



Embodiment of safety management system (SMS) requirements into Commission Regulation (EU)

No 1321/2014 — SMS in Part-M

RELATED NPA/CRD: 2013-01(A) & 2013-01(B) — RMT.0251 (MDM.055) PHASE I — 11.5.2016

EXECUTIVE SUMMARY

This Opinion introduces safety management in continuing airworthiness management through the creation of a new Annex Vc 'Part-CAMO' to Commission Regulation (EU) No 1321/2014 dedicated to continuing airworthiness management organisations (CAMOs), which are managing aircraft operated by licensed air carriers and/or complex motor-powered aircraft (CMPA), representing an estimated 65 % of all currently approved CAMOs. Only Part-CAMO-approved continuing airworthiness management organisations will be required to implement SMS based on a set of proportional management system requirements.

Part-CAMO-approved organisations may also manage the continuing airworthiness of other than CMPA and aircraft not used by licensed air carriers.

The new Annex Vc 'Part-CAMO' will supersede the current Subpart G of Annex I (Part-M) to Commission Regulation (EU) No 1321/2014. The changes introduced to the Part-M Subpart G requirements are largely aligned with the general authority and organisation requirements adopted in the other domains (Aircrew, Air Operations, ADR, ATM/ANS).

The proposed changes are expected to:

- increase the level of safety in continuing airworthiness management and maintenance of aircraft operated by licensed air carriers and of CMPA; and
- facilitate the implementation of single management systems by multiple-approved organisations and streamline the related oversight.

This Opinion also proposes consequential amendments to the following Parts resulting from the changes proposed with Opinion No 05/2016 'Task force for the review of Part-M for General Aviation Phase II' (RMT.0547) and from the new Part-CAMO:

- Annex I (Part-M), Annex II (Part-145) and Annex Va (Part-T) to Commission Regulation (EU) No 1321/2014; and
- Annex I (Part-21) to Commission Regulation (EU) No 748/2012.

The Opinion prepares the ground for allowing licensed air carriers to contract a CAMO, which is the objective of rulemaking task RMT.0209 (M.014).

Applicability		Process map	
Affected regulations and decisions:	Commission Regulation (EU) No 1321/2014; Commission Regulation (EU) No 748/2012; Decision 2015/029/R	Concept paper:	No
		Rulemaking group:	No
		RIA type:	Full
Affected stakeholders:	Air operators; CAMOs; competent authorities	Technical consultation during NPA drafting:	No
		Publication date of NPAs 2013-01(A) & (B):	21.1.2013
Driver/origin:	Safety	Duration of NPAs' consultation:	4 months
		Review group:	No
Reference:	N/A	Focused consultation:	Yes
		Publication date of the Decision:	2017/Q2



Table of contents

1. Procedural information	3
1.1. The rule development procedure.....	3
1.2. The structure of this Opinion and related documents	4
1.3. The next steps in the procedure.....	4
2. Explanatory Note.....	6
2.1. Issues to be addressed	6
2.2. Objectives	6
2.3. Task history.....	7
2.4. Outcome of the NPA consultation.....	8
2.5. Focused consultation.....	11
2.6. Summary of the regulatory impact assessment (RIA) for the new Part-CAMO	12
2.7. Overview of changes to Annex I (Part-M)	13
2.8. Overview of changes to Annex II (Part-145).....	15
2.9. Overview of changes to Annex Va (Part-T).....	16
2.10. Overview of changes to Annex I (Part-21) to Commission Regulation (EU) No 748/2012.....	17
2.11. Overview of the proposed Annex Vc (Part-CAMO)	17
2.12. Regulatory impact assessment (RIA)	29
2.12.1. Preamble — assessing the impact of SMS.....	29
2.12.2. Issue analysis and risk assessment	29
2.12.3. Process and consultation.....	32
2.12.4. Extent of the issue	33
2.12.5. Objectives	36
2.12.6. Options identified (NPA 2013-01(A)).....	37
2.12.7. Analysis of the impacts	37
3. References.....	53
3.1. Affected regulations	53
3.2. Affected decisions	53
3.3. Reference documents.....	53
Appendix 1 — Cross-reference table: Part-M Subpart G — NPA 2013-01(B) — Part-ORO/ARO — Opinion No 06/2016.....	A1-1
Appendix 2 — List of items, including Part-M requirements, to be reviewed/assessed in Phase II.....	A2-1



1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Opinion 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 5-year Rulemaking Programme³ under RMT.0251 (MDM.055) Phase I. The scope and timescales of the task were defined in the related terms of reference (ToR) (see process map on the title page).

All interested parties were consulted through NPAs 2013-01(A) and 2013-01(B)⁴, which were published on 21 January 2013:

- 130 comments were received on NPA 2013-01(A) 'Explanatory Note, Regulatory Impact Assessment and Changes to the Cover Regulation', and
- 445 comments were received on NPA 2013-01(B) 'Part-M'.

The comments were received from interested parties, mainly from industry and a small number of individual commenters (representing together 75 % of the NPA comments), and from 9 Member States' competent authorities (representing together 25 % of the NPA comments).

NPA 2013-01(C), proposing changes to Part-145, and also published on 21 January 2013, received 735 comments. All comments on this NPA, as well as a number of comments on NPAs 2013-01(A) and 2013-01(B) that were not accepted for Phase I (in particular those related to further streamlining Part-145 and CAMO requirements in a number of areas, not limited to the management system), will be considered in Phase II (refer to § 2.3 'Task history') and the related comment-response document (CRD) will be published together with the Phase II deliverables.

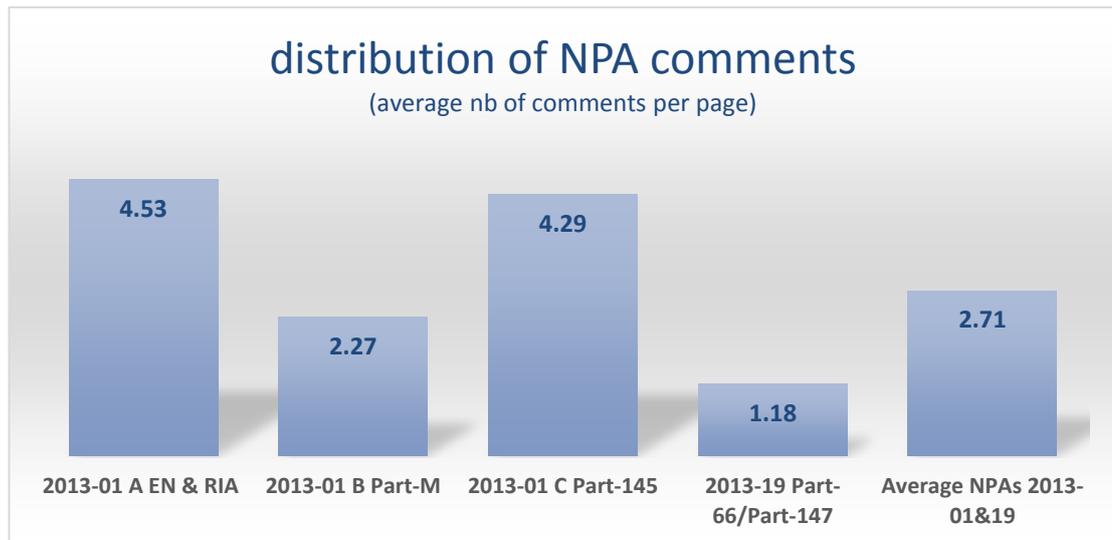
¹ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 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 No 01-2012 of 13 March 2013 concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material.

³ <http://www.easa.europa.eu/system/files/dfu/Final%20RMP%202016-2020%20v6%2020151210.pdf>

⁴ In accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.





For reference: average number of comments per page for NPA 2008-22 'Authority and Organisation Requirements': 14.10.

The Agency has addressed and responded to the comments received on NPAs 2013-01(A) and 2013-01(B). The comments received and the Agency's responses thereto are presented in CRDs 2013-01(A) and 2013-01(B), which are published on the Agency's CRD webpage⁵.

The text of this Opinion (i.e. Explanatory Note and draft regulation(s)) has been developed by the Agency, which considered the outcome of focused consultations with a consultation group composed of industry and national aviation authorities' (NAAs) representatives. The recommendations from the General Aviation Part-M Task Force have also been considered.

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

1.2. The structure of this Opinion and related documents

Chapter 1 of this Opinion contains the procedural information related to this task. Chapter 2 'Explanatory Note' explains the core technical content. The draft rule text proposed by the Agency is published on the Agency's website⁶.

Two appendices are included in this Opinion as follows:

- Appendix 1: Cross-reference table: Part-M Subpart G — NPA 2013-01(B) — Opinion No 06/2016; and
- Appendix 2: List of items, including Part-M requirements, to be assessed in Phase II.

1.3. The next steps in the procedure

The Opinion contains proposed changes to Union regulations. It is addressed to the European Commission, which shall use it as a technical basis to prepare a legislative proposal.

⁵ <http://www.easa.europa.eu/document-library/comment-response-documents>

⁶ <http://www.easa.europa.eu/document-library/opinions>



The Decision containing the acceptable means of compliance (AMC)/guidance material (GM) to the new Part-CAMO will be published by the Agency when the related implementing rule(s) (IR(s)) are adopted by the European Commission.

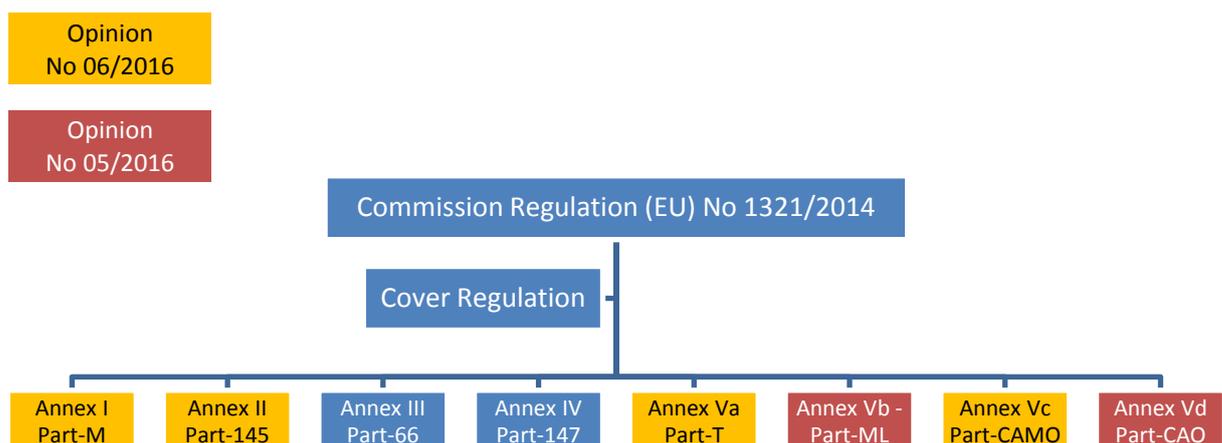


2. Explanatory Note

2.1. Issues to be addressed

This Opinion:

- addresses the introduction of SMS in the continuing airworthiness management of aircraft operated by licensed air carriers and of CMPA⁷;
- proposes changes to the technical requirements of Annex I (Part-M), stemming from the proposal for a ‘light Part-M’ (new Annex Vb to Commission Regulation (EU) No 1321/2014) and a new type of ‘Part-CAO’ organisation (new annex Vd to Commission Regulation (EU) No 1321/2014) made with Opinion No 05/2016 (RMT.0547 ‘Part-M General Aviation Task Force Phase II’);
- proposes changes to Annex II (Part-145), to Annex Va ‘Part-T’ to Commission Regulation (EU) No 1321/2014 and to Annex I (Part-21) to Commission Regulation (EU) No 748/2012 to reflect the changes proposed with Opinion No 05/2016 and with this Opinion.



2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation.

The principal objectives of rulemaking task RMT.0251 (MDM.055) are to adapt Commission Regulation (EU) No 1321/2014 and the corresponding AMC/GM for the implementation of organisation management system requirements providing for compliance with the relevant ICAO Annex 19 Standards and Recommended Practices (SARPs) on SMS in the field of continuing airworthiness management.

⁷ When reference is made to ‘continuing airworthiness management’, this is meant to also include the performance of an airworthiness review, issue of an airworthiness review certificate, extension of an airworthiness review certificate or the issue of a permit to fly in accordance with 21.A.711(d).



Additional objectives are to:

- improve overall consistency and harmonise organisation management system requirements applicable to the different types of organisations;
- streamline certification and oversight processes, as far as practicable; and
- apply ‘better regulation’ principles by:
 - focusing on the safety objective to improve resilience of IRs; and
 - moving detailed implementation aspects at AMC level, where appropriate.

The specific objectives are to:

- harmonise implementation of the new management system requirements for all CAMOs which are also approved to will be declaring their activity in accordance with Commission Regulation (EU) No 965/2012, or which are approved training organisations (ATOs) in accordance with Commission Regulation (EU) No 1178/2011);
- promote an integrated approach to management systems for those organisations and for related oversight;
- ensure effective compliance monitoring, safety risk management and oversight for all continuing airworthiness management activities of aircraft used by licensed air carriers and of CMPA, thus preparing the ground for allowing licensed air carriers to contract a CAMO (RMT.0209 (M.014));
- facilitate international harmonisation.

The intended effects would be to:

- enhance safety by contributing to effective hazard identification, error reduction, and by improving transparency; and
- improve flexibility and proportionality in particular as regards management system requirements.

2.3. Task history

RMT.0251 (MDM.055) was initiated in October 2010 as ‘Agency task’ (‘SMS for Regulation (EC) No 2042/2003’). Following the decision to postpone the implementation of a horizontal rule structure, work on the task resumed in July 2011 with amended ToR and the drafting of a notice of proposed amendment (NPA). A conference took place in December 2012 to present the draft NPA text addressing the changes to Annex I (Part-M) and Annex II (Part-145). The conference was attended by more than 200 participants from industry and NAAs.

A first NPA (NPA 2013-01) covering the changes to Annex I (Part-M) and Annex II (Part-145) was published on 21 January 2013, followed by a second NPA (NPA 2013-19) published on 10 October 2013 covering changes to the remaining Annexes III (Part-66) and IV (Part-147). All changes to Annex I (Part-M) (NPA 2013-01(B)) in the area of General Aviation were clearly flagged as ‘provisional’, pending the outcome of the work of the Part-M General Aviation Task Force.

NPAs 2013-01 and 2013-19 proposed changes to Sections A and B of the continuing airworthiness Regulation (Regulation (EC) No 2042/2003 at that time) to implement the ICAO SMS framework and to support the implementation of State Safety Programmes (SSPs)/European Aviation Safety Programme (EASP), now changed to ‘European Programme for Aviation Safety’. The majority of the changes was based on Subparts ‘General’ of the authority and organisation requirements and related AMCs/GM (hereinafter referred to as ‘ARs/ORs’), which were adopted with Commission Regulation (EU)



No 1178/2011 as amended by Commission Regulation (EU) No 290/2012 for civil aviation aircrew and Commission Regulation (EU) No 965/2012 for air operations respectively.

In 2015 the Agency decided to adopt a two-phase approach for RMT.0251 (MDM.055):

— **Phase I:**

- Introduction of SMS in Annex I (Part-M).

— **Phase II (starting in 2016):**

- Introduction of SMS requirements for:
 - Part-145 organisations, changes to the Part-66 training syllabi,
 - Part-21 design organisations,
 - Part-21 production organisations;
- Assessment of the need for management system requirements in Annex IV (Part-147).

Concurrently, it was decided to establish a Focused Consultation Group (FCG) with NAA and industry representatives, selected on the basis of NPA comments, to deliver Phase I.

Phase II will be processed with the support of a consultation group with industry and NAA experts, and may consider industry standards addressing quality and safety management in initial and continuing airworthiness.

Phase II will be the subject of a new ToR and a new NPA, the latter to be published in 2017. Accordingly, the changes proposed with this Opinion should not be considered as setting the standard for implementing SMS in the remaining areas.

2.4. Outcome of the NPA consultation

The related CRDs to NPAs 2013-01(A) and 2013-01(B) are available on the Agency's website at <http://easa.europa.eu/document-library/comment-response-documents>.

Many of the comments made on NPA 2013-01(A) were also repeated on NPA 2013-01(B). In addition, a number of comments was made on the regulatory impact assessment (RIA) that was generally seen as too qualitative. Considering these comments the Agency conducted two surveys addressed to NAAs and CAMOs to gather data in support of the RIA. An updated RIA is provided in Section 2.11. of this Opinion.

The most commented issues are summarised below:

Rule structure and transposition of ARs/ORs:

- Duplication of content in each of the Parts (M/G, M/F, 145, and 147) was not supported.
- While a few stakeholders expressed concerns about the impact of a possible change to the rule structure, the majority of the commenters supported the AR/OR approach, with some commenters asking for the horizontal rule structure to be adopted without delay (this was confirmed through the comments made on NPA 2013-19).
- Several commenters requested to fully align with/strictly adhere to the rule text as in the Aircrew/Air Operations Regulation (Subparts GEN to ARs/ORs), with no deviations.



Part-M/Part-145 alignment:

- 113 detailed comments with related drafting proposals were received from one single stakeholder (Airbus), in particular to propose a better alignment between Part-M and Part-145, including in areas which are outside the scope of RMT.0251 (MDM.055). Some of these proposals would require a new rulemaking task, while others could be reassessed in Phase II (refer to Appendix 2).

Applicability of the new safety management system (SMS) framework

- A series of comments requested to not extend SMS applicability beyond ICAO Annex 19 applicability, meaning there should be no SMS in Part-147 ('there are no occurrences in a Part-147 organisation'), and no SMS requirements for Part-M Subpart F organisations.
- General Aviation stakeholders and some NAAs insisted that SMS be mandated for organisations working with aircraft used in commercial air transport or with CMPA only.

Quality system versus management system — quality manager and safety manager:

- A series of comments from industry indicated that the change to terminology from 'quality system' to 'management system' was not supported ('quality manager' was a designated position and this is now replaced with 'compliance monitoring function').
- A number of comments indicated that the hierarchical link between safety management and compliance monitoring was not clearly defined.
- Many comments from industry (including from stakeholders who unanimously challenged the need for an SMS) requested that the requirement for the nomination of a safety manager be included at IR level, and that it should be an 'EASA Form 4' position.

Need to support SMS implementation, safety promotion

- A series of comments indicated the need for SMS implementation support to address SMS in continuing airworthiness (guidance, templates, promotion material on safety risk management and safety culture), in particular to assist small organisations, organisations that are not directly involved in aircraft operations and General Aviation organisations with the implementation of SMS.

