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AIRBUS COMMENTS ON NPA 2013-01, EMBODIMENT OF SAFETY MANAGEMENT SYSTEM (SMS) REQUIREMENTS INTO COMMISSION REGULATION (EC) No. 2042/2003

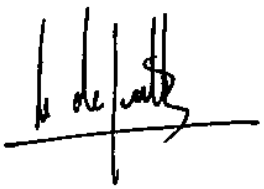
Dear Sirs,

Airbus thanks the European Aviation Safety Agency for offering an opportunity to comment on NPA 2013-01.

You will find attached:

- An introduction giving background information on Airbus activities under Regulation No. 2042/2003;
- An executive summary;
- One general comment;
- 6 comments on NPA 2013-1(A);
- 107 comments on NPA 2013-1(B) & (C).

Yours sincerely,



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AIRBUS Comment Sheets

EASA NPA 2013-01 – 'Embodiment of Safety Management System (SMS) requirements'

Introduction:

Airbus holds organisation approval certificates in addition to the certificates issued under Part 21:

Airbus holds a certificate for a Continuing Airworthiness Management Organization (CAMO). With this certificate, Airbus may manage the continuing airworthiness of all types of Airbus aeroplanes not being used for commercial air transport operations, such as:

- Used aeroplanes owned by Airbus during off-lease periods;
- Used aeroplanes recovered by Airbus following technical acceptance until technical acceptance at next delivery;
- New aeroplanes out-of-production cycle (during the preservation and/or embodiment of modification working party) until final delivery to the customer;
- New Corporate Jet aeroplanes during the cabin outfitting phase until final delivery to the customer.

Further, this certificate allows Airbus to issue reports or recommendations for the issuance of aeroplane Certificates of Airworthiness and/or Airworthiness Review Certificates, Airworthiness Review Certificates (or extend the ARC) and Permits to Fly for aeroplanes managed by Airbus CAMO.

Airbus also holds several Part-145 (or equivalent) certificates granted by National Airworthiness Authorities according to their specific regulations for maintenance organisations.

These certificates allow the Airbus maintenance organisations to perform maintenance, including repairs, on aeroplanes, avionics and components according to their capability to perform such activities. Each Airbus maintenance organisation operates under an accountable manager.

Executive summary:

The introduction of the safety management concepts in the existing European regulation governing the aircraft continuing airworthiness management and maintenance is a challenge. On one hand, the change of doctrine is an opportunity to introduce flexibility in the management of safety issues (risk-based approach), but on the other hand, it may generate confusion, inconsistencies, or possibilities for extensive interpretations (etc.) that will lead to a significant overburden.

A complete review of the Part-M and Part-145 was necessary to ensure that:

(i) Technical aspects: the existing requirements have been adapted to the risk-based approach introduced by safety management principles, and

(ii) Organisational aspects: the accountabilities, responsibilities and authorities of key personnel have been defined (and those of the other contributors involved in safety management, by repercussion) to warrant a correct deployment of requirements.

The proportionality of requirements is also a matter that drew the reviewers' attention. The difficulty is to maintain the regulation cohesion: a minimum level of homogeneity must be kept, otherwise disparities might justify the need for a physical separation of requirements (i.e. for pilot-owners, Part-M subpart F organisations, and Part-M subpart G organisations).

In this context, Airbus compiled 114 comments on the Sections A of Part-M and Part-145 that aim (mainly) at addressing these subjects.

It has not been possible to review the Sections B within the allocated time. The need for harmonisation with the comments made on the Sections A should be taken into account.

Comment No. 0:

General comment

The Agency seeks the views of stakeholders on possible effects and benefits of the options to change or not the current structure of Commission Regulation (EC) No 2042/2003, as proposed in this NPA. Regardless Airbus' conclusions or the final decision on this matter, it can be shown that there is room for improvement of the existing regulation structure to ease the demonstration of compliance. The lack of optimization is a burden and also a hazard, which may generate some risks. An adaptation of the regulation structure is considered as a prerequisite to the introduction of the safety management principles, mainly for Part-M: the activities addressed in Part-M are heterogeneous, although they are connected to each others, i.e. continuing airworthiness management and maintenance (while the Part-145 addresses exclusively maintenance).

For example, the existing point M.A.501 mix some requirements applicable to the pilot-owners (for pilot-owner maintenance), the subpart F maintenance organisations, and the (owners or the) continuing airworthiness management organisations, with other requirements applicable only to some of these stakeholders: the accountabilities, responsibilities and authorities become unclear.

- Example of an M.A.501 requirement applicable to all:

  "(a) No component may be fitted unless it is in a satisfactory condition, has been appropriately released to service on an EASA Form 1 or equivalent and is marked in accordance with Part 21 Subpart Q, unless otherwise specified in Annex (Part-21) to Regulation (EU~~C~~) No 748/2012~~1702/2003~~, Annex II (Part-145) or Subpart F, Section A of Annex I to this Regulation."

  Note: An EASA Form 1 (or equivalent) issued by a maintenance organisation does not necessarily mean that the related component is airworthy. It confirms only that the work ordered has been correctly performed. The involvement of the (owner or the) continuing airworthiness management organisation is therefore necessary (refer to RMT.0217 (M.029) and RMT.0546).

- Example of an M.A.501 requirement applicable only to pilot-owners (for pilot-owner maintenance) and subpart F maintenance organisations:

  "(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 modification and/or airworthiness directive configurations may be applicable."

One of the cornerstones of the Safety Management System (SMS) introduction and application is the definition of clear accountabilities, responsibilities, and authorities. Therefore, the following comments propose, in some cases, a rearrangement of requirements and/or the clarification of accountabilities/responsibilities/authorities. It has not been possible to be exhaustive.

Note: An adjustment of terms used in the Part-M subpart B, for example, may also be necessary.

NPA 2013-01 (A)

Comment No. 1:

1. **PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:**
   NPA 2013-01(A), page 14/30, section A., paragraph IV., sub-paragraph 30. "Rule structure"

2. **PROPOSED TEXT / COMMENT:**
   Amongst the different options proposed by the EASA, Airbus prefers the option A. However, can the EASA tell which subpart will address the pilot-owner maintenance?

3. **RATIONALE / REASON / JUSTIFICATION:**
   Although an additional workload for the Agency and the industry is anticipated by this choice, Airbus is in favour of the separation of technical and organisational requirements: It brings consistency throughout European regulation structure.

Comment No. 2:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(A), pages 20-21/30, section A., paragraph V., sub-paragraph 2.2. "What are the risks (probability and severity)?"

2. PROPOSED TEXT / COMMENT:

It seems that consideration for fatigue is limited to maintenance personnel, although this sub-paragraph acknowledges that "in a number of accidents and serious incidents, human error, co-ordination, and performance issues in the Part-M Subpart G organisation have contributed to adverse events and maintenance errors within the contracted maintenance organisation".

It is proposed to take into account personnel fatigue also for Part-M Subpart G organisations.

3. RATIONALE / REASON / JUSTIFICATION:

To ensure effective management of human factors/human performance and limitations in the area of continuing airworthiness management and to create a positive social impact by improving working conditions of existing staff and/or by increasing the demand for additional Part-M Subpart G organisation staff (ref. also to NPA 2013-01(A), page 23, section A., paragraph V., sub-paragraph 6.2).

Comment No. 3:

1. **PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:**
   NPA 2013-01(A), page 27/30, section B., paragraph I. Article 1 "Objective and scope"

2. **PROPOSED TEXT / COMMENT:**
   The point 2. is amended to delete "the basic" and to add "(EC) No 216/2008". It is proposed to check, and to amend as necessary, the Part-M, Part-145, Part-66 and Part-147 for consistency.

3. **RATIONALE / REASON / JUSTIFICATION:**
   For consistency.

Comment No. 4:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(A), page 27/30, section B., paragraph I. Article 2 "Definitions"

2. PROPOSED TEXT / COMMENT:
It is proposed to amend the definition of 'Alternative means of compliance' as follows:

QUOTE
(b) 'Alternative means of compliance' are ~~those~~ means that are ~~propose~~ submitted by the applicant to the competent authority as an alternative to an existing AMC or ~~those that propose~~ as new means to establish compliance with Regulation (EC) No 216/2008 and its Implementing Rules for which no associated AMC have been adopted by the Agency;
UNQUOTE

3. RATIONALE / REASON / JUSTIFICATION:
For clarity.

Comment No. 5:

1. **PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:**
   NPA 2013-01(A), page 27/30, section B., paragraph I. Article 2 "Definitions"

2. **PROPOSED TEXT / COMMENT:**
   Definitions are given for the terms 'Acceptable Means of Compliance' and 'alternative means of compliance'. It is proposed that the Agency includes a definition for 'Guidance Material' as well.

3. **RATIONALE / REASON / JUSTIFICATION:**
   For clarity and consistency.

Comment No. 6:

1. **PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:**
   NPA 2013-01(A), page 29/30, section B., paragraph I. Article 7 "Oversight capabilities"

2. **PROPOSED TEXT / COMMENT:**
   The point 5. of the Article 7 lists some ("at least") empowerment details. It would be appropriate to define also the limits of this empowerment (confidentiality, protection of proprietary data, etc…).

3. **RATIONALE / REASON / JUSTIFICATION:**
   To balance requirements and prevent possible confusion, errors, or extensive judgment.

NPA 2013-01 (B)
/
NPA 2013-01 (C)

Comment No. 1:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 54/218, section B., point M.A.202 & point M.A.403
NPA 2013-01(C), page 88/184, section B.; point 145.A.60
NPA 2013-01(C), page 132/184, section B.; point 145.A.71

2. PROPOSED TEXT / COMMENT:

Point M.A.202(a) requires to report "[…] any identified condition of an aircraft or component which endangers flight safety". It relies on the AMC M.A.202(a), which provides a list of examples to define 'a condition which endangers flight safety'.

Point 145.A.60(a) requires to report "[…] any condition of the aircraft or component [...] that has resulted or may result in an unsafe condition that hazards seriously the flight safety"

Point 145.A.71(c) states "[...], the organisation shall establish procedures to minimise the risk of multiple errors and capture errors in flight safety sensitive maintenance tasks [...]"

The definition given in AMC M.A.202(a) does not set specific and measurable criteria to identify such conditions. Further, the list of examples is not exhaustive: for example, it does not consider unscheduled maintenance or failures of systems (other than emergency system) that could lead to a serious event.

Point M.A.403(b) states that "Only the authorised certifying staff, […] can decide, using M.A.401 maintenance data, whether an aircraft defect hazards seriously the flight safety and therefore decide when and which rectification action shall be taken before further flight and which defect rectification can be deferred".

This is causing concerns for the application of SMS principles within the Part-M & Part-145 environments.

Existing regulations do not require design organisations to publish the list of (and to flag) all flight safety sensitive (failure) conditions, related soft/hardware components and maintenance tasks and procedures to ensure that no omission or over conservatism happens in the reporting process required by points M.A.202/145.A.60 or assessments required by points M.A.403/145.A.71 downstream.

Design organisations should develop the (minimum) basis that identifies items for which reporting is necessary. Organisations approved under EASA Part-21, Part-M, and Part-145 would then identify strengths, weaknesses, and hazards in view of achieving continual improvement and/or adaptation of such a basis.

3. RATIONALE / REASON / JUSTIFICATION:

Some reports of severe occurrences will eventually turn out to be unduly alarming as further information becomes available. A successful reporting system should accept such false alarms and the wasted effort they generate in the knowledge that to discourage them might eventually lead to the suppression of a genuine report. But in order to limit the number of false alarms, which could congest organisations responsible for (or involved) in reviewing occurrences, the list of (/flagging of) all flight safety sensitive (failure) conditions, related soft/hardware components, and maintenance tasks and procedures should be published, as a basis.

It is important to note that some severe occurrences could be not reported because they have been inappropriately assessed (impact underestimated) due to the lack of enough or clear information made available to the end users evaluating the severity of events, before reporting.

A safe and efficient process addressing occurrences is tremendously affected by the accountabilities, responsibilities and authorities of the different stakeholders, and by the understanding of

these aspects (refer to the paragraph 6.7 of the Chapter 6, in the ICAO Safety Management Manual, Doc. 9859).

A. Organisations approval

Organisations having accountabilities and/or responsibilities in aviation are approved in Europe under regulations such as EASA Part-21, Part-M, Part-145 or Part-147. A segregation of aviation activities/domains is organised accordingly. The high and uniform level of protection of the European citizen (ref. Article 2 of Regulation (EC) No 216/2008) is guaranteed in civil aviation at all times by organisations specialized in one or more aviation domains: organisations managing the continuing airworthiness of Products and components are not necessarily competent to design Products/components (and vice versa).

B. Individuals

Airworthiness of Products relies (amongst others) on the expertise of the different involved individuals. This expertise is built on knowledge acquired by attending specialized training courses combined with on-job experience, and is confirmed when licenses are granted or authorized signatories are nominated. This participates in establishing and maintaining a high uniform level of civil aviation safety in Europe.

C. Who should identify flight safety sensitive conditions and related items?

The principles described here above should be kept in mind for the allocation of accountabilities, responsibilities and authorities pertinent to the subject identification in order to ensure that the high uniform level of civil aviation safety is maintained.

Not all structural failures or system malfunctions endanger the flight safety (as acknowledged in AMC 20-8): some have no safety consequences. It would be appropriate to adapt the occurrence reporting system requirements to the severity of failures identified during design phase (i.e. the category of aircraft components and maintenance that depend on the worst severity of their credible failures). It would also help in identifying which maintenance tasks and procedures should be considered as "critical" in the sense of having possibly a catastrophic, hazardous or major failure[1] in the case of undetected maintenance errors.

The personnel and organisations in the best position to evaluate the severity of the consequences of failure conditions, aircraft item failures or maintenance inappropriately performed, with due consideration of design safety objectives, are those governed by the EASA Part-21 (cleverly suggested implicitly by the AIBN report SL RAP.: 8/2006, recommendation 12/2006). The outcomes of their studies should be published to support Part-M and Part-145 organisations (to limit omissions or over conservatism). In return, Part-M organisations, with the support of Part-145 organisations, should report their experience to the Part-21 organisation in view of achieving continual improvement.

[1] Does the EASA Part-M or Part-145 establish the definitions for "catastrophic", "hazardous" and "major" in the context of failures? Certification Specifications do (e.g. refer to the paragraph 8 of the Acceptable Means of Compliance – AMC – with 25.1309).

Comment No. 2:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 54/218, section B., point M.A.202 & point M.A.403
NPA 2013-01(C), page 88/184, section B.; point 145.A.60
NPA 2013-01(C), page 132/184, section B.; point 145.A.71

2. PROPOSED TEXT / COMMENT:

Point M.A.202(a) requires to report "[…] any identified condition of an aircraft or component which endangers flight safety".

Point M.A.403(b) refers to decisions "[…] whether an aircraft defect hazards seriously the flight safety […]".

Point 145.A.60(a) requires to report "[…] any condition of the aircraft or component [...] that has resulted or may result in an unsafe condition that hazards seriously the flight safety"

Point 145.A.71(c) states "[...], the organisation shall establish procedures to minimise the risk of multiple errors and capture errors in flight safety sensitive maintenance tasks [...]"

It is proposed to use the term 'critical' in the Regulation (EC) 2042/2003, the Part 145, and the Part M regulatory material, and to replace the other terms as necessary. Further harmonisation within the various Certification Specifications and Part 21 subpart Q would be advisable. This adjective could be associated with terms such as:

- 'failure condition' (ref. points M.A.202 & M.A.403),
- 'maintenance' (ref. NPA 2012-04 & paragraph (b) of point M.A.607), 'task' (ref. point M.A.402),
- 'part' or 'component' (ref. point M.A.202 & Part 21.A.805).

In addition, there should be a correlation between the term 'critical' with the failure severities (and associated airworthiness requirements) to be taken into account.

