EASA – Rulemaking Activities

presented by
Remi Deletain (Powerplant Senior Expert)
Enzo Canari (Cabin Safety Expert)
IASFPF Meeting
Atlantic City, 31st October 2018
EASA – Rulemaking Activities

- Halon Replacement Status
- EASA Proposed Certification Memorandum on Smoke Propagation Testing
- Powerplant / Propulsion Fire
EASA – Rulemaking Activities

Halon Replacement Status

presented by
Enzo Canari
Cabin Safety Expert
IASFPF Meeting
Atlantic City 31st October 2018

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EASA Proposed Certification Memorandum on Smoke Propagation Testing

- The purpose of this CM is to provide specific clarification and additional guidance regarding certification testing to be conducted to evaluate the entry of hazardous quantities of smoke into compartments occupied by the crew or passengers as a result of an in-flight fire event in the pressurized areas of the fuselage of a large aeroplane.

- Further coordination with the FAA is needed in order to propose a policy that is fully harmonized.

- EASA intends to start the public consultation phase for the Proposed CM in Q1 2019.
EASA – Powerplant / Propulsion Fire

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IASFPF Meeting
Atlantic City, 31st October 2018
Questions?
EASA – Halon Replacement Status

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| Purpose | Location of fire extinguishers | ICAO | Regulation (EU) No 1005/2009 | Agency | Agency
|---------|--------------------------------|------|-----------------------------|--------|-----------------------------
| End date | Normally unoccupied cargo compartments | Not retrofit mandated by ICAO | 2040 | Not proposed | CSs | Opinion 08/2016
| | Hand-held in cabins and crew compartments | No retrofit | 2025 | [but the dates in Regulation (EU) No 1005/2009 directly apply unless there is a case by case derogation obtained per Article 13(4) of Regulation (EC) No 1005/2009] | | |
| | Engine nacelles and APU | 2040 | | | |
| | Lavatory waste receptacles | 2020 | | | |
| Forward fit | Normally unoccupied cargo compartments | Not mentioned | | Not proposed | |
| | Engine nacelles and APU | Not mentioned | Out of scope of CS-23, CS-25 and CS-29 (and of Part 21) | Not proposed | |
| | Lavatory waste receptacles | 2011 | | TBC | |
| Cut off | Normally unoccupied cargo compartments | 2024 | 2018 | Halon no longer mandated by ‘Book 1’ of CS-23, CS-25 and CS-29, but neither prohibited, until Regulation (EU) No 1005/2009 applies | |
| | Hand-held in cabins and crew compartments | Not mentioned | 2014 | Not proposed (out of scope of Part-26 and CS-26) | |
| | Engine nacelles and APU | 2014 | 2014 | | |
| | Lavatory waste receptacles | 2014 | 2011 | | |

**End Date:** i.e. date after which the use of halon would no longer be permitted; all halon fire extinguishers and fire protection systems should be replaced, converted or decommissioned by the end date.

**Cut off:** No new application for Type Certificates possible if halon is present in the design.

**Forward Fit:** For Lavatory EASA proposal is one year after publication of rule but the EC may decide for applicability from the publication date.

DG-CLIMA maintains 2018 as Cut off date for Cargo Comp.
EASA / DG-CLIMA Discussion

Clarification of EC Regulation No. 1005/2009, i.e definition of new equipment vs EASA Change Product Rules (Part-21)

EC Regulation No. 1005/2009 has been amended (Ref. Commission Regulation (EU) 2017/605) to provide the following clarification:

*For reasons of legal clarity and consistency in the implementation of Regulation (EC) No 1005/2009, it is necessary to specify in the definition of ‘new equipment’ under point 2(b) of Annex VI to Regulation (EC) No 1005/2009 that for aircraft, request for type certification relates only to request for new type certification and does not cover changes to an existing type certification.* This would also be in line with the concept used for halon standards by the International Civil Aviation Organisation.

The cut off dates in the EC Regulation will apply only to new TCs as per Part-21 definition.

Derogation process: entry point DG-CLIMA/Member State

Derogation process already filed to DG-CLIMA for Engine application by a EU member State in support of a EU Applicant.

Non-EU Applicants will have to contact directly DG-CLIMA to start the derogation process.

EASA will provide support (limited to the evaluation of the technical aspects of the derogation proposal) to DG-CLIMA upon request.
EASA / DG-CLIMA Discussion

Halon guide (DG-CLIMA / EASA) in preparation

- The primary purpose of the guide is to clarify the implementation of Regulation (EC) No 1005/2009 (and subsequent amendments) for the aeronautical products.

- The guide will be published on the websites of EASA and DG-CLIMA

- Target for the release of the guide is Q1 2019

- Working arrangement between EASA and DG-CLIMA to define respective roles and responsibilities on exchange of data/information related to Halon replacement activities
RMT Overview

**RMT.0560, Opinion 08/2016 issued**

- **Title:** Halon: Update of Part 26 to comply with ICAO standards
- **Applicability:**
  - TOR Iss. 1: lavatory and handheld fire extinguisher for newly produced large aeroplane and rotorcraft
  - Note: CS-23/-27 not covered yet, will be treated as EASA internal task
- **Schedule:**
  - NPA draft: 13.03.2014
  - Final draft NPA: September 2014
  - NPA publication: 18.11.2014
  - CRD preparation: 18.03.2015 til end 2015
  - CRD & Opinion to EC: 02 Aug 2016
  - CS-26: General agreement from the Member States on the EASA proposal. The text will be voted in the next weeks. Applicability will not be 31st December 2018, but should be “3 months after adoption of the Regulation”.

31/10/2018
EASA Contacts

- For EASA Rulemaking activities:
  Youri Auroque (Regulations Officer)

- For applications related to Powerplant Systems:
  Remi Deletain (Powerplant Expert)

- For applications related to Cargo Compartments, Lavatories and Portable Fire Extinguishers:
  Thomas Manthey (Cabin Safety Expert)
Questions?
EASA – Powerplant / Propulsion Fire

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EASA – Powerplant / Propulsion Fire

» EACWG

» Engine Aircraft Certification Working Group

» Was born in Feb / March 2016 by EASA and FAA leadership to look at improving engine/aircraft interface certification practices

» tasked to conduct an in-depth review of current certification practices and processes, and to develop recommendations for EASA and FAA leadership

» Triggered by aircraft certification programs where some engine-related issues have been raised by airworthiness authorities and applicants, even though the engine had its own type certificate (TC)

» WG Members: EASA engine certification, EASA aircraft certification, FAA engine certification, FAA aircraft certification, Large Airplane TC Holders, Engine TC Holders
EASA – Powerplant / Propulsion

» EACWG

» Final Report delivered in June 2017 (See EASA website)
  » Survey for inputs from other Certifying Authorities, A/C TC holder, Engine TC Holder
  » 29 recommendations
  » Gathered in 6 areas:
    » Communication and timing;
    » Duplication of work;
    » Gaps in requirements;
    » Process;
    » Rules and interpretation; and
    » Technical and general.
EASA – Powerplant / Propulsion

» EACWG

» WG continues activities and worked on a more formal setting and establishment of activities

» EACTB (Tracking Board) and associated charter - to ensure follow-up and progress on recommendations - was presented to CMT (Certification Management Team - EASA-FAA-TCCA-ANAC) and accepted to proceed

» Not a dedicated CAG (Certification Authority Group i.e CAPP for Propulsion, CATA for Large Aircraft...) but will use CAPP and CATA for AA and Industries
EASA – Powerplant / Propulsion

» EACWG Coordination

» Fire is one Item (R4.6) identified in R4

_address specific rule and policy gaps_ – See next Slide

» Multiples topics
» Multiple stakeholders
» Interactions with industry working group (SAE A-22)
EACWG Coordination: Topics R4.6

- 1. Produce consistent FAA and EASA guidance on burner fuel use.
- 2. Produce consistent FAA and EASA guidance on the ground-after-landing condition.
- 3. Produce consistent FAA and EASA guidance on engine combustor burn through and engine mount fireproof-ness
- 4. SAE committee develop industry standards covering remaining gaps.
- 5. Revise AC 20-135 to incorporate content/results of SAE committee report
- 6. EASA revise AMC/ guidance to incorporate content/results of SAE committee report
Other engine/aircraft fire issues not covered by SAE WG

- SAE WG will propose areas for AC 20-135 revision

- AC 20-135 focuses on fire testing but has the power of having some inclusion of interpretations – however those interpretations will stick to the fire testing scope.

- There are rules whose interpretations and acceptable mean of compliance does not uniquely include testing, therefore a need for supplementary interpretations.

- There are (possible) impacted requirements that would need revision (i.e. CS-Definition, FAR-1)
Future EASA CM (engine/aircraft) & policy harmonisation

- CM common for Propulsion and Powerplant
- CM will cover
  - EASA needs for fire problematics
    - Not covered by SAE A-22 / AC 20-135
    - Not accepted from SAE A-22 / AC 20-135
- Fire Testing Issues are planned to be addressed by AC 20-135 revision
  - SAE A-22 is intending to provide inputs to AC 20-135
  - May provide more than the AC 20-135 scope
  - May not cover all fire problematics
- Ideally AC 20-135 could be adopted and entered into CS with a mirroring and self-sustaining AMC
<table>
<thead>
<tr>
<th>Fire Testing</th>
<th>Fire Protection/Prevention Interpretations</th>
</tr>
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<tbody>
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<tr>
<td>2. 2D Nacelle area (Testing)</td>
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<td>6. Most critical areas (Testing)</td>
<td>4. Drainage (IM)</td>
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<td>7. Type of burner: gas, bunsen, oil, NextGen: description, identification and manufacturing (Testing)</td>
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<td>10. Typical test conditions and measurable pass fail criteria per material / component / assy (Testing)</td>
<td>9. Use of fire testing referential: limitations (IM)</td>
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<td>12. Residual flame criteria (Testing)</td>
<td>11. Minimum material thicknesses recognized FR / FP (i.e. Aluminum) (IM)</td>
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<td>14. Repetitive and reliable Calibration (heat flux, temperature, others) means and procedure (Testing)</td>
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<td>16. Environmental conditions for fire testing (vibration, loads) (Testing)</td>
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<td>28. Flammable Fluid leakage zone vs Designated Fire Zones</td>
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EASA needs: Fire Testing

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2. 2D Nacelle area (Testing)
3. Toxicity / Smoke (Testing)
4. Most critical areas (Testing)
5. Type of burner: gas, bunsen, oil, NextGen: description, identification and manufacturing) (Testing)
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SAE A-22 Fire Testing

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Other Inputs

RULEMAKING

FAA Revision AC 20-135 Fire Testing

EASA New AMC 20-135 Fire Testing

Other Inputs

2015 – Mid 2018
On going - Mid 2020
End 2020
EASA needs: Fire Protection/Prevention Interpretations

<table>
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<tr>
<th>EACWG</th>
<th>CATA</th>
<th>EASA ENG</th>
<th>FAA ENG</th>
<th>EASA A/C</th>
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<tr>
<td>1_Combustor burnthrough (IM)</td>
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<td>1_CM_D</td>
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**Notes:**
- **GREY:** to be initiated
- **YELLOW:** activity on going
- **GREEN:** activity completed
- **D:** Draft / **UC:** Under consultation / **R:** Released
- **?:** Review and decision for impact (if any), deliverable identification (as necessary)
Questions ?