Acceptable means of compliance (AMC) and alternatives means of compliance (AltMoC):

- Industry comments, including US industry, claimed that with the new requirements on AltMoC processing, all Agency AMC were de facto gaining the status of IRs.
- Industry and NAAs claimed that too many AMC and even GM were overly prescriptive in nature, not compatible with the performance-based approach (e.g. fixed audit cycle for the internal audit as defined in the Part-M AMC).
- General Aviation stakeholders commented that the process for approving AltMoC was too bureaucratic, whereas other commenters asked to simplify the requirements (e.g. to make AltMoC accepted for one organisation transferable to other organisations, or allowing the authority to approve AltMoC during an audit).



Management of changes/indirect approval/changes not requiring prior authority approval:

- Industry and NAA comments, partially contradicting, requested the review and clarification of the provisions by:
 - providing more approval privileges to organisations;
 - better clarifying the responsibilities of the authority with regard to changes not requiring prior approval;
 - creating better linkage with the change management process under the management system (safety risk management).

Human factors (HFs)

- A number of commenters challenged the need to address HF in CAMO activities, and others claimed that HF should be dealt with separately from SMS.
- A few commenters asked for an extension of the scope of fatigue risk management beyond Part-145.

Comments on Section B

In general, a rather small number of comments was made on Section B.

- Streamlining of competent authority procedures:
 - A majority of comments from competent authorities asked for maximum alignment with the common ARs already in place for Air Operations and Aircrew.
- Management system for competent authorities:
 - Only two competent authorities repeated some of the comments made when ARs/ORs were first published with NPA 2008-22b 'Part-AR' (*'there should be no management system requirements for competent authorities'*).
- Flexible oversight planning cycles and extension to 36/48 months:
 - These changes were generally supported; however, it was contended that the effective use of extended oversight planning cycles would be close to zero if NAA charging schemes were not adapted accordingly.
 - Several comments indicated that the proposal should go further in relying on the organisational capability to manage risks (*'give more privileges to organisations to manage changes under their approval'*).
 - Several comments indicated the need for a common assessment tool for SMS effectiveness.

All comments related to General Aviation issues were shared with the Part-M General Aviation Task Force for consideration and input to this Opinion.



2.5. Focused consultation

The composition of the FCG was determined based on the NPA comments and stakeholder feedback, and included:

EHFAG	AEA	DGAC France	AUSTRO CONTROL
EHA	EASYJET	CAA NL	CAA Sweden
AIRBUS	ECOGAS	UK CAA	ASD-IAQG

EASA	Flight Standards Directorate (FS.1 & FS.5)
------	--

The FCG held four meetings (7.5 days in total) between June 2015 and February 2016. It provided recommendations on the degree of alignment with the common authority and organisation requirements, on the new and amended AMC and GM, discussed controversial issues based on the analysis of the NPA comments, and raised a number of additional issues.

In preparing the Opinion, the Agency was further supported by the European Human Factors Advisory Group (EHFAG)/Continuing Airworthiness Focus Group, which assisted with the analysis of all HF-related NPA comments, provided advice on HF and SMS training in Part-CAMO organisations, and made specific recommendations on how to address HFs in continuing airworthiness management.

In terms of **rule structure**, and in view of the significant changes introduced with this Opinion, the FCG recommended that a consolidation of common ARs/ORs across Regulation (EU) No 1321/2014 be considered in RMT.0251 (MDM.055) Phase II.

Regarding **alignment between Part-M and Part-145** (Airbus drafting proposals as part of the NPA 2013-01(B) comments), the FCG agreed to consider in Phase I only those items not requiring an extensive impact assessment, meaning obvious differences and omissions, and to address all other items in Phase II, in particular to ensure proper stakeholder consultation. In addition, the FCG recommended that the Phase I Opinion include a list of 'technical requirements' in Part-M that should be adapted in Phase II, in line with the performance-based rulemaking principles, to improve consistency and clarity and to maximise the potential of SMS. This list is included in Appendix 2 to this Opinion.

Considering that the introduction of SMS in Part-145 will only be addressed in Phase II, the FCG further requested that the Agency provide clear guidance to competent authorities on how to **manage the transition** in particular for organisations holding both approvals (e.g. different standards for the related expositions, different procedures for managing changes, etc.).

The FCG recommended that the **nomination of a person or group of persons for compliance monitoring and safety management** respectively be included at IR level.

The FCG supported the inclusion of **HF qualification and training requirements** in the new Part-CAMO, based on material being developed by the EHFAG. These provisions should be an integral part of the SMS qualification and training provisions.

In terms of **SMS applicability**, whereas the majority of the FCG members recommended that proportional SMS requirements be applied to all approved CAMOs, two FCG members objected. Following dedicated consultation with the Part-M General Aviation Task Force (RMT.0547), the decision was made to:



- require SMS only for CAMOs managing aircraft used by licensed air carriers or managing CMPA, and linked to this, to create a stand-alone Part-CAMO for this applicability; and
- create a new, combined approval for maintenance and continuing airworthiness for organisations not involved with aircraft used by licensed air carriers or with CMPA. This new type of 'Part-CAO' approval would be based on the current Part-M Subpart F organisation requirements, meaning no requirement for an SMS (cf. Opinion No 05/2016).

While the FCG highlighted the need to ensure alignment with the common core authority and organisation requirements adopted in the other domains (Aircrew, Air Operations, ADR, ATM/ANS), it also proposed a number of changes to these common requirements as follows (only items relevant to the IRs are listed below).

Organisation requirements:

- The requirement for the nomination of a person or group of persons for safety management and compliance monitoring should be included at IR level.
- A new requirement should be introduced for organisations to have a system in place to plan the availability of staff ('*man-hour planning*').
- A new requirement should be introduced for initial certification, mandating a pre-audit to be performed by the organisation (results to be provided with the initial application).
- A new requirement should be introduced for organisations to maintain a list of approved AltMoC as part of their exposition.
- A new IR should be included to require organisations to have an internal safety reporting scheme.

Authority requirements:

- Oversight should include management system assessments in addition to audits and inspections, to support risk- and performance based oversight.
- The competent authority should be entitled to limit, suspend or revoke a certificate in case the security situation in a State is not compatible with the conduct of on-site audits (this is mostly relevant for third-country organisation approvals).
- The competent authority should be required to issue a recommendation report on the continuation of the approval upon completion of each oversight planning cycle.

Additional changes will be proposed to the Part-CAMO AMC and GM that are based on the AMC and GM adopted for ARs/ORs.

The FCG recommended that changes to the ARs/ORs proposed with this Opinion (IR, AMC, GM) be considered for all other core ARs/ORs (Aircrew, Air Operations, ADR, ATM/ANS), to ensure consistency and alignment across domains.

2.6. Summary of the regulatory impact assessment (RIA) for the new Part-CAMO

The changes proposed with this Opinion would have a positive safety impact on and improve efficiency of continuing airworthiness management and maintenance operations. They would create economic



impacts through the additional safety-management policies, processes and systems to put in place in those organisations which have not yet implemented SMS. For organisations having implemented SMS already, a limited impact would result, as these organisations would still need to update their manuals and ensure that they meet the specific Part-CAMO requirements. The impact on authorities would be limited as the Opinion would basically extend the perimeter of authority requirements already applicable in other domains.

Proportionality would be ensured by including specific SMS implementation details at AMC level and requiring SMS only for the continuing airworthiness management of aircraft operated by licensed air carriers and CMPA.

The proposal would support the establishment of a comprehensive aviation safety management system at EU level encompassing EU and Member State responsibilities for safety management and have a positive impact on regulatory coordination and harmonisation. Bilateral agreements would not be affected.

2.7. Overview of changes to Annex I (Part-M)

Changes are made to Sections A and B of Part-M, to:

- address NPA 2013-01(B) comments and reflect the changes proposed with this Opinion (new 'Part-CAMO');
- reflect the changes proposed with Opinion No 05/2016 (RMT.0547 'Part-M General Aviation Task Force Phase II') as regards:
 - 'light Part-M' (new Annex Vb to Commission Regulation (EU) No 1321/2014); and
 - 'Part-CAO' (new Annex Vd to Commission Regulation (EU) No 1321/2014).

Changes to Part-M Section A

- All references to Part-M Subpart G organisations are replaced with references to Part-CAMO or Part-CAO organisations, as applicable.
- All detailed references to Part-M Subpart G requirements ('700 series') are replaced with the relevant Part-CAMO and/or Part-CAO requirements, as applicable.
- The occurrence reporting requirement in M.A.202 is amended to align with the equivalent requirements in the area of Aircrew and Air Operations. Further changes to align with Regulation (EU) No 376/2014 will be made with RMT.0681.
- M.A.301 is reviewed for consistency with the new CAMO.A.325. Purely 'technical' continuing airworthiness tasks should be described in M.A.301 and in Part-CAMO only the related organisation responsibilities should be retained. Accordingly, the embodiment policy for non-mandatory modifications and inspections is now addressed in CAMO.A.325.
- M.A.302 is amended to reflect the changes proposed with Opinion No 05/2016. ELA1 aircraft not listed in the Air Operator Certificate of a licensed air carrier are no longer covered under M.A.302, as for such aircraft only Part-ML will apply.
- M.A.502 is amended by removing the derogation clause in point (d), as ELA1 aircraft used by other than licensed air carriers are no longer covered under Part-M.



- Subpart F is reviewed to:
 - include references to Part-ML, where relevant;
 - amend point (e) of M.A.615 ‘Privileges of the organisation’ on ELA1 aircraft not involved in commercial operations (only Part-ML is applicable to those);
 - delete point (f) of M.A.615 ‘Privileges of the organisation’ in line with the recommendations made by the General Aviation TAG and the Part-M General Aviation Task Force (Subpart F organisations should no longer be allowed to develop the maintenance programme and process its approval in this case).
- The entire Subpart G is deleted.
- In M.A.801, the reference to Part-66 is replaced with a reference to Article 5 of the cover regulation (cf. Opinion No 05/2016).
- M.A.901 is amended to include the detailed elements of the airworthiness review process previously defined in M.A.710. In addition, in point M.A.901(k)(6) references to Part-21 are replaced with references to M.A.304.
- Point M.A.902(b)(5) is amended by replacing references to Part-21 with references to M.A.304.
- Point (a) of M.A.904 ‘Airworthiness review of aircraft imported into the EU’ is amended as follows:
 - ‘(a) When importing an aircraft onto a Member State register from a third country or from a system where Regulation (EC) No 216/2008 does not apply, the applicant shall: [...]’
- Additional editorial changes are made for consistency.

Changes to Part-M Section B

- A new M.B.103 ‘Findings and enforcement measures — persons’ is included to create an authority requirement allowing enforcement action in case of non-compliance by a person regulated by Part-M. This is aligned with the equivalent requirements in Aircrew and Air Operations.
- M.B.104 ‘Record-keeping’ is amended to increase the record-keeping period for organisation-related records to 5 years. This is to align with the record-keeping requirements in Part-CAMO (which are in return aligned with ARs). This will ensure that the records are kept at least for the full duration of an oversight planning cycle or an EASA standardisation cycle.
- M.B.201 ‘Responsibilities’ is amended for consistency with the language used throughout Part-M.
- A new M.B.202 ‘Information to the Agency’ is created to mirror the corresponding Part-CAMO Section B requirement and complement M.A.202.
- M.B.301 ‘Maintenance programme’ is reviewed to clarify the wording. The title is changed to ‘Aircraft maintenance programme’, for consistency with M.A.302.
- A new M.B.305 ‘Aircraft technical log system’ is included to create the counterpart in Section B of M.A.306.
- The entire Subpart G is deleted.
- In M.B.901 ‘Assessment of recommendations’ the reference to M.A.710 is replaced with a reference to M.A.901, as the details of the airworthiness review process are now included in M.A.901.



- A new M.B.904 'Exchange of information' is included to address the case of aircraft transfer between Member States. This is based on feedback received through EASA Standardisation.

Changes to Part-M appendices

- In Appendix I 'Continuing Airworthiness Management Contract', references to Part-M Subpart G organisation are replaced with references to Part-CAMO/Part-CAO organisation. A new point 6 is added to ensure that the contract specifies the responsibilities for occurrence reporting. This should prevent duplicate reporting and situations where both parties assume the other party will report.
- In Appendix II 'Authorised release certificate — EASA Form 1', references to Part-CAO are added where necessary and the footer of the Form itself now includes a reference to CAO (EASA Form 1 MF/CAO/145).
- In Appendix III 'Airworthiness review certificate — EASA Form 15', the following changes are made:
 - Form 15c is deleted as it is included as Appendix IV to Part-ML (Opinion No 05/2016),
 - In Form 15b references to Part-CAMO and Part-CAO are added,
 - In Form 15a minor editorial changes are made for consistency.
- In Appendix IV 'Class and Ratings System used for the Approval of Maintenance Organisations referred to in Annex I (Part-M) Subpart F and Annex II (Part-145)', in the table under point (13), in the limitations associated with rating A2, the reference to recommendations is deleted. The reason is that for ELA1 aircraft not involved in commercial operations, according to Part-ML, there are no recommendations for the issuance of an airworthiness review certificate.
- In Appendix V 'Maintenance Organisation Approval referred to in Annex I (Part-M) Subpart F', the following changes are made:
 - the term 'approval' is replaced with 'certificate',
 - references to Part-ML point ML.A.903 'Airworthiness review process' are included,
 - the term 'approval schedule' is replaced with 'terms of approval' for consistency with Part-CAMO.
- Appendix VI 'Continuing Airworthiness Management Organisation Approval referred to in Annex I (Part-M) Subpart G' is deleted. The CAMO certificate is now included as Appendix I to Part-CAMO.
[Appendix VII 'Complex Maintenance Tasks' remains unchanged.]
- In Appendix VIII 'Limited Pilot-owner maintenance', point 9 in the list of maintenance tasks that shall not be carried out by the Pilot-owner is deleted, thus it can be performed by the Pilot-owner. The list of 'Limited Pilot-owner maintenance' tasks is maintained in Part-M as the scope of such maintenance extends beyond the applicability of the new Part-ML (for example: rotorcraft above 1 200 kg MTOM or certified for more than four occupants are not within the scope of Part-ML).

2.8. Overview of changes to Annex II (Part-145)

Changes are made to reflect the changes proposed with this Opinion, as well as the changes proposed with Opinion No 05/2016, as follows:



- 145.A.30 'Personnel requirements': Point (k) is amended to add relevant Part-ML references. Point (l) is deleted in line with the recommendations made by the General Aviation TAG and the Part-M General Aviation Task Force: Part-145 organisations should no longer be allowed to develop the maintenance programme and process its approval in the case of ELA1 aircraft not used in commercial operations.
- 145.A.75 'Privileges of the organisation' is amended to add relevant Part-ML references and to delete the reference to recommendations, since they are no longer possible according to Part-ML. In addition, point (g) is deleted in line with the recommendations made by the General Aviation TAG and the Part-M General Aviation Task Force (cf. changes to 145.A.30 above).

2.9. Overview of changes to Annex Va (Part-T)

Changes are made to Subpart G to reflect the changes proposed with this Opinion, by replacing relevant Part-M Subpart G references with the corresponding Part-CAMO references and to align with Part-CAMO text as necessary. This concerns the following points:

- Section A:
 - The title of Section A Subpart G,
 - T.A.701 'Scope',
 - T.A.704 'Continuing airworthiness management exposition',
 - T.A.706 'Personnel requirements',
 - T.A.708 'Continuing airworthiness management',
 - T.A.709 'Documentation',
 - T.A.711 'Privileges',
 - T.A.712 'Quality system',
 - T.A.714 'Record-keeping',
 - T.A.715 'Continued validity of approval', and
 - T.A.716 'Findings'.

The following additional changes are made in Section A to align with Part-CAMO:

- T.A.715 'Continued validity of approval' now reads T.A.715 'Continued validity',
- T.A.712 'Quality system' now reads T.A.712 'Management system', and
- The text of T.A.716 'Findings' is fully aligned with CAMO.A.150.

- Section B:
 - The title of Section B Subpart G,
 - T.B.702 'Initial approval',
 - T.B.704 'Continuing oversight', and
 - 'T.B.705 Findings'.

The following additional changes are made in Section B to align with Part-CAMO:

- T.B.702 'Initial approval' now reads T.B.702 'Initial certification procedure',



- T.B.704 'Continuing oversight' now refers to sampling during each oversight planning cycle instead of every 24 months, to align with Part-CAMO oversight requirements, and
- T.B.705 'Findings' now reads 'T.B.705 Findings and corrective actions'.

2.10. Overview of changes to Annex I (Part-21) to Commission Regulation (EU) No 748/2012

Changes are made to reflect the changes proposed with Opinion No 05/2016 and with this Opinion, as follows:

- In Article 1 'Scope and definitions', point (2)(d) is amended to include additional definitions for Part-ML, Part-CAMO and Part-CAO.
- In the 'Table of Contents' and the 'List of Appendices' the reference to Appendix II is amended to read 'Appendix II – EASA Form 15a and 15c – Airworthiness review certificate'.
- Point (b)(3) of '21.A.174 Application' is amended to add references to Part-ML (*...airworthiness review in accordance with Part-M or Part-ML*).
- Point (a)(2)(i) of '21.A.179 Transferability and re-issuance within Member States' is amended to add a reference to Part-ML.
- Point (a) of '21.A.441 Repair embodiment' is amended to add references to Part-ML and Part-CAO.
- Point (d) of '21.A.711 Issue of a permit to fly' is amended to replace Part-M references relevant to the permit to fly privilege with the corresponding Part-CAMO and Part-CAO references.
- In point (c) of '21.B.325 Issue of airworthiness certificate' the reference to 'EASA Form 15a' is replaced by 'EASA Form 15a or 15c, as applicable'.
- Point (1)(iii) of '21.B.326 Certificate of airworthiness' is amended to add references to Part-ML.
- Point (a)(2)(i)(C) of '21.B.327 Restricted certificate of airworthiness' is amended to add references to Part-ML.
- In the 'Appendices to Part-21 — EASA FORMS' the following changes are made:
 - In EASA Form 15a, also included as Appendix III to Part-M, minor changes are made for consistency with changes made to Part-M; and
 - EASA Form 15c, also included as Appendix IV to the new Part-ML (Opinion No 05/2016), is added.

2.11. Overview of the proposed Annex Vc (Part-CAMO)

The new Part-CAMO is proposed to be included as a new Annex Vc to Commission Regulation (EU) No 1321/2014.

The new Part-CAMO derives from current Subpart G of Part-M. The current provisions are reviewed and complemented where necessary to ensure alignment with the common ARs/ORs. All provisions not relevant to the scope of Part-CAMO are removed. This concerns in particular all alleviations successively introduced for General Aviation.