3. RATIONALE / REASON / JUSTIFICATION:

Reference to flight safety is ambiguous. Safety cannot be fully described and covered by the activities related to continuing airworthiness management and maintenance. While the term 'Safety' is globally recognized and understood by the aviation community as the objective to reach, it shall not be mistaken for the term 'Airworthiness' that only entails a series of activities necessary, but not sufficient, to reach this objective. Although the failure of one of these activities is likely to impact the full safety chain, the selection of the term 'Safety' in a very specific context should be avoided.

The term 'critical' is preferred to 'flight safety', including for consistency with the various Certification Specifications (CS-27, CS-29, CS-E, CS-P): It is a practice to refer to terms such as Critical Design Configuration Control Limitations (CDCCL), critical components, critical tasks, etc… For instance, the term 'critical tasks', which has been used since 2004 in procedures, training material, work cards and tools, is part of the culture of the maintenance personnel. In addition, it is not shown that replacing a powerful and striking language such as 'critical task' by a long term such as 'flight safety sensitive maintenance task', would be effective for the safety improvement, for example. It may even be considered that such a change could create confusion on a safety-related topic.

The use of the term 'critical' will participate in the global harmonisation of the terminology applicable to the EASA Part 21 through the Part 147, and therefore in preventing misunderstanding.

The severities of failure conditions are defined in the applicable Certification Basis (ref. Part 21.A.17 and Part 21.A.101). The Certification Basis includes airworthiness requirements of the Certification Specifications (CS) that require, for example, for large aeroplanes (ref. CS-25):

- The prevention of catastrophic failures of the aeroplane structure, and
- Aeroplane systems be designed so that catastrophic, hazardous, or major failure conditions do not occur more than a given rate.

Some, but not all, Certification Specifications correlate the term 'critical' with some of the failure severities and associated airworthiness requirements (ref. CS-27/-29.602, CS-E 15, ref. also to the ED Decision 2007/003/C). It appears that there is no CS definition using generic terms for the term 'critical' that is common to all kinds of aircraft and related Products, parts and appliances, and the implications of such a definition are not systematically specified.

The correlation between the term 'critical' with the failure severities (and associated airworthiness requirements) will minimize the possibilities of errors, or extensive judgment, in the risk assessments required by SMS principles.

Comment No. 3:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 54/218, section B., point M.A.202
NPA 2013-01(C), page 88/184, section B.; point 145.A.60

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify point M.A.202 to read:

"(a) Any person or organisation responsible for the management of aircraft continuing airworthiness 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~~that has resulted or may result in a condition that hazards the aircraft continuing airworthiness or the serviceability of both operational and emergency equipment.

(b) Reports shall be made in a form and manner established by either the Agency or the competent authority as defined in M.1, and contain all pertinent information about the condition and evaluation results known to the person or organisation.

(c) Where the person or organisation maintaining the aircraft is contracted by an owner or an operator to carry out maintenance, the person or the organisation maintaining the aircraft shall ~~also~~ report to the competent authority for the oversight of a maintenance organisation as defined in M.1 and to the owner, the operator or the continuing airworthiness management organisation any such condition affecting the owner's or the operator's aircraft or component.

(d) Reports shall be ~~made~~submitted as soon as practicable, but in any case within 72 hours of the person or organisation identifying the condition to which the report relates, unless exceptional circumstances prevent this.

[...]"

An AMC should explicitly define what qualifies as "exceptional circumstances" in paragraph (d).

- It is proposed to modify point 145.A.60 to read:

"(a) The organisation shall report to the competent authority as defined in 145.1~~, the state of registry and the organisation responsible for the design of the aircraft or component~~ and to the owner, the operator or the continuing airworthiness management organisation any condition of the aircraft or component identified by the organisation that has resulted or may result in a~~n unsafe~~ condition that hazards ~~seriously~~ the ~~flight safety~~aircraft continuing airworthiness or the serviceability of both operational and emergency equipment.

(b) ~~The organisation~~Reports shall ~~make such reports~~be made in a form and manner established by either the Agency or the competent authority, and ~~ensure that they~~ contain all pertinent information about the condition and evaluation results known to the organisation.

~~(c) Where the organisation is contracted by a commercial operator to carry out maintenance, the organisation shall also report to the operator any such condition affecting the operator's aircraft or component.~~

(~~d~~c) ~~The organisation shall produce and submit such r~~Reports shall be submitted as soon as practicable but in any case within 72 hours of the organisation identifying the condition to which the report relates unless exceptional circumstances prevent this.

[...]"

An AMC should explicitly define what qualifies as "exceptional circumstances" in paragraph (c).

3. RATIONALE / REASON / JUSTIFICATION:

The current scheme for reporting occurrences has the merit, at first glance, to have a built-in redundant feature. This feature may later prove to be a way to congest or complicate the work of organisations responsible for (or involved in) reviewing occurrences. It may ultimately have detrimental consequences on the initial objective: i.e. to process occurrences on-time and on-quality. For example, for a given occurrence, additional work is generated by two reports (one report issued by the person or organisation responsible for the aircraft continuing airworthiness management, and the other by the maintenance organisation):

- not having the same contents, or
- not submitted simultaneously.

Experience shows another drawback: It happened that the CAMO and the contracted maintenance organisation relied on each other to report occurrences. How many occurrences have not been reported because each party believed the other one already did it?

Again, a safe and efficient process addressing occurrences is tremendously affected by the accountabilities, responsibilities and authorities of the different stakeholders.

Therefore, it is proposed to allocate the central accountability, responsibilities and authorities pertinent to reporting to the person or organisation responsible for the aircraft continuing airworthiness management and to require the maintenance organisation to provide support (and report only to its competent authority). Refer to points M.A.721(d) and 145.A.62(d).

It is to be noted that the proposal takes into account the objective set by point M.A.301, as it refers to "[...] any identified condition of an aircraft or component that has resulted or may result in a condition that hazards the aircraft continuing airworthiness or the serviceability of both operational and emergency equipment".

When the changes introduced by the Comments No. 1 and No. 2 are adpoted, this wording should be replaced by "... that has resulted or may result in a critical failure or unsafe condition" (the definition of "unsafe condition" is already given in the AMC 21.A.3B(b)).

Point M.A.202(b) (and point 145.A.60(b) as well) does not address the case when an occurrence should be reported to different competent authorities: e.g. to the authority for the oversight of the continuing airworthiness of individual aircraft and the issue of airworthiness review certificates, to the authority for the oversight of a maintenance organisation, and/or to the authority for the approval of maintenance programmes.

The proposal is to accept the Technical Occurrence Report form ref. FO.IORS.00044-004, on the EASA website http://www.easa.europa.eu/iors/, as an acceptable template to report occurrence whatever the Member State authority. This change aims at reducing the duplication of efforts to report on different forms the same occurrence. Only the distribution list would need to be adjusted to the case.

Note: it is surprising to carry out "external occurrence reporting" (title of points M.A.202/145.A.60) on the EASA website "Internal Occurrence Reporting System".

Comment No. 4:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 54/218, section B., point M.A.202
NPA 2013-01(C), page 88/184, section B.; point 145.A.60

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the sub-paragraph (e) of point M.A.202 to read:

  "(e) Where relevant, the person or organisation responsible for the management of aircraft continuing airworthiness shall produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future as soon as these actions have been identified. This report shall be produced in a form and manner established by the competent authority as defined in M.1."

  In addition, what is meant by "where relevant"?

- It is proposed to modify the sub-paragraph (e) of point 145.A.60 to read:

  "(e~~d~~) Where relevant, the organisation shall produce a follow-up report to provide the person or organisation responsible for the management of aircraft continuing airworthiness with details of possible actions ~~it intends to take~~ to prevent similar occurrences in the future, as soon as these actions have been identified. This report shall be produced in a form and manner established by the competent authority."

  In addition, what is meant by "where relevant"?

3. RATIONALE / REASON / JUSTIFICATION:

The term "Where relevant" is found ambiguous in accordance with practices recommended in the paragraph 4.1.5 of the EASA Proposed CM-21A-J-001 Issue 01.

Comment No. 5:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 54/218, section B., AMC 1 M.A.202
[NPA 2013-01(C), pages 88-89, section B., AMC1 & 2 145.A.60]

2. PROPOSED TEXT / COMMENT:

This AMC is new in accordance with the table page 22/218. Why has AMC M.A.202(b) not been revised instead?

It is proposed to modify the AMC M.A.202(b), re-identified AMC1 M.A.202, to read:

"External ~~O~~occurrence reporting

(a) The reports may be transmitted by any method, i.e. electronically, by post or by facsimile.

Each report should contain, at least, the following information, as applicable:

(1) ~~r~~Reporter/~~ or o~~Organisation~~'s~~ name and approval reference~~ if applicable,~~;

(2) ~~i~~Information necessary to identify the subject aircraft and/or component~~,~~;

(3) ~~d~~Date and time relative to any~~ life or overhaul limitation~~ relevant instruction of the Aircraft Maintenance Programme approved under M.A.302, in terms of flight hours and/or flight cycles and/or landings, and/or any other applicable parameter ~~etc.~~, as appropriate~~,~~;

(4) ~~d~~Details of the~~ occurrence,~~condition as required by M.A.202(b); and

(5) Any other relevant information found during the evaluation or rectification of the condition.

AMC 20-8 General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances provides further guidance on occurrence reporting.

(b) For reports from organisations under the oversight of the Agency, the EASA technical occurrence report form, available on the EASA website, should be used."

3. RATIONALE / REASON / JUSTIFICATION:

No reason has been found to restrict AMP-related data to be provided to those relative to the life or overhaul limitations.

Reference to AMC 20-8 is kept for consistency with AMC1 145.A.60.

Comment No. 6:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 54 & 55/218, section B., point M.A.203
NPA 2013-01(B), page 81/218, section B., point M.A.620
NPA 2013-01(B), page 121/218, section B., point M.A.720
NPA 2013-01(C), pages 136-137/184, section B., point 145.A.82

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify point M.A.203 to read:

"M.A.203 Means of compliance

(a) Alternative means of compliance to the AMC adopted by the Agency may be used to establish compliance with this Regulation and its Implementing Rules.

(b) When a person or organisation responsible for continuing airworthiness in accordance with M.A.201~~(a)~~, or independent certifying staff preparing the aircraft certificate of release to service in accordance with M.A.801(b)~~(2)~~ wishes to use an alternative means of compliance, ~~he or she shall, prior to implementing it, provide the competent authority as defined in M.1 point 1 with~~ a full description of the alternative means of compliance shall be provided to the competent authority as defined in M.1 point 1 prior to implementing it. The description shall include any revisions to manuals or procedures that may be relevant, as well as an assessment demonstrating that this Regulation is met.

(c) The person or organisation referred to in (b) may implement these alternative means of compliance subject to prior approval by the competent authority, and upon receipt of the notification as prescribed in M.B.104.

(d) The approval of alternative means of compliance referred to in (c) is only valid for the individual person or organisation and aircraft concerned. Other persons or organisations wishing to use the same alternative means of compliance will need to apply for a new approval in accordance with (b)."

- It is proposed to delete points M.A.620 and M.A.720.

- It is proposed to modify point 145.A.82 to read:

"145.A.82 Means of compliance

(a) Alternative means of compliance to the AMC adopted by the Agency may be used ~~by an organisation~~ to establish compliance with this Regulation and its Implementing Rules.

(b) When a~~n~~ maintenance organisation wishes to use an alternative means of compliance, ~~it shall, prior to implementing it, provide the competent authority with~~ a full description of the alternative means of compliance shall be provided to the competent authority as defined in 145.1 prior to implementing it. The description shall include any revisions to manuals or procedures that may be relevant, as well as an assessment demonstrating that compliance with this Regulation is met.

(c) The organisation referred to in (b) may implement these alternative means of compliance subject to prior approval by the competent authority, and upon receipt of the notification as prescribed in 145.B.12(d).

(d) The approval of alternative means of compliance referred to in (c) is only valid for the organisation and aircraft concerned. Other organisations wishing to use the same alternative means of compliance will need to apply for a new approval in accordance with (b)."

3. RATIONALE / REASON / JUSTIFICATION:

Relying only on specific persons will create problems within CAMO, particularly with sub-paragraph (d).

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

It seems that points M.A.620 and M.A.720 are a (approximate) duplication of point M.A.203.

Comment No. 7:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 55/218, section B., AMC 1 M.A.203
NPA 2013-01(B), page 121/218, section B., AMC1 M.A.720
NPA 2013-01(C), page 137/184, section B., AMC1 145.A.82

2. PROPOSED TEXT / COMMENT:

The AMC1 M.A.203/AMC1 145.A.82 should clarify the acceptable method(s) to document alternative means of compliance and associated risk assessments.

Further, it is proposed to modify the AMC 1 M.A.203/AMC1 145.A.82 to read:

"DEMONSTRATION OF COMPLIANCE

In order to demonstrate that the Implementing Rules are met, a risk assessment should be completed and documented. The result of this risk assessment should demonstrate that the alternative means of compliance reaches an equivalent level of safety to that established by the Acceptable Means of Compliance (AMC) adopted by the Agency ~~is reached~~."

It is proposed to delete the AMC1 M.A.720.

3. RATIONALE / REASON / JUSTIFICATION:

The AMC1 M.A.203/AMC1 145.A.82 do not indicate where the alternative means of compliance and the related risk assessments have to be documented as a result of the demonstration of compliance required by points M.A.203(b)/145.A.82(b): Should it be in the CAME/MOE or somewhere else? This should be clarified.

It seems that the AMC1 M.A.720 is a duplication of the AMC1 M.A.203.

Comment No. 8:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 55/218, section B., point M.A.302

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the sub-paragraph (d) of the point M.A.302 "Aircraft Maintenance Programme" to read:

"(d) The aircraft maintenance programme must establish compliance with:

(i) instructions issued by the competent authority;

(ii) instructions ~~for continuing airworthiness~~ and airworthiness limitations that have been specified as mandatory for the aircraft, the engine(s), the propeller(s), and their components, as appropriate, in:

– the approval of the type design or restricted type design,

– the approval of a change to type design or supplemental type design that is embodied,

– the approval of a major repair design that is embodied, or

– an airworthiness directive applicable to the type design or restricted type design.

They must be identified as mandatory.

~~– issued by the holders of the type-certificate, restricted type-certificate, supplemental type-certificate, major repair design approval, ETSO authorisation or any other relevant approval issued under Regulation (EC) No 1702/2003 and its Annex (Part-21), and~~

~~– included in the certification specifications referred to in point 21A.90B or 21A.431B of the Annex (Part-21) to Regulation (EC) No 1702/2003, if applicable;~~

(iii) recommended instructions for continued airworthiness issued under Regulation (EU) No 748/2012 and its Annex (Part-21), that are selected in accordance with criteria:

– proposed by the owner or the continuing airworthiness management organisation, and

– approved in accordance point M.A.302(b) or (c), as appropriate.

(iv~~ii~~) additional or alternative instructions proposed by the owner or the continuing airworthiness management organisation once approved in accordance with point M.A.302(b) or (c), except for instructions and/or accomplishment plan ~~intervals~~ of ~~safety related~~ critical maintenance tasks and procedures ~~referred in paragraph (e)~~, which may be changed~~escalated~~, subject to sufficient reviews carried out in accordance with paragraph (g) and only when subject to direct approval in accordance with point M.A.302(b)."

3. RATIONALE / REASON / JUSTIFICATION:
To prevent overburden and its adverse consequences in applying SMS principles, emphasis should be put on activities that affect critical failure conditions, and related maintenance tasks and procedures of the AMP (including those related to critical soft/hardware components). This implies an adjustment of point M.A.302.

Point M.A.201 states "The owner is responsible for the continuing airworthiness of an aircraft and shall ensure that no flight takes place unless […] the maintenance of the aircraft is performed in accordance with the approved maintenance programme as specified in M.A.302". The Aircraft Maintenance Programme (AMP) is therefore at the origin of <u>all maintenance</u> performed on the

aircraft and components thereof, and consequently a key component of the continuing airworthiness management system. It will be a major contributor feeding the Safety Management System.

