition of a COG is expanded.
- Update of Figure 1 'Criteria for assessing an installation': Question 3 is amended.
- 4.b 'Installation of tamper-resistant features': When deciding to eliminate access to the COG, it is reminded that the installer should also consider the ramifications for maintenance when this approach is used.
- 4.c 'Installation of tamper-evident features': a third subparagraph is added to clarify that, in order to be effective, an alerting system must itself be resistant to tampering.
- 5 'Areas that are immediately obvious': a sentence is added at the end of the paragraph to recommend that crews training programmes should include an awareness item that tampering with a COG is a safety risk.

Avionics

The proposed two new appendices to AMC 25-11 attracted the majority of the comments received on the NPA. The Agency reviewed these comments together with the published FAA AC 25-11B, dated 7 October 2014.

The comments allowed to make some corrections, remove some ambiguities, and bring clarifications to the proposed text.

Compared to the proposed AMC 25-11 change text, additional changes were also made to update some references to standards (e.g. last revision of the standard), bring supplemental explanations or clarifications, and improve the paragraph numbering.

At the end, the AMC is almost fully harmonised with the FAA AC 25-11B. There are nevertheless some differences in the text where reference is made to § 25.1333(b) or § 25.562, because these specifications are not harmonised between EASA and the FAA.



3. Individual comments and responses

In responding to comments, a standard terminology has been applied to attest the Agency's position. This terminology is as follows:

- (a) **Accepted** — The Agency agrees with the comment and any proposed amendment is wholly transferred to the revised text.
- (b) **Partially accepted** — The Agency either agrees partially with the comment, or agrees with it but the proposed amendment is only partially transferred to the revised text.
- (c) **Noted** — The Agency acknowledges the comment but no change to the existing text is considered necessary.
- (d) **Not accepted** — The comment or proposed amendment is not shared by the Agency.

(General Comments)

-

comment	1	comment by: EUROCONTROL
	The EUROCONTROL Agency has no comments to make.	
response	Noted.	
comment	2	comment by: Luftfahrt-Bundesamt
	The LBA has no comments on NPA 2013-11.	
response	Noted.	
comment	3	comment by: UK CAA
	Please be advised that the UK CAA do not have any comments on NPA 2013-11, Regular update of CS-25.	
response	Noted.	
comment	13	comment by: Swiss International Airlines / Bruno Pfister
	Swiss Intl Air Lines takes note of the NPA 2013-11 without further comments.	
response	Noted.	

3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision) — BOOK 2 — Amend AMC 25.809

p. 17-18

comment	14	comment by: Embraer - Indústria Brasileira de Aeronáutica - S.A.
	The proposed AMC (and the referenced AC 25-17A) provides guidance for compliance with CS 25.809, but does not provide guidance for how to determine the fuselage deformation level to be used for compliance with 25.809(g). Therefore, would be helpful to add guidance	



	<p>to this subparagraph. Embraer suggests the following: <i>60% of maximum aircraft static load envelope for torsion moment at X global axis (TMX) should be considered sufficient to demonstrate the probability of jamming of the emergency exits resulting from fuselage deformation in a minor crash landing has been minimized.</i></p>
response	<p>Not accepted.</p> <p>There has been various, different means used by applicants to demonstrate compliance with CS 25.809(g), such as doors clearance criteria, doors opening mechanisms specifications, or application of conservative fuselage loads (and possible combinations of these means). The Agency does not intend to favour a particular means; therefore, the Embraer proposed guidance text is not adopted.</p>