Whereas the new Part-CAMO is 'designed' for continuing airworthiness management of aircraft used by licensed air carriers or managing CMPA, a Part-CAMO approval can also be used to manage aircraft not used by licensed air carriers or aircraft other than CMPA, which implies that a Part-CAMO



organisation will need to consider the technical requirements of either Part-M or Part-ML (Opinion No 05/2016), as applicable.

The table of contents of the new Part-CAMO is presented in the table below. For the 100 and 200 series of the Section A requirements, as well as for all Section B requirements, the rule titles and last three digits of the rule reference are aligned with those in the corresponding ARs/ORs in the Aircrew and Air Operations Regulations. The new IR on internal safety reporting, which does not have any counterpart in the Aircrew and Air Operations ARs/ORs, is included as CAMO.A.202, in order to maintain alignment of the remaining IRs with the ARs/ORs numbering.

Annex Vc (Part-CAMO) to Commission Regulation (EU) No 1321/2014	
SECTION A — ORGANISATION REQUIREMENTS	SECTION B — AUTHORITY REQUIREMENTS
CAMO.001 General General requirements CAMO.A.005 Scope CAMO.A.105 Competent authority CAMO.A.115 Application for an organisation certificate CAMO.A.120 Means of compliance CAMO.A.125 Terms of approval and privileges CAMO.A.130 Changes to the organisation CAMO.A.135 Continued validity CAMO.A.140 Access CAMO.A.150 Findings CAMO.A.155 Immediate reaction to a safety problem CAMO.A.160 Occurrence reporting Management CAMO.A.200 Management system CAMO.A.202 Internal safety reporting scheme CAMO.A.205 Contracting and subcontracting CAMO.A.215 Facilities CAMO.A.220 Record-keeping CAMO specific requirements CAMO.A.300 Continuing airworthiness management exposition CAMO.A.305 Personnel requirements CAMO.A.310 Qualification of airworthiness review staff CAMO.A.315 Continuing airworthiness management CAMO.A.320 Airworthiness review CAMO.A.325 Continuing airworthiness management data	General requirements CAMO.B.005 Scope CAMO.B.115 Oversight documentation CAMO.B.120 Means of compliance CAMO.B.125 Information to the Agency CAMO.B.135 Immediate reaction to a safety problem Management CAMO.B.200 Management system CAMO.B.205 Allocation of tasks to qualified entities CAMO.B.210 Changes in the management system CAMO.B.220 Record-keeping Oversight CAMO.B.300 Oversight principles CAMO.B.305 Oversight programme CAMO.B.310 Initial certification procedure CAMO.B.330 Changes CAMO.B.350 Findings and corrective actions CAMO.B.355 Suspension, limitation and revocation
Appendix I: Continuing Airworthiness Management Organisation Certificate referred to in Part-CAMO	

A detailed cross-reference table showing the correspondence between the current Part-M Subpart G, the NPA 2013-01(B) text, the relevant ARO/ORO⁸ references (Commission Regulation (EU) No 965/2012) and this Opinion is included in Appendix 1 to this Opinion.

⁸ The ARA/ORO rule reference numbers as per Commission Regulation 1178/2011 are basically the same as for ARO/ORO.



General changes to Part-M Subpart G text (Section A and Section B):

- All references to ‘this Subpart’ are replaced with references to ‘Section’, or ‘Part’, as appropriate.
- All references to ‘quality system’ are replaced with ‘management system’.
- For simplicity, the term ‘continuing airworthiness management organisation’ is replaced with ‘organisation’ throughout.
- All Part-M Subpart G regulatory references are updated to reflect the new Part-CAMO references.
- References to the annexes to the regulations are amended to only refer to the Part designator (example: ‘Part-21’ instead of ‘Annex I (Part-21) to Commission Regulation (EU) No 748/2012’).

Changes to Section A — General:

Section A material is reviewed to align it with Subparts GEN of Part-ORA/Part-ORO (organisation requirements developed for Aircrew and Air Operations). This is a step towards harmonising and streamlining management system requirements in the different domains. An efficient and effective management system requires the organisation to analyse and assess its system and processes, and their interrelations, in order to identify strengths, non-conformities, weaknesses, and hazards with a view to ensuring continued compliance and achieving continual improvement. The management system requirements proposed with this Opinion combine safety management and compliance monitoring provisions into a single set of requirements. They focus on what is essential for safety management by mandating the organisation to:

- (a) clearly define responsibilities and accountabilities for safety;
- (b) establish a safety policy;
- (c) ensure the identification of aviation safety hazards entailed by its activities, including through an internal safety reporting scheme;
- (d) ensure the evaluation of aviation safety hazards and the management of associated risks;
- (d) take actions to mitigate the risks and verify the actions’ effectiveness;
- (e) maintain personnel trained, competent, and informed about significant safety issues;
- (f) document all management system key processes;
- (g) effectively manage risks in contracted and subcontracted activities; and
- (g) monitor compliance while considering any additional requirements that are applicable to the organisation.

The genuinely new elements included in these common management system requirements are the required processes for hazard identification, risk assessment and mitigation, as well as for ensuring that actions taken to address the risks are effective. Management system IRs are complemented by a series of AMC providing detailed means of compliance and by related GM.

The proposed framework (CAMO.A.200; CAMO.A.202; CAMO.A.205 and related AMC) while addressing all elements of the ICAO Annex 19 Appendix 2 ‘Framework for a Safety Management System’, promotes an integrated approach to the management of an organisation by including the additional



safety management components into the existing organisation requirements, rather than adding them as a separate framework. This aims to encourage organisations to embed safety risk management into all safety-relevant activities, instead of (super)imposing another system onto their existing management system.

Through the adoption of a common management system framework for CAMOs managing aircraft operated by licensed air carriers or CMPA, for air operators and for approved training organisations (ATOs), the implementation of safety management processes will be facilitated for those organisations holding more than one approval.

General

A new **CAMO.001** is created to introduce definitions and the full regulatory references of different Parts being referred to in Part-CAMO. This simplifies the IR text by referring to the Part designator only.

Changes to Section A — Details:

The main changes to the current Part-M Subpart G Section A text are detailed below (preceded where applicable by the current Part-M Subpart G rule reference):

[M.A.702] **CAMO.A.115 Application for an organisation certificate**

The text is based on equivalent ORA/ORO.GEN.115 and includes a new requirement for the organisation to provide the results of a pre-audit against the applicable requirements together with its application.

A new **CAMO.A.120 Means of compliance** is added to align with ORA/ORO.GEN.120.

[M.A.703; M.A.711] **CAMO.A.125 Terms of approval and privileges of the organisation**

The title is changed to align with ORA/ORO.GEN.125. M.A.711 'Privileges of the organisation' is incorporated (new points (d) to (f)) and relevant references updated. Only minor changes are made to the text stemming from M.A.711 to update the cross references and replace 'quality system' with 'management system'. The text is further amended to include the Part-M/Part-ML references for the extension of the ARC (cf. point (d)(4)) and for the issue of a recommendation for the airworthiness review by the competent authority (cf. point (e)(2)).

[M.A.713] **CAMO.A.130 Changes to the organisation**

This rule text is amended to align with ORA/ORO.GEN.130. This now introduces the term 'changes not requiring prior approval' replacing the 'indirect approval'. Changes not requiring prior approval will be managed as agreed between the organisation and the authority, and are not formally approved. This allows more flexibility and a performance-based approach to oversight. The amended provisions fully meet the intent of 'indirect approval' or changes 'acceptable to the authority' while providing more flexibility: the competent authority may agree on a case-by-case basis on the specific scope of changes not requiring prior approval, and on the management of such changes, including how these should be notified to the competent authority.



[M.A.715] CAMO.A.135 Continued validity

Minor changes are made to update references and for consistency throughout the new Part-CAMO.

A new **CAMO.A.140 Access** is added to align with ORA/ORO.GEN.140. It contains the requirements for granting access to the competent authority for the purpose of determining continued compliance.

[M.A.716] CAMO.A.150 Findings is amended to align with Part-ORA/ORO. It focuses on the actions required by the organisation when a finding is notified. The definition of finding levels is included in Section B as the assessment is made by the competent authority.

A new **CAMO.A.155 Immediate reaction to a safety problem** is added to align with ORA/ORO.GEN.155. It forms the counterpart in Section A of the new CAMO.B.135.

A new **CAMO.A.160 Occurrence reporting** is added to introduce the occurrence reporting requirements applicable to CAMOs, with M.A.202 being no longer applicable to them. The text may need to be further amended depending on the outcome of RMT.0681 'Alignment of Implementing Rules & AMC/GM with Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 and repealing Directive 2003/42/EC and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 — Occurrence Reporting'.

[M.A.712] CAMO.A.200 Management system is significantly amended to align with the elements of ORA/ORO.GEN.200 'Management system'. This will ensure consistency for those organisations approved in accordance with Part-CAMO also holding an ATO certificate and/or air operator certificate (AOC) or operators who will declare their activity (Part-NCC). A new point (c) is added following the analysis of the NPA comments. Former point (f) 'organisational review' is deleted as this possibility is currently only relevant for small organisations not managing the continuing airworthiness of aircraft used in commercial air transport. This implies that even when the Part-CAMO-approved organisation does not manage any aircraft used by licensed air carriers or CMPA, it needs to demonstrate that it has implemented all management system requirements in accordance with CAMO.A.200. The organisational review option will nevertheless be maintained for the new Part-CAO (Opinion No 05/2016).

The corresponding management system AMC and GM will be reviewed and the distinction between complex and non-complex organisations as proposed with the NPA will not be maintained. This change implies that any ATOs, AOC holders or NCC operators also approved to Part-M Subpart G that are currently following the set of ORA.GEN.200/ORO.GEN.200 AMC and GM for non-complex organisations will need to upgrade their management system within the 2 years granted to address any findings (cf. Opinion No 05/2016: Article 4.4 of cover regulation). For the Part-CAMO Decision, the set of ORA.GEN.200/ORO.GEN.200 AMC and GM will be reviewed to create a single set of AMCs and GM applicable to all Part-CAMO organisations. During this review it shall be ensured that no overly 'prescriptive' elements remain in relation to safety risk management, safety performance monitoring, etc.

A new **CAMO.A.202 Internal safety reporting scheme** is added to align with point 145.A.60(b) of Part-145, thereby complementing the management system requirements for safety management. The new



requirement aims to establish an internal reporting scheme supporting the organisation's hazard identification and safety risk management processes and fostering its safety culture. The internal reporting scheme shall also be accessible to organisations working under the CAMO's management system. It forms the basis for establishing mandatory and voluntary occurrence reporting as required by Regulation (EU) No 376/2014.

A new **CAMO.A.205 Contracting and subcontracting** is added to align with the structure of ORA/ORO Subpart GEN and clarify the responsibility of the CAMO to ensure that any contracting (maintenance) or subcontracting (specific continuing-airworthiness-management-related activities) complies with applicable requirements. In this context it is important to clarify that the term 'subcontracting' covers cases where the contracted organisation is itself Part-CAMO or Part-CAO approved and cases where such organisation is not Part-CAMO/Part-CAO approved. Any continuing-airworthiness-management-related services provided by third parties are to be considered 'subcontracting under the management system' for the purpose of Part-CAMO.

[M.A.714] **CAMO.A.220 Record-keeping** is amended to include management-system- and personnel-related record-keeping (new points (b) and (c) respectively). The record-keeping duration for aircraft-related records is changed to 3 years after the responsibility for the aircraft has been permanently transferred, to align with the validity of the airworthiness review certificate (ARC). A record-keeping duration of 5 years for management-system-related records is introduced (the same record-keeping duration applies in the area of Aircrew and Air Operations, cf. AMCs to ORA.GEN.220/ORO.GEN.220). Personnel-related records (qualification and experience) shall be kept until 3 years after a person has left the organisation. This will ensure that for any ARC issued, personnel records will remain accessible for the entire ARC validity, including in the case a person has left the CAMO shortly after an ARC was issued.

[M.A.704] **CAMO.A.300 Continuing airworthiness management exposition (CAME)** is amended to include additional management-system-related elements, such as: the safety policy, a description of the internal safety reporting scheme (CAMO.A.202), a general description of how the organisation ensures availability of staff (CAMO.A.305(d)), a procedure defining the scope of changes not requiring prior approval and describing how such changes will be managed and notified (CAMO.A.115(b) and CAMO.A.130(c)), the procedures specifying how the organisation controls any contracted or subcontracted tasks, including contracted maintenance (CAMO.A.315(c)), and a list of currently approved alternative means of compliance. The compliance statement in point (a)(1) is amended to cover all Part-M, Part-ML, and Part-CAMO requirements, as applicable. In point (a)(11) additional clarification is provided on the procedures required specifying how the organisation ensures compliance with Part-CAMO, Part-M and Part-ML. In point (a)(9), now (a)(12), the requirement for a list of approved maintenance programmes is clarified, by stating this is only relevant for aircraft for which a contract exists for continuing airworthiness management, not being required for initial approval of the CAMO. Accordingly, baseline and generic maintenance programmes are no longer required (see also CAMO.A.325). Point (b) is reviewed to specify that the initial CAME is subject to competent authority approval. A requirement to maintain the CAME to remain an up-to-date description of the organisation is also added. Point (c) on amendments to the CAME refers to the changes requiring prior approval in all cases (cf. CAMO.A.130(a)) and to the new provisions on managing changes without competent authority approval, based on an agreed procedure.



[M.A.706] **CAMO.A.305 Personnel requirements** is significantly reviewed to include the nomination of a person or group of persons for the compliance monitoring function and for safety-management-related responsibilities, to clarify the responsibilities of the accountable manager, and to state that competence must include an understanding of the application of safety management and human factors principles and human performance issues. Additional changes are made to improve the overall structure of this IR and to clarify the link with Part-ORO. In particular, point (b)(1) states that for organisations also approved as licensed air carriers the accountable manager shall be the person appointed as accountable manager for the air carrier as required by point ORO.GEN.210(a) of Part-ORO. The requirement for a nominated postholder maintenance, included in point (b)(2), is aligned with Part-ORO (reference is made to ‘person responsible for the management and supervision of continuing airworthiness’). AMC/GM will be provided to explain that in an integrated AOC/CAMO/Part-145 organisation this position can be held by the same person. A requirement is added for a system to plan the availability of staff to ensure that the organisation has sufficient appropriately qualified staff to plan, perform, supervise, inspect and monitor its activities in accordance with the terms of approval (new point (d)).

A new point (e) is added to include in CAMO.A.305 the reference to airworthiness review staff currently embedded in M.A.707 point (a). This way, CAMO.A.305 includes the requirements for all categories of staff and CAMO.A.310 may concentrate on airworthiness review staff qualification requirements. M.A.707 point (j) on titles and names of persons to be kept updated in the CAME is deleted; this is already addressed in CAMO.A.300(a)(4).

M.A.707 point (k) is amended to require that competence include an understanding of safety management and human factors principles appropriate to the person’s function and responsibilities in the organisation and to include a reference to personnel involved in airworthiness reviews or recommendations, and, if applicable, issuing permits to fly, to reflect the new point CAMO.A.305(e).

[M.A.707] **CAMO.A.310 Airworthiness review staff qualifications** is amended in line with changes made to CAMO.A.305 and to remove specific qualification requirements not applicable within the scope of Part-CAMO. Point (d) on listing airworthiness review staff in the CAME is deleted as this is already addressed in point CAMO.A.300(a)(7). These airworthiness review staff qualifications apply regardless of the aircraft managed, meaning for example that a Part-CAMO-approved organisation performing airworthiness reviews of aircraft other than CMPA may not use airworthiness review staff complying with the ‘lower’ requirements of the new Part-CAO.

[M.A.708] **CAMO.A.315 Continuing airworthiness management** is reviewed to eliminate overlaps with M.A.301. The underlying principle is that purely technical requirements are included in Part-M and that Part-CAMO focuses on the related organisational responsibilities. This will improve consistency and facilitate future amendments. Additional changes are made to update relevant cross references. Point (c) is amended to update the reference to ‘CAT’ by ‘licensed air carriers in accordance with Regulation (EC) No 1008/2008’, and to include the consultation with the operator. As a Part-CAMO-approved organisation may also manage the continuing airworthiness of other than CMPA or of aircraft not used by licensed air carriers, references to Part-CAO organisations are added and references to Subpart F maintenance organisations are maintained (to allow for a smooth transition to Part-CAO, Subpart F will be maintained during the transition period). Point (e) is added to include a requirement for human factors principles and human performance limitations to be taken into account for any continuing airworthiness management tasks.



[M.A.710] **CAMO.A.320 Airworthiness review:** The text of existing M.A.710 is replaced with a requirement to follow either Part-M Section A point M.A.901 or Part-ML Section A point ML.903, depending on the aircraft managed. The specific elements constituting the airworthiness review process are transferred to those Part-M and Part-ML IRs (see also *Section 2.7. Overview of changes to Annex I (Part-M)*).

[M.A.709] **CAMO.A.325 Continuing airworthiness management data** is changed for consistency to reflect the scope of the new Part-CAMO and to update the relevant cross references. Point (b) is deleted as the requirement to produce baseline or generic maintenance programmes is not maintained.

M.A.711 'Privileges of the organisation' is incorporated into the new **CAMO.A.125 'Terms of approval and privileges of the organisation'** to group these two closely interrelated aspects and to align with the structure of Part-ORA/-ORO.

Changes to Section B — General:

Section B material is reviewed to align it with Subparts GEN of Part-ARA/Part-ARO (authority requirements developed for Aircrew and Air Operations), while maintaining any specific CAMO requirements. This is a step towards harmonising and streamlining authority requirements in the different domains. The common authority requirements are also intended to assist Member States in fulfilling their obligations under the Chicago Convention as related to the implementation of SSPs. These authority requirements address specific elements that are essential for establishing a comprehensive management system at EU level, encompassing the European Union's and Member States' responsibilities for safety management. In this respect, the additional authority requirements included at IR level (addressed to competent authorities) and the new Article 7a of the cover regulation 'Oversight capabilities' (addressed to Member States) directly support the implementation of the European Programme for Aviation Safety (EPAS). The new set of authority requirements (general requirements, management-system- and oversight-related requirements) as proposed with this Opinion addresses in particular the following critical elements (CEs) of a State safety oversight system (cf. Appendix 1 to ICAO Annex 19 'Safety Management'):

- CE-3: State system and functions,
- CE-4: Qualified technical personnel,
- CE-5: Technical guidance, tools, and provision of safety-critical information,
- CE-6: Licensing, certification, authorization and/or approval obligations,
- CE-7: Surveillance obligations, and
- CE-8: Resolution of safety issues.