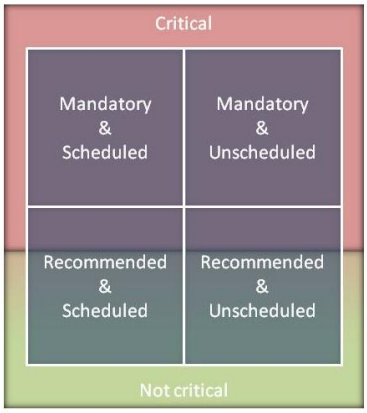
Experience shows that a recommendation from an aircraft manufacturer to lubricate the door seals every 30 days has become a mandatory requirement for continuing airworthiness (ref. to CRD 2011-19). One may ask how the lubrication of a door-seal every 30 days can be of such importance for the continuing airworthiness of the aircraft. The proposal for point M.A.302(d) will participate in ensuring that no over conservatism (and consequential overburden) happens in:

- The establishment of an AMP, and
- The risk assessments required by SMS to address some AMP-related activity hazards.

The categorization of instructions will contribute to the correct assessment of risks and to the definition of appropriate mitigation strategies. Our proposal considers the following categories:

- Mandatory/Recommended maintenance,
- Scheduled/Unscheduled maintenance (not explicit, but imposed by point M.A.201),
- Critical/Non-critical maintenance (ref. NPA 2012-04),
- On/Off-wing maintenance (not explicit, but imposed by point M.A.201).

The following illustration and explanations describe our understanding of the main categories of maintenance instructions and their interrelationships.



- **Mandatory** maintenance instructions are necessary to show and maintain compliance with the design airworthiness objectives specified in the Certification Basis, in order to prevent severe failures. They exist purely for airworthiness reasons.
- **Recommended** maintenance instructions are intended for:
  - Operational and/or economic reasons, but which accomplishment helps in showing compliance with a mandatory instruction: e.g. the scope of the recommended instruction covers the intent of the equivalent mandatory instruction, but its schedule results from an analysis that also takes into account economical considerations; or
  - Operational and/or economic reasons only.
- **Scheduled** maintenance instructions are intended to be complied with in accordance with a planned date/time/deadline (one-time or periodic/repetitive).
- **Unscheduled** maintenance instructions are intended to be complied with following failures, malfunction, or defect, special or abnormal conditions or events.
- **Critical** maintenance instructions (including use of correct components/materials), if improperly complied with (or not complied with at all, a fortiori), may generate failures, which effect(s) upon the Product could exceed the qualitative or quantitative airworthiness objectives prescribed in the Certification Basis.

- **Off-wing** maintenance instructions are performed in workshop (not performed directly on aircraft).

The way the paragraph (d) of the point M.A.302 is currently worded gives the impression that the AMP must establish compliance with all instructions issued by the Design Approval Holders (DAH). The Part-M should allow the person or organisation responsible for the continuing airworthiness of aircraft to assess DAH recommendations for inclusion in the AMP (i.e. some recommendations, i.e. not mandatory, may neither be introduced nor substituted by any alternative instruction in the AMP) in accordance with criteria agreed with the competent authority (risk-based approach for recommendations).

Note: It is to be noted that neither the critical maintenance instructions (includes the accomplishment plan) nor the critical maintenance procedures should be changed by the owner or the continuing airworthiness management organisation without the approval of the competent authority: interval escalations are only one example of changes requiring approval.

Our proposal will prevent an overburden in the AMP-related activities and consequently will ease the application of SMS principles within the Part-M & Part-145 environments (e.g. refer to our Comment No. 4).

Comment No. 9:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 55/218, section B., AMC1 M.A.302(d)

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the AMC M.A.302(d), re-identified AMC1 M.A.302(d), to read:

"Aircraft Maintenance Programme compliance

1. An owner or operator's aircraft maintenance programme should ~~normally~~ be based upon the ~~maintenance review board (MRB) report where applicable, the maintenance planning document (MPD), the relevant chapters of the maintenance manual or any other~~ maintenance data published under Regulation (EU) No 748/2012 and its Annex (Part-21) that are applicable to the Products, and components thereof, for which continuing airworthiness must be ensured. ~~containing information on scheduling. Furthermore, an owner or operator's maintenance programme should also take into account any maintenance data containing information on scheduling for components.~~

   The aircraft maintenance programme includes a maintenance schedule that should be based on maintenance data containing information on maintenance requirement scheduling, like in the Maintenance Review Board (MRB) report and the Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness (ICA).

   The aircraft maintenance programme also governs some unscheduled maintenance requirements that should be based on maintenance data containing information on that kind of directives, like in the Aircraft Maintenance Manual (AMM). It includes maintenance requirements to be performed after the Products and their components, as appropriate, have gone through special or abnormal conditions or events such as, but not limited to: hard/overweight landing, flap/slat limit speed exceeded, bird or hail strike, brake emergency application or overheat, flight in excessive turbulence, lightning strike or static discharge, engine bird strike or slush ingestion, tail runway impact, departure from runway or taxiway, flight through dust storm or dust contamination on ground, flight through volcanic ash or volcanic ash contamination on ground, mercury spillage.

   It also embraces the non revenue flight requirements following maintenance actions: Non-revenue flight following maintenance actions may be required for maintenance actions involving items that cannot be properly ground tested to verify that the aircraft's operational characteristics have not been adversely affected.

   The aircraft maintenance programme should indicate amongst the maintenance tasks and procedures it covers those that are mandatory and those that are critical.

   An independent inspection may be necessary for critical maintenance tasks and procedures. An independent inspection should consist of the verification on aircraft, engine(s), propeller(s), or component(s) thereof, as appropriate, of the work recorded by a person not issuing the maintenance release. The ICA published under Regulation (EU) No 748/2012 and its Annex (Part-21) should be followed when determining the need for an independent inspection. In the absence of independent inspection requirements published by organisations holding a design approval, the person or organisation managing the continuing airworthiness management should revert to the competent authority, to obtain the list of required independent inspections.

2. Instructions issued by the competent authority can encompass all types of instructions from a specific task for a particular aircraft to complete recommended aircraft maintenance ~~schedules~~ programmes for certain aircraft types that can be used by the owner/operator directly. These instructions may be issued by the competent authority in the following cases:

- in the absence of specific ~~recommendations~~ instructions published under Regulation (EU) No 748/2012 and its Annex (Part-21) ~~of the Type Certificate Holder~~.
- to provide alternative instructions to those described in the subparagraph 1 above, with the objective of providing flexibility to the operator.

3. Where an aircraft type has been subjected to the MRB ~~report~~ process, ~~an operator~~ the MRB report should ~~normally~~ be one of the source documents for the development of the initial maintenance schedule of the operator's aircraft maintenance programme ~~based upon the MRB report~~.

~~4. Where an aircraft is maintained in accordance with an aircraft maintenance programme based upon the MRB report process, any associated programme for the continuous surveillance of the reliability, or health monitoring of the aircraft should be considered as part of the aircraft maintenance programme.~~ [should be addressed by AMC M.A.302(f)]

4~~5~~. Aircraft maintenance programmes ~~for aircraft types subjected to the MRB report process~~ should contain identification cross reference to the ~~MRB report~~ source document tasks such that it is always possible to relate such tasks to the current approved aircraft maintenance programme. This does not prevent the approved aircraft maintenance programme from being developed in the light of service experience to beyond the ~~MRB report~~ source document recommendations but will show the relationship to such recommendations. [should be moved to the paragraph 1.1.17. of the Appendix I to AMC M.A.302 and AMC M.A.301-3~~(b)~~. Note that point M.A.301(b) does not exist]

The aircraft operating environment or in-service experience are some examples of reasons supporting the rejection from the approved aircraft maintenance programme of recommendations published under Regulation (EU) No 748/2012 and its Annex (Part-21). A selection policy for these recommendations should be established and proposed to the competent authority in order to ease the approval process of the aircraft maintenance programme.

~~6. Some approved aircraft maintenance programmes, not developed from the MRB process, utilise reliability programmes. Such reliability programmes should be considered as a part of the approved maintenance programme.~~ [should be addressed by AMC M.A.302(f)]

7~~5~~. Alternative and/or additional instructions to those defined in paragraphs M.A.302(d)(i), (ii) and (iii), proposed by the owner or the operator, may include but are not limited to the following:

- ~~Escalation of the interval for~~ Changes to certain tasks or procedures based on reliability data or other supporting information. Appendix I recommends that the aircraft maintenance programme contains the corresponding ~~escalation~~ change procedures. The ~~escalation of~~ changes to these tasks ~~is~~ are directly approved by the competent authority, except in the case of critical maintenance tasks or procedures~~ALIs~~ and their accomplishment plan (~~Airworthiness Limitations~~ such as the instructions and associated airworthiness limitations specified as mandatory in the approval of any design activity or in airworthiness directives), which are approved by the Agency.
- Accomplishment plan ~~M~~more restrictive ~~intervals~~ than those proposed by the ~~TC~~ holder of a design approval as a result of the reliability data or because of a more ~~stringent~~ severe operational environment.
- Additional tasks at the discretion of the operator."

3. RATIONALE / REASON / JUSTIFICATION:

Following Comment No. 8, AMC M.A.302(d) is adapted.

On the basis of point M.A.201(a)(4) requirements, the AMC M.A.302(d) should stress that the maintenance schedule is not the only constituent of the AMP.

Further, the Annex 6 to the Convention on International Civil Aviation, Part I, Chap. 11, para. 11.3.2 requires that mandatory instructions be flagged: "Maintenance tasks and intervals that have been specified as mandatory in approval of the type design shall be identified as such.". It is advisable to do the same for critical maintenance tasks and procedures.

Taking into account the paragraph (b) of the new point 145.A.48, the AMC is modified to implement the control of independent inspections. Refer also to the Comment No. 58 and the Comment No. 60.

The MRB report is not the unique source to develop the maintenance schedule (initial issue and revisions), which should be based on different source documents like the MRB report and the ALS.

To support the point M.A.302(d)(iii), details should be given on the need for a policy to evaluate whether recommendations issued under Part-21 should be included or not in the AMP.

Changes to critical maintenance tasks or procedures may adversely impact Product airworthiness. All changes (e.g. to task/procedure contents or to accomplishment plans) should be taken into account. The Agency should approve any change to any airworthiness-related maintenance task/procedure, unless approved variation procedures in design approval holder's documentation allow the aircraft operator to vary such tasks/procedures (ref. ICAO Airworthiness Manual, Doc. 9760, Vol. II, Part A, Chap. 3, paragraph 3.5.).

Comment No. 10:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.401
NPA 2013-01(B), page 56/218, section B., GM1 M.A.401(d)
Point 145.A.45
NPA 2013-01(C), page 77/184, section B., AMC1 145.A.45(d)
AMC 145.A.45(g)

2. PROPOSED TEXT / COMMENT:

The reference of GM1 M.A.401(d) seems to imply that there is a paragraph (d) in point M.A.401.

With regard to the point M.A.401 (refer also to point 145.A.45(b)3.), the paragraph (b) introduces confusion: the Part 21 imposes on Design Approval Holders the publication of "Instructions for Continued Airworthiness" (ICA), but not "instructions for continuing airworthiness".

Point M.A.401 and point 145.A.45 refer to terms (or a combination thereof) associated or not to the term 'maintenance', such as 'requirement', 'information', 'standard', 'practice', 'procedure', 'instruction', or 'task'. Some common definitions should be established for such terms in order to prevent confusion, ambiguities and/or extensive interpretations.

- It is proposed to modify point M.A.401 to read:

"(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.

(b) For the purposes of this ~~Part~~Regulation, 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~~continued airworthiness~~,~~ issued under Regulation (EU) No 748/2012 and its Annex (Part-21)~~by type certificate holders, supplementary type certificate holders and any other organisation that publishes such data in accordance with Part 21~~.

4. any applicable data issued in accordance with 145.A.45(d).

(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 maintaining an aircraft or managing the aircraft continuing airworthiness 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. Work cards and worksheets may be computer generated and held on an electronic database subject to both adequate safeguards against unauthorised alteration and a back-up electronic database which shall be updated within 24 hours of any entry made to the main electronic database. Complex maintenance tasks shall be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task.

Where a maintenance organisation provides a service to an aircraft operator who requires their work card or worksheet system to be used then such work card or worksheet system may be used. In this case, the maintenance organisation shall establish a procedure to ensure correct completion of the aircraft operators' work cards or worksheets.

(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.

(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. For the purposes of this paragraph, '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."

– It is proposed to modify point 145.A.45 to read:

"[…]

(b) For the purposes of this ~~Part~~Regulation, applicable maintenance data shall be any of the following:

1. Any applicable requirement, procedure, operational directive or information issued by the authority responsible for the oversight of the aircraft or component;
2. Any applicable airworthiness directive issued by the authority responsible for the oversight of the aircraft or component;
3. Instructions for ~~continuing~~continued airworthiness, issued under Regulation (EU) No 748/2012 and its Annex (Part-21)~~by type certificate holders, supplementary type certificate holders, any other organisation required to publish such data by Part-21~~ and, in the case of aircraft or components from third countries, the airworthiness data mandated by the authority responsible for the oversight of the aircraft or component;
4. Any applicable standard, such as but not limited to, maintenance standard practices recognised by the Agency as a good standard for maintenance;
5. Any applicable data issued in accordance with paragraph (d).

(c) The organisation 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 maintenance personnel is recorded and notified to the author of the maintenance data.

(d) The organisation may only modify maintenance instructions in accordance with a procedure specified in the maintenance organisation's exposition that requires the agreement of the person or organisation managing the aircraft continuing airworthiness. With respect to those changes, the organisation shall demonstrate that they result in equivalent or improved maintenance standards and shall inform the appropriate~~type certificate~~ holder(s) of a design approval of such changes. For the purposes of this paragraph, ~~M~~'maintenance instructions' ~~for the purposes of this paragraph~~ means instructions on how to carry out the 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 ~~they exclude~~ the engineering design of repairs and modifications.

[…]"

- It is proposed to modify AMC1 145.A.45(d) to read:

"The referenced procedure should address the need for a practical demonstration by the mechanic to the compliance monitoring manager of the proposed modified maintenance instruction. Depending on the nature of the modification the safety manager should perform a safety risk assessment. When satisfied, the compliance monitoring manager should ~~approve~~endorse the modified maintenance instruction and ensure that the type/restricted type certificate or supplementary type certificate holder is informed of the modified maintenance instruction. The modified maintenance instruction should not be applied without the agreement of the person or organisation managing the aircraft continuing airworthiness. The procedure should include a paper/electronic traceability of the complete process from start to finish and ensure that the relevant maintenance instruction clearly identifies the modification. Modified maintenance instructions should only be used in the following circumstances;

(a) Where the type/restricted type certificate/supplementary type certificate holders original intent can be carried out in a more practical or more efficient manner.

(b) Where the type/restricted type certificate/supplementary type certificate holders original intent cannot be achieved by following the maintenance instructions. For example, where a component cannot be replaced following the original maintenance instructions.

(c) For the use of alternative tools/equipment.

Important Note: ~~Critical Design Configuration Control Limitations (CDCCL) are airworthiness limitations.~~ Any modification of the maintenance instructions ~~linked to CDCCL~~ specified in the following approvals constitutes an aircraft modification that should be approved in accordance with Part-21:

– the approval of the type design or restricted type design,

– the approval of a change to type design or supplemental type design that is embodied,

– the approval of a repair design that is embodied, or

– an airworthiness directive applicable to the type design or restricted type design."

- It is proposed to re-identify AMC 145.A.45(g) into AMC1 145.A.45(g) and to modify it to read:

"1. To keep data up-to-date, a procedure should be set up to monitor the amendment status of all data and maintain a check that all amendments are being received by being a subscriber to any document amendment scheme. Special attention should be given to ~~TC related data~~ the instructions and associated airworthiness limitations specified as mandatory in the approval of any design activity or in airworthiness directives ~~such as certification life-limited parts, airworthiness limitations and Airworthiness Limitation Items (ALI), etc~~."

3. RATIONALE / REASON / JUSTIFICATION:

Currently, there is no paragraph (d) in point M.A.401.