3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision) — BOOK 2 — Appendix 6 'Head-Up Display' — 2.0 Unique safety considerations

p. 27-28

comment	<p>20</p> <p>comment by: <i>Thales Avionics SAS</i></p> <p><u>Page Number & Reference:</u> Page 28 – Appendix 6 - Head-Up Display – 2.2.2 Special considerations for dual-HUD installations.</p> <p><u>Current NPA text:</u> 2.2.2 [...] If analysis of the installation geometry indicates that flight or gust loads may produce occupant contact with the HUD installation, then the Agency may need to provide an issue paper providing project-specific means of compliance.</p> <p><u>Thales Avionics concern -Rationale for action:</u> Typo : “issue paper” is mentioned instead of Certification Review Item (CRI).</p> <p><u>Action & rewording proposal:</u> Update current text accordingly.</p>
response	<p>Accepted.</p>

comment	<p>21</p> <p>comment by: <i>Thales Avionics SAS</i></p> <p><u>Page Number & Reference:</u> Page 28 – Appendix 6 - Head-Up Display – 2.2.2 Special considerations for dual-HUD installations.</p> <p><u>Current NPA text:</u> In a dual-HUD installation, both pilots could possibly experience incapacitating injuries as a result of flight or gust loads. This possibility becomes a safety-of-flight issue, since the entire flight crew would be incapacitated. If analysis of the installation geometry indicates that flight or gust loads may produce occupant contact with the HUD installation, then the Agency may need to provide an issue paper providing project-specific means of compliance.</p> <p><u>Thales Avionics concern -Rationale for action:</u> The need for project-specific issue paper should be avoided in this proposed new regulation.</p>
---------	---



Based on the consideration that thousands of flight hours have been flown, mainly in corporate jets, with HUD installation compliant with ARP-5288 in terms of head clearance, without incapacitation of pilots, compliance of a single or dual HUD installation with SAE ARP-5288 in terms of head clearance, should be recognized as an acceptable Means of Compliance and additionally alleviating the need for project-specific issue paper.

Action & rewording proposal:

It is proposed to complete the current text by:

“If HUD installation is compliant with SAE ARP-5288 in terms of head clearance, no additional demonstration is required.”

response Not accepted.

Although it is accepted that an applicant may use the recommended practices of ARP 5288, the Agency may still have to issue a Certification Review Item (CRI) for project-specific analysis. The items of the CRI may not be limited to the investigation of the possibility of head contact with the Head-Up Display (HUD). Moreover, Certification Specifications may change in the future and it would not be appropriate to designate ARP 5288 as being the only acceptable means of compliance.

**3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision)
— BOOK 2 — Appendix 6 'Head-Up Display' — 3.0 Design**

p. 28-31

comment

4

comment by: *Garmin International*

Referring to Appendix 6, section 3.1.3.1, “Situation information based on independent raw data.”

The reference to independent raw data is not clear. Suggest clarifying the data and sources from which to be independent.

response

Accepted.

The text has been revised to read: ‘based on sources of raw data that are independent from those used by the autopilot’.

comment

5

comment by: *Garmin International*

Appendix 6, section 3.1.3.2 states “The HUD should also display...if required....”

This statement is ambiguous with respect to whether the additional information is required or not. This paragraph should be removed or it should be revised to indicate that the information may be displayed on the HUD.

response

Accepted.

It seems that the two commas (before and after ‘if required’) introduces an ambiguity. The commas are therefore removed, which also fully harmonises the sentence with the equivalent FAA AC 25-11B.



comment	6	comment by: <i>Garmin International</i>
	<p>In Appendix 6, section 3.3.2.3, this statement referring to both pilots is not understood: “When both pilot’s eyes view the HUD with from any off-center position within the design eyebox, optical non-uniformities shall not produce perceivable differences in the binocular view”.</p> <p>Does this mean both pilots, or both eyes of the pilot using the HUD? Previous paragraphs state that each HUD is only used by one pilot. Suggest clarifying this.</p> <p>Also suggest changing the phrase “view the HUD with from any off-center position” within the statement quoted above to “view the HUD from any off-center position” (i.e., remove the word “with”).</p>	
response	<p>Accepted.</p> <p>The sentence is clarified as follows: ‘When the pilot views the HUD with both eyes from any off-centre position within the design eyebox (...)’.</p>	