New requirements on the processing of **means of compliance** alternative to the AMC issued by the Agency are provided (cf. CAMO.B.120) to ensure standardisation and harmonisation. It is important to note that the approval of an alternative means of compliance by a competent authority for an organisation under its oversight is not transferable: other organisations wishing to use the same alternative means of compliance have to process them again with their competent authority. To provide a general presumption of compliance, there are two possibilities:



- The Agency, based on the information provided by the competent authority, concludes that the alternative means of compliance is of general interest and subsequently covers it through issuing an Agency AMC.
- The competent authority considers the alternative means of compliance of general interest for organisations under its oversight and decides to issue the AMC as ‘national AMC’ in line with the new CAMO.B.120(e).

As for the role and obligations included for the Agency, they have their legal basis in the powers attributed to the Agency to monitor the implementation of rules by competent authorities, and to standardise their performance (see Articles 10 and 24 of the Basic Regulation).

The new authority requirements further aim to enhance **cooperation and exchange of information** between authorities and the Agency, as well as between the authorities themselves. In particular, a requirement is added to ensure that competent authorities will provide **safety-significant information** to the Agency (cf. CAMO.B.125).

The Opinion also introduces specific provisions for the **competent authority’s management system** on the basis of ARA/ARO.GEN.200. These too are directly relevant to the ICAO Annex 19 SARPs, which require States to establish mechanisms to ensure effective monitoring of the CEs of their safety oversight system. The main elements of such management system emulate typical management system requirements applicable to organisations in terms of:

- (a) documented policies and procedures;
- (b) sufficient and adequately qualified personnel, including the obligation to plan the availability of personnel;
- (c) nomination of management personnel for the different areas of activity;
- (d) adequate facilities and accommodation;
- (e) a function to monitor compliance of the management system, including an internal audit process and safety risk management process;
- (f) the nomination of a person or group of persons responsible for the compliance monitoring function;
- (g) the need to ensure that certification and oversight tasks performed on behalf of the competent authority conform to the applicable requirements;
- (h) a system to identify changes that affect the management system, and to take action to ensure it remains effective; and
- (i) a system of record-keeping to ensure traceability of the activities performed.

With a view to supporting the standardisation process, and facilitating the move of that process towards continuous monitoring, competent authorities will also be required to provide the Agency with relevant documentation on their management system, and on changes thereto.

A new requirement is added on the use of **qualified entities** (cf. CAMO.B.205) to ensure that any certification or oversight task performed on behalf of the competent authority conforms to the applicable requirements. This is directly relevant to ensure a high level of safety in competent authority certification and oversight activities and uniform implementation of the relevant Basic Regulation provisions.



The changes proposed in the area of **oversight** are intended to support the evolution towards more risk- and performance-based oversight. In particular, flexibility is provided to reduce or extend the oversight planning cycle. The criteria for extension are included at IR level as follows:

- An extension up to 36 months requires the organisation to demonstrate effective identification of aviation safety hazards and management of associated risks, and that it has full control over all changes. Additional conditions are that during the previous oversight planning cycle no level 1 findings were issued and that all corrective actions were implemented within the time period accepted by the competent authority.
- A further extension up to 48 months may only be applied if the organisation complies with all the aforementioned conditions, and in addition has established a system for continuous reporting to the competent authority on its safety performance and regulatory compliance. Such reporting system must be accepted by the competent authority.

In addition, the AMC will specify that the oversight planning cycle (timelines) and oversight programme (contents) should be reviewed annually to ensure they remain appropriate. Linked to this, it is proposed that whenever the competent authority extends the oversight planning cycle beyond 24 months, it should perform a 'programme validation inspection' at the organisation once within each 12-month segment of the oversight planning cycle.

The new oversight provisions are intended to increase the level of safety:

- by promoting a systems approach to managing oversight, in particular for multiple-certificate holders;
- by encouraging competent authorities to further enhance their 'safety information systems' as a basis for risk- and performance-based oversight; and
- through a more efficient use of resources by targeting oversight towards those organisations and activities with the lowest safety performance.

Moreover, evolving towards an oversight system that will encourage safety management thinking and behaviours will 'empower' organisations to manage risks that are not addressed by regulations, and will create incentives for safety management implementation through a reduction in the oversight 'burden'. This is expected to support effective implementation of the new management system provisions for Part-CAMO organisations.

Changes to Section B — Details:

The main changes to the current Part-M Subpart G Section B text are listed below, preceded where applicable by the current Part-M Subpart G reference:

New IRs, CAMO.B.115 to CAMO.B.135, are included to align with the general authority requirements in Aircrew and Air Operations (cf. Part-ARA/ARO, Subparts GEN, Section 1):

- **CAMO.B.115 Oversight documentation,**
- **CAMO.B.120 Means of compliance** (forming the counterpart of CAMO.A.120),
- **CAMO.B.125 Information to the Agency,**
- **CAMO.B.135 Immediate reaction to a safety problem** (complementing CAMO.A.155).



New IRs, CAMO.B.200 to CAMO.B.210, are included to align with the authority management system requirements in Aircrew and Air Operations (cf. Part-ARA/ARO, Subpart GEN, Section 2):

- **CAMO.B.200 Management system,**
- **CAMO.B.205 Allocation of tasks to qualified entities,**
- **CAMO.B.210 Changes in the management system.**

In **CAMO.B.205 Allocation of tasks to qualified entities** an editorial change is made to the ARA/ARO text in point (a) to clarify that the allocation of tasks to qualified entities is an option, not a must ('shall be allocated' replaced by 'may be allocated').

[M.B.104] **CAMO.B.220 Record-keeping:** The text of existing M.B.104 was used as a starting point to create the corresponding Part-CAMO requirement. This is necessary as the Part-M authority requirements do not apply to Part-CAMO, which is proposed as a separate annex. The Part-M text is adapted to address records relative to Part-CAMO only and aligned with the generally applicable elements of Part-ARA/ARO. A change is made to the ARA/ARO text in point (d) to clarify that the requirement to make available relevant records applies to competent authorities of other Member States (or the Agency). It is not the intent of this IR that all records be made available to 'any representative' of another Member State.

[New IR] **CAMO.B.300 Oversight principles** is added to align with ARA/ARO.GEN.300.

[M.B.704] **CAMO.B.305 Oversight programme:** The title and text of existing M.B.704 are aligned with ARO/ARA.GEN.305. The new text introduces flexibility to define the applicable oversight planning cycle for more performance-based oversight. Based on the NPA comments and the related analysis with the FCG, two changes are made to the ARA/ARO text:

- Point (b)(1) is amended to clarify that oversight shall include within each oversight planning cycle assessments, audits and inspections, as applicable. This may include in particular assessments of the effectiveness of the organisation's management system, in line with performance based oversight principles.
- A new point (g) is added to require the competent authority to issue a recommendation report on the continuation of the approval upon completion of each oversight planning cycle.

[M.B.701 Application] is deleted as application requirements, addressed to the organisation, are dealt with in Part-CAMO Section A (cf. CAMO.A.115).

[M.B.702] **CAMO.B.310 Initial certification procedure** is aligned with Part-ARA/ARO.

[M.B.703 Issue of approval] is deleted as the issue is addressed in new CAMO.B.310. The reference to the AOC in point (d) is no longer required as this is addressed in Part-ARO — Annex II to Regulation (EU) No 965/2012.

[M.B.706] **CAMO.B.330 Changes:** The text is aligned with ARA/ARO.GEN.330. Specific provisions are included allowing organisations to implement certain changes, including changes to the CAME, without formal competent authority approval. The organisation shall have a procedure specifying the scope of such changes, describe how these will be managed and notified, and submit this procedure to the competent authority for approval. The amended provisions fully meet the intent of 'indirect approval' or changes 'acceptable to the authority' as in current Part-M.



[M.B.705] **CAMO.B.350 Findings and corrective actions:** The title is changed to 'Findings and corrective actions' and the text is reviewed to align with equivalent ARA/ARO.GEN.350. This ensures that the same definitions for level 1 and level 2 findings are used for ATOs, aero-medical centres, air operators, and Part-CAMO organisations.

[M.B.707] **CAMO.B.355 Suspension, limitation and revocation:** The order of items in the title is changed for consistency. A new point (c) is added to address the case of organisations located in States where the security situation is not compatible with the conduct of an on-site audit. Moreover, reference is made to 'certificate' instead of 'approval' as there are several Part-CAMO approval items (e.g. approval of the CAME) that are not directly relevant to this IR, which is about action on the organisation certificate.

[Appendix VI to Annex I (Part-M) EASA Form 14] **Appendix I: Continuing Airworthiness Management Organisation Certificate referred to in Part-CAMO**

The EASA Form 14 is amended as follows:

- Relevant Part-M references are replaced with the corresponding Part-CAMO or Part-ML references;
- References to AOC holders are clarified (only relevant to licensed air carriers);
- The term 'approval certificate' is replaced with 'certificate' for consistency; and
- On page 2, the reference to 'organisations working under quality system' is replaced with 'subcontracted organisations', to align with CAMO.A.205.



2.12. Regulatory impact assessment (RIA)

2.12.1. Preamble — assessing the impact of SMS

Traditional cost–benefit analyses (CBA) generally focus on determining costs associated with implementation, usually for tangible assets such as costs of system components and salaries, and on estimating related return on investment in financial terms. However, CBA for SMS is more challenging due to the very nature of ‘safety’. Intangible benefits, such as improved safety culture, effective regulatory compliance, management commitment to safety, shareholder value, and public confidence are difficult to quantify. Also, an effective management system including safety risk management results from the interactions of many different organisational elements, actions, and processes that are ideally embedded within the organisation’s existing system. Therefore, the effects of individual elements of the management system framework are not always easy to isolate for the purpose of CBA. For example, the overall impact of effective implementation on the organisation’s safety culture may be significantly greater than a sophisticated CBA may suggest. It is also acknowledged that SMS creates immediate and direct costs, while its benefits will likely take time to materialise.

This view negates the potential of SMS not only to address the risks of major occurrences, but also to identify and tackle production inefficiencies, improve communication, foster a better company culture, and control more effectively contractors and suppliers. Building up risk management capabilities not only limited to aviation safety risks will contribute to the adoption of better management strategies. In addition, through an improved relationship with competent authorities, management system implementation including safety risk management could result in a reduced oversight burden. Although traditionally aviation safety regulations have not been primarily driven by cost–benefit considerations, SMS should bring about greater regulator sensitivity to the economics of safety. Thus, by considering SMS as something implemented not solely to prevent incidents and accidents but to ensure the success of as many elements of an organisation’s business as possible, any investment in safety should be seen as an investment in productivity and organisational success.

2.12.2. Issue analysis and risk assessment

Issues which this Opinion intends to address and sectors concerned

1. The need for effective safety management

In the past decades, accidents and serious incidents were to a large extent the result of some common causes. Common cause hazards are the ones that are most effectively addressed through prescriptive requirements. Although it cannot be assumed that all common cause hazards have been or even can be ultimately addressed, fewer accidents will be related to broadly distributed exposure factors. Accidents and incidents will typically become more ‘random’ in terms of causation, with causes becoming more specific and unique to given industry segments, operators, aircraft, events, regions, etc. To address these random causes, the traditional approach to managing safety must be complemented with a proactive approach that will rely on the organisations’ capability to effectively manage risks, stemming both from common cause hazards or hazards having more random, context- and organisation-specific causal factors.

If safety management is not implemented by CAMOs managing aircraft used by licensed air carriers and/or managing CMPA, the overall level of safety may be adversely affected, in particular with regard



to the increasing complexity of aircraft technology and related continuing airworthiness requirements and the evolution in business models with more and more operators applying second and even third tier outsourcing of maintenance. This assumption is supported by the recurrence of continuing-airworthiness-related issues in high-risk events, as shown by the number of serious incidents and accidents where maintenance or maintenance management have been identified as direct contributing factors.

Similarly, the potential for human error, coordination, and performance issues in CAMO activities may directly contribute to adverse events and maintenance errors within the contracted maintenance organisation. CAMOs play a key role in the management of safety-critical airworthiness factors, as they are not immune to the threats posed by human factors. These organisations may suffer errors themselves in their airworthiness management functions or generate pressures on maintenance organisations through a lack of cohesion with the Part-145 human factors activities.

The following risk areas in continuing airworthiness management have been identified with the support of the EHFAG:

- (a) Performance-influencing factors — causing failure in the CAMO airworthiness management functions;
- (b) CAMO human–system interface — addressing the specific use of IT systems for the management of airworthiness as related to planning, scheduling, AD compliance, recording of changes and repairs, etc.;
- (c) Organisation interfaces — addressing the need to manage the risks associated with intra- and inter-organisation communication and integration of reporting and error management systems;
- (d) Airworthiness management environment — ensuring that the CAMO creates a working environment that allows proper airworthiness management; and
- (e) Organisational factors — CAMO placing inappropriate demands or undue pressure on its own or contracted maintenance provider(s) thus increasing the likelihood of errors⁹.

Inadequate continuing airworthiness management control may be a source of hazards and lead to errors, omissions or mistakes in particular in the following areas:

- airworthiness data, e.g. data that is ambiguous, incorrect or conflicting;
- airworthiness directive (AD), e.g. ADs and other mandatory tasks that have been incorrectly or improperly controlled;
- certification, e.g. omission of certification or improper certification;
- component robbery, e.g. inadequate control of parts removed from one component or aircraft to be fitted to another;
- configuration control, e.g. inadequate control of the design or build standard of the aircraft or component such that it remains within the approved type design standard;
- deferred defect, e.g. inadequate control of allowable deferred defects;
- inadequate tool control, e.g. hammers, torches, pliers left in the aircraft after maintenance;
- minimum equipment list (MEL) interpretation, e.g. incorrect interpretation of the aircraft MEL;

⁹ Source: CAA PAPER 2009/05 — Aircraft Maintenance Incident Analysis (http://publicapps.caa.co.uk/docs/33/2009_05.pdf).



- modification control, e.g. unapproved modification of the aircraft or component, or failing to control the modification of an aircraft or component;
- scheduled tasks, e.g. failure to adequately control known tasks required to be performed on the aircraft or component;
- technical log, e.g. omissions or incorrect entries in the aircraft technical log.

The introduction of SMS as proposed with the new Part-CAMO would also address the following safety recommendation:

- Safety recommendation following serious incident to Boeing 737-73V, G-EZJK occurred on 12 January 2009 West of Norwich, Norfolk: 'It is recommended that the European Aviation Safety Agency review the regulations and guidance in OPS 1, Part M and Part-145 to ensure they adequately address complex, multi-tier, sub-contract maintenance and operational arrangements. The need for assessment of the overall organisational structure, interfaces, procedures, roles, responsibilities and qualifications/competency of key personnel across all subcontract levels within such arrangements should be highlighted.'

2. Differences in management systems

The potential for hazards, failures and operational errors is an inherent feature of complex, dynamic, sociotechnical systems such as aviation. The implementation of the Part-CAMO management system framework requires the development of capabilities to identify aviation safety hazards, to assess the associated risks, and to effectively mitigate their consequences. If safety management is not implemented, this potential will not be developed in continuing airworthiness management and the combined effects of this gap may have a significant safety impact on air operations and the entire aviation system.

At present, air operators and ATOs are subject to the management system requirements encompassing safety risk management in accordance with Regulation (EU) No 965/2012 and Regulation (EU) No 1178/2011 respectively. Air operators (licensed air carriers) are mandated to also hold a Part-M Subpart G CAMO approval, which forms an integral part of their air operator certificate (AOC).

The current rules for Airworthiness and Air Operations foresee different types of organisation approvals with different systems for managing safety/quality issues. Despite the fact that these systems have been able to achieve relatively good safety results, the Agency already identified (cf. outcome of rulemaking task MDM.004 'Consistency of Organisation Approvals (COra)' — A-NPA No 15-2006) that the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can not only have negative economic but possibly adverse safety impacts caused by confusions and unclear interfaces, in particular if implemented within a single organisation. Exposing organisations to different sets of management system requirements creates a greater potential for organisational and operational risks to remain unattended. It was also concluded that the additional resources to be deployed by both the organisations and the competent authorities performing their oversight to control the various differences, duplications and inconsistencies should rather be used to address safety issues.

The Opinion proposes the application of a management system framework for effective safety management by **CAMOs that are managing aircraft used by licensed air carriers and/or CMPA**. Among those, an estimated 51 % also hold an AOC in accordance with the Air Operations Regulation (Regulation (EU) No 965/2012) and a significant portion (62 %) is approved to one or more other EASA



Part. In addition, it can be assumed that for a number of stand-alone CAMOs SMS is already a national requirement or that these stand-alone CAMOs have implemented SMS on the grounds of contractual arrangements or on a voluntary basis.

2.12.3. Process and consultation

In order to gather additional input/information for the impact assessment, and in line with the principle of evidence-based policymaking and better regulation, the Agency decided to launch two online surveys in 2015/Q4. EASA Member States' competent authorities were asked to provide information on the number and type of Part-M Subpart G approved organisations (hereinafter referred to as 'CAMOs'), including information on the evolution in the number of CAMOs over the last 5 years. A second survey, addressed to CAMOs, was intended to get further insights into the relative costs and benefits of implementing SMS and its impact on different types and sizes of CAMOs.

The results from the surveys provided interesting and useful input that was taken into consideration for this Opinion.

The Agency received 25 responses from competent authorities, of which 20 could be considered valid for the survey, and 157 responses from CAMOs, of which 155 were considered valid.

The statistical data included in this RIA on the number of CAMOs per type was determined by extrapolating the results obtained from the 20 valid responses from competent authorities. As the number of CAMOs (1 553) in these 20 Member States represents 78.5 % of all EASA Member States' CAMOs (1 977), the figures provided through extrapolation can be considered representative.

Regarding the impact of changes introduced with the new Part-CAMO on competent authorities, it should be considered that in the domains of Aircrew and Air Operations EASA Member States' competent authorities are already required to implement the new set of authority requirements introduced with Commission Regulation (EU) No 290/2012 (amending Commission Regulation (EU) No 1178/2011) and Commission Regulation (EU) No 965/2012. Aligning the Part-CAMO Section B requirements with the Aircrew and Air operations authority requirements will allow those competent authorities to further streamline and rationalise their systems and processes.