The term "Instructions for Continued Airworthiness" is used in Part 21.A.31(a)3. and 21.A.61 (Subpart B for Type Certificate/Restricted Type Certificate), 21.A.107 (Subpart D for changes to Type Certificates and Restricted Type Certificates), 21.A.120 (Subpart E for Supplemental Type Certificates), and 21.A.449 (Subpart M for repairs).

Not only maintenance organisations, but the person or organisation managing the aircraft continuing airworthiness also should use applicable current maintenance data: e.g. for the development of the aircraft maintenance programme. In addition, the person or organisation managing

the aircraft continuing airworthiness may also (and should sometimes) establish a work card or worksheet system (ref. 145.A.45(e)), particularly when aircraft operations require the development of specific work cards that may require specific knowledge and experience (e.g. operation in an environment with sand storms, etc…) not gained by the maintenance organisation.

Although some difficulties will probably appear, some definitions common to the different Implementing Rules and Certification Specifications are necessary: for example, the term 'maintenance instructions' in point 145.A.45(d) has a different meaning in CS-25, Appendix H25, paragraph H25.3(b). Point 145.A.45(d) defines (for the purposes of this paragraph) maintenance instructions as "[…] instructions on how to carry out the particular maintenance task: they exclude the engineering design of repairs and modifications". Maintenance instructions under CS-25, Appendix H25, paragraph H25.3(b), include amongst others, scheduling information that provides the recommended periods at which recommended work should be performed.

The FAA KSI Team defined in its final report, dated 12-Mar-2007, the following terms (refer to http://www.skybrary.aero/bookshelf/books/1436.pdf):

Task: Short description (e.g. a descriptive title) of what is to be accomplished by a procedure. Example: "Operational check of static inverter."

Procedure: Instructions for how a task is to be accomplished. A procedure consists of one or more sequential steps. Procedures are shown in maintenance, operation, or training manuals.

This definition of the term 'procedure' will probably not fit point 145.A.71.

With regard to the modification of maintenance instructions, how a maintenance organisation can modify them (ref. point 145.A.45(d)) without the agreement of the person or organisation managing the aircraft continuing airworthiness? The Part-M confirms in point M.A.301 that the aircraft continuing airworthiness and the serviceability of both operational and emergency equipment shall be ensured (amongst others) by the accomplishment of **all** maintenance, in accordance with the M.A.302 approved aircraft maintenance programme. The AMC M.A.302 indicates that the term "maintenance programme" is intended to include maintenance tasks, the associated procedures and standard maintenance practices.

With regard to the important note of AMC1 145.A.45(d), we failed at finding a reason to restrict it to CDCCL (also applicable to AMC 145.A.45(b)1.).

An harmonisation of AMC for points M.A.401 and 145.A.45 is recommended.

Comment No. 11:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 56 & 57/218, section B., point M.A.602 and its AMC1
NPA 2013-01(B), page 83/218, section B., point M.A.702 and its AMC
NPA 2013-01(C), page 47/184, section B., point 145.A.15
AMC 145.A.15

2. PROPOSED TEXT / COMMENT:

Can the Agency clarify if the wording "taking into account the applicable requirements of this Regulation" in the point M.A.702(a) is associated to "form and manner established by the competent authority"? In such a case, the requirement should be transferred into Part-M Section B (i.e. requirement for competent authorities). In any case, this has been found confusing particularly when the first sentence of AMC1 M.A.702 is considered.

The paragraph (b) of points M.A.602/M.A.702/145.A.15 refers to "an initial certificate". It is believed that this term may introduce confusion. In addition, it is proposed to modify this paragraph to read:

"M.A.602 Application for an organisation certificate

[...]

(b) [...]. Such documentation shall include, as prescribed in M.A.604, a procedure describing how changes not requiring prior approval will be managed and notified to the competent authority.

[...]

M.A.702 Application for an organisation certificate

[...]

(b) [...]. Such documentation shall include, as prescribed in M.A.704, a procedure describing how changes not requiring prior approval will be managed and notified to the competent authority."

"145.A.15 Application for an organisation certificate

[...]

(b) [...]. Such documentation shall include, as prescribed in 145.A.70, a procedure describing how changes not requiring prior approval will be managed and notified to the competent authority."

Can the Agency clarify what "this information" refers to in the paragraph (b) of the AMC2 M.A.702?

3. RATIONALE / REASON / JUSTIFICATION:

The AMC1 M.A.602/M.A.702 allow organisations to apply for several certificates. In this context, does the paragraph (b) of points M.A.602/M.A.702/145.A.15 refer to:

- The application for the first certificate?
  or
- The first application for each certificate?

Should the AMC 145.A.15 be aligned on AMC1 M.A.602/M.A.702?

Comment No. 12:

1. **PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:**
   NPA 2013-01(B), pages 59 & 60/218, section B., point M.A.603

2. **PROPOSED TEXT / COMMENT:**
   It is proposed to modify the paragraph (a) of point M.A.603 to read:

   "(a) Appendix V to Annex I (Part-M) provides the template of certificate for this approval.".

3. **RATIONALE / REASON / JUSTIFICATION:**
   Editorial.

Comment No. 13:

1. **PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:**
   NPA 2013-01(B), page 61/218, section B., AMC1 M.A.603(c)

2. **PROPOSED TEXT / COMMENT:**
   It is proposed to modify the paragraph 1. of AMC1 M.A.603(c) to read:

   "1. This AMC contains principles and conditions to be taken into account for the preparation of an acceptable procedure about the fabrication of parts.".

3. **RATIONALE / REASON / JUSTIFICATION:**
   For clarity.

Comment No. 14:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 61/218, section B., point M.A.604
NPA 2013-01(B), page 84/218, section B., point M.A.704
NPA 2013-01(C), page 126/184, section B., point 145.A.70

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise the points M.A.604, M.A.704 and 145.A.70:

"M.A.604 Maintenance organisation exposition~~manual~~

(a) The ~~maintenance~~ organisation shall provide the competent authority with a maintenance organisation exposition~~manual~~, and where applicable any referenced associated manuals, containing all of the following information:

1. a statement signed by the accountable manager to confirm that the organisation will continuously work in accordance with ~~Part-M~~ this Regulation and the ~~manual~~ exposition at all times;
2. the organisation's scope of work relevant to the extent of approval;
3. the organisation's management system and safety policy as specified in M.A.616;
4. the title(s) and name(s) of person(s) referred to in M.A.606(b);
5. the duties and responsibilities of the persons nominated under M.A.606(b), including matters on which they may deal directly with the competent authority on behalf of the organisation;

~~5~~6. an organisation chart showing associated chains of responsibility between the person(s) referred to in M.A.606(b);

~~6~~7. a list of certifying staff with their scope of approval~~, and~~;

8. a general description of manpower resources;

~~7~~9. a list of locations where maintenance is carried out, together with a general description of the facilities~~,~~;

10. the notification procedure of M.A.617 for organisation changes;

~~9~~11. the maintenance organisation ~~manual~~ exposition amendment procedure(s)~~.~~; and

~~8~~12. procedures specifying how the maintenance organisation manages safety and ensures compliance with this Regulation~~, and;~~.

(b) The maintenance organisation exposition shall be amended as necessary to remain an up-to-date description of the organisation. The maintenance organisation ~~manual~~ exposition and its amendments shall be approved by the competent authority.

(c) Notwithstanding paragraph (b), minor amendments to the ~~manual~~ exposition may be managed in accordance with the procedure established as provided in M.A.602(b) (hereinafter referred to as amendments not requiring prior approval).

[…]

M.A.704 Continuing airworthiness management exposition

(a) The organisation shall provide the competent authority with a continuing airworthiness management exposition, and where applicable any referenced associated manuals, containing all of the following information:

1. a statement signed by the accountable manager to confirm that the organisation will continuously work in accordance with this Regulation~~Part~~ and the exposition at all times. When the accountable manager is not the chief executive officer of the organisation then such chief executive officer shall countersign the statement;

~~3~~2. the organisation's scope of work relevant to the extent of approval;

~~2~~3. the organisation's safety policy as defined in M.A.712(a)(1);

4. the title(s) and name(s) of person(s) referred to in points M.A.706(a), M.A.706(~~c~~b), M.A.706(~~d~~c) and M.A.706(~~i~~d);

5. the duties, accountabilities, responsibilities and authorities of the persons nominated under M.A.706(b), including matters on which they may deal directly with the competent authority on behalf of the organisation;

~~5~~6.an organisation chart showing associated chains of accountability and responsibility between all the person(s) referred to in points M.A.706(a), M.A.706(~~c~~b), M.A.706(~~d~~c) M.A.706(~~i~~d) and related to M.A.712(a)(1);

~~6~~7. a list of the airworthiness staff referred to in point M.A.707, specifying, where applicable, the staff authorised to issue permits to fly in accordance with point M.A.711(c);

8. a general description of manpower resources;

~~7~~9. a general description and location of the facilities;

10. the notification procedure of M.A.713 for organisation changes;

~~9~~11. the continuing airworthiness management exposition amendment procedure(s); ~~and~~

~~8~~12. procedures specifying how the continuing airworthiness management organisation manages safety and ensures compliance with this Regulation ~~and manages safety~~;

1~~0~~3. the documentation of management system key processes as required by M.A.712(a)(5) and procedures established to comply with M.A.708(e);

1~~0~~4. the list of approved aircraft maintenance programmes, or, for aircraft not involved in commercial air transport, the list of "generic" and "baseline" maintenance programmes;

(b) The continuing airworthiness management exposition shall be amended as necessary to remain an up-to-date description of the organisation. The continuing airworthiness management exposition and any subsequent amendment shall be approved by the competent authority.

(c) Notwithstanding paragraph (b), minor amendments to the exposition may not require prior approval and may be managed in accordance with the procedure referred to in M.A.702(b) approved in accordance with M.B.702(h)."

"145.A.70 Maintenance organisation exposition

(a) ~~'Maintenance organisation exposition' means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organisation intends to comply with this Regulation.~~ The organisation shall provide the competent authority with a maintenance organisation exposition, and where applicable any referenced associated manuals, containing all of the following information:

1. A statement signed by the accountable manager to confirm~~ing~~ that the ~~maintenance~~ organisation ~~exposition and any referenced associated manuals define the organisation's compliance~~ will continuously work in accordance with this Regulation and the exposition ~~will be complied with~~ at all times. When the accountable manager is not the chief execu-

tive officer of the organisation then such chief executive officer shall countersign the statement;

~~9~~2. a specification of the organisation's scope of work relevant to the extent of approval;

~~2~~3. the organisation's safety policy as specified by 145.A.65;

~~3~~4. the title(s) and name(s) of the persons nominated under 145.A.30(b);

~~4~~5. the duties ~~and~~, accountabilities, responsibilities and authorities of the persons nominated under 145.A.30(b), including matters on which they may deal directly with the competent authority on behalf of the organisation;

~~5~~6. an organisation chart showing associated chains of accountability and responsibility between the persons referred to in ~~nominated under~~ 145.A.30 and related to 145.A.65(a)(1);

~~6~~7. a list of certifying staff and support staff;

~~7~~8. a general description of manpower resources;

~~8~~9. a general description of the facilities located at each address specified in the organisation's certificate;

10. the notification procedure of 145.A.85 for organisation changes;

11. the maintenance organisation exposition amendment procedure(s);

12. procedures specifying how the maintenance organisation manages safety and ensures compliance with this Regulation;

1~~2~~3. the documentation of management system key processes as required by 145.A.65(a)(5) and maintenance procedures established in accordance with 145.A.71;

1~~3~~4. a list of commercial operators, where applicable, to which the organisation provides an aircraft maintenance service;

1~~4~~5. a list of subcontracted organisations, where applicable, as specified in 145.A.75(b);

1~~5~~6. a list of all approved locations, including line stations, where applicable, as specified in 145.A.75(d);

1~~6~~7. a list of contracted organisations, where applicable.

(b) The exposition shall be amended as necessary to remain an up-to-date description of the organisation. The exposition and any subsequent amendment shall be approved by the competent authority.

(c) Notwithstanding paragraph (b) minor amendments to the exposition may not require prior approval and may be managed in accordance with the procedure referred to in 145.A.85(c) approved in accordance with 145.B.32."

3. RATIONALE / REASON / JUSTIFICATION:

This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

The strengths of points M.A.604, M.A.704 and 145.A.70 have been homogeneously applied to these points. For example, the wording "[...] and where applicable any referenced associated manuals" included in point 145.A.70 has been added to the introductive statement of points M.A.604 and 704 to take into account the possibility to the document the management system key processes in a separate organisation's Safety Management Manual.

Comment No. 15:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Appendix IV to AMC1 M.A.604
NPA 2013-01(B), page 85/218, section B., AMC1 M.A.704
NPA 2013-01(B), page 177/218, section B., Appendix V to AMC1 M.A.704
NPA 2013-01(C), page 130/184, section B., GM1 145.A.70(a)

2. PROPOSED TEXT / COMMENT:

It is proposed to introduce harmonised text in the Appendix IV to AMC1 M.A.604, AMC1 M.A.704 and GM1 145.A.70(a):

"Appendix IV to AMC1 M.A.604 Maintenance Organisation ~~Manual~~Exposition

1. Purpose

'Maintenance organisation exposition' (MOE) means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organisation intends to comply with this Regulation. The purpose of the ~~maintenance organisation manual~~ MOE is to set forth the procedures, means and methods of the ~~reference for all the work carried out by the approved maintenance~~ organisation approved under Subpart F of Part-M. Compliance with its contents will assure ~~It should contain all the means established by the organisation to ensure~~ compliance with Part-M according to the extent of approval and the privileges granted to the organisation. This is a prerequisite to obtaining and retaining a maintenance organisation approval certificate.

The ~~maintenance organisation manual~~MOE should define precisely the work that the ~~approved maintenance~~ organisation is authorised to carry out and the subcontracted work. It should detail the resources used by the organisation, its structure and its procedures.

[…]

AMC1 M.A.704 Continuing airworthiness management exposition (see Appendices to Part M – Appendix V to AMC1 M.A.704)

(a) 'Continuing airworthiness management organisation' (CAME) means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organisation intends to comply with this Regulation. The purpose of the ~~continuing airworthiness management exposition~~ CAME is to set forth the procedures, means and methods of the ~~M.A. Subpart G~~ organisation approved under M.A. Subpart G.

(b) Compliance with its contents will assure compliance with Part-M requirements according to the extent of approval and the privileges granted to the organisation. This is a prerequisite to obtaining and retaining a Continuing Airworthiness Management Organisation (CAMO) approval certificate.

[...]

Part 4 Airworthiness review and permit to fly procedures (if applicable)

[…]

(f) Unless otherwise agreed by the competent authority, the ~~person responsible for the management system~~ compliance monitoring manager should be responsible for monitoring and amending the exposition, including associated procedures manuals, and the submission of proposed amendments to the ~~approving~~ competent authority."

"Appendix V to AMC1 M.A.704

Continuing airworthiness management exposition

TABLE OF CONTENT

[...]

2.4 Monitoring that all maintenance is carried out by an appropriate maintenance organisation, taking into account pilot-owner maintenance, as appropriate.

2.5 Monitoring that all contracted maintenance is carried out in accordance with the contract or work order, including subcontractors used by the maintenance contractor.

[...]

3.2 Audit of aircraft documentation, including possible verifications on aircraft.

PART 0 [...]

0.1 Corporate commitment by the accountable manager

(The accountable manager's exposition statement should embrace the intent of the AMC1 M.A.704~~following paragraph~~ and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent.)

~~This exposition defines the organisation and procedures upon which the M.A. Subpart G approval of Joe Bloggs under Part-M is based.~~

~~These procedures are approved by the undersigned and must be complied with, as applicable; in order to ensure that all the continuing airworthiness activities including maintenance for aircraft managed by Joe Bloggs is carried out on time to an approved standard.~~

~~It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the Agency or the competent authority from time to time where these new or amended regulations are in conflict with these procedures.~~

~~The competent authority will approve this organisation when satisfied that the procedures are in compliance with Part-M. The approval remains valid subject to compliance with Part-M and the organisation's procedures. It is understood that the competent authority reserves the right to limit, suspend, or revoke the approval of the organisation, as applicable, if the competent authority has evidence that the procedures are not followed and compliance with Part-M is not demonstrated.~~

~~In the case of commercial air transport, suspension or revocation of the approval of the Part M Subpart G continuing airworthiness management approval will invalidate the AOC.~~

[...]