3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision)
— BOOK 2 — Appendix 6 'Head-Up Display' — 4.0 HUD design eyebox criteria

p. 31-34

comment	7	comment by: <i>Garmin International</i>
	<p>Appendix 6 section 4.2.1 sentence 2 states: “...for use by any pilot must be plainly...”</p> <p>Draft AC 25-11A was missing the auxiliary verb and stated “...for use by any pilot be plainly...”</p> <p>We suggested changing it to “...for use by any pilot should be plainly...” We don’t know the final text since AC 25-11A Change 1 has not been published yet. We recommend that the text in this Appendix be consistent with the published form of AC 25-11A Change 1.</p>	
response	<p>Accepted.</p> <p>The text is changed and harmonised with the FAA AC 25-11B as follows: ‘(...) must be plainly visible to the pilot at that pilot’s station (...)’.</p>	
comment	8	comment by: <i>Garmin International</i>
	<p>In Appendix 6, section 4.2.2, “It should be large enough so that the required flight information is visible to the pilot at the minimum displacements from the DEP listed below.”</p> <p>This statement references a list of displacements, but this statement is not clear where the list is (we assume it is section 4.2.3, but suggest making it clear by referencing that section).</p>	
response	<p>Accepted.</p> <p>Reference is indeed made to paragraph 4.2.3 of the Appendix; this is now clarified in the text.</p>	
comment	22	comment by: <i>Thales Avionics SAS</i>
	<p><u>Page Number & Reference:</u></p> <p>Page 31 – Appendix 6 - Head-Up Display – 4.1 Design eye position.</p>	



Current NPA text:

[...] The HUD must be able to accommodate pilots, from 1 575 m to 1 905 m (5 ft 2 in to 6 ft 3 in) tall, while they are seated at the DEP with their shoulder harnesses and seat belts fastened, to comply with CS 25.777. [...]

Thales Avionics concern - Rationale for action:

Tolerance given for pilots' accommodation is not correct (problem of units' conversion) and should be corrected or replaced by units in millimeters instead of meters.

Action & rewording proposal:

It is proposed to modify the current text by:

"[...] The HUD must be able to accommodate pilots, from 1 575 mm to 1 905 mm (5 ft 2 in to 6 ft 3 in) tall, while they are seated at the DEP with their shoulder harnesses and seat belts fastened, to comply with CS 25.777. [...]"

response Accepted.

3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision)
— BOOK 2 — Appendix 6 'Head-Up Display' — 5.0 Guidelines for presenting information

p. 34-40

comment 9

comment by: *Garmin International*

In Appendix 6, section 5.1.4.2, "While the head-up and head-down displays may display present information (e.g. flight path, situational, or aircraft performance information) differently."

It is stated that information can be presented differently, but that seems to conflict with section 5.1.3. Suggest clarifying what information can be different.

Also suggest changing the phrase "display present information" within the statement quoted above to "display presented information".

response Accepted.

The text is updated to reflect that the information may be displayed in a different manner, but that the meaning should be the same and any differences should not create confusion, misinterpretation, unacceptable delay, or otherwise hinder the pilot's transition between the two displays.

comment 10

comment by: *Garmin International*

In Appendix 6, section 5.2.1, it is stated that HUD alerts must gain attention by other means due to lack of color. It also states the alert "attention-getting properties should be consistent with those used on the head-down displays." Is this meant to imply that the head-down display can't use color as an additional means to gain attention? Suggest clarifying if the head down display can use color plus another means, or whether color alone is acceptable.

response Noted.

As a general principle, it is reminded that the selection of the attention-getting depends on



the level of alert which is involved, and this must be performed in compliance with CS 25.1322 using the guidance provided in AMC 25.1322 (this reference has been added to the proposed Appendix 6, § 5.2.1).