2.12.4. Extent of the issue

The geographic distribution of CAMO approvals, based on the latest available figures obtained through the EASA Standardisation process, is as follows:

EU States	CAMOs
Germany	282
United Kingdom	277
France	258
Italy	130
Spain	113
Poland	93
Austria	80
Czech Republic	63
Sweden	59
Netherlands	44
Hungary	41
Denmark	37
Portugal	35
Greece	33
Romania	32
Bulgaria	31
Malta	28
Finland	26
Ireland	25
Belgium	24
Slovakia	24
Slovenia	22
Croatia	19
Estonia	19
Lithuania	15
Latvia	10
Luxembourg	10
Cyprus	3
Total	1833

EFTA States	CAMOs
Switzerland	94
Norway	36
Iceland	14
Total	144

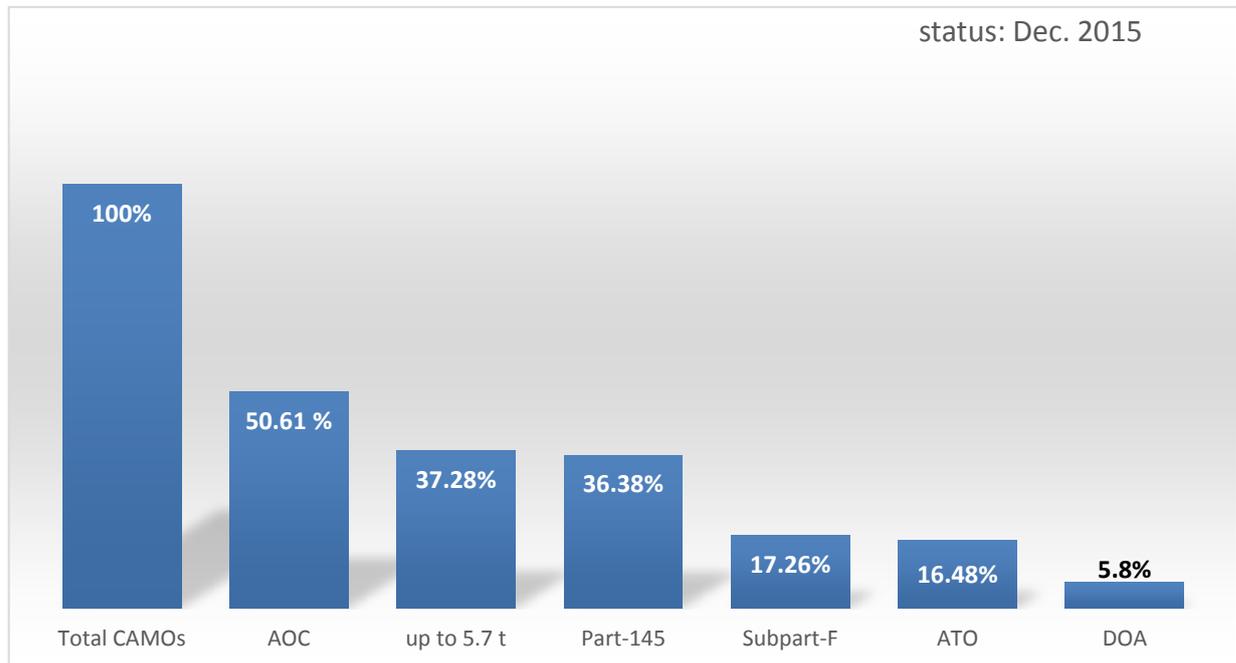
The surveys also allowed to estimate the number of CAMOs also holding other EASA approvals.

This is important for two reasons:

- Organisations also approved as licensed air carriers in accordance with Union law or as ATOs in accordance with Part-ORA (Commission Regulation (EU) No 290/2012 amending Commission Regulation (EU) No 1178/2011) have already implemented a management system and therefore the impact of changes introduced with the new Part-CAMO is reduced as compared to stand-alone CAMOs.
- Organisations holding more than one EASA approval would be negatively affected if the management system requirements for those different approvals were not harmonised (e.g. need to maintain multiple sets of manuals, different requirements in relation to compliance monitoring, inconsistency and duplication of non-compliance findings notified for the different approvals, etc.).



Figure 1: Number of CAMOs and other approvals held



Assuming that the above percentages apply to the entire CAMO 'population' it can be estimated that from the 1 977 EASA Member State CAMOs¹⁰:

- **1 240** CAMOs hold EASA approvals in addition to their Part-M Subpart G approval, with about **1 001** of those being licensed air carriers, thus having already implemented a management system including safety risk management according to Annex III (Part-ORO) to Regulation (EU) No 965/2012;
- **737** CAMOs are only approved for aircraft up to 5 700 kg MTOM;
- **719** CAMOs also hold a Part-145 approval and 341 CAMOs also hold a Subpart F approval;
- **326** CAMOs are also ATOs according to Annex II (Part-ORA) to Regulation (EU) No 1178/2001 and **115** CAMOs also hold a Part-21 DOA.

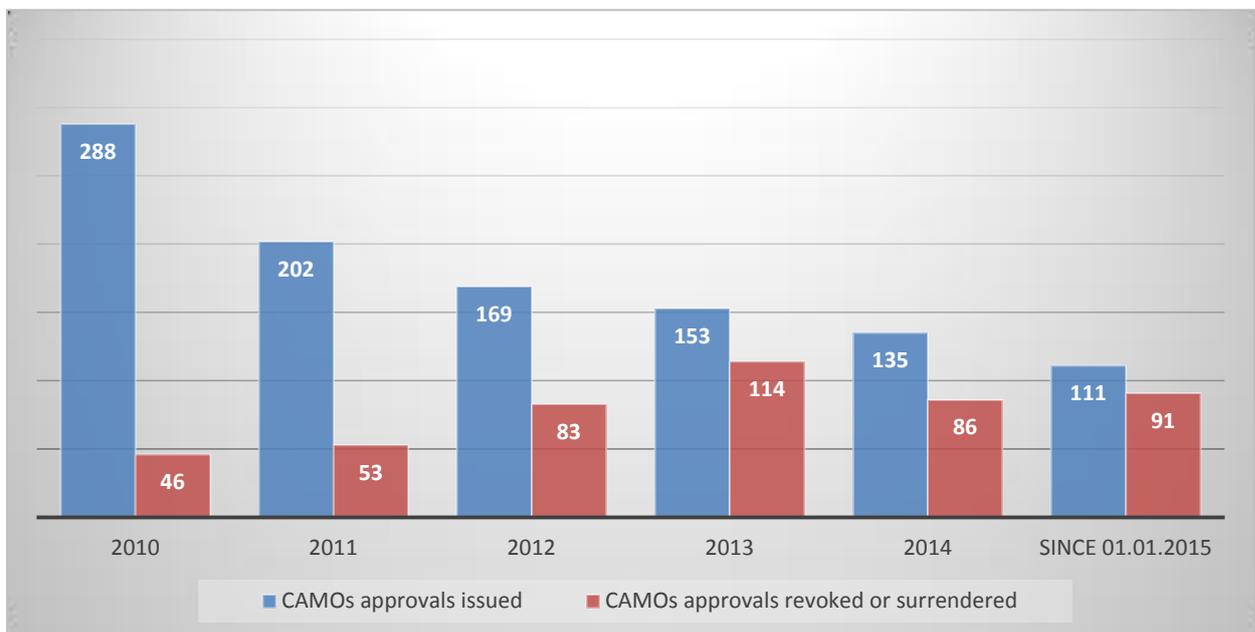
Overall, the survey allowed to confirm that a significant portion (62 %) of CAMOs is approved to one or more other EASA Parts.

Concurrently, the share of 'stand-alone' CAMOs, meaning organisations only holding a Part-M Subpart G approval, was estimated to be 38%, which would correspond to 753 CAMOs not holding any other EASA approval. Regarding those 'stand-alone' CAMOs, it may be assumed, also based on the results of the survey, that a portion of these has implemented an ICAO Annex 19 compliant SMS either because it is required by some Member States or because it is a contractual requirement.

The surveys also provided some insights into the development of the CAMO industry 'segment' over the last 5 years. The results are presented in Figure 2 below:

¹⁰ There are currently only two third-country CAMOs and these are approved for large aircraft.

Figure 2: CAMOs approvals: issued vs surrendered/revoked per year

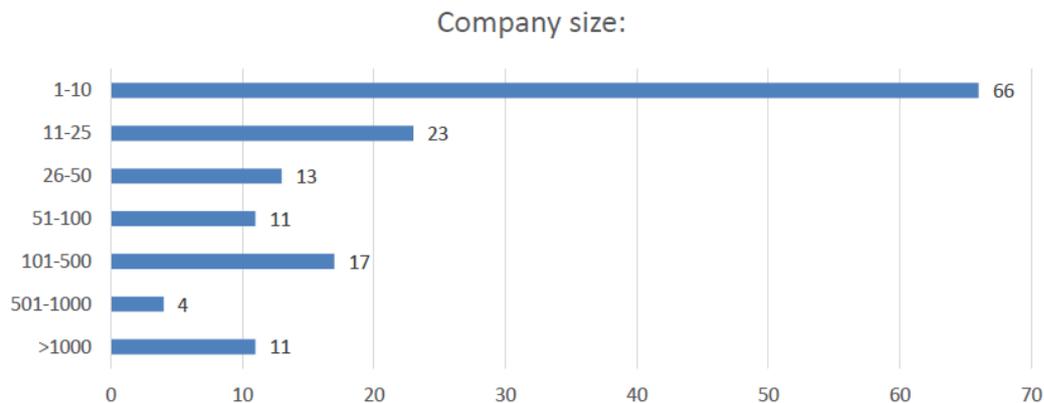


In the aggregate, the number of CAMO approvals issued always exceeded the number of CAMO approvals surrendered or revoked; however, the resulting difference between the number of CAMO approvals issued and those revoked or surrendered indicates a decreasing trend. In the near future, following the introduction of Part-CAO it is expected that a certain portion of CAMOs among those which are only approved for aircraft up to 5 700 kg MTOM will apply for a Part-CAO approval. It is difficult to estimate this percentage, as some of these CAMOs may also be licensed air carriers (among the 155 valid responses to the CAMO surveys, 12 CAMOs only approved for aircraft up to 5 700 kg MTOM also hold an AOC, meaning 7.7 %).

One assumption could be that those 17 % of all CAMOs being also approved as Subpart F organisations would be potential candidates for the new Part-CAO approval. As of December 2015 there were 489 Part-M Subpart F organisations approved in the EASA Member States, with around 30 % of those approved in a single EASA Member State (France).

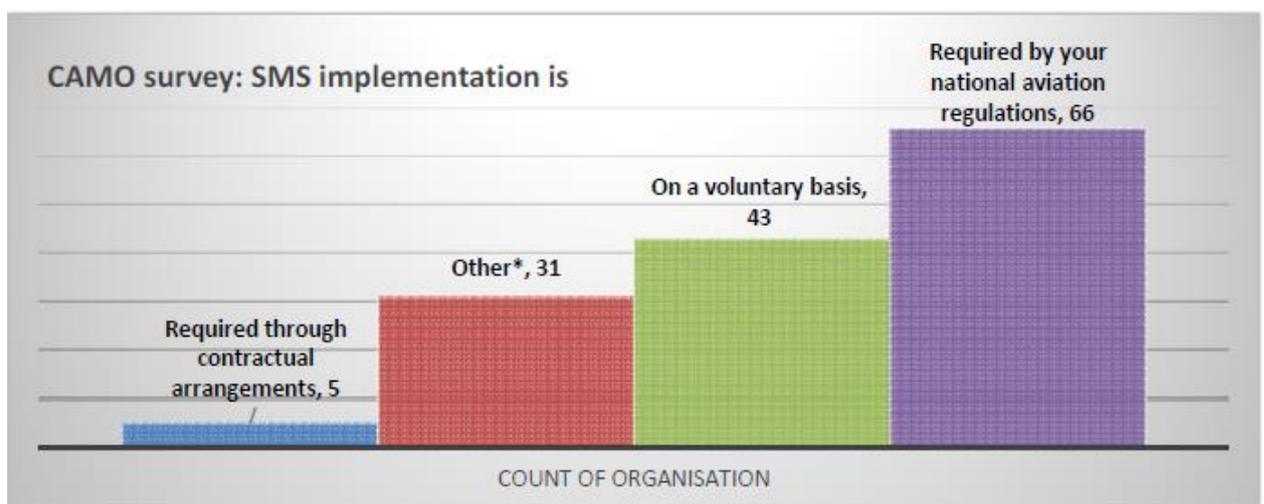
Through the survey addressed to CAMOs further insights were gained into the relative costs and benefits of implementing SMS and its impact on different types and sizes of CAMOs. The distribution of CAMOs having replied to the survey in terms of company size, expressed in number of employees (for all EASA approvals held), is indicated below:

Figure 3: CAMOs — number of staff



The CAMO surveys included a series of specific questions addressed to CAMOs having already implemented SMS. The first of these questions was to provide an indication on the motivation for SMS implementation and included four options, allowing free-text responses for those who selected the option ‘other’. The results are summarised in Figure 3 below (based on 145 valid responses).

Figure 4: Reasons for implementing SMS



Responses to the option ‘other’ provided the following additional information:

- a number of those organisations is also approved to other EASA Parts where SMS is already a requirement;
- some respondents chose this option as SMS was required both through contractual arrangements and through national requirements.

2.12.5. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined earlier in the text.

The specific objectives are to:

- improve overall consistency and harmonise organisation management system requirements applicable to the different types of continuing airworthiness organisations, starting with Part-CAMO by adapting Commission Regulation (EU) No 1321/2014 and corresponding AMCs/GM providing for compliance with the relevant ICAO SARPs on safety management (ICAO Annex 19);
- streamline certification and oversight processes, as far as practicable, and increase efficiency and effectiveness;
- enhance safety by contributing to hazard identification and risk management, and by improving transparency.

2.12.6. Options identified (NPA 2013-01(A))

0	Baseline option (no change to Part-M, risks remain as outlined in Section 2.12.2)
1	Rulemaking action to achieve the specific objectives specified in Section 2.12.5.

Following the analysis of NPA comments and the decision to progress RMT.0251 (MDM.055) in two phases, Option 1 was further specified as shown below:

1a	Introduce SMS for all CAMOs and Subpart F organisations (maintenance organisations not involved in the maintenance of aircraft used by licensed air carriers or CMPA), based on a set of proportionate management system requirements.
1b	Limit the introduction of SMS to CAMOs managing aircraft operated by licenced air carriers and/or complex motor-powered aircraft.

Option 1b was confirmed as the preferred one following focused consultation. The need for effective safety risk management in continuing airworthiness management in the industry segment commercial air transport (licensed air carriers) and CMPA was confirmed through the majority of the NPA comments and following focused consultation.

2.12.7. Analysis of the impacts

Safety impacts

Option 0:

The issues identified in relation to Section 2.12.2 would not be addressed. In particular, if safety management is not implemented by CAMOs the overall level of safety may be adversely affected, in particular with regard to the increasing complexity of aircraft technology and related continuing airworthiness requirements and the evolution in business models with more and more operators applying second and even third tier outsourcing of maintenance.

Therefore, negative impacts would be expected.

Option 1a:

The proposed rule change would improve the overall level of safety by developing the safety management capabilities of all continuing airworthiness management organisations and Subpart F organisations, as well as of authorities. Increased consistency in related organisation and authority requirements would increase the effectiveness of competent authority oversight and facilitate the management of risks at the interfaces between organisations.



Streamlined authority requirements, including the new management system requirements and the new approach to oversight, covering all continuing airworthiness management organisations, will allow competent authorities to use their resources more effectively and focus their actions on areas presenting a higher risk.

Option 1b:

The proposed rule change aims to further improve the overall level of safety by developing the safety management capabilities of organisations and authorities in the area of continuing airworthiness management of aircraft used by licensed air carriers and/or CMPA.

For organisations also holding an AOC in accordance with Regulation (EU) No 965/2012 and/or also approved as ATOs in accordance with Regulation (EU) No 1178/2011, it will be possible to implement a fully integrated management system, as the same management system framework will apply. This is expected to increase efficiency and reliability of processes for compliance monitoring, hazard identification and risk assessment, in particular through better communication, coordination and improved interface management.

Streamlined authority requirements, including the new management system requirements and the new approach to oversight, will allow competent authorities to focus their actions on areas presenting a higher risk. Moreover, the new authority requirements for the exchange of safety information will effectively support the implementation of SSPs under the EPAS.

The responses to the CAMO survey on the **magnitude of safety impacts** observed at organisation level indicated that clear positive impacts are expected e.g. on safety culture, hazard identification, risk controls, safety issues. The graphical representation of the results (based on responses from 65 organisations) are provided in Figures 5.1 to 5.7 below:

Figure 5.1: Impact on compliance

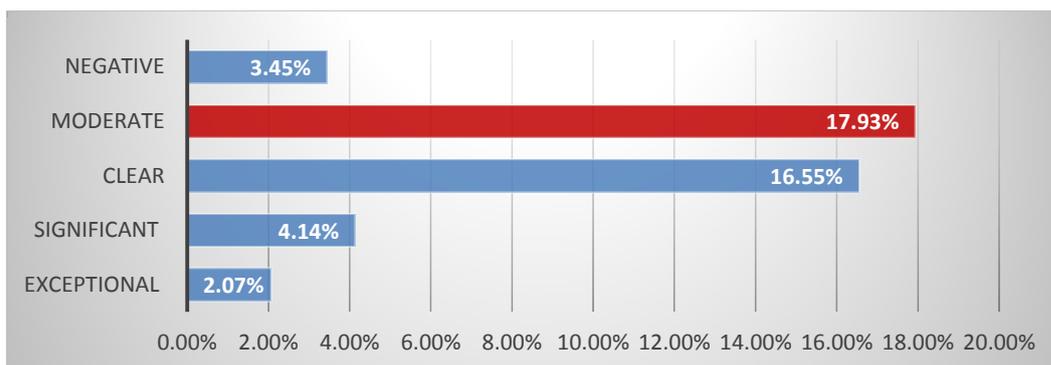


Figure 5.2: Impact on internal reporting

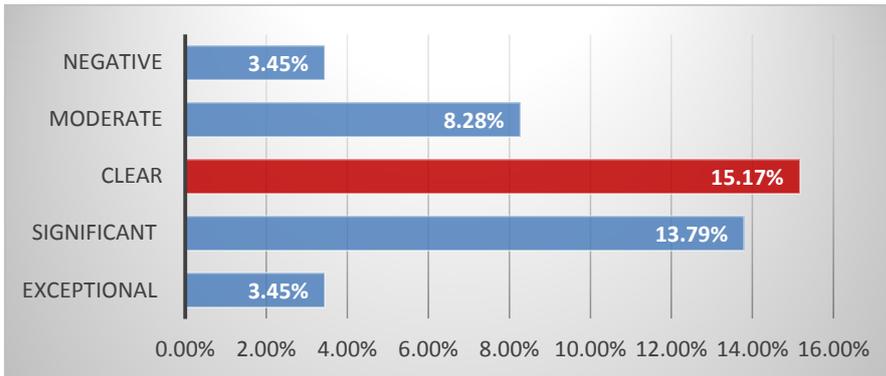


Figure 5.3: Impact on senior management commitment

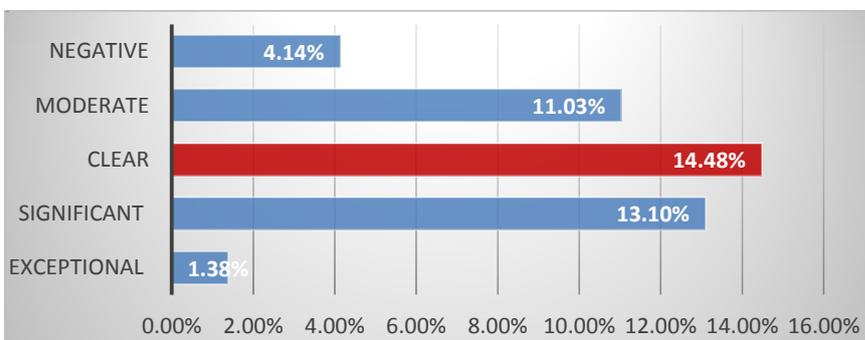


Figure 5.4: Impact on safety culture

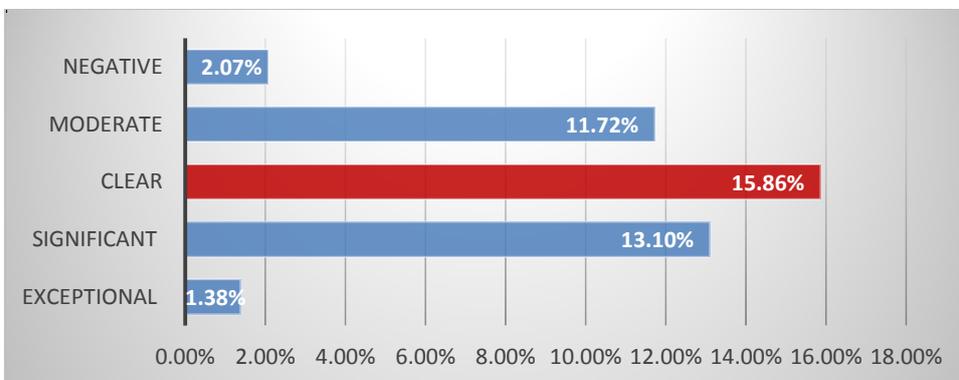


Figure 5.5: Impact on hazard identification

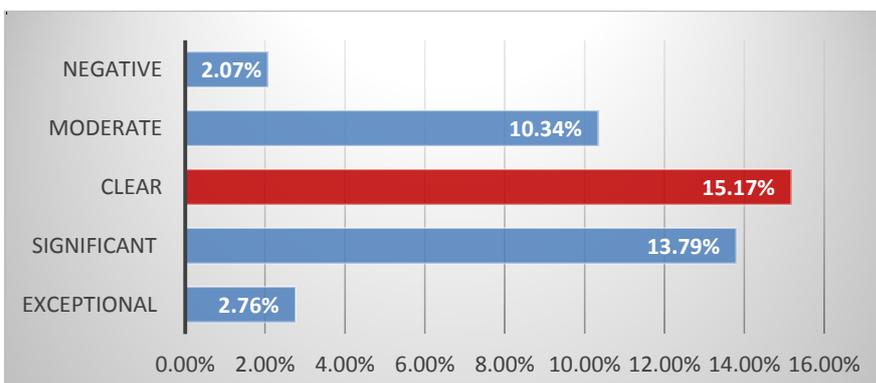


Figure 5.6: Impact on risk controls

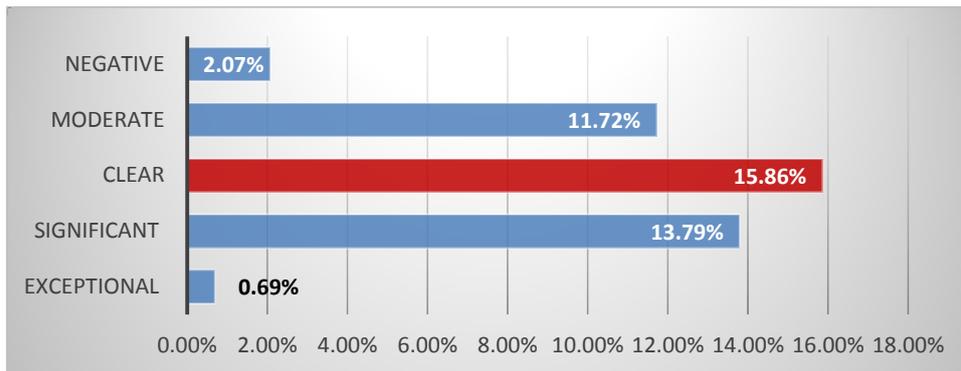
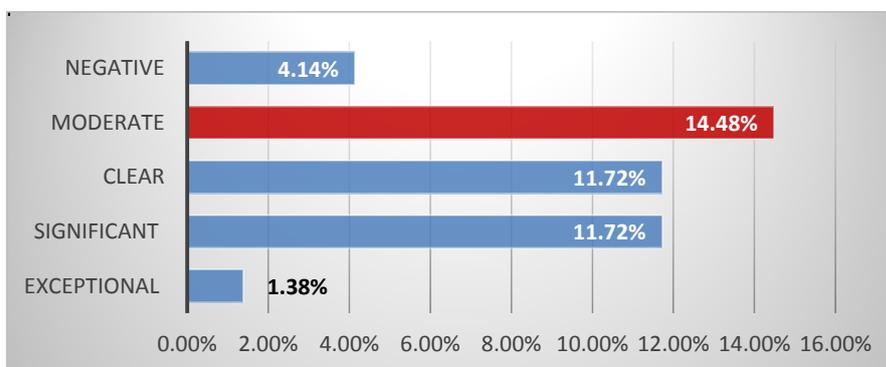


Figure 5.7: Faster resolution of safety issues



A number of respondents also provided examples of specific safety interventions that were particularly successful, such as:

- *‘We have just relocated facilities and used risk assessment as a tool which identified a number of areas that needed attention and action in order to reduce safety risks.’*
- *‘The incorrect installation of a fuel nozzle set revealed to be caused by multiple dormant errors. Besides a mistake and ambiguity in the approved data, investigation revealed that the replacement could not be executed by one person. Similar errors were found on other aircraft. SMS forced/enabled us to take the necessary steps to find the root cause and apply the long term preventative action instead of solving only incorrectly installed nozzle set.’*
- *‘A voluntary safety report on a helicopter resulted in an Alert SB being issued by the Original Equipment Manufacturer (Flying control restriction).’*
- *‘The common training in Safety culture for all employees (Pilots, Flight Crew, Instructors, Mechanics, Technicians and Managers) led to a better safety culture. This has also given better reporting and continuous improvement.’*

The following provides a selection of the ‘most significant benefits’ of SMS implementation as identified through the CAMO survey:

Safety culture, commitment and awareness

- General awareness of safety standards in the company
- Improvement of ‘safety attitude’ among the staff, better understanding of responsibilities, safer and more efficient workplace, overall improvement in quality



- Improved reporting culture identifying the issues with procedures and expositions
- More efficient analysis of events

Organisation and management

- SMS provides structural guidelines of management activities
- Management commitment
- Better overview & visibility of risks and hazards, and the ability to justify financial outlay for mitigations where necessary
- One system for the whole organisation (AOC, ATO, Part M and Part 145)
- A more coordinated approach
- Another way of thinking in the organisation

Business-related

- Recognition from customers
- Client satisfaction
- Better standing with contractors

Based on the survey results it can be assumed that CAMOs having already implemented SMS observed tangible safety benefits of the related safety interventions. Only for the item 'faster resolution of safety issues' the response ranking highest was 'moderate improvement', which may be reflecting the need to apply new methods to identify, assess and resolve safety issues, involving more coordination within the organisation, as well as with third parties.

The impact on the safety level of the total aviation system will only materialise after some time, following the implementation of the new Part-CAMO. The implementation of effective safety management needs a series of changes to occur within an organisation and an authority. This is particularly relevant in relation to safety culture, which cannot be 'engineered' through regulations.

Regarding the financial impact of safety interventions, the survey unfortunately did not yield any representative results, as for most of the related questions only very few organisations provided responses (12 on average per question). This is linked to the fact that not many organisations, having participated in the survey, have established the 'return on investment' of safety interventions in financial terms.

Social impacts

Option 0:

Not creating the new Part-CAMO would not have any impacts, as the current system would be maintained.

Option 1a:

Some positive social impacts are to be expected for CAMOs that have not yet implemented SMS and for which they would have dedicated resources (possible jobs creations, e.g. safety manager, safety



investigators). Positive impacts are to be expected due to the increased level of knowledge within CAMOs including the higher standards on SMS, e.g. safety training and promotion.

Option 1b:

Considering that a significant number of existing CAMOs has already implemented SMS and that General Aviation CAMOs will be able to apply for the new Part-CAO, the introduction of Part-CAMO is not expected to induce any major social impacts. Some positive social impacts are to be expected for larger CAMOs that have not yet implemented SMS and for which they would need dedicated resources (possible jobs creations, e.g. safety manager, safety investigators). Positive impacts are to be expected due to the increased level of knowledge within CAMOs including the higher standards on SMS, e.g. safety training and promotion.

Economic impacts — industry**Option 0:**

Not introducing SMS in continuing airworthiness management may have a limited negative economic impact as the potential of SMS to address efficiency and productivity issues may not be fully realised. Maintaining the current oversight requirements would not allow a reduction in oversight burden for continuing airworthiness management organisations that are able to demonstrate mature safety management capabilities.

More importantly, not introducing SMS in continuing airworthiness management may have a negative economic impact over time as it would further delay the rule changes required to allow licensed air carriers to contract continuing airworthiness management (RMT.0209 (MD.014)).

Option 1a:

In terms of benefits, effective management system implementation has the potential to contribute to a decrease in insurance costs, more mature safety culture, improved reputation, and commercial success.

In addition, the introduction of risk- and performance based oversight enabling competent authorities to adapt their oversight to the level of risks and organisational risk management capability would have a positive economic impact as following effective implementation of the new requirements organisations should see a reduction in the amount of and costs associated with competent authority oversight.

Adopting the same general organisation- and authority requirements for all continuing airworthiness approvals would increase efficiency, in particular for multiple-approved organisations (for example, they would be able to consolidate the management system related documentation into a single document to be approved only once and training of staff would also be facilitated).

As indicated in NPA comments from the General Aviation community the proposed rule change would have negative economic impacts by creating new cost factors and additional burden for smaller organisations through the introduction of additional safety management related policies and



processes. This was claimed to take a number of smaller organisations out of business. More generally it was felt that adding further requirements on approved organisations would contribute to removing business for the benefit of independent certifying staff.

In the aggregate, a neutral overall impact is expected.

Option 1b:

In terms of benefits, effective management system implementation will contribute to a decrease in insurance costs, more mature safety culture, improved reputation, and commercial success. In addition, once organisations have demonstrated effective implementation of the new Part-CAMO management system framework, they should see a reduction in the amount of and costs associated with competent authority oversight.

In terms of costs, organisations approved for continuing airworthiness management of aircraft used by licensed air carriers and/or CMPA will be required to review and upgrade their existing quality system to comply with the new Part-CAMO requirements and related AMC or apply for the approval of AltMoC. As proposed with Opinion No 05/2016, Article 4.4 Subpart G organisation approvals issued before the entry into force of the new Part-CAMO shall be granted a 2-year transition period. For a significant portion of those organisations it can be expected that they have already implemented an SMS, be it on a voluntary basis, under contractual obligations imposed upon them by their customers, based on national requirements, because they are part of an air operator having implemented Part-ORO or an ATO having implemented Part-ORA.

Therefore, it can be expected that a significant portion of the industry has already started implementing most of the changes that will be required by the new Part-CAMO management system framework. In this context it is important to stress that the EASA management system framework is designed in such a way as to leverage the existing quality system and that it provides significantly more flexibility as the ICAO SMS framework does by including all detailed means to comply at AMC level. On the other hand, organisations that have implemented their SMS based on the ICAO framework should be able to adapt to the new provisions without unnecessary burden, as they should already have in place the main elements of the new management system framework.

Nevertheless, these organisations will be required to update their documentation and demonstrate compliance with the new Part-CAMO, which will create additional costs: those having already implemented a management system in accordance with Part-ORA or Part-ORO will need to consider the following:

- (a) The new Part-CAMO will not maintain the distinction between complex and non-complex organisations as defined in AMC1 to ORA/ORO.GEN.200(b). Organisations currently following the set of management system AMC for non-complex organisations will need to upgrade to a new set of common AMCs applicable to all organisations. This may mean for example that they will be required to establish a safety review board (SRB) ideally covering all their regulated activities, which is expected to support their safety management and provide positive safety impacts.
- (b) The new Part-CAMO includes the requirement for the nomination of a person or group of persons fulfilling the role of safety manager at IR level.



At the level of continuing airworthiness management organisations managing aircraft used by licensed air carriers and/or CMPA that have not yet implemented SMS, the additional processes and organisational changes to be implemented in order to comply with the new Part-CAMO are summarised below:

- (a) Nomination of a person or group of persons fulfilling the role of safety manager:
 - *No overly prescriptive qualification and experience requirements are included for this position;*
- (b) Processes for hazard identification, including incident investigation and an internal safety reporting scheme;
- (c) Processes for safety risk assessment, analysis, mitigation and follow-up;
- (d) Implementation of an internal safety reporting scheme:
 - *Such internal reporting scheme is also a prerequisite for mandatory and voluntary reporting as required by Regulation (EU) No 376/2014;*
- (e) Safety action planning, including the establishment of an SRB composed of line managers, the accountable manager and the safety manager;
- (f) Safety performance monitoring to ensure that safety objectives will be met;
- (g) Emergency response planning;
- (h) A process for the management of change, in particular to manage related risks, making use of the safety risk management processes (point (c));
- (i) Safety training, including human factors training and safety promotion:
 - *No overly prescriptive training requirements are included, and training could be provided by making use of resources already available within the organisation;*
 - *As a significant number of CAMOs in this segment is also approved to Part-145, it can be assumed that human-factors-related training material is already available and that the organisation has access to qualified trainers for such training;*
- (j) Record-keeping related to management system key processes.

It is acknowledged that the changes described above create implementation costs that are proportionally more significant for smaller organisations. Implementation costs can be reduced by providing safety promotion material and guidance on the implementation of SMS in small organisations, such as the Safety Management International Collaboration Group (SM ICG) guidance for SMS in small organisations¹¹. This document provides guidance for implementing SMS in smaller organisations. It considers the nature of the small organisation and the environment and constraints in which it operates. The material includes tools for planning SMS implementation; guidance on manual development; templates for safety reporting; guidance on hazard identification/root cause analysis and risk management procedures; templates for preventive/corrective action reporting, safety performance indicator development, change management, and management reviews; and guidance

¹¹ http://www.skybrary.aero/index.php/SMS_for_Small_Organizations



related to key SMS processes. Considerations for Regulators for evaluating SMS in smaller organisations are also included.

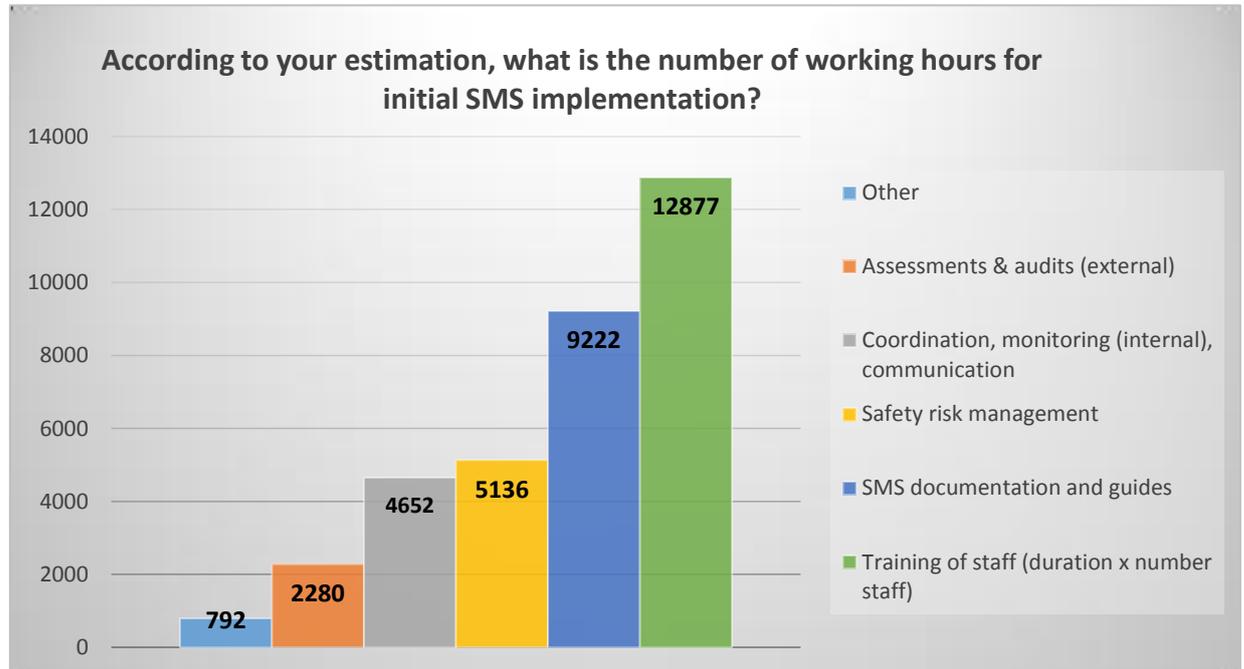
Following a recommendation made by the FCG, the Agency will also provide a sample CAME reflecting the requirements of the new Part-CAMO, including the new safety-management-related processes, as part of its 2017–2021 safety promotion planning cycle. This should be made available to stakeholders before the new Part-CAMO becomes applicable.

With respect to SMS implementation costs, the CAMO survey included a series of questions addressed to those CAMOs having already implemented an SMS.

More specifically, organisations were asked to estimate the number of working hours for the different ‘cost categories’:

- training of staff,
- SMS documentation and guides,
- safety risk management,
- coordination, monitoring, communication,
- assessment and audits (external).

Figure 7: Estimation of main cost categories for initial SMS implementation in terms of working hours (based on 57 responses)



Many respondents indicated that it was not possible to single out the implementation costs for SMS in CAMOs as the SMS was implemented throughout the organisation for all approvals.

Only 57 organisations provided information on this topic, and a detailed analysis of the data shows that among the same organisation category (defined in terms of ‘full-time equivalents’ for the entire



organisation, considering all approvals held), there is a large spread in the numbers provided. For example within the category of 1 to 10 staff, the average hours for initial SMS implementation (for all cost categories) was 234 hours with individual responses ranging from 46 to 420 hours, and within the category of 11 to 25 staff the average hours for initial SMS implementation (all cost categories) was 362 hours with responses ranging from 103 to 900 hours:

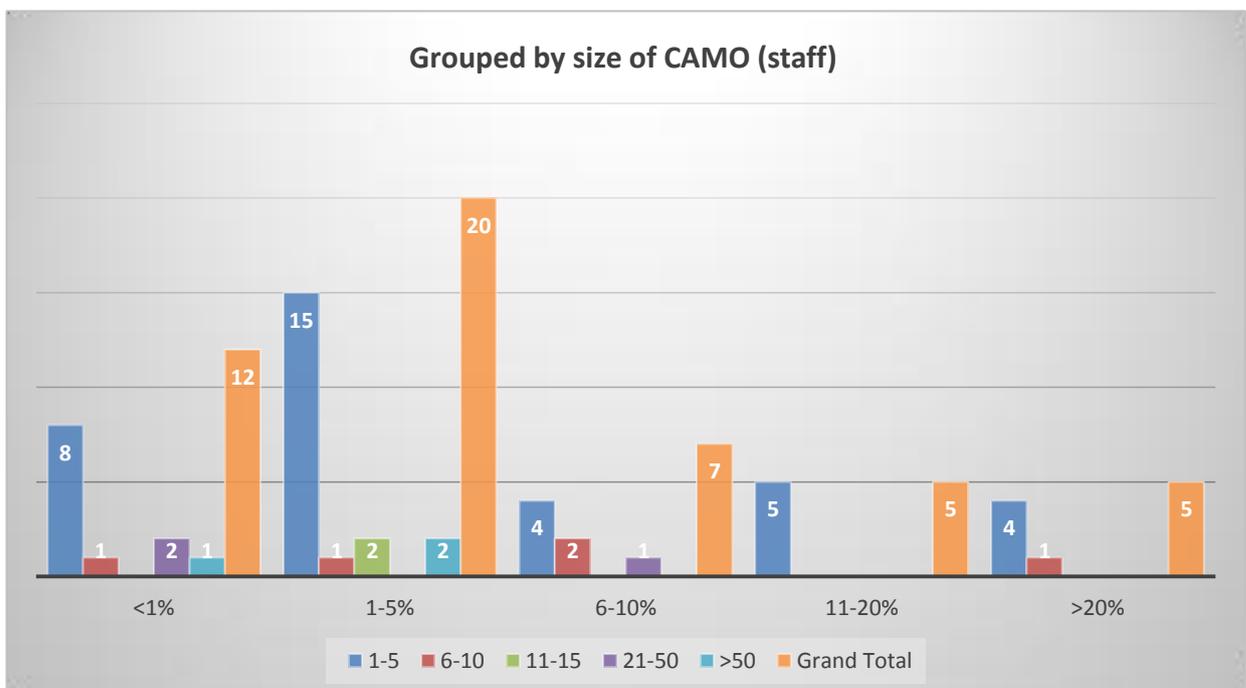
The same ‘disparities’ resulted for questions related to SMS maintenance costs in terms of working hours, e.g. within the category 1 to 10 staff (all approvals), based on 17 responses an average number of 276 hours was determined, with individual responses ranging from 16 to 1 550 h.

A few respondents indicated that they had implemented SMS in their CAMO at the same time of implementing it in other areas (Part-145 or other approvals held) through a combined system. This resulted in initial SMS implementation working hours related to the CAMO being lower than initially expected, as costs could be shared with the other approvals.

Considering the low number of respondents (57) and the large variation in the responses provided for the questions on SMS-related costs in terms of working hours, survey data for SMS implementation costs expressed in working hours (initial implementation and maintenance costs) have not been further analysed.

The survey also included a question on the share of direct SMS implementation costs, not in terms of working hours, but in terms of percentage of overall **SMS implementation costs** in the annual CAMO-related costs. The results, grouped by staff categories (staff related to the CAMO only) show that a majority of respondents representing the small CAMO segment (1–5 staff, CAMO only) considers these to represent between 1 and 5 %. This may be a more reliable indication of the real cost impact of SMS implementation, compared to the indications on SMS-related working hours.

Figure 7: Share of direct SMS implementation costs (percentage) in total annual CAMO-related costs



The survey results also seem to indicate that the use of consultants is not systematic: 39 % of the respondents indicated they did not make use of consultants for initial SMS implementation and solely relied on their own resources.

Figure 8: SMS development

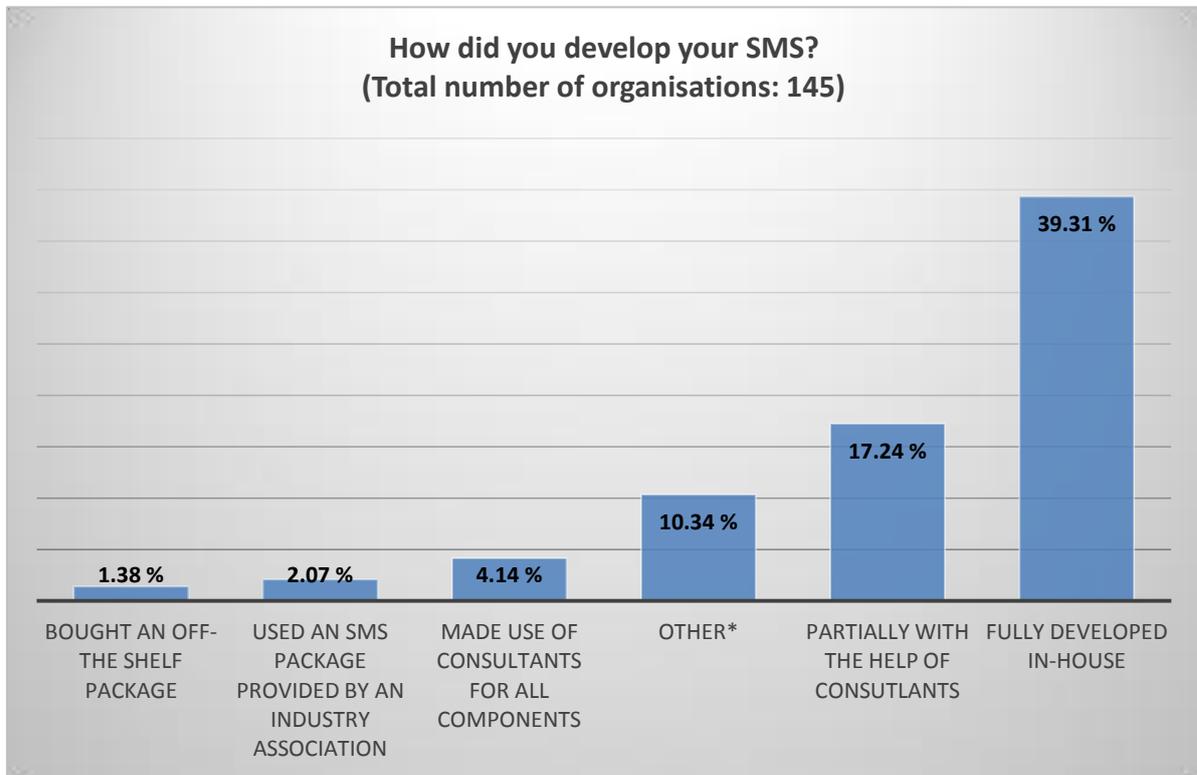
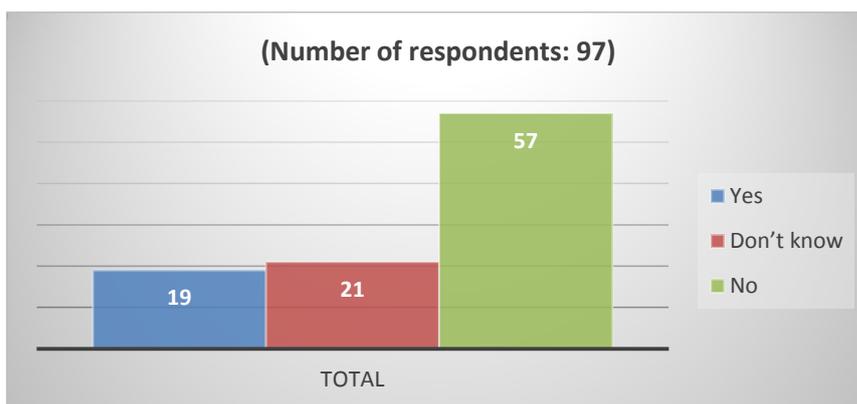


Figure 9: Use of consultants for the ongoing maintenance of SMS



Economic impacts — authorities

Option 0:

Not changing the rules would mean that the current Section B requirements remain in place and authorities will not be able to streamline their tools, methods and procedures, in particular for the oversight of licensed air carriers. This means that efficiency gains underlying a cross-domain, performance based approach as promoted by ICAO Annex 19 and the EASA management system



framework would not materialise. Accordingly, the potential for rationalising regulations training of staff in EASA and competent authorities would remain rather limited. In addition, the scope of EASA cross-domain Standardisation inspections could not be extended to include continuing airworthiness management. Different versions of general authority requirements would continue to be used and their maintenance and promotion by EASA would require more resources.

Option 1a:

This option would have a positive impact on competent authorities as it would allow them to streamline tools, methods and procedures for all continuing airworthiness management organisations, maintenance organisations not involved in the maintenance of aircraft used by licensed air carriers or CMPA, licensed air carriers, declared operators and ATOs. Streamlined requirements for oversight, certification and enforcement, as well as the implementation of management systems by competent authorities, including compliance monitoring and safety risk management, are expected to increase efficiency in certification and oversight processes not only in relation to safety, but also in relation to costs.

The new processes and tasks arising for competent authorities are intended to support the achievement of the principal objective of the Basic Regulation in terms of safety, standardisation and harmonisation, considering the ICAO SARPs related to the establishment of an SSP. Whereas for most of these tasks it may be assumed that authorities can rely on existing resources and communication channels, it is acknowledged that implementing some of them will require reallocation of resources and updating the relevant procedures.

Option 1a would allow more effective regulations training of staff in EASA and competent authorities. In addition, the scope of EASA cross-domain Standardisation inspections could be extended to include all areas of continuing airworthiness management. The maintenance and promotion of related EASA regulations would be facilitated.

Therefore, positive impacts would be expected.

Option 1b:

The new management system requirements in Section B, largely aligned with those already applicable in the domain of Aircrew and Air Operations, define a range of new processes and tasks for competent authorities. In particular:

- (a) The transmission to the Agency of procedures and amendments thereto, as well as information regarding changes affecting the management system;
- (b) The definition and implementation of procedures for participation in a mutual exchange of information and assistance to other competent authorities;
- (c) The implementation of a compliance monitoring system, including an internal audit process and safety risk management process;
- (d) The implementation of a system to initially and continuously assess qualified entities performing certification or oversight tasks on behalf of the competent authority;
- (e) Maintaining a list of all organisation certificates issued;



- (f) Keeping records of the evaluation of AltMoC proposed by persons and organisations and the assessment of AltMoC used by the competent authority itself;
- (g) The implementation of a system to plan the availability of competent authority personnel;
- (h) The development and implementation of methodologies to assess the safety performance and management system effectiveness of organisations; and
- (i) The implementation of a system for continuous monitoring of safety performance, considering compliance and risk management capability of organisations.

All the new processes and tasks arising for competent authorities are intended to support the achievement of the principal objective of the Basic Regulation in terms of safety, standardisation and harmonisation, considering the ICAO SARPs related to the establishment of an SSP.

Whereas for most of these tasks it may be assumed that authorities can rely on existing resources and communication channels, it is acknowledged that implementing some of them will require reallocation of resources and updating the relevant procedures.

In the medium term, streamlined requirements for oversight, certification and enforcement, as well as the implementation of management systems by competent authorities, including compliance monitoring and safety risk management, are expected to increase efficiency in certification and oversight processes not only in relation to safety, but also in relation to costs.

As the new authority requirements and related provisions are fully aligned with those already in place in the area of Aircrew and Air Operations, it can be assumed that competent authorities have implemented the required changes and already adapted their oversight systems and procedures. In that case, authorities would mainly need to extend the scope of these provisions to include the new Part-CAMO.

Environmental impacts

None identified.

General aviation and proportionality issues

Option 0:

Maintaining the current Part-M Subpart G would not allow creating two distinct types of organisational approvals for continuing airworthiness management with proportionate requirements depending on the type of aircraft and type of operations. This would prevent further alleviating the requirements for General Aviation organisations.

Option 1a:

Effective management systems would benefit all types of organisations by:

- supporting managers to take informed decisions and allocate more effectively their limited resources against risks; and
- allowing authorities to adapt their level of oversight to the effectiveness of the management system and risk management capability of the organisation.



Nevertheless, as expressed by General Aviation stakeholders in their comments on NPA 2013-01(B) and confirmed through additional focused consultation, the introduction of SMS for organisations not involved in continuing airworthiness management or maintenance of aircraft not used by licensed air carriers and other than CMPA is considered not in line with the Agency's General Aviation Strategy and the related proportionality principles that should reflect different levels of acceptable risk for commercial air transport and General Aviation respectively.

Therefore, overall a negative impact is expected.

Option 1b:

The new management system requirements are provided in the form of objective-based requirements providing flexibility as most of the implementation details are included at AMC level.

Organisations approved for continuing airworthiness management of aircraft not used by licensed air carriers and/or aircraft other than CMPA will be able to apply for the new Part-CAO approval, thus they would not be required to adapt their existing management system. It is proposed (cf. Cover Regulation Article 3 paragraph 5) to provide an additional proportionality element by adopting the following exemption that has already been agreed in the area of Air Operations (EASA Committee of February 2016, discussions on the latest amendments to Regulation (EU) No 965/2012 in relation to non-commercial operations of CMPA):

'Any reference to complex motor-powered aircraft made in this Regulation excludes aeroplanes with a maximum certificated take-off mass at or below 5700 kg which are equipped with turboprop engines. These aircraft shall be subject to the requirements applicable to other-than-complex motor-powered aircraft.'

As a consequence, for this type of aircraft:

- no Part-CAMO approval should be required for continuing airworthiness management; and
- no Part-145 approval should be required for maintenance.

Part-M Subpart F and Part-CAO approved organisations should be allowed to work on this type of aircraft, although classified as CMPA.

Therefore, positive impacts are expected.

Impact on regulatory coordination and harmonisation

Option 0:

There are no ICAO SARPs considering a dedicated organisation approval for continuing airworthiness management. For certified operators of aeroplanes or helicopters authorised to conduct international CAT in accordance with ICAO Annex 6 Part I or Part III this activity is considered part the operator responsibilities.

Maintaining the current Part-M Subpart G would not ensure compliance with ICAO Annex 19 in relation to Standard 4.1.2: 'The SMS of a certified operator of aeroplanes or helicopters authorised to conduct international CAT iaw Annex 6 Part I or Part III shall be made acceptable to the State of the Operator.' This may create obstacles for mutual acceptance of AOCs as some States may challenge that the EASA Air Operations requirements (Regulation (EU) No 965/2012) ensure full compliance with ICAO



Annex 19 with regard to operator continuing airworthiness/maintenance control related responsibilities.

The potential to promote EASA CAMO rules globally may be adversely affected.

Therefore, negative impacts are expected.

Option 1a:

Considering the current diverse implementation of SMS within the different EASA Member States in the area of maintenance and continuing airworthiness management Option 1a would ensure that the same rules apply for all types of organisations approved for continuing airworthiness management. The scope of EASA cross-domain Standardisation inspections could be extended to cover the entire continuing airworthiness management domain. This would best support the establishment of a comprehensive aviation safety management system at EU level encompassing EU and Member State responsibilities for safety management.

Mandating SMS for all continuing airworthiness management organisations would also fully address potential non-compliance with ICAO Annex 19 in relation to operator continuing airworthiness/maintenance control related responsibilities for certified operators of aeroplanes or helicopters authorised to conduct international CAT in accordance with Annex 6 Part I or Part III.

The changes proposed would not affect any of the bilateral aviation safety agreements in place with the EU as continuing airworthiness management is currently not covered under any of such agreements.

The potential to promote a single set of streamlined EASA CAMO rules globally would be improved.

Therefore, positive impacts are expected.

Option 1b:

This option will also address the issues arising with the current diverse implementation of SMS within the different EASA Member States — however, to a lesser extent than Option 1a. Moreover, this option will support the establishment of a comprehensive aviation safety management system at EU level, but with a focus limited to the continuing airworthiness management domain related to aircraft used by licensed air carriers and/or CMPA.

As with Option 1a, the changes proposed will not affect any of the bilateral aviation safety agreements in place with the EU as continuing airworthiness management is currently not covered under any of such agreements.

Full compliance with ICAO Annex 19 in relation to operator continuing airworthiness/maintenance control related responsibilities (applicable to certified operators of aeroplanes or helicopters authorised to conduct international CAT in accordance with Annex 6 Part I or Part III) would only be ensured for licensed air carriers and operators of CMPA.



Final scores of the impacts

	Option 0 Do nothing	Option 1a	Option 1b
Safety	–	+	+
Environmental	N/A	N/A	N/A
Social	0	0/+	0/+
Economic	–/0	0/+	+
General Aviation & Proportionality	0	–	+
Better Regulation & Harmonisation	–/0	+	+
TOTAL	–/0	0/+	+

Conclusion

Option 0 does not allow addressing any of the issues identified.

Option 1a provides positive safety impacts, benefits in terms of regulatory harmonisation and consistency of organisation approvals, supports the establishment of a comprehensive aviation safety management system at EU level, and ensures ICAO Annex 19 compliance for all types of operation. However, based on General Aviation stakeholder feedback and additional focused consultation, this Option is deemed disproportionate. To consider those views and in line with the Agency's General Aviation Strategy, Option 1a is not retained.

Option 1b is the preferred one as it allows addressing the proportionality issues identified for Option 1a while having a positive safety impact on the industry segment commercial air transport (licensed air carriers) and CMPA and facilitating the implementation of integrated management systems for multiple-approved organisations in this segment. In addition, it would positively contribute to regulatory harmonisation. Option 1b was confirmed as the preferred one by the majority of NPA comments, supported by the FCG, the Part-M General Aviation Task Force and reconfirmed by the above analysis of impacts.

Done at Cologne, 11 May 2016.

Patrick KY
Executive Director



3. References

3.1. Affected regulations

- Commission Regulation (EU) No 1321/2014 of 26 November 2014 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 362, 17.12.2014, p. 1)
- Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OL L 224, 21.08.2012, p. 1)

3.2. Affected decisions

- Executive Director Decision 2015/029/R of 17 December 2015 issuing acceptable means of compliance and guidance material to Part-M, Part-145, Part-66, and Part-147 of Regulation (EU) No 1321/2014 and repealing Decision 2003/19/RM of the Executive Director of the Agency of 28 November 2003 ('AMC and GM to the Annexes to Regulation (EU) No 1321/2014 — Issue 2')

3.3. Reference documents

- ICAO Annex 19 'Safety Management' First Edition, July 2013



Appendix 1 — Cross-reference table: Part-M Subpart G — NPA 2013-01(B) — Part-ORO/-ARO — Opinion No 06/2016*(In the order of the current Part-M)*

Current text (Regulation (EU) No 1321/2014)	NPA 2013-01(B)	Part-ORO/-ARO reference (Reg. (EU) No 965/2012)	Opinion No 06/2016 (RMT.0251 (MDM.055) Phase I)
SUBPART G — CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION	SUBPART G — CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION	---	DELETED — INCLUDED WITH NEW ANNEX Vc (Part-CAMO) SECTION A ORGANISATION REQUIREMENTS
M.A.701 Scope	M.A.701 Scope	ORO.GEN.105	CAMO.A.005 Scope
M.1	---	---	CAMO.A.105 Competent authority
M.A.702 Application	M.A.702 Application for an organisation certificate	ORO.GEN.115	CAMO.A.115 Application for an organisation certificate
M.A.703 Extent of approval	M.A.703 Terms of approval	ORO.GEN.125	CAMO.A.125 Terms of approval and privileges of the organisation
M.A.704 Continuing airworthiness management exposition	M.A.704 Continuing airworthiness management exposition	partially addressed in ORO.MLR.100	CAMO.A.300 Continuing airworthiness management exposition
M.A.705 Facilities	M.A.705 Facilities	ORO.GEN.215	CAMO.A.215 Facilities
M.A.706 Personnel requirements	M.A.706 Personnel requirements	ORO.GEN.210	CAMO.A.305 Personnel requirements
M.A.707 Airworthiness review staff	M.A.707 Airworthiness review staff	n/a	CAMO.A.310 Airworthiness review staff
M.A.708 Continuing airworthiness management	M.A.708 Continuing airworthiness management	n/a	CAMO.A.315 Continuing airworthiness management
M.A.709 Documentation	M.A.709 Documentation	n/a	CAMO.A.325 Continuing airworthiness management data
M.A.710 Airworthiness review	M.A.710 Airworthiness review	n/a	CAMO.A.320 Airworthiness review
M.A.711 Privileges of the organisation	M.A.711 Privileges of the organisation	ORO.GEN.125	--- <i>Incorporated into new CAMO.A.125</i>
M.A.712 Quality system	M.A.712 Management system	ORO.GEN.200	CAMO.A.200 Management system
---	---	---	CAMO.A.202 Internal safety reporting scheme
M.A.713 Changes to the approved continuing airworthiness organisation	M.A.713 Changes to the organisation	n/a	CAMO.A.130 Changes to the organisation



Current text (Regulation (EU) No 1321/2014)	NPA 2013-01(B)	Part-ORO/-ARO reference (Reg. (EU) No 965/2012)	Opinion No 06/2016 (RMT.0251 (MDM.055) Phase I)
M.A.714 Record-keeping	M.A.714 Continuing airworthiness management Record-keeping	ORO.GEN.220 (partially)	CAMO.A.220 Record-keeping
M.A.715 Continued validity of approval	M.A.715 Continued validity	ORO.GEN.135	CAMO.A.135 Continued validity
---	---	ORO.GEN.140	CAMO.A.140 Access
M.A.716 Findings	M.A.716 Findings	ORO.GEN.150	CAMO.A.150 Findings
---	M.A.717 Management system record- keeping	ORO.GEN.220	--- <i>Incorporated into CAMO.A.220 Record-keeping</i>
M.A.202 Occurrence reporting	---	ORO.GEN.160	M.A.202 Occurrence reporting CAMO.A.160 Occurrence reporting
---	M.A.720 Means of compliance	ORO.GEN.120	CAMO.A.120 Means of compliance
---	M.A.721 Internal safety reporting scheme	---	---
---	M.A.722 Immediate reaction to a safety problem	ORO.GEN.155	CAMO.A.155 Immediate reaction to a safety problem
<i>SECTION B — PROCEDURES FOR COMPETENT AUTHORITIES</i>	<i>SECTION B — PROCEDURES FOR COMPETENT AUTHORITIES</i>	---	<i>ANNEX Vc (Part-CAMO) SECTION B AUTHORITY REQUIREMENTS</i>
SUBPART A — GENERAL	SUBPART A — GENERAL	---	SUBPART A — GENERAL
M.B.101 Scope	M.B.101 Scope	ARO.GEN.005	CAMO.B.005 Scope
M.B.102 Competent authority	---	---	---
---	---	ARO.GEN.355	M.B.103 Findings and enforcement measures — persons
---	M.B.103 Oversight documentation	ARO.GEN.115	CAMO.B.115 Oversight documentation
M.B.104 Record-keeping	M.B.114 Record-keeping	ARO.GEN.220	CAMO.B.220 Record-keeping
---	M.B.104 Means of compliance	ARO.GEN.120	CAMO.B.120 Means of compliance
M.B.105 Mutual exchange of information	M.B.105 Information to the Agency	ARO.GEN.125	CAMO.B.125 Information to the Agency
---	M.B.106 Immediate reaction to a safety problem	ARO.GEN.135	CAMO.B.135 Immediate reaction to a safety problem
---	M.B.110 Management system	ARO.GEN.200	CAMO.B.200 Management system



Current text (Regulation (EU) No 1321/2014)	NPA 2013-01(B)	Part-ORO/-ARO reference (Reg. (EU) No 965/2012)	Opinion No 06/2016 (RMT.0251 (MDM.055) Phase I)
---	M.B.111 Allocation of tasks to qualified entities	ARO.GEN.205	CAMO.B.205 Allocation of tasks to qualified entities
---	M.B.112 Changes in the management system	ARO.GEN.210	CAMO.B.210 Changes in the management system
---	M.B.130 Oversight principles	ARO.GEN.300	CAMO.B.300 Oversight principles
SUBPART G — CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION	SUBPART G — CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION	---	<i>SUBPART DELETED — NEW ANNEX Vc (Part-CAMO)</i>
M.B.701 Application	---	---	---
M.B.702 Approval	M.B.702 Initial certification procedure	ARO.GEN.310	CAMO.B.310 Initial certification procedure
M.B.703 Issue of approval	---	---	---
M.B.704 Continuing oversight	M.B.704 Oversight programme	ARO.GEN.305	CAMO.B.305 Oversight programme
M.B.705 Findings	M.B.705 Findings and corrective actions	ARO.GEN.350	CAMO.B.350 Findings and corrective actions
M.B.706 Changes	M.B.706 Changes	ARO.GEN.330	CAMO.B.330 Changes
M.B.707 Revocation, suspension and limitation of an approval	M.B.707 Suspension, limitation and revocation	---	CAMO.B.355 Suspension, limitation and revocation
<i>Appendix VI — Continuing Airworthiness Management Approval referred to in Annex I (Part-M) Subpart G</i>	<i>Appendix VI — Continuing Airworthiness Management Certificate referred to in Annex I (Part-M) Subpart G</i>	---	<i>APPENDIX I TO PART-CAMO</i>



Appendix 2 — List of items, including Part-M requirements, to be reviewed/assessed in Phase II

FCG = FOCUSED CONSULTATION GROUP

Reference	Subject	Items to be reviewed/assessed
GENERAL		
NPA 2013-01 comments	AltMoC processing.	The Opinion introduces the new process for the application and approval of AltMoC for organisations only. The case of regulated persons (e.g. independent certifying staff) is not covered.
NPA 2013-01 comments FCG input	Alignment/consistency of the general authority and organisation requirements across domains (CAMO/145/147, etc.). Amount of duplication, in particular in the AMC and GM.	Consider consolidation of common ARs/ORs across Regulation (EU) No 1321/2014. Assess which of the GM could be extracted from the regulatory material and included as safety promotion material.
DEFINITIONS		
Cover regulation Article 2(h)	(h) 'maintenance' means any one or combination of the following activities: overhaul, repair, inspection, replacement, modification or defect rectification of an aircraft or component, with the exception of pre-flight inspection; Consider also to align the definition that is used by other regulators. Note FAR 1 definitions: 'Maintenance means inspection, overhaul, repair, <u>preservation</u> , and the replacement of parts, but excludes preventive maintenance.' 'Preventive maintenance means simple or minor <u>preservation</u> operations and the replacement of small standard parts not involving complex assembly operations.'	This definition excludes the pre-flight inspection; however, this inspection is part of the continuing airworthiness management tasks as defined in M.A.301. This definition does not cover how the continuing airworthiness status of aircraft/engine/component in storage is controlled, e.g.: — Who is accountable, responsible, and who has authority for aircraft and/or components during storage periods? — Which organisation requirements should apply for such activities? — What does this imply for the Aircraft Maintenance Programme, etc.?
Cover regulation Article 2(j)	(j) 'pre-flight inspection' means the inspection carried out before flight to ensure that the aircraft is fit for the intended flight;	It is unclear who is accountable, responsible, and who has authority to define the contents of the pre-flight inspection.
Cover regulation	(n) 'critical maintenance task' means a maintenance task that involves the assembly or any disturbance of a system or any part on an aircraft,	Need to address the required competencies of Part-M/Part-145 personnel to determine what endangers flight safety.



Reference	Subject	Items to be reviewed/assessed
Article 2(n)	engine or propeller that, if an error occurred during its performance, could directly endanger the flight safety;	Such personnel have usually no access to design assessments performed under Part-21. How can they have such an accountability/responsibility on this matter?
Part-CAMO/Part-145		
FCG input	Review references to CDCCL and EWIS in Part-M and Part-145.	All relevant Mandatory Continuing Airworthiness Instructions (MCAI) items should be addressed.
FCG input	Human Factors related requirements, AMC and GM.	Consider extracting all Human Factors -related GM and issue it as safety promotion material.
FCG input	GM/User guides for the CAME/MOE.	Consider including guidance on exposition contents and layout as part of safety promotion material (not as part of the regulatory material).
FCG input	CAMO.A.200 and CAMO.A.202	Clarify the link between the management system requirements (CAMO.A.200) and the internal reporting scheme (CAMO.A.202). Clarify the scope of management system with regards to CAMO.A.200/202/205/215/220.
NPA 2013-01(B) comments	Fatigue risk management.	Assess the need to further develop the relevant provisions in Part-CAMO.
NPA 2013-01(B) comments	Personnel requirements (qualification and training).	Streamline and align as far as practicable the relevant CAMO and Part-145 IRs, AMC and GM for consistency.
Part-M — SUBPART B — ACCOUNTABILITY		
FCG input Subpart B	SUBPART B — ACCOUNTABILITY	In points M.A.201 and M.A.202 the term 'responsible' is used, not 'accountable'. The objective of this Subpart must be clarified: is it to define an accountability (of which nature?) or to define responsibilities?
FCG input M.A.202	M.A.202 Occurrence reporting (a) Any person or organisation responsible in accordance with point M.A.201 shall report to the competent authority designated by the State of Registry, the organisation responsible for the type design or supplemental type design and, if applicable, the Member State of operator, any identified condition of an aircraft or component which endangers flight safety.	What are the competencies of Part-M personnel to determine what endangers flight safety? Such personnel have usually no access to design assessments performed under Part-21. How can they have such an accountability/responsibility on this matter?



SUBPART C — CONTINUING AIRWORTHINESS		
FCG input M.A.301	M.A.301 Continuing airworthiness tasks The aircraft continuing airworthiness <u>and the serviceability of both operational and emergency equipment</u> shall be ensured by:	M.A.101 ‘Scope’ indicates that Section A establishes the measures to be taken to ensure that airworthiness is maintained, including maintenance. With reference to M.A.301, it is suggested that the serviceability of both operational and emergency equipment is not to be considered aircraft continuing airworthiness. In such a case, Part-M/-CAMO personnel should not be accountable/responsible for ensuring such serviceability.
FCG input M.A.301-7	M.A.301 Continuing airworthiness tasks The aircraft continuing airworthiness [...] shall be ensured by: [...] 7. for non-mandatory modifications and/or inspections, for all CMPA or aircraft used by licensed air carriers in accordance with Regulation (EC) No 1008/2008, the establishment of an embodiment policy;	An embodiment policy should be established for all forms of non-mandatory maintenance (i.e. it should not be restricted to non-mandatory modifications and/or inspections) to support the evolution towards a performance-based environment.
FCG input M.A.302(d) M.A.302(e) M.A.302(f)	M.A.302 Aircraft Maintenance Programme	The M.A.302 requirements should be reviewed in line with the performance-based regulations’ principles: Examples: — the ‘must establish compliance with’ in the introductory sentence of point M.A.302(d); — contents of the Aircraft Maintenance Programme defined in point M.A.302(e).
FCG input M.A.305 M.A.306	M.A.305 Aircraft continuing airworthiness record system M.A.306 Aircraft technical log system	These requirements should be reviewed in line with the performance-based regulations’ principles.
FCG input M.A.306(a)	M.A.306 Aircraft technical log system (a) [...] the operator shall use a technical log system containing the following information for each aircraft: 1. information about each flight, necessary to ensure <u>continued flight safety</u> , [...]	Required competencies of Part-M personnel to determine what is necessary to ensure ‘continued flight safety’ need to be established.
SUBPART D — MAINTENANCE STANDARDS		
FCG input M.A.401(a)	M.A.401 Maintenance data (a) The person or organisation maintaining an aircraft shall have access	These requirements should be reviewed in line with the performance-based regulations’ principles.



	to and use only applicable current maintenance data in the performance of maintenance including modifications and repairs.	It is proposed to extend this requirement to CAMOs to read, for example: '(a) The person or organisation maintaining an aircraft or managing the aircraft continuing airworthiness shall: 1. ensure that all applicable maintenance data is current and readily available for use when required; and 2. have access to and use only applicable current maintenance data in the performance of maintenance including modifications and repairs, or in the management of aircraft continuing airworthiness.'
FCG input M.A.401(b)	M.A.401 Maintenance data (b) For the purposes of this Part, applicable maintenance data is: 1. any applicable requirement, procedure, standard or information issued by the competent authority or the Agency, 2. any applicable airworthiness directive, 3. applicable instructions for continuing airworthiness, issued by type certificate holders, supplementary type certificate holders and any other organisation that publishes such data in accordance with Annex I (Part-21) to Regulation (EU) No 748/2012. 4. any applicable data issued in accordance with point 145.A.45(d).	It is proposed to move this to the section dedicated to definitions.
FCG input M.A.401(c)	M.A.401 Maintenance data (c) The person or organisation maintaining an aircraft shall ensure that all applicable maintenance data is current and readily available for use when required. The person or organisation shall establish a work card or worksheet system to be used and shall either transcribe accurately the maintenance data onto such work cards or worksheets or make precise reference to the particular maintenance task or tasks contained in such maintenance data.	Flexibility should be provided for the allocation of the responsibility to develop the work card or worksheet system, possibly by transferring the way to develop the work cards or worksheets into an AMC. M.A.401(c) could read: '(c) The person or organisation maintaining an aircraft or managing the aircraft continuing airworthiness shall establish a work card or worksheet system to be used.'
FCG input M.A.401(d)	(d) The person or organisation maintaining an aircraft or managing the aircraft continuing airworthiness shall establish procedures to ensure that if found, any inaccurate, incomplete or ambiguous procedure, practice, information or maintenance instruction contained in the maintenance data used by any personnel is recorded and notified to the author of the maintenance data.	New requirement: The related responsibilities need to be clearly specified in the relevant Parts (CAMO, 145, etc.).



FCG input M.A.401(e)	(e) The person or organisation managing the aircraft continuing airworthiness may only modify maintenance instructions in accordance with a procedure specified in the continuing airworthiness management exposition. With respect to those changes, the person or organisation shall demonstrate that they result in equivalent or improved maintenance standards and shall inform the appropriate holder(s) of a design approval of such changes.	The related responsibilities need to be clearly specified in the relevant Parts (CAMO, 145, etc.). It should be clarified that for the purposes of this point, ‘maintenance instructions’ means instructions on how to carry out a particular maintenance task, excluding those described in the instructions for continued airworthiness issued under Regulation (EU) No 748/2012 and its Annex (Part-21), and those resulting from the engineering design of repairs and modifications.
FCG input M.A.402	M.A.402 Performance of maintenance Except for maintenance performed by a maintenance organisation approved in accordance with Annex II (Part-145), any person or organisation performing maintenance shall: [...]	The responsibility of maintenance organisations approved in accordance with Part-145 is not explicit. Consider changing as follows: ‘Any person or organisation performing maintenance shall [(a)-(i)] or hold an approval issued in accordance with Annex II (Part-145) and perform maintenance in accordance with this approval.’
FCG input M.A.403(b)	M.A.403 Aircraft defects (b) Only the authorised certifying staff, [...] can decide, using M.A.401 maintenance data, whether an aircraft defect hazards seriously the flight safety and [...].	It is suggested to add the reference of points in Part-21 and/or certification specifications that impose on the design approval holder (DAH) to publish the list of aircraft defects that hazard seriously the flight safety. In the absence of such a list in the DAH publications, how could an accountability/responsibility/authority be allocated to authorised certifying staff?
SUBPART E — COMPONENTS		
FCG input M.A.501(b)	(b) Prior to installation of a component on an aircraft the person or approved maintenance organisation shall ensure that the particular component is eligible to be fitted when different <u>modification and/or airworthiness directive configurations</u> may be applicable.	These requirements should be reviewed in line with the performance-based regulations’ principles. Consider changing as follows: ‘(b) Prior to installation of a component on an aircraft the person or approved maintenance organisation shall ensure that the particular component is eligible to be fitted.’ The related AMC may then detail what has to be taken into account in the assessment: modifications, airworthiness directives, [...] and repairs, production concessions, etc.
FCG input M.A.503 M.A.504	M.A.503 Service life-limited components M.A.504 Control of unserviceable components	To be reviewed in light of the comments raised in the frame of NPA 2014-04.



<p>FCG input M.A.504(a)</p>	<p>M.A.504 Control of unserviceable components (a) A component shall be considered unserviceable in any one of the following circumstances: 1. expiry of the service life limit as defined in the maintenance programme; 2. non-compliance with the applicable airworthiness directives and other continued airworthiness requirement mandated by the Agency; 3. absence of the necessary information to determine the airworthiness status or eligibility for installation; 4. evidence of defects or malfunctions; 5. involvement in an incident or accident likely to affect its serviceability.</p>	<p>It is suggested to move this text to the section dedicated to definitions.</p>
---------------------------------	---	---

