



## Terms of Reference

for a rulemaking task

### Specific risk and standardised criteria for conducting aeroplane-level safety assessments of critical systems

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Applicability		Process map	
<b>Affected regulations and decisions:</b>	CS-25	Rulemaking lead	R4
<b>Affected stakeholders:</b>	Manufacturers of large aeroplanes and related airborne equipment.	Concept Paper	No
<b>Driver/origin:</b>	Safety, level playing field.	Rulemaking group	No
<b>Reference:</b>	See paragraph 5.3.	RIA type	Light
		Technical consultation during NPA drafting	Yes
		Publication date of the NPA	2013/Q4
		Duration of NPA consultation	3 months
		Review group	No
		Focused consultation	Yes
		Publication date of the Opinion	n/a
		Publication date of the Decision	2015/Q1



## 1. Issue and reasoning for regulatory change

Different Aviation Rulemaking Advisory Committee Harmonisation Working Groups (ARAC HWG) (such as Flight Controls, Power Plant Installations, and Systems Design and Analysis) have produced various recommendations regarding the safety of critical aeroplane systems. Although the subject of specific risk analysis was addressed in those working groups, the recommendations were not consistent.

EASA has already adopted part of those recommendations, but has not yet adopted those which are coming from the Flight Controls Harmonisation Working Group (FCHWG) and the Phase 2 recommendations from the Systems Design and Analysis HWG.

This could result in non-standardised system safety assessments across various critical systems. It could also cause conflicting interpretations for conducting system safety assessments in future certification programmes specifically with the trend for highly integrated systems. After reviewing the existing regulations and the recommendations from the various harmonisation working groups, EASA together with FAA, ANAC and TCCA identified the need to clarify and standardise safety assessment criteria.

This activity has been performed under an ARAC tasking to integrate the safety assessment criteria from various system disciplines. The assigned working group, the Airplane-level Safety Analysis Working Group (ASAWG), has now completed its task and produced its final report.

For the purpose of this initiative, the definition of 'specific risk' is 'the risk on a given flight due to a particular condition'. The Specific Risks of Concern (SRC) are those when the aeroplane is one failure away from a catastrophe, or when the risk is greater than the average probability criteria provided in AMC 25.1309 for hazardous and catastrophic failure conditions, on a given flight due to a particular condition.

AMC 25.1309 needs also to be updated to account for evolution of industry documents such as ED79A/ARP4754A.

## 2. Objectives

- Define a standardised criterion for conducting aeroplane-level safety assessment of specific risks that encompasses all critical aeroplane systems on large aeroplanes (i.e. in particular update AMC to CS 25.1309), based on the results of the ARAC ASAWG;
- in addition, amend AMC 25.1309 to take into account of the latest updates of industry documents, such as ED79A/ARP4754A.
- Update CS 25.671 on safety assessment of flight control systems, based on the results of the ARAC FCHWG.

For both objectives harmonisation with FAA, TCCA and ANAC will be ensured as much as possible.

## 3. Specific tasks and deliverables

### 3.1. Tasks

In order to meet the above-mentioned objectives:

- review the results of the ASAWG report together with the dissenting opinions expressed;
- consider what provisions are applicable to CS-25 and amend as appropriate the following CS-25 paragraphs:
  - CS 25.1309(b) and AMC 25.1309, which shall serve as a means to ensure a standardised consideration of specific risk across all systems;



- possible revisions of CS 25.629, CS 25.671, CS 25.901, CS 25.933, CS 25.981, and/or AMC associated to the above CS 25.1309 amendment;
- review the results of the FCHWG and propose revision of CS 25.671, AMC 25.671 and AMC 25.672 as appropriate;
- coordinate with FAA, TCCA and ANAC to ensure the highest level of harmonisation:
  - FAA is currently processing its NPRM, which addresses the same requirements and associated material. NPRM release for public consultation is expected by mid of 2013,
  - FAA and TCCA were already invited to comment on the draft NPA during the EASA internal consultation period: comments highlighted that the initial approaches taken by FAA and the Agency were not mutually consistent, which leads to the need for further harmonisation.

Joint technical consultation meetings with ANAC, FAA and TCCA will be organised prior to issuing the FAA NPRM and the NPA by the Agency, to harmonise the proposals more closely.

### **3.2. Deliverables**

- NPA for CS-25 amendment is planned to be delivered in 2013/Q4 (i.e. about six months after publication of the FAA NPRM on the same topic);
- CRD to be published simultaneously with the Decision amending CS-25 in 2015/Q1.

### **3.3. Focused consultation**

Focused consultation in the form of a joint meeting will be held with ANAC, FAA and TCCA before publishing the CRD.

## **4. Profile and contribution of the rulemaking group**

N/A (Agency task).



## **Annex I: Reference documents**

### **1. Affected regulations**

- CS 25.1309(b) and associated AMC 25.1309;
- CS 25.629, CS 25.671, CS 25.901, CS 25.933, CS 25.981;
- AMC 25.671 and AMC 25.672.

### **2. Affected decisions**

Decision 2003/02/RM of the Executive Director of the Agency of 17 October 2003 on Certification Specifications and Acceptable Means of Compliance for Large Aeroplanes ('CS25') and subsequent amendments including amendment 12 (Decision 2012/008/R of the Executive Director of the Agency of 6 July 2012).

### **3. Reference documents**

- (a) FAA Federal Register Volume 71, No 54, p. 14284, dated March 21, 2006. Notice of new task assignment for the Aviation Rulemaking Advisory Committee (ARAC);
- (b) ARAC Airplane-level Safety Analysis Working Group (ASAWG) Specific Risk tasking report, version 5.0, dated April 2010;
- (c) ARAC Report Flight Control Harmonisation Working Group (FCHWG), dated March 2001.