In terms of visual cues, the absence of colours on monochrome Head-Up Displays (HUDs) can be compensated by using highlights like outline boxes, increased brightness and/or size, location, etc. This does not mean that colour cannot be used on Head-Down Displays (HDDs). It is, however, expected that the applicant will develop an HUD display philosophy for each alert level and that this should be consistent with what is used on the HDD. For example, flashing icons should be triggered by situations of the same level of urgency in both cases. The goal is to avoid pilot confusion and to ease recognition of alert level, whether it is viewed on the HUD or on the HDD.

comment

11

comment by: *Garmin International*

In Appendix 6, section 5.2.2, “The applicant should either provide in the HUD the guidance, warnings, and annunciations of certain systems, if installed, such as a Terrain Awareness and Warning System (TAWS), or a Traffic Alert and Collision Avoidance System (TCAS) and a wind shear detection system.”

This statement seems incomplete, if not provided in the HUD, where should the information be provided?

response

Accepted.

The word ‘either’ was an error and it has been deleted.

3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision)
— BOOK 2 — Appendix 7 'Weather Displays' — 1. Introduction

p. 42

comment

15

comment by: *Thales Avionics SAS*

Page Number & Reference:

Page 42 – Appendix 7 – Weather Display - General comment & 1.1 Purpose

Current NPA text:

This Appendix provides additional guidance for displaying weather information in the flight deck. Weather displays provide the flight crew with additional tools to help make decisions based on weather information.

Thales Avionics concern - Rationale for action:

It should be clarified if the guidance in this Appendix is also applicable to EFB displays, or only to flight deck avionics displays.

Action & rewording proposal:

It is proposed to modify the current text by:

“This Appendix provides additional guidance for displaying weather information in the flight deck on flight deck avionics displays as well as EFBs displays. Weather displays provide the flight crew with additional tools to help make decisions based on weather information”.



	Additionally all subsequent chapter of Appendix 7 should be reviewed to identify those which are applicable to only one category of displays among flight deck avionics displays as well as EFBs displays.
response	<p>Not accepted.</p> <p>In AMC 25-11, Table 1 of paragraph 4 of Chapter 1 already identifies the topics covered in this AMC. This includes 'Class III Electronic Flight Bag (installed equipment)'.</p>

3. Proposed amendments — 3.1. Draft Certification Specifications (CS-25) (Draft EASA Decision)
— BOOK 2 — Appendix 7 'Weather Displays' — 2.0 Key characteristics

p. 42-44

comment	<p>12</p> <p>comment by: <i>Garmin International</i></p>
	<p>Appendix 7 section 2.3.2 states: "... the source of the weather information should be indicated on the selector and the resulting display."</p> <p>While this is beneficial for wide range data such as NEXRAD, it is not useful or even desirable for local area text-based data such as METARS. In the case of METARS, the latest available information is desirable and the pilot wouldn't make any decisions based on the source of this data.</p> <p>This paragraph should be amended to state that the source should be indicated when necessary to help the pilot make informed decisions about the quality of the information. This same issue may apply to Appendix 7 section 2.3.3.</p>
response	<p>Not accepted.</p> <p>It is considered crucial that pilots know unambiguously what is the source of the displayed information. The way the decision is taken based on the available information is not the subject of this paragraph.</p>
comment	<p>16</p> <p>comment by: <i>Thales Avionics SAS</i></p>
	<p><u>Page Number & Reference:</u> Page 43 – Appendix 7 – Weather Display - General comment & 2.3 Multiple sources of weather information.</p> <p><u>Current NPA text:</u> 2.3.1 The weather display should enable the flight crew to quickly, accurately, and consistently differentiate among sources of the displayed weather information. Time-critical information should be immediately distinguishable from dated, non-time-critical information.</p> <p>2.3.3 When simultaneously displaying information from multiple weather sources (e.g. weather radar and data link weather), the display should clearly and unambiguously indicate the source of that information. [...]</p> <p><u>Thales Avionics concern -Rationale for action:</u> This guidance in this Appendix is applicable to both critical and non-critical information, but requirements in the rest of this Appendix do not differentiate between those different types of data, especially when non-critical data are displayed on EFBs displays.</p>



response	<p>Action & rewording proposal: It is proposed to review current chapters of Appendix 7 to ensure that the same requirements are applicable everywhere to both critical and non-critical weather information, and to explicitly mention, when necessary, that requirements are only applicable to critical or non-critical weather information.</p> <p>Not accepted.</p> <p>The Agency does not intend to change the structure of the chapters, and it is willing to maintain harmonisation with the FAA AC 25-11B.</p>
----------	--

comment	<p>17 comment by: <i>Thales Avionics SAS</i></p> <p>Page Number & Reference: Page 44 – Appendix 7 – Weather Display – 2.3.12.2.</p> <p>Current NPA text: 2.3.12.2 Consideration should be given to making the width of the information on the weather display consistent with the width used by other systems, including the Terrain Awareness and Warning System (TAWS), if displayed.</p> <p>Thales Avionics concern -Rationale for action: Wording of this paragraph should be clarified for “width” aspects in order to prevent confusion and be consistent with wording used in 2.3.12. It should be also detailed that this requirement is applicable when weather information and other information (like TAWS information) are displayed simultaneously on the same instance of vertical display.</p> <p>Action & rewording proposal: It is proposed to modify the current text by: “Consideration should be given to making the lateral width of the weather swath used for displaying weather information consistent with the lateral width of information swath used by other systems, including the Terrain Awareness and Warning System (TAWS), if displayed simultaneously on the same instance of vertical display”.</p> <p>response Partially accepted.</p> <p>A statement is added that ‘this should not be interpreted as a restriction precluding other means of presentation that can be demonstrated to be superior’.</p>
---------	---

comment	<p>18 comment by: <i>Thales Avionics SAS</i></p> <p>Page Number & Reference: Page 42 – Appendix 7 – Weather Display – 2.2.3.</p> <p>Current NPA text: 2.2.3 Colour conventions (such as the conventions established in ARINC 708 and FAA AC 20-149, Safety and Interoperability Requirements for Initial Domestic Flight Information Service-Broadcast) should be followed.</p> <p>Thales Avionics concern -Rationale for action:</p>
---------	---



	<p>Could other conventions such as RTCA DO267A and NWS (National Weather Services) be considered and if possible what would be the priority rules between these convention sets ?</p> <p><u>Action & rewording proposal:</u> It is proposed to update current chapter 2.2.3 with additional colour convention guidance (RTCA DO267A, National Weather Services...) if applicable, and priority rules between these conventions sets (ex. ARINC 708 vs. FAA AC 20-149 ...).</p>
response	<p>Partially accepted.</p> <p>The proposed text provides two examples of possible reference standards, but other standards may be acceptable as well. There is no established priorities between these conventions. What the Agency will investigate is that the weather information uses a convention which is compatible and consistent with the flight deck philosophy, and also compatible with CS-25 specifications, such as CS 25.1322.</p>
comment	<p>19 comment by: <i>Thales Avionics SAS</i></p> <p><u>Page Number & Reference:</u> Page 42 – Appendix 7 – Weather Display – 2.2.4.</p> <p><u>Current NPA text:</u> 2.2.4 The use of red and yellow must be in compliance with CS 25.1322(e). Compliance can be shown using the guidance in AMC 25.1322, Flight Crew Alerting, and this AMC.</p> <p><u>Thales Avionics concern -Rationale for action:</u> CS 25.1322(e) applies to flight crew alerting, but this proposed regulation for weather displays intends to address both situational awareness and flight crew alerting. Therefore for situational awareness, reference to CS 25.1322(f) would be more relevant than CS 25.1322(e).</p> <p><u>Action & rewording proposal:</u> It is proposed to modify the current text by: “2.2.4 The use of red and yellow must be in compliance with CS 25.1322(e) for critical information and CS 25.1322(f) for non-critical information Compliance can be shown using the guidance in AMC 25.1322, Flight Crew Alerting, and this AMC.”</p>
response	<p>Partially accepted.</p> <p>It is agreed to clarify the applicability of the two subparagraphs (e) and (f) of CS 25.1322. The first sentence of paragraph 2.2.4 is amended as follows: ‘The use of red and yellow must be in compliance with CS 25.1322(e) for flight crew alerts, or with CS 25.1322(f) for information other than flight crew alerts.’</p>