0.3 Management personnel

a) Accountable manager

[...]

d) Duties, ~~and~~ responsibilities, accountabilities, and authorities

(This paragraph should further develop the duties, ~~and~~ responsibilities, accountabilities, and authorities of:

- the personnel listed in paragraphs c): "Continuing airworthiness coordination",

- the safety manager, as regards safety management related processes and tasks,

- the compliance monitoring manager, as regards the compliance monitoring of the ~~maintenance~~ continuing airworthiness management system [which includes the contracted approved maintenance organisation(s)]

e) Manpower resources and training policy

(1) Manpower resources

(This paragraph should give broad figures to show that the number of staff dedicated to the performance of the approved continuing airworthiness activities~~y~~, including subcontracted tasks, is adequate. It is not necessary to give the detailed number of employees of the whole company but only the number of those involved in continuing airworthiness. This could be presented as follows:)

[...]

0.5 Notification procedure to the competent authority regarding changes to the organisation's activities / approval / location / personnel

(This paragraph should explain in which occasion the company should inform the competent authority prior to incorporating proposed changes; ~~for instance,~~ refer to M.A.713 and its AMC & GM)~~:~~

~~The accountable manager (or any delegated person such as the engineering director or the quality compliance monitoring) will notify to the competent authority any change concerning:~~

~~(1) the company's name and location(s)~~

~~(2) the group of person as specified in paragraph 0.3.c)~~

~~(3) operations, procedures and technical arrangements, as far as they may affect the approval.~~

~~Joe Bloggs will not incorporate such change until the change have been assessed and approved by the competent authority.)~~

PART 1 [...]

1.1 [...]

(4) Acceptance by the ~~flight crew~~ pilot in command (For commercial air transport)

(This paragraph should explain how the ~~crew~~ pilot in command notifies ~~their~~his acceptance or non-acceptance of the MEL deferment in the technical log)

[...]

1.8 [...]

c) Deferred defect policy

(Defects such as cracks and structural defect are not addressed in the MEL and CDL. However, it may be necessary in certain cases to defer the rectification of a defect. This paragraph should establish the procedure to be followed in order to be sure that the deferment of any defect will not lead to any safety concern. This will include appropriate liaison with the appropriate~~type certificate~~ holder of a design approval.)

PART 2 [...]

2.1 [...]

[Incorrect subparagraph bullet numbers]

[...]

2.9 [...]

[Incorrect reference to AMC1 M.A.712(a)? Note: points 2.7 to 2.14 are new, even if they are not highlighted in grey]

Part 3 [...]

3.1 [...]

– is signed by the owner/lessee of the aircraft in the case of operations other than ~~non-~~ commercial air transport.

In the case of operations other than commercial air transport, this activity should be carried in agreement with the owner.)

3.2 [Refer to Comment No. 74. In addition, an aircraft is a product in accordance with the definition given in the Article 3 of Regulation (EC) 216/2008. The paragraph is confusing.]

PART 4 ~~AIRWORTHINESS REVIEW~~ PRIVILEGES PROCEDURES

PART 4A AIRWORTHINESS REVIEW PROCEDURES"

"GM1 145.A.70(a) Maintenance organisation exposition

(a) 'Maintenance organisation exposition' (MOE) means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organisation intends to comply with this Regulation. The purpose of the ~~maintenance organisation exposition (~~MOE~~)~~ is to set forth the procedures, means and methods of the organisation approved under Part-145.

(b) Compliance with its contents will assure compliance with the Part-145 requirements ~~of Part-145,~~ according to the extent of approval and the privileges granted to the organisation. ~~which~~ This is a prerequisite to obtaining and retaining a maintenance organisation approval certificate.

[…]

(g) Unless otherwise agreed by the competent authority, ~~The organisation should define responsibilities~~ the compliance monitoring manager should be responsible for monitoring the ~~amendment of~~ and amending the MOE, including associated procedures manuals, and the submission of the proposed amendments to the competent authority."

The term 'publication' has been replaced by 'distribution' in the paragraph (g) of the AMC1 M.A.704. However, the CAME "should be made available to the competent authority [...]".This creates confusion.

The template of the accountable manager's statement given in the paragraph 2. Part A of the Appendix IV to AMC1 M.A.604, the paragraph (i) of the AMC1 M.A.704, and the paragraph (i) of the GM1 145.A.70(a) has not been amended following the change of principle (i.e. introduction of the SMS) and is found too general. It should be developed on the basis of the ICAO SMM example (refer to figure 8-1 page 8-5) that is more detailed. The contents of paragraph 0.1 of the Appendix V to AMC1 M.A.704 should be deleted (as highlighted here above) and this paragraph should refer to the AMC1 M.A.704.

Can the Agency explain why the paragraph (j) of the AMC1 M.A.704 put specific emphasis on CDCCL? The following is proposed:

"(k) The exposition should contain information as applicable, on how the continuing airworthiness management organisation complies with ~~CDCCL~~ instructions and airworthiness limitations that have been specified as mandatory for the aircraft, the engine(s), the propeller(s), and their components, as appropriate, in:

– the approval of the type design or restricted type design,

- the approval of a change to type design or supplemental type design that is embodied,
- the approval of a major repair design that is embodied, or
- an airworthiness directive applicable to the type design or restricted type design."

3. RATIONALE / REASON / JUSTIFICATION:

A homogeneous description of the purpose of the MOE and CAME is added for clarity. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

The contents of the Appendix V to AMC1 M.A.704 should be reviewed with extreme care to make sure that they are not a duplication of the Part-M requirements: reference to AMC or points of Part-M can be added instead. The term 'audit' is used in the title and the contents of the paragraph 3.2. In this context, it may not fit the definition given in the Comment No. 74.

Great emphasis is put on accountabilities, responsibilities, authorities, and duties in the frame of the SMS. The pilot in command is accountable for accepting the aircraft. Reference to flight crew introduces vagueness. Similarly, referring to the type certificate holder is not precise enough as liaison with one or more supplemental type certificate holders may be necessary, for example. The term 'holder of a design approval' encompasses all design organisations.

It is advisable to use the same wording ('operations other than commercial air transport' or 'non-commercial air transport') in two consecutive sentences to prevent confusion.

A clarification on the responsibility for the CAME/MOE creation/amendment (taking into account contents of AMC2 M.A.706(a)2. and AMC2 145.A.30(a)2.) is added to define the basic acceptable solution. Alternatives should be accepted by the competent authority before implementation to prevent inadequate proposals.

With regard to the distribution/publication issue, it is to be noted that distribution implies a distribution list, i.e. the information is pushed to the subscribers, while information made available implies that the information is pulled by the end user.

The emphasis put on CDCCL may give the impression to readers that the other mandatory instructions and airworthiness limitations are less important. The proposal is to restore the balance.

Comment No. 16:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 62/218, section B., AMC1 M.A.604

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the paragraph 2. of AMC1 M.A.604 to read:

"2. The maintenance organisation exposition as specified in Part-145 provides an outline of the format of an acceptable maintenance organisation manual for ~~larger~~ organisations with more than 10 maintenance staff.

3. Unless otherwise agreed by the competent authority, the compliance monitoring function should be responsible for monitoring and amending the maintenance organisation exposition, including associated procedures manuals, and the submission of the proposed amendments to the competent authority."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with paragraph 1. of AMC1 M.A.604 and with Comment No. 15.

Comment No. 17:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 62/218, section B., point M.A.606
NPA 2013-01(B), page 87/218, section B., point M.A.706
NPA 2013-01(C), pages 48 & 49/184, section B., point 145.A.30

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible points M.A.606, M.A.706 and 145.A.30. Therefore:

- It is proposed to modify the point M.A.606 to read:

"(a) The organisation shall appoint an accountable manager, who has corporate authority for ensuring that all maintenance required by the customer can be financed and carried out in accordance with ~~to the standard required by~~ this Regulation.

(b) The organisation shall nominate a~~A~~ person or group of persons ~~shall be nominated with the responsibility of~~, whose responsibilities include ensuring that the organisation is always in compliance with this Subpart. Such person(s) shall be ultimately responsible to the accountable manager.

[…]"

- It is proposed to modify the point M.A.706 to read:

"(a) The organisation shall appoint an accountable manager, who has corporate authority for ensuring that all continuing airworthiness management activities can be financed and carried out in accordance with this Regulation~~Part~~.

The accountable manager shall:

1. ensure that all necessary resources are available to manage continuing airworthiness in accordance with M.A.708 to support the organisation approval;
2. establish and promote the safety policy specified in M.A.712(a)(2);
3. nominate a person with responsibility for compliance monitoring, including the associated feedback system as required by in accordance with M.A.712(a)(6). The nominated person shall have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on compliance matters; and
4. demonstrate a basic understanding of this Regulation.

For commercial air transport, the accountable manager shall in addition:

1. ~~(b) For commercial air transport the paragraph (a) accountable manager shall~~ be the person who also has corporate authority for ensuring that all the operations of the operator can be financed and carried out to the standard required for the issue of an air operator's certificate~~.~~;
2. nominate a post holder who shall not be employed by a Part-145 approved organisation under contract to the operator, unless specifically agreed by the competent authority.

(~~c~~b) The organisation shall nominate a~~A~~ person or group of persons ~~shall be nominated with the responsibility of~~, whose responsibilities include ensuring that the organisation is always in compliance with this Subpart. Such person(s) shall be ultimately responsible to the accountable manager.

1. The person or persons nominated shall represent the continuing airworthiness management structure of the organisation and be responsible for all continuing airworthiness functions specified in this Regulation.

2. The person or persons nominated shall be identified and their credentials submitted in a form and manner established by the competent authority.

   The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft continuing airworthiness management and demonstrate a working knowledge of this Regulation.

(~~d~~c) ~~For commercial air transport, the accountable manager shall designate a~~ The nominated post holder~~. This person~~ shall be responsible for the management and supervision of continuing airworthiness activities, and of the other persons pursuant to paragraph (~~c~~b).

(~~e~~d) For organisations extending airworthiness review certificates in accordance with points M.A.711(a)4 and M.A.901(f), the organisation shall nominate persons authorised to do so, subject to approval by the competent authority.~~The nominated post holder referred to in paragraph (d) shall not be employed by a Part-145 approved organisation under contract to the operator, unless specifically agreed by the competent authority.~~

~~(f) The organisation shall have sufficient appropriately qualified staff for the expected work.~~

(e) The organisation shall have a continuing airworthiness man-hour plan showing that the organisation has sufficient staff to plan, perform, supervise, inspect and monitor the organisation activities in accordance with the approval. In addition, the organisation shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.

~~(g) All paragraph (c) and (d) persons shall be able to show relevant knowledge, background and appropriate experience related to aircraft continuing airworthiness.~~

(~~h~~f) The qualification of all personnel involved in continuing airworthiness management shall be recorded.

~~(i) For organisations extending airworthiness review certificates in accordance with points M.A.711(a)4 and M.A.901(f), the organisation shall nominate persons authorised to do so, subject to approval by the competent authority.~~

(~~j~~g) For all complex motor-powered aircraft and for aircraft used for commercial air transport, the organisation shall establish and control the competence of personnel involved in ~~the~~ any continuing airworthiness management, airworthiness review and/or ~~audits~~ compliance monitoring in accordance with a procedure and to a standard agreed by the competent authority. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of safety management principles and, human factors and human performance issues appropriate to that person's function in the organisation".

– It is proposed to modify the point 145.A.30 to read:

"(a) The organisation shall appoint an accountable manager who has corporate authority for ensuring that all maintenance required by the customer can be financed and carried out ~~to the standard required by~~ in accordance with this Regulation.

The accountable manager shall:

(1) ensure that all necessary resources are available to accomplish maintenance in accordance with 145.A.65(c) to support the organisation approval;

(2) establish and promote the safety policy specified in 145.A.65(a)(2)~~; and~~

(3) nominate a person with responsibility for compliance monitoring, including the associated feedback system as required by 145.A.65(a)(6). The nominated person shall have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on compliance matters; and

(4) demonstrate a basic understanding of this Regulation~~Part~~.

(b) The organisation shall nominate a person or group of persons, whose responsibilities include ensuring that the organisation is always in compliance~~s~~ with this Regulation~~Part~~. Such person(s) shall be ultimately ~~be~~ responsible to the accountable manager.

(1) The person or persons nominated shall represent the maintenance management structure of the organisation and be responsible for all maintenance functions specified in this Regulation~~Part~~.

(2) The person or persons nominated shall be identified and their credentials submitted in a form and manner established by the competent authority.

The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft maintenance~~or~~ and demonstrate a working knowledge of this Regulation.

~~(c) The accountable manager under paragraph (a) shall appoint a person with responsibility for compliance monitoring, including the associated feedback system as required by 145.A.65(a)(6). The appointed person shall have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on compliance matters.~~

(~~d~~c) The organisation shall have a maintenance man-hour plan showing that the organisation has sufficient staff to plan, perform, supervise, inspect and monitor the organisation in accordance with the approval. In addition the organisation shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.

(~~e~~d) The organisation shall establish and control the competence of personnel involved in any maintenance, management and/or ~~audits~~ compliance monitoring in accordance with a procedure and to a standard agreed by the competent authority. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of safety management principles and, human factors and human performance issues appropriate to that person's function in the organisation.

~~"Human factors" means principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration of human performance. "Human performance" means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.~~

[…]"

3. RATIONALE / REASON / JUSTIFICATION:

Alignment, when possible, with point 145.A.30 structure, e.g. for the clear segregation of accountabilities and responsibilities of the accountable manager.

The term "nominate" is used to mean "to propose (someone) for appointment to a position, an office". The term "appoint" is used to mean "to name or assign to a position, an office, or the like; designate".

With regard to the establishment and control of the competence of personnel, the term "audits" has been replaced by "compliance monitoring" to cover personnel involved in such activities other than audits.

The definitions of "human factors" and "human performance" are already included into re-identified GM3 145.A.30(~~e~~d).

Comment No. 18:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.606(a)
AMC M.A.706(a)
NPA 2013-01(C), page 51/184, section B., AMC1 145.A.30(a)

2. PROPOSED TEXT / COMMENT:

It is proposed to (re-identify when necessary and) harmonise as much as possible AMC M.A.606(a), AMC M.A.706(a) and AMC1 145.A.30(a). Therefore:

- It is proposed to amend the AMC1 M.A.606(a) to read:

  "~~With regard to the a~~Accountable manager~~, it~~ is normally intended to mean the chief executive officer of the maintenance organisation approved under M.A. Subpart F, who by virtue of position has overall (including in particular financial) responsibility for running the organisation. The accountable manager may be the accountable manager for more than one organisation and is not required to be necessarily knowledgeable on technical matters. When the accountable manager is not the chief executive officer, the competent authority will need to be assured that such an accountable manager has direct access to chief executive officer and has a sufficiency of 'maintenance funding' allocation."

- It is proposed to amend the AMC1 M.A.706(a) to read:

  "Accountable manager is normally intended to mean the chief executive officer of the continuing airworthiness management organisation approved under M.A. Subpart G, who by virtue of position has overall (including in particular financial) responsibility for running the organisation. The accountable manager may be the accountable manager for more than one organisation and is not required to be knowledgeable on technical matters as the continuing airworthiness management exposition defines the continuing airworthiness standards. When the accountable manager is not the chief executive officer, the competent authority will need to be assured that such an accountable manager has direct access to the chief executive officer and has a sufficiency of 'continuing airworthiness funding' allocation."

- It is proposed to amend the AMC1 145.A.30(a) to read:

  "~~With regard to the a~~Accountable manager~~, it~~ is normally intended to mean the chief executive officer of the approved maintenance organisation, who by virtue of position has overall (including in particular financial) responsibility for running the organisation. The accountable manager may be the accountable manager for more than one organisation and is not required to be necessarily knowledgeable on technical matters as the maintenance organisation exposition defines the maintenance standards. When the accountable manager is not the chief executive officer the competent authority will need to be assured that such an accountable manager has direct access to the chief executive officer and has a sufficiency of 'maintenance funding' allocation."

3. RATIONALE / REASON / JUSTIFICATION:

This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

To prevent possible confusion, errors, or extensive judgment.

Comment No. 19:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.706(a)
NPA 2013-01(C), page 52/184, section B., AMC1 145.A.30(c)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible AMC M.A.706(a) with AMC1 145.A.30(c). Therefore:

- It is proposed to create a new AMC2 M.A.706(a) to read:

"1. Compliance monitoring includes requesting correction and corrective action as necessary by the accountable manager and the nominated persons referred to in M.A.706(b).

2. The role of the compliance monitoring manager is to ensure that the activities of the organisation are monitored independently from the showing of compliance with the applicable regulatory requirements, and any additional requirements as established by the organisation, and that these activities are being carried out properly under the supervision of the nominated persons referred to in M.A.706(b).

3. The compliance monitoring manager should be responsible for ensuring that the compliance monitoring programme is properly implemented, maintained, and continually reviewed and improved.

The compliance monitoring manager should:

(a) have direct access to the accountable manager;

(b) not be one of the nominated persons referred to in M.A.706(b);

(c) be able to demonstrate relevant knowledge, background and appropriate experience related to the activities of the organisation, including knowledge and experience in compliance monitoring; and

(d) have access to all parts of the organisation, and as necessary, any subcontracted organisation.

4. In the case of a non-complex organisation, this task may be exercised by the accountable manager provided he/she has demonstrated having the related competence as defined in point 3(c).

5. The safety manager is responsible for the development, administration, and maintenance of effective safety management processes as part of the management system in accordance with M.A.712.

6. In the case the same person acts as compliance monitoring manager and as safety manager, the accountable manager, with regard to his/her direct accountability for safety, should ensure that sufficient resources are allocated to both functions, taking into account the size of the organisation, and the nature and complexity of its activities."

- It is proposed to re-identify AMC1 145.A.30(c) into AMC2 145.A.30(a) to read:

"1. Compliance monitoring includes requesting correction and corrective action as necessary by the accountable manager and the nominated persons referred to in 145.A.30(b).

2. The role of the compliance monitoring manager is to ensure that the activities of the organisation are monitored independently from the showing of~~for~~ compliance with the applicable regulatory requirements, and any additional requirements as established by the organisation, and that these activities are being carried out properly under the supervision of the nominated persons referred to in 145.A.30(b).

3. The compliance monitoring manager should be responsible for ensuring that the compliance monitoring programme is properly implemented, maintained, and continually reviewed and improved.

   The compliance monitoring manager should:

   (b) have direct access to the accountable manager;

   (b) not be one of the nominated persons referred to in 145.A.30(b);

   (c) be able to demonstrate relevant knowledge, background and appropriate experience related to the activities of the organisation, including knowledge and experience in compliance monitoring; and

   (d) have access to all parts of the organisation, and as necessary, any subcontracted organisation.

4. In the case of a non-complex organisation, this task may be exercised by the accountable manager provided he/she has demonstrated having the related competence as defined in point 3(c).

5. The safety manager is responsible for the development, administration, and maintenance of effective safety management processes as part of the management system in accordance with 145.A.65.

6. In the case the same person acts as compliance monitoring manager and as safety manager, the accountable manager, with regard to his/her direct accountability for safety, should ensure that sufficient resources are allocated to both functions, taking into account the size of the organisation, and the nature and complexity of its activities."

3. RATIONALE / REASON / JUSTIFICATION:

To prevent possible confusion, errors, or extensive judgment within CAMO and consistency between Part-M and Part-145.

Comment No. 20:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.706(a)

2. PROPOSED TEXT / COMMENT:
It is proposed to move the contents of the AMC M.A.706(e) into a new AMC2 M.A.706(a) to read:

"AMC 2 M.A.706(a) Personnel requirements

POST HOLDER

1. The competent authority of the operator should only accept that the nominated post holder be employed by the organisation approved under Part-145 when it is manifest that he/she is the only available competent person in a position to exercise this function, within a practical working distance from the operator's offices.
2. This paragraph only applies to contracted maintenance and therefore does not affect situations where the organisation approved under Part-145 and the operator are the same organisation."

3. RATIONALE / REASON / JUSTIFICATION:
For clarity.

Comment No. 21:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 63/218, section B., AMC1 M.A.606(b)
AMC1 145.A.30(b)

2. PROPOSED TEXT / COMMENT:
It is proposed to harmonise as much as possible AMC1 M.A.606(b) and AMC1 145.A.30(b) and to create a new AMC1 M.A.706(b). Therefore:

- It is proposed to modify the paragraphs 3. and 4. of AMC1 M.A.606(b) to read:

  "1. Dependent upon the size of the organisation, the functions may be ~~sub~~divided under individual managers or combined in nearly any number of ways.

  2. The maintenance organisation should have, dependent upon the extent of approval, an aircraft maintenance manager, a workshop manager all of whom should report to the accountable manager. In small maintenance organisations any manager may also be the accountable manager, and may also be the aircraft maintenance manager or the workshop manager.

  3. The aircraft maintenance manager is responsible for ensuring that all maintenance required to be carried out, plus any defect rectification carried out during aircraft maintenance, is carried out to the ~~design and standards~~ requirements specified in this Regulation. […].

  4. The workshop manager is responsible for ensuring that all work on aircraft components is carried out to the ~~standards~~ requirements specified in this Regulation […].".

- It is proposed to create the AMC1 M.A.706(b) to read:

  "1. Dependent upon the size of the organisation, the continuing airworthiness management functions may be divided under individual managers or combined in nearly any number of ways.

  2. The organisation should have, dependent upon the extent of approval, an aircraft manager, an engineering manager, an aircraft maintenance program manager, an operational manager, a compliance monitoring manager and a safety manager, all of whom should report to the accountable manager except in a small continuing airworthiness management organisation where any manager may also be the accountable manager, as determined by the competent authority, he/she may also hold all the other aforementioned manager positions.

  3. The aircraft manager is responsible for ensuring that compliance with M.A.301 is demonstrated, in particular:

     - the maintenance is carried out in accordance with the aircraft maintenance programme and managed as per regulation;
     - the aircraft configuration is managed; and
     - the continuing airworthiness records system is managed in accordance with the M.A.305, and M.A.306 when necessary.

     The aircraft manager is also responsible for any corrective action resulting from compliance monitoring of M.A.712(a)(6).

  4. The engineering manager is responsible for ensuring that:

     - the up-to-date maintenance data specified in M.A.401 are available;
     - the data for modifications and repairs specified in M.A.304 are available;

– the airworthiness directives necessary for the demonstration of compliance with M.A.303 are available; and

– the resulting work cards (task cards, job cards, engineering orders, etc.) issued as specified in 145.A.45(e), where appropriate.

The engineering manager role may be subdivided under an engineering manager, an airworthiness directives manager, a type design change manager or other positions depending on the organisation complexity. The engineering manager is also responsible for any corrective action resulting from compliance monitoring of M.A.712(a)(6).

5. The aircraft maintenance programme manager is responsible for ensuring that the issuance and approval of the aircraft maintenance programmes are done in accordance with M.A.302. He/she assesses the aircraft maintenance programme approvers, who are independent from both the aircraft maintenance programme creation process and the aircraft maintenance programme manager. The aircraft maintenance programme manager is also responsible for any corrective action resulting from compliance monitoring of M.A.712(a)(6).

6. The operations manager is responsible for ensuring the aircraft continuing airworthiness management around the clock. He/she is responsible for ensuring the daily management of the operator's tech log system, as specified in M.A.306, the line maintenance and the deferred defects management. The operational manager is also responsible for any corrective action resulting from compliance monitoring of M.A.712(a)(6).

7. Notwithstanding the example sub-paragraph 2 - 6 titles, the organisation may adopt any title for foregoing managerial positions but should identify to the competent authority the titles and persons chosen to carry out these functions.

8. When an organisation chooses to nominate any manager to all or any combination of the identified continuing airworthiness management organisation functions because of the size of the undertaking, it is necessary that these managers report ultimately through either the fleet manager or the engineering manager or aircraft maintenance programme manager or the operational manager or the compliance monitoring manager, as appropriate to the accountable manager.

NOTE: The airworthiness review staff may report to any of the managers specified depending upon which type of control the approved continuing airworthiness management organisation uses (for example: independent inspection/regulation advisor/certification advisor, etc.) so long as the independence of the compliance monitoring function can be guaranteed."

– It is proposed to modify the AMC1 145.A.30(b) to read:

"1. Dependent upon the size of the organisation, the ~~Part-145~~maintenance organisation functions may be ~~sub~~divided under individual managers or combined in nearly any number of ways.

2. The organisation should have, dependent upon the extent of approval, a base maintenance manager, a line maintenance manager, a workshop manager, a compliance monitoring manager, and a safety manager, all of whom should report to the accountable manager except in small Part-145 organisation where any ~~one~~ manager may also be the accountable manager, as determined by the competent authority, he/she may also be the line maintenance manager or the workshop manager.

3. The base maintenance manager is responsible for ensuring that all maintenance required to be carried out in the hangar, plus any defect rectification carried out during base maintenance, is carried out to the ~~design and safety standards~~ requirements specified in 145.A.65(c). The base maintenance manager is also responsible for any corrective action resulting from the compliance monitoring of 145.A.65(a)(6).

4. The line maintenance manager is responsible for ensuring that all maintenance required to be carried out on the line including line defect rectification is carried out to the ~~standards~~ requirements specified in 145.A.71 and also responsible for any corrective action resulting from the compliance monitoring of 145.A.65(a)(6).
5. The workshop manager is responsible for ensuring that all work on aircraft components is carried out to the ~~standards~~ requirements specified in 145.A.71 and also responsible for any corrective action resulting from the compliance monitoring of 145.A.65(a)(6).
6. Notwithstanding the example sub-paragraphs 2 - 5 titles, the organisation may adopt any title for the foregoing managerial positions but should identify to the competent authority the titles and persons chosen to carry out these functions.
7. Where an organisation chooses to ~~appoint~~nominate managers for all or any combination of the identified ~~Part-145~~maintenance functions because of the size of the undertaking, it is necessary that these managers report ultimately through either the base maintenance manager or line maintenance manager or workshop manager or compliance monitoring manager, as appropriate, to the accountable manager.

   NOTE: Certifying staff may report to any of the managers specified depending upon which type of control the approved maintenance organisation uses (for example licensed engineers/independent inspection/dual function supervisors, etc.) so long as the independence of the compliance monitoring function can be guaranteed.

3. RATIONALE / REASON / JUSTIFICATION:

Design is rather addressed by Part 21 than by Part M. Regulations specify rather requirements than standards (e.g. industrial standards/norms like ATA breakdown).

To prevent possible confusion, errors, or extensive judgment.

Comment No. 22:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 63/218, section B., AMC1 M.A.606(c)
NPA 2013-01(B), pages 88-89/218, section B., AMC1 M.A.706(g)
AMC 145.A.30

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the AMC1 M.A.606(c) with the AMC of M.A.706(b) and 145.A.30(b). Therefore:

– It is proposed to modify the paragraph 1. of AMC1 M.A.606(c) to read:

"~~1. All nominated persons should possess the appropriate experience and qualifications which are listed in paragraphs 2.1 to 2.5 below.~~

~~2.~~ All nominated persons should have the appropriate experience and qualifications as follows:

~~2.~~1. practical experience and expertise in the application of aviation safety standards and safe maintenance practices;

~~2.~~2. comprehensive knowledge of:

(a) ~~Part-M~~This Regulation and any associated requirements and procedures;

(b) the maintenance organisation manual;

~~2.~~3. five years aviation experience of which at least three years should be practical maintenance experience;

~~2.~~4. knowledge of the relevant type(s) of aircraft or components maintained. This knowledge may be demonstrated by documented evidence or by an assessment performed by the competent authority. This assessment should be recorded.

Training courses should be as a minimum at a level equivalent to Part-66 Appendix III Level 1 General Familiarisation, and could be imparted by a Part-147 organisation, by the manufacturer, or by any other organisation accepted by the competent authority.

~~2.~~5. knowledge of maintenance standards."

– It is proposed to re-identify AMC1 M.A.706(g) into AMC2 M.A.706(g) and to modify it to read:

KNOWLEDGE, BACKGROUND AND EXPERIENCE

(a) Nominated person or group of persons should have:

(1) practical experience and expertise in the application of aviation safety standards and safe operating practices;

(2) a comprehensive knowledge of:

(i) relevant parts of operational requirements and procedures;

(ii) the AOC holder's Operations Specifications when applicable;

(iii) the need for, and content of, the relevant parts of the AOC holder's Operations Manual when applicable;

(3) knowledge of safety management systems and ~~quality~~ compliance monitoring systems;

(4) five years relevant work experience of which at least two years should be from the aeronautical industry in an appropriate position;

(5) a relevant engineering degree or an aircraft maintenance technician qualification with additional education acceptable to the approving competent authority. 'relevant engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components;

The above recommendation may be replaced by 5 years of experience additional to those already recommended by paragraph (a)(4) above. These 5 years should cover an appropriate combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management (engineering) and/or surveillance of such tasks;

(6) thorough knowledge with the organisation's continuing airworthiness management exposition;

(7) knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course. These courses should be at least at a level equivalent to Part-66 Appendix III Level 1 General Familiarisation and could be imparted by a Part-147 organisation, by the manufacturer, or by any other organisation accepted by the competent authority.

"Relevant sample" means that these courses should cover typical systems embodied in those aircraft being within the scope of approval.

For all balloons and any other aircraft of 2730 Kg MTOM ~~and below~~or less, the formalised training courses may be replaced by demonstration of knowledge. This knowledge may be demonstrated by documented evidence or by an assessment performed by the competent authority. This assessment should be recorded.

(8) knowledge of maintenance methods.

(9) knowledge of applicable regulations.

– It is proposed to create a new AMC identified under the AMC1 145.A.30(d) (reference left available, refer to Comment No. 24) to read:

KNOWLEDGE, BACKGROUND AND EXPERIENCE

(a) Nominated person or group of persons should have:

(1) practical experience and expertise in the application of aviation safety standards and safe operating practices;

(2) a comprehensive knowledge of:

(i) relevant parts of operational requirements and procedures;

(ii) the need for, and content of, the relevant parts of the AOC holder's Operations Manual when applicable;

(3) knowledge of safety management systems and compliance monitoring systems;

(4) five years relevant work experience of which at least two years should be from the aeronautical industry in an appropriate position;

(5) a relevant engineering degree or an aircraft maintenance technician qualification with additional education acceptable to the approving competent authority. 'relevant engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components;

The above recommendation may be replaced by 5 years of experience additional to those already recommended by paragraph (a)(4) above. These 5 years should

cover an appropriate combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management (engineering) and/or surveillance of such tasks;

(6) thorough knowledge with the maintenance organisation exposition;

(7) knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course. These courses should be at least at a level equivalent to Part-66 Appendix III Level 1 General Familiarisation and could be imparted by a Part-147 organisation, by the manufacturer, or by any other organisation accepted by the competent authority.

"Relevant sample" means that these courses should cover typical systems embodied in those aircraft being within the scope of approval.

For all balloons and any other aircraft of 2730 Kg MTOM or less, the formalised training courses may be replaced by demonstration of knowledge. This knowledge may be demonstrated by documented evidence or by an assessment performed by the competent authority. This assessment should be recorded.

(8) knowledge of maintenance methods.

(9) knowledge of applicable regulations."

3. RATIONALE / REASON / JUSTIFICATION:

The proposal simplifies the AMC1 M.A.606(c) by eliminating an unnecessary reference to another paragraph.

This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

To prevent possible confusion, errors, or extensive judgment.

Comment No. 23:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.706(i)

2. PROPOSED TEXT / COMMENT:
It is proposed to re-identify AMC M.A.706(i) into a new AMC1 M.A.706(d) to read:

"AMC1 M.A.706(~~i~~d) Personnel requirements

AIRWORTHINESS REVIEW STAFF

The approval by the competent authority of the exposition, containing in M.A.704(a)3 the list of M.A.706(~~i~~d) personnel, constitutes their formal acceptance by the competent authority and also their formal authorisation by the organisation.

Airworthiness review staff are automatically recognised as persons with authority to extend an airworthiness review certificate in accordance with M.A.711(a)4 and M.A.901(f)."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with modified M.A.706.

Comment No. 24:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 63/218, section B., AMC1 M.A.606(d)
NPA 2013-01(B), page 88/218, section B., AMC1 M.A.706(f)
NPA 2013-01(C), page 53/184, section B., AMC1 145.A.30(d)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the AMC1 M.A.606(d), AMC1 of M.A.706(f) and AMC1 145.A.30(d). Therefore:

- It is proposed to modify the paragraph 1. of AMC1 M.A.606(d) to read:

  "1. All ~~contracted~~ staff, including contracted staff, are subjected to compliance with the organisation's procedures specified in the maintenance organisation manual relevant to their duties.

  2. To have sufficient staff means that the approved maintenance organisation employs or contracts staff directly, even on a volunteer basis, for the anticipated maintenance workload.

  3. Temporarily subcontracted means the person is employed by another organisation and contracted by that organisation to the approved maintenance organisation."

- It is proposed to move the last two paragraphs of AMC1 M.A.706(f) into a new AMC1 M.A.706(e) to read:

  "SUFFICIENT NUMBER OF STAFF

  1. The actual number of persons to be employed and their necessary qualifications is dependent upon the tasks to be performed and thus dependent on the size and complexity of the organisation (general aviation aircraft, corporate aircraft, number of aircraft and the aircraft types, complexity of the aircraft and their age and for commercial air transport, route network, line or charter, ETOPS) and the amount and complexity of maintenance contracting. Consequently, the number of persons needed, and their qualifications may differ greatly from one organisation to another and a simple formula covering the whole range of possibilities is not feasible.

  2. To enable the approving competent authority to accept the number of persons and their qualifications, an organisation should make an analysis of the tasks to be performed, the way in which it intends to divide and/or combine these tasks, indicate how it intends to assign responsibilities and establish the number of man/hours and the qualifications needed to perform the tasks. With significant changes in the aspects relevant to the number and qualifications of persons needed, this analysis should be updated.

  3. Has sufficient staff means that the organisation employs or contracts competent staff, as detailed in the man-hour plan, of which at least half the staff that perform continuing airworthiness management tasks on any shift should be employed to ensure organisational stability. For the purpose of meeting a specific operational necessity, a temporary increase of the proportion of contracted staff may be permitted to the organisation by the competent authority, in accordance with an approved procedure which should describe the extent, specific duties, and responsibilities for ensuring adequate organisation stability. For the purpose of this subparagraph, employed means the person is directly employed as an individual by the continuing airworthiness management organisation approved under this Regulation, whereas contracted means the person is employed by another organisation and contracted by that organisation to the continuing airworthiness management organisation approved under this Regulation.

4. The planned absence (for training, vacations, etc.) should be considered when developing the man-hour plan.

5. The continuing airworthiness management man-hour plan should relate to the anticipated continuing airworthiness management work load except that when the organisation cannot predict such workload, due to the short term nature of its contracts, then such plan should be based upon the minimum continuing airworthiness management workload needed for commercial viability. Continuing airworthiness management work load includes all necessary work such as, but not limited to, aircraft maintenance programme creation/amendment, aircraft continuing airworthiness status analyses/checks, planning, production of work orders in paper or electronic form, completion and retention of aircraft continuing airworthiness records.

6. The compliance monitoring function man-hours should be sufficient to meet the requirement of M.A.712(a)(6) which means taking into account AMC2 and AMC3 M.A.712(a)(6). Where compliance monitoring staff perform other functions, the time allocated to such functions needs to be taken into account in determining compliance monitoring staff numbers.

9. The continuing airworthiness management man-hour plan should be reviewed at least every 3 months and updated when necessary.

10. Significant deviation from the continuing airworthiness management man-hour plan should be reported to the compliance monitoring manager, the safety manager and the accountable manager for review. Significant deviation means more than a 25% shortfall in available man-hours during a calendar month for any one of the functions specified in 145.A.30(d)."

– It is proposed to re-identify AMC1 145.A.30(d) into AMC1 145.A.30(c) to read:

"1. The actual number of persons to be employed and their necessary qualifications is dependent upon the tasks to be performed and thus dependent on the size and complexity of the organisation (corporate aircraft, number of aircraft and the aircraft types, complexity of the aircraft and their age) and the amount and complexity of maintenance contracting. Consequently, the number of persons needed, and their qualifications may differ greatly from one organisation to another and a simple formula covering the whole range of possibilities is not feasible.

2. To enable the approving competent authority to accept the number of persons and their qualifications, an organisation should make an analysis of the tasks to be performed, the way in which it intends to divide and/or combine these tasks, indicate how it intends to assign responsibilities and establish the number of man/hours and the qualifications needed to perform the tasks. With significant changes in the aspects relevant to the number and qualifications of persons needed, this analysis should be updated.

~~1~~3. Has sufficient staff means that the organisation employs or contracts competent staff, as detailed in the man-hour plan, of which at least half the staff that perform maintenance in each workshop, hangar or flight line on any shift should be employed to ensure organisational stability. For the purpose of meeting a specific operational necessity, a temporary increase of the proportion of contracted staff may be permitted to the organisation by the competent authority, in accordance with an approved procedure which should describe the extent, specific duties, and responsibilities for ensuring adequate organisation stability. For the purpose of this subparagraph, employed means the person is directly employed as an individual by the maintenance organisation approved under ~~Part-145~~this Regulation, whereas contracted means the person is employed by another organisation and contracted by that organisation to the maintenance organisation approved under ~~Part-145~~this Regulation.

~~2~~4. The maintenance man-hour plan should take into account all maintenance activities carried out outside the scope of the ~~Part-145~~ approval.

The planned absence (for training, vacations, etc.) should be considered when developing the man-hour plan.

~~3~~5. The maintenance man-hour plan should relate to the anticipated maintenance work load except that when the organisation cannot predict such workload, due to the short term nature of its contracts, then such plan should be based upon the minimum maintenance workload needed for commercial viability. Maintenance work load includes all necessary work such as, but not limited to, planning, maintenance record checks, production of worksheets/cards in paper or electronic form, accomplishment of maintenance, inspection and the completion of maintenance records.

~~4~~6. In the case of aircraft base maintenance, the maintenance man-hour plan should relate to the aircraft hangar visit plan as specified in AMC 145.A.25(a).

~~5~~7. In the case of aircraft component maintenance, the maintenance man-hour plan should relate to the aircraft component planned maintenance as specified in 145.A.25(a)(2).

~~6~~8. The compliance monitoring function man-hours should be sufficient to meet the requirement of 145.A.65(a)(6) which means taking into account AMC2 and AMC3 145.A.65(a)(6). Where compliance monitoring staff perform other functions, the time allocated to such functions needs to be taken into account in determining compliance monitoring staff numbers.

~~7~~9. The maintenance man-hour plan should be reviewed at least every 3 months and updated when necessary.

~~8~~10. Significant deviation from the maintenance man-hour plan should be reported to the compliance monitoring manager, the safety manager and the accountable manager for review. Significant deviation means more than a 25% shortfall in available man-hours during a calendar month for any one of the functions specified in 145.A.30(d)."

3. RATIONALE / REASON / JUSTIFICATION:

This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

To prevent possible confusion, errors, or extensive judgment.

Comment No. 25:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 63/218, section B., AMC1 M.A.606(e)
NPA 2013-01(B), page 89/218, section B., AMC1 M.A.706(j)
NPA 2013-01(C), page 53/184, section B., AMC1 145.A.30(e)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the text of AMC1 M.A.606(e), AMC1 M.A.706(j) and AMC1 145.A.30(e). Therefore:

- It is proposed to modify the AMC1 M.A.606(e) to read:

  "1. Personnel involved in maintenance should be assessed for competence by 'on the job' evaluation and/or by examination relevant to their particular job role within the organisation before unsupervised work is permitted.

  2. Adequate initial and recurrent training should be provided and recorded to ensure continued competence."

- It is proposed to re-identify AMC1 M.A.706(j) into AMC1 M.A.706(g) (reference left available, refer to Comment No. 22) and to modify paragraph (a) to read:

  "~~(a)~~ Adequate initial and recurrent training should be provided and recorded to ensure continued competence.

  Competence should be defined as a measurable skill or standard of performance, knowledge and understanding, taking into consideration attitude and behaviour.

  The referenced procedure should require amongst others that technical support personnel such as, planners, engineers, and technical record staff, supervisors, post-holder, airworthiness review staff, whether employed or contracted, are assessed for competence before unsupervised work commences and competence is controlled on a continuous basis.

  Competence should be assessed by evaluation of:

  - on-the-job performance and/or testing of knowledge by appropriately qualified personnel, and
  - records for basic, organisational, and/or product type and differences training, and
  - experience records.

  Validation of the above could include a confirmation check with the organisation(s) that issued such document(s). For that purpose, experience/training may be recorded in a document such as a log book or based on the suggested template in GM [to be developed on the basis of the re-identified GM6 to 145.A.30(d)].

  As a result of this assessment, an individual's qualification should determine:

  - which level of on-going supervision would be required or whether unsupervised work could be permitted.
  - whether there is a need for additional training.

  A record of such qualification and competence assessment should be kept.

  This should include copies of all documents that attest to qualification, such as the authorisation held, as applicable.

  For a proper competence assessment of its personnel, the organisation should consider that:

1. In accordance with the job function, adequate initial and recurrent training should be provided and recorded to ensure continued competence so that it is maintained throughout the duration of employment/contract.
2. All staff should be able to demonstrate knowledge of and compliance with the continuing airworthiness management organisation procedures, as applicable to their duties.
3. All staff should be able to demonstrate an understanding of safety management principles, human factors and human performance issues in relation with their job function and be trained as per AMC5 M.A.706(g).
4. To assist in the assessment of competence and to establish the training needs analysis, job descriptions are recommended for each job function in the organisation. Job descriptions should contain sufficient criteria to enable the required competence assessment.
5. Criteria should allow the assessment to establish that, among others (titles might be different in each organisation):
   (a) Managers are able to properly manage processes, resources and priorities described in their assigned duties and responsibilities in accordance with the safety policy and objectives and in compliance with the applicable requirements and organisation procedures.
   (b) Aircraft maintenance programme engineers are able to interpret source data (norms, data issued by the holder of a design approval or by the competent authority, etc.) and use them to develop the aircraft maintenance programme.
   (c) Engineering staff are able to interpret source data (norms, data issued by the holder of a design approval or by the competent authority, etc.) and use them to make work cards.
   (d) Operations staff are able to interpret aircraft continuing airworthiness tasks to ensure the maintenance is done in an effective and timely manner.
   (e) Planners are able to organise maintenance activities in an effective and timely manner.
   (f) Compliance monitoring staff are able to monitor compliance with this Regulation identifying non-compliance in an effective and timely manner so that the organisation may remain in compliance with this Regulation.
   (g) Staff having designated safety management responsibilities are familiar with the relevant processes in terms of hazard identification, risk management, and monitoring of safety performance.
   (h) All staff are familiar with the safety policy and the procedures and tools that can be used for internal safety reporting. Competence assessment should be based upon the procedure specified in GM5 to M.A.706(g).

– It is proposed to rename AMC1 145.A.30(e) into AMC1 145.A.30(d) modify it to read:

"Adequate initial and recurrent training should be provided and recorded to ensure continued competence.

Competence should be defined as a measurable skill or standard of performance, knowledge and understanding, taking into consideration attitude and behaviour.

The referenced procedure requires amongst others that planners, mechanics, specialised services staff, supervisors, certifying staff and support staff, whether employed or contracted,

are assessed for competence before unsupervised work commences and competence is controlled on a continuous basis.

Competence should be assessed by evaluation of:

- on-the-job performance and/or testing of knowledge by appropriately qualified personnel, and
- records for basic, organisational, and/or product type and differences training, and
- experience records.

Validation of the above could include a confirmation check with the organisation(s) that issued such document(s). For that purpose, experience/training may be recorded in a document such as a log book or based on the suggested template in GM~~3~~6 to 145.A.30(~~e~~d).

As a result of this assessment, an individual's qualification should determine:

- which level of on-going supervision would be required or whether unsupervised work could be permitted.
- whether there is a need for additional training.

A record of such qualification and competence assessment should be kept.

This should include copies of all documents that attest to qualification, such as the licence and/or any authorisation held, as applicable.

For a proper competence assessment of its personnel, the organisation should consider that:

1. In accordance with the job function, adequate initial and recurrent training should be provided and recorded to ensure continued competence so that it is maintained throughout the duration of employment/contract.
2. All staff should be able to demonstrate knowledge of and compliance with the maintenance organisation procedures, as applicable to their duties.
3. All staff should be able to demonstrate an understanding of safety management principles, human factors and human performance issues in relation with their job function and be trained as per AMC~~2~~5 145.A.30(d~~e~~).
4. To assist in the assessment of competence and to establish the training needs analysis, job descriptions are recommended for each job function in the organisation. Job descriptions should contain sufficient criteria to enable the required competence assessment.
5. Criteria should allow the assessment to establish that, among others (titles might be different in each organisation):
   (a) Managers are able to properly manage processes, resources and priorities described in their assigned duties and responsibilities in accordance with the safety policy and objectives and in compliance with the applicable requirements and organisation procedures.
   (b) Planners are able to interpret maintenance requirements into maintenance tasks, and have an understanding that they have no authority to deviate from the maintenance data.
   (c) Supervisors are able to ensure that all required maintenance tasks are carried out and, where not completed or where it is evident that a particular maintenance task cannot be carried out to the maintenance data, then such problems will be reported to the compliance monitoring manager for appropriate action. In addition, for those supervisors who also carry out maintenance tasks, that they understand such tasks should not be undertaken when incompatible with their management responsibilities.

(d) Mechanics are able to carry out maintenance tasks to any standard specified in the maintenance data and will notify supervisors of defects or mistakes requiring rectification to re-establish required maintenance standards.

(e) Specialised services staff are able to carry out specialised maintenance tasks to the standard specified in the maintenance data. They should be able to communicate with supervisors and report accurately when necessary.

(f) Support staff are able to determine that relevant tasks or inspections have been carried out to the required standard.

(g) Certifying staff are able to determine when the aircraft or aircraft component is ready for to release to service and when it should not be released to service.

(h) Compliance monitoring staff are able to monitor compliance with ~~Part-145~~this Regulation identifying non-compliance in an effective and timely manner so that the organisation may remain in compliance with ~~Part-145~~this Regulation.

(i) Staff having designated safety management responsibilities are familiar with the relevant processes in terms of hazard identification, risk management, and monitoring of safety performance.

(j) All staff are familiar with the safety policy and the procedures and tools that can be used for internal safety reporting. Competence assessment should be based upon the procedure specified in GM5 to 145.A.30(~~e~~d)."

3. RATIONALE / REASON / JUSTIFICATION:

This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

To prevent possible confusion, errors, or extensive judgment.

Comment No. 26:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.706(f)
AMC3 & 4 145.A.30(e)

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify the AMC M.A.706(f) into AMC3 M.A.706(g) and to modify it to read:

  "TRAINING – FTS/EWIS

  Additional training in fuel tank safety as well as associated inspection standards and maintenance procedures should be required of continuing airworthiness management organisations' technical personnel, especially the staff involved with the management of CDCCL, Service Bulletin assessment, work planning and maintenance programme management. EASA guidance is provided for training to Continuing Airworthiness Management Organisations' continuing airworthiness personnel in Appendix XII to AMC to M.A.706(~~f~~e) and M.B.102(c).

  Competence assessment should include the verification for the need for additional EWIS training when relevant.

  EASA guidance is provided for EWIS training programme to continuing airworthiness management organisation personnel in AMC 20-22."

- It is proposed to re-identify AMC3 145.A.30(e) into AMC3 145.A.30(d) and to merge it with AMC 4 145.A.30(e) to read:

  "TRAINING – FTS/EWIS

  Additional training in fuel tank safety as well as associated inspection standards and maintenance procedures should be required for maintenance organisations' technical personnel, especially technical personnel involved in the compliance of CDCCL tasks.

  EASA guidance is provided for training to maintenance organisation personnel in Appendix IV to AMC to 145.A.30(~~e~~d) and 145.B.10(3).

  Competence assessment should include the verification for the need ~~of~~for additional EWIS training when relevant.

  EASA guidance is provided for EWIS training programme to maintenance organisation personnel in AMC 20-22."

3. RATIONALE / REASON / JUSTIFICATION:

Fuel Tank Safety requirements are deeply connected with EWIS.

Comment No. 27:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(C), page 56/184, section B., AMC5 145.A.30(e)

2. PROPOSED TEXT / COMMENT:

- It is proposed to create a new AMC4 M.A.706(g) to read:

  "TRAINING — PERSONNEL INVOLVED IN COMPLIANCE MONITORING

  1. Correct and thorough training is essential to optimise compliance in every organisation. In order to achieve significant outcomes of such training, the organisation should ensure that all personnel understand the objectives as laid down in the organisation's management system documentation.
  2. Those responsible for managing the compliance monitoring function should receive training on this task. Such training should cover the requirements of compliance monitoring, manuals and procedures related to the task, audit techniques, reporting, and recording.
  3. Time should be provided to train all personnel involved in compliance monitoring management and for briefing the remainder of the personnel. The allocation of time and resources should be governed by the volume and complexity of the activities concerned."

- It is proposed to re-identify AMC5 145.A.30(e) into AMC4 145.A.30(d) and to modify it to read:

  "TRAINING — PERSONNEL INVOLVED IN COMPLIANCE MONITORING

  1. Correct and thorough training is essential to optimise compliance in every organisation. In order to achieve significant outcomes of such training, the organisation should ensure that all personnel understand the objectives as laid down in the organisation's management system documentation.
  2. Those responsible for managing the compliance monitoring function should receive training on this task. Such training should cover the requirements of compliance monitoring, manuals and procedures related to the task, audit techniques, reporting, and recording.
  3. Time should be provided to train all personnel involved in compliance monitoring management and for briefing the remainder of the personnel. The allocation of time and resources should be governed by the volume and complexity of the activities concerned."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency between Part M and Part 145.

Comment No. 28:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 89/218, section B., AMC1 M.A.706(j)
NPA 2013-01(C), page 55/184, section B., AMC2 145.A.30(e)

2. PROPOSED TEXT / COMMENT:

It is proposed to create a new AMC5 M.A.706(g) on the basis of AMC1 M.A.706(j) and harmonised with AMC4 145.A.30(d). Therefore:

- It is proposed to relocate the paragraphs (b) to (f) of AMC1 M.A.706(j) into AMC5 M.A.706(g), and to modify it to read:

"HUMAN FACTORS

(a) ~~In~~With respect to the understanding of the application of human factors and human performance issues, continuing airworthiness, management, and compliance monitoring personnel should be assessed for the need to receive ~~initial~~ human factors initial training, but, in any case, all ~~continuing airworthiness, management, and compliance monitoring~~ personnel directly involved in the delivery of the basic continuing airworthiness management services of the organisation should receive human factors continuation training. This should concern to a minimum:

- Post-holders, line managers~~, supervisors~~;
- Human factors specialist staff including investigators and trainers;
- Airworthiness Review ~~C~~ ~~s~~Staff;
- Technical support personnel such as, planners, engineers, and technical record staff;
- ~~Compliance monitoring staff~~Staff involved in compliance monitoring and having designated safety management responsibilities; and
- Contract staff in the above categories.

The generic term "line managers" refers to departmental head or person responsible for operational departments or functional units directly involved in the delivery of the basic continuing airworthiness management services of the organisation.

(b) ~~Initial h~~Human factors initial training should cover all the topics of the training syllabus specified in ~~GM1 145.A.30(e)~~GM1 M.A.706(g) either as a dedicated course or else integrated within other training, such as safety management training. The syllabus may be adjusted to reflect the particular nature of the organisation. The syllabus may also be adjusted to meet the particular nature of work for each function within the organisation. For example:

- small organisations may cover in less depth subjects related to teamwork and communication, and
- planners may cover in more depth the scheduling and planning objective of the syllabus.

Initial training compliant with the organisation's training standards should be provided to personnel within 6 months of joining the continuing airworthiness organisation, but temporary staff may need to be trained shortly after joining the organisation to cope with the duration of employment. Personnel being recruited from another organisation, and temporary staff should be assessed for the need to receive any additional human factors training.

(c) The purpose of human factors continuation training is primarily to ensure that staff remain current in terms of human factors, and also to collect feedback on human factors issues. Consideration should be given to the possibility that such training has the involvement of the safety manager~~,~~ and compliance monitoring manager. There should be a procedure to ensure that feedback is formally passed from the trainers to the safety manager~~,~~ and compliance monitoring manager to initiate action where necessary.

Human factors continuation training should be delivered either as a dedicated course or else integrated within other training, such as safety management training. It should be of an appropriate duration in each two-year period, in relation to relevant ~~quality~~ compliance monitoring audit findings~~,~~ and other internal/external sources of information available to the organisation on human errors in continuing airworthiness and maintenance.

(d) Human factors training should be delivered by a competent trainer, and may be conducted by the organisation itself, or independent trainers, or any training organisations acceptable to the competent authority.

(e) Training procedures, including those addressing human factors, should be specified in the continuing airworthiness organisation exposition."

– It is proposed to rename AMC2 145.A.30(e) into AMC5 145.A.30(d) and to modify it to read:

"HUMAN FACTORS

(a) With respect to the understanding of the application of human factors and human performance issues, all maintenance organisation personnel should have received an initial ~~and continuation~~ human factors training, but, in any case, all personnel directly involved in the delivery of the basic maintenance services of the organisation should receive human factors continuation training. This should concern to a minimum:

(1) Nominated persons (145.A.30(b)), line managers~~, supervisors~~;

(2) Certifying staff, support staff and mechanics;

(3) Technical support personnel such as planners, engineers, technical record staff;

(4) Staff involved in compliance monitoring and having designated safety management responsibilities;

(5) Specialised services staff;

(6) Human factors specialist staff including investigators and trainers;

(7) Logistics and purchasing department staff;

(8) Ground equipment operators.

The generic term "line managers" refers to departmental head or person responsible for operational departments or functional units directly involved in the delivery of the basic maintenance services of the organisation.

(b) ~~Initial h~~Human factors initial training should cover all the topics of the training syllabus specified in GM1 145.A.30(~~e~~d) either as a dedicated course or else integrated within other training, such as safety management training. The syllabus may be adjusted to reflect the particular nature of the organisation. The syllabus may also be adjusted to meet the particular nature of work for each function within the organisation. For example:

(1) small organisations not working in shifts may cover in less depth subjects related to teamwork and communication;

(2) planners may cover in more depth the scheduling and planning objective of the syllabus and in less depth the objective of developing skills for shift working.

All personnel, including personnel being recruited from any other organisation should receive initial human factors training compliant with the organisation's training standards prior to commencing actual job function, unless their competence assessment justifies that there is no need for such training. Newly directly employed personnel working under direct supervision may receive training within 6 months after joining the maintenance organisation.

(c) The purpose of human factors continuation training is primarily to ensure that staff remain current in terms of human factors, and also to collect feedback on human factors issues. Consideration should be given to the possibility that such training has the involvement of the compliance monitoring manager and safety manager. There should be a procedure to ensure that feedback is formally passed from the trainers to the compliance monitoring manager and safety manager to initiate action where necessary.

Human factors continuation training should be delivered either as a dedicated course or else integrated within other training, such as safety management training. It should be of an appropriate duration in each two year period in relation to relevant ~~quality~~compliance monitoring audit findings and other internal/external sources of information on human errors in maintenance available to the organisation.

(d) Human factors training should be delivered by a competent trainer, and may be conducted by the maintenance organisation itself, or independent trainers, or any training organisations acceptable to the competent authority.

(e) Training procedures, including those addressing ~~The~~ human factors ~~training procedures~~, should be specified in the maintenance organisation exposition."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

It is believed that only the personnel directly involved in the delivery of the basic continuing airworthiness management/maintenance services of the organisation should receive continuation human factors training. For example, it is difficult to measure the added value of the continuation human factors training for the accountable manager. This does not mean that he/she should not have notions on human factors and human performance issues (justify the need for the initial human factors training). Similarly, the affected managerial population has been limited to line managers.

Comment No. 29:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.706
NPA 2013-01(C), page 56/184, section B., AMC6 145.A.30(e)

2. PROPOSED TEXT / COMMENT:

– It is proposed to create a new AMC6 M.A.706(g) to read:

"SAFETY TRAINING

All personnel should receive safety training as appropriate for their safety management related responsibilities."

– It is proposed to re-identify AMC6 145.A.30(e) into AMC6 145.A.30(d) and to modify it to read:

"SAFETY TRAINING

~~(a)~~ All personnel should receive safety training as appropriate for their safety management related responsibilities. ~~Such training could be classroom-based or computer-based training. Adequate records of all safety training provided should be kept.~~

~~(b) Safety training should be delivered by the safety manager or a competent trainer and may be conducted by the maintenance organisation itself, or independent trainers, or any training organisations acceptable to the competent authority.~~"

3. RATIONALE / REASON / JUSTIFICATION:

The elements related to the person receiving safety training are kept in the AMC6 M.A.706(g) and the AMC6 145.A.30(d). The elements pertaining to the safety training organisation are transferred into the AMC1 M.A.712(a)(4) and the AMC1 145.A.65(a)(4).

Comment No. 30:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), pages 63 & 64/218, section B., point M.A.607

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the paragraph (c) of point M.A.607 to read:

"2. to any person with not less than three years maintenance experience and holding a valid ICAO aircraft maintenance licence rated for the aircraft type requiring certification provided there is no organisation appropriately approved under this Regulation at that location and the contracted organisation obtains and holds on file evidence of the experience and the licence of that person.

All such cases must be reported to the competent authority within seven days of the issuance of such certification authorisation. The approved maintenance organisation issuing the one-off certification authorisation shall ensure that any ~~such~~ critical maintenance ~~that could affect flight safety~~ is re-checked.".

3. RATIONALE / REASON / JUSTIFICATION:
Refer to Comment No. 2.

Comment No. 31:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.607
NPA 2013-01(C), page 58/184, section B., AMC1 145.A.30(j)(5)

2. PROPOSED TEXT / COMMENT:

- It is proposed to introduce the new AMC1 M.A.607(c) to read:

  "1. For the purposes of this sub-paragraph 'unforeseen' means that the aircraft grounding could not reasonably have been predicted by the operator because the defect was unexpected due to being part of a hitherto reliable system.

  2. A one-off authorisation should only be considered for issue under the responsibility of the accountable manager of the contracted organisation after it has made a reasoned judgement that such a requirement is appropriate under the circumstances and at the same time maintaining the required airworthiness standards. The organisation's accountable manager will need to assess each situation individually prior to the issuance of a one-off authorisation.

  3. A one-off authorisation should not be issued where the level of certification required could exceed the knowledge and experience level of the person it is issued to. In all cases, due consideration should be given to the complexity of the work involved and the availability of required tooling and/or test equipment needed to complete the work."

- It is proposed to re-identify AMC1 145.A.30(j)(5) into AMC1 145.A.30(i)(5) and to modify it to read:

  "1. For the purposes of this sub-paragraph 'unforeseen' means that the aircraft grounding could not reasonably have been predicted by the operator because the defect was unexpected due to being part of a hitherto reliable system.

  2. A one-off authorisation should only be considered for issue under the responsibility of the compliance monitoring manager of the contracted organisation after it has made a reasoned judgement that such a requirement is appropriate under the circumstances and at the same time maintaining the required airworthiness standards. The organisation's compliance monitoring manager will need to assess each situation individually prior to the issuance of a one-off authorisation and may request the safety manager to perform a safety risk assessment.

  3. A one-off authorisation should not be issued where the level of certification required could exceed the knowledge and experience level of the person it is issued to. In all cases, due consideration should be given to the complexity of the work involved and the availability of required tooling and/or test equipment needed to complete the work."

3. RATIONALE / REASON / JUSTIFICATION:

To achieve a uniform level of requirements.

Comment No. 32:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 65/218, section B., AMC1 M.A.607(d)(2)
NPA 2013-01(C), page 57/184, section B., AMC1 145.A.30(j)(4)

2. PROPOSED TEXT / COMMENT:

The sub-paragraphs a. & b. of paragraph 1. use the term "adequate" without defining what an adequate training is.

In addition, what is the meaning of "maintenance airworthiness regulation training"?

- It is proposed to modify the paragraph 1. of point AMC1 M.A.607(d)(2) to read:

  "1. For the issue of a limited certification authorisation the commander should hold either a valid air transport pilot license (ATPL), or commercial pilots license (CPL). In addition, the limited certification authorisation is subject to the maintenance organisation manual containing procedures to address the following:

     a. Completion of ~~adequate maintenance airworthiness regulation~~ [to be defined] ? training.

     b. Completion of ~~adequate~~ task training for the specific task on the aircraft. The task training should be of sufficient duration to ensure that the individual has a thorough understanding of the task to be completed and should involve training in the use of associated maintenance data.

     c. Completion of the maintenance organisation procedural training.

     The above procedures should be specified in the maintenance organisation manual and be accepted by the competent authority".

- It is proposed to re-identify AMC1 145.A.30(j)(4) into AMC1 145.A.30(i)(4) and to modify the paragraph 1. to read:

  "1. For the issue of a limited certification authorisation the commander or flight engineer should hold either a valid air transport pilots license (ATPL), commercial pilots license (CPL) in accordance with Part-FCL, or authorisation as Technical Crew in accordance with Part-ORO Subpart TC. In addition, the limited certification authorisation is subject to the maintenance organisation exposition containing procedures to address the personnel requirements of 145.A.30(~~e~~d) and associated AMC and guidance material.

     Such procedures should include as a minimum:

     (a) Completion of ~~adequate continuing airworthiness regulation~~[to be defined] ? training ~~as related to maintenance~~.

     (b) Completion of ~~adequate~~ task training for the specific task on the aircraft. The task training should be of sufficient duration to ensure that the individual has a thorough understanding of the task to be completed and will involve training in the use of associated maintenance data.

     (c) Completion of the maintenance organisation procedural training as specified in ~~Part-145~~ this Regulation.

     The above procedures should be specified in the maintenance organisation exposition and be accepted by the competent authority."

3. RATIONALE / REASON / JUSTIFICATION:

The term "adequate" is ambiguous and may lead to confusion, errors, or extensive judgment.

With regard to "maintenance airworthiness regulation training" or "continuing airworthiness regulation training as related to maintenance", it appears that it may be interpreted differently from a person to another (after an opinion poll). Some of these interpretations are:

- A training about maintenance-related regulation (subpart F of Part M or Part 145),
- A training about continuing airworthiness-related regulation (remainder of Part M)
- A training about regulations related to maintenance and continuing airworthiness.

Further, consideration should be given to the development of guidance material for point M.A.607 on the basis of the re-identified GM1 145.A.30(i)(4).

Comment No. 33:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 65/218, section B., AMC1 M.A.607(d)(2)
NPA 2013-01(C), page 57/184, section B., AMC1 145.A.30(j)(4)

2. PROPOSED TEXT / COMMENT:

The paragraph 2. defines the scope of tasks that may be certified and/or carried out by the commander holding an ATPL or CPL. It uses terms such as "minor maintenance" and "simple checks" without defining selection criteria for "minor" and "simple". A list of examples is given instead.

- It is proposed to modify the paragraph 2. of point AMC1 M.A.607(d)(2) to read:