



## TERMS OF REFERENCE

<b>Task Nr:</b>	MDM.020
<b>Issue:</b>	4
<b>Date:</b>	11 May 2009
<b>Regulatory reference:</b>	<b>Commission Regulation (EC) No 2042/2003<sup>1</sup></b> Part 145.A.65(b)3/Part 145.A.60(b)/AMC 145.A.60(b)/AMC 145.A.47(a)3/AMC M.A.504 (d) 2/AMC 145.A.65(b)(3) Part M.A.402/AMC M.A.402 (a) 4.2
<b>Reference documents:</b>	Investigation report from the Danish Investigation Board (Report on the aircraft accident at Bergen airport Flesland, Norway, on 31 January 2005 involving ATR 12-320, OY-JRJ, operated by Danish air transport) – Appendix 1

**1. Subject:** Review of Commission Regulation (EC) No 2042/2003; Definition of Critical Systems (for maintenance purpose)

**2. Problem/Statement of issue and justification; reason for regulatory evolution (regulatory tasks):**

Commission Regulation (EC) No 2042/2003 shows inconsistency in the use of the terms "critical systems", "critical tasks" and "sensitive maintenance".

There are no available definitions for these concepts. More guidance should be made available.

Undetected maintenance errors have led and may lead to a significant number of aircraft accidents (see above "reference documents").

The purpose of this NPA is:

- to improve safety by reducing the possibility of having undetected maintenance errors following maintenance work deemed critical to safety;
- to provide stakeholders with a methodology or key criteria in order to identify critical maintenance tasks.

It involves Type Certificate Holders (TCH), Operators, Continuing Airworthiness Management Organisations (CAMO), Maintenance Organisations (MO) and maintenance licence holders.

It may concern operations of large aircraft involved in commercial activities as well as general aviation activities.

<sup>1</sup> Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 315, 28.11.2003, p. 1). Regulation as last amended by Commission Regulation (EC) No 1056/2008 (OJ L 283, 28.10.2008, p. 5).

### 3. Objective:

The objective of the rulemaking task is to:

- Avoid the use of different terms such as “critical systems”, “critical tasks” and “sensitive maintenance task” and reviewing Commission Regulation (EC) No 2042/2003 where necessary in order to select and use the most appropriate wording.
- Give a “definition” of the selected term to be used where necessary, in the sense of maintenance regulations. Avoid any interference/confusion or conversely make consistency with the Part 21/CS definitions when available (Commission Regulation (EC) No 1702/2003).
- Give a methodology (general criteria) how to identify those maintenance tasks, especially when the elements from the type certificate holder are not available; this methodology could be based on the current practices/implementations adopted by the Aircraft Maintenance Organisations in order to comply with Part 145.A.65 (3). Identify which systems or maintenance tasks of the aircraft should be considered as “critical” in the sense of having possibly a catastrophic, hazardous or major failure in the case of undetected maintenance errors.
- In general, once the methodology and the criteria are set up (see previous bullet), develop further requirements and guidance material to the existing Part M.A.402, 145.A.60 (b), AMC 145.A.60 (b) and 145.A.65 (3) in order to better define procedures that act as a safety net for those cases where maintenance errors are introduced, that is, procedures that allow detection and rectification of such errors before an accident occurs. Draft regulatory texts that fit Commission Regulation (EC) No 2042/2003.

As a possible outcome, EASA may introduce further requirements and guidance material in Part-M and Part-145 taking into account the following detailed information:

- Role of the engineering judgment, best practices;
  - Definition of the task’s criticality and vulnerability to human factor maintenance errors;
  - Guidance to the maintenance organisations/owner/operators for the maintenance programme in order to raise awareness of the information deemed critical to safety;
  - Scope of independent inspections (correct assembly, locking, routing and connection, inspections prior to closure of access panels, etc.);
  - Independent inspection’s procedures;
  - Inter-trade responsibilities (when B1 and B2 personnel are involved);
  - Functional tests to be performed;
  - Instructions/Certification and recording of independent or duplicate inspections;
  - Split maintenance philosophy (separate groups working on similar systems to avoid multiple errors);
  - Error capturing mechanisms;
  - Determination of need for flight test;
  - Competence and qualification of maintenance staff, training;
  - Procedure between shifts, communication with maintenance personnel.
- Keep on being in line with the Part-M or Part-145 philosophy where compliance with the type certificate holder maintenance instructions (maintenance data) is paramount; the achievement of this rulemaking task should not reduce the attention on tasks which are not identified as critical.

**4. Specific tasks and interface issues (Deliverables):**

The group shall monitor the progress performed by other groups working on:

- SMS implementation (ICAO recommendation);
- Rulemaking task 21.039 (Elaboration and adoption in the Community framework, of additional airworthiness specifications for a given type of aircraft and type of operation);
- CPS (Certification process study - also known as CASP/Commercial Airplane Certification Process) as well as KSI (Key Safety information in Aircraft Design) as developed by the FAA.

The deliverables shall be an NPA limited to:

- a draft opinion proposing changes to Commission Regulation (EC) No 2042/2003 if necessary;
- a draft decision to the Acceptable Means of Compliance and Guidance Material (Part-M and Part-145).

Relevant sections of Commission Regulation (EC) No 1702/2003, related AMC/GM and Certification Specifications shall be used as inputs to the group, but shall not be changed.

The available results of CPS (Certification process study - also known as CASP/Commercial Airplane Certification Process) as well as KSI (Key Safety information in Aircraft Design) as developed by the FAA will be considered in the study. However possible changes to Commission Regulation (EC) No 1702/2003, related AMC/GM and Certification Specifications shall not be considered in this task. The possible need for a separate rulemaking task for aircraft certification will be assessed upon completion of the KSI activities.

Therefore, later on, once the Opinion/Decision have been produced, it might be necessary that this group convene again or it might be necessary to nominate a new group in order to take into account the outcome of CASP.

**5. Working Methods** (in addition to the applicable Agency procedures):

The work shall be carried out by a rulemaking group.

The group should convene frequently so as to allow fulfilling the task within the required timescale.

Meetings shall be held at the Agency in Cologne.

Elected members should be knowledgeable about Regulation, SMS, MSG3, maintenance procedures and maintenance practices, System Safety Analysis and should be ready for drafting implementing rules/interpretative materials.

**6. Time scale, milestones:**

Start: 2009.02

NPA: 2010.02

CRD: 2011.02

Opinion: 2011.03