EASA
European Union Aviation Safety Agency

EASA Rulemaking Update

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IASFPF Meeting
3-6 August 2020

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Agenda

- Class D cargo compartments: update of EASA Additional Airworthiness Specifications (Regulation (EU) 2015/640)
- Cargo in the cabin
- EASA Proposed CM on Smoke Generation Testing
- Sabatair project
- EASA future research

Class D cargo compartments

→ EASA Opinion 04-2019 proposes the amendment of Part-26 (pending adoption by the European Commission):

The following point 26.157 is inserted:

'26.157 Conversion of Class D compartments

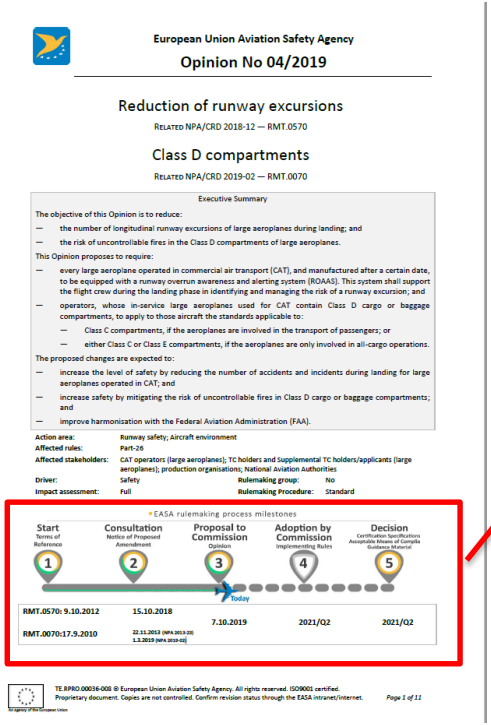
Operators of large aeroplanes used in commercial air transport, type certified on or after 1 January 1958, shall ensure that:

(a) for aeroplanes, the operation of which involves the transport of passengers, each Class D cargo or baggage compartment, regardless of its volume, complies with the certification specifications applicable to a Class C compartment; and

(b) for aeroplanes, the operation of which involves the transport of cargo only, each Class D cargo compartment, regardless of its volume, complies with the certification specifications applicable to either a Class C or a Class E compartment'.

→ The requirement shall apply from *[3 years after the date of entry into force of the regulation]*

Class D cargo compartments



European Union Aviation Safety Agency

Opinion No 04/2019

Reduction of runway excursions

RELATED NPA/CRD 2018-12 — RMT.0570

Class D compartments

RELATED NPA/CRD 2019-02 — RMT.0070

Executive Summary

The objective of this Opinion is to reduce:

— the number of longitudinal runway excursions of large aeroplanes during landing; and

— the risk of uncontrollable fires in the Class D compartments of large aeroplanes.

This Opinion proposes to require:

— every large aeroplane operated in commercial air transport (CAT), and manufactured after a certain date, to be equipped with a runway overrun awareness and alerting system (ROAAS). This system shall support the flight crew during the landing phase in identifying and managing the risk of a runway excursion; and

— operators, whose in-service large aeroplanes used for CAT contain Class D cargo or baggage compartments, to apply to those aircraft the standards applicable to:

  — Class C compartments, if the aeroplanes are involved in the transport of passengers; or

  — either Class C or Class E compartments, if the aeroplanes are only involved in all-cargo operations.

The proposed changes are expected to:

— increase the level of safety by reducing the number of accidents and incidents during landing for large aeroplanes operated in CAT; and

— increase safety by mitigating the risk of uncontrollable fires in Class D cargo or baggage compartments; and

— improve harmonisation with the Federal Aviation Administration (FAA).

Action area: Runway safety; Aircraft environment

Affected rules: Part-26

Affected stakeholders: CAT operators (large aeroplanes); TC holders and Supplemental TC holders/applicants (large aeroplanes); production organisations; National Aviation Authorities

Driver: Safety — Rulemaking group: No

Impact assessment: Full — Rulemaking Procedure: Standard

EASA rulemaking process milestones

Start (Terms of Reference) 1 — Consultation (Notice of Proposed Amendment) 2 — Proposal to Commission (Opinion) 3 — Adoption by Commission (Implementing Rules) 4 — Decision (Certification Specifications, Acceptable Means of Compliance, Guidance Material) 5 — Today

RMT.0570: 9.10.2012	15.10.2018	7.10.2019	2021/Q2	2021/Q2
RMT.0070:17.9.2010	22.11.2013 (NPA 2013-23) 1.3.2019 (NPA 2019-02)			

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Proposed CM on Smoke Generation 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.

- Proposed CM-CS-011-001 Issue 1 was published on 25th October 2019. Comment period expired on 18th November 2019. EASA received 23 comments from 3 commenters.

- The comments will not drive any significant change to the text of the final CM.

- The CRD and final CM will be published in October 2020.

Cargo in the cabin

- EASA has received several STC/major change applications having the scope to convert the passenger cabin into a compartment that could allow transportation of cargo restrained onto passenger seats or on the cabin floor.

- In the EASA System, Operator can approach their National Aviation Authority of aircraft registration to request exemptions, which are limited in time (no more than 8 months), under the provisions of Article 71(1) of Regulation 2018/1139 (Basic Regulation).

- EASA has released to NAAs detailed guidelines on how to handle requests for exemption.

Cargo in the cabin

- EASA has granted in the past STCs for installation of cargo seat bags. The following documentation is published on the EASA website:

- For the installation of Cargo Seat Bags the CM-CS-003 (https://www.easa.europa.eu/document-library/product-certification-consultations/easa-cm-cs-003)

- The published Special Condition on cargo seat bags installation (https://www.easa.europa.eu/sites/default/files/dfu/SC%20D-xx%20Consultation%20Issue%201.pdf)

Cargo in the cabin

- The design of the passenger cabin does not meet any of the cargo compartment class definitions given in CS 25.857.

- The existing special conditions on cargo seat bags were developed in 2013. The fire threat that is associated to shipment of mail has increased since then (e.g. the mail shipment may include lithium batteries)

- New special conditions have been developed to establish requirements and introduce limitations that are adequate to address the hazard posed by the transported cargo

Cargo in the cabin

- Proposed Special Conditions were published on 9th June 2020. Comment period expired on 7th July 2020. EASA received 166 comments from 16 commenters.
- EASA received several comments against the SC approach, mainly requesting a time limitation to be imposed in order to minimize the exposure to the risk of a catastrophic cargo fire event.
- EASA has decided that, instead of special conditions, a generic deviation in accordance with point 21.A.101(e)1.(ii) will be published.
- The generic deviation will include a limitation in expressed FH/FC or time interval, whichever occurs first.
- The SC CRD and the generic deviation will be published by the end of August 2020.

SABATAIR project: overview

- Initiated in 2015 (ICAO ban)
- Duration: 2017-2020 (all tests between Oct 2018 and Oct 2019)
- Project funded by DG MOVE (1m) with Technical Lead to EASA
- Contract Team

VITO/EnergyVille: Research (BE)

AIRBUS Operations GmbH: Industry (De)

Algolion: SME (IL)

IATA: International Air Transport Association

Impact solutions (UK): accredited independent testing laboratory of the VCA-DGO.

Grab-it (BE): communication company

SomatiFIE (BE): integration of fire protection and security systems

- External experts involved: UPS, DHL, Recharge

SABATAIR project: main objectives

→ Assessment of the effectiveness of the test methods as described in draft SAE G27 AS6413 dated 12th November 2018

→ Study and assess the effectiveness of potential mitigating measures against fire risk related to the transport of lithium metal and lithium ion batteries on Large Aeroplanes.

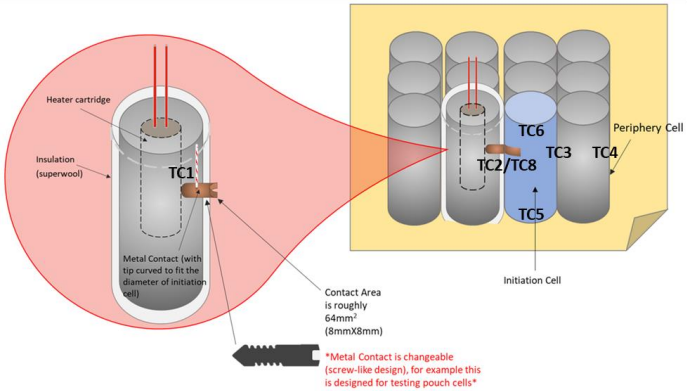
→ Develop guidelines to support the production of a safety risk assessment for operators.

SABATAIR projects: tasks

Task 1	Definition of Baseline - Review of State-of-the-Art and Hazard Identification
Task 2	The assessment of the definition and of the effectiveness of the test methods defined in the draft AS 6413
Task 3	Identification and assessment of additional mitigating measures related to packaging solutions or based on multi-layered approaches
Task 4	Evaluation of the effectiveness of the proposed mitigating measures through testing in an environment representative of a typical large aeroplane Class C cargo compartment
Task 5	Development of guidelines to support a safety risk assessment for the air transport of lithium batteries/cells

EASA research : SABATAIR

Target for the publication of the final report and of all deliverables related to Tasks 2, 3, 4 and 5: **August 2020**



EASA future research

- Battery fire in cargo compartments (incl. halon replacement)
  - Objectives:
    - effectiveness of Class C fire suppression systems (**Halon-based and Halon-free**) in case of Li battery thermal runaway of battery-powered devices in checked baggage
    - Revision of the Cargo compartment Halon replacement MPS: validation of the definition of a new cargo fire test scenario involving lithium batteries
  - Budget: 0.6 M€ (secured)
  - Planning: Call for tender : September 2020 - Start: Q4 2020 – Duration : 12 month

EASA future research

- The project will involve testing different cargo fire scenarios:
  - PED fire in checked baggage: ignition in different locations in the cargo compartment
  - Evaluation of the new battery fire test that will be included in the cargo compartment MPS for Halon replacement
  - Involvement of bulk shipment of lithium batteries in a cargo fire (external fire scenario)

- The contractor shall demonstrate that it has all the necessary authorisations from the national or local authorities to perform fire tests using Halon 1301 as fire suppression agent.

EASA future research

- Expected outcome:
  - An assessment of the level of performance of the aircraft fire protection systems in the tested cargo fire scenarios.
  - Recommendations for improvement of the MPS content, with particular reference to the definition of the new bulk-load fire scenario involving lithium batteries.
  - Confirmation of the indications given by the external fire tests conducted in the Sabatair project by testing further combinations of cell types, quantities and distributions.

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Questions ?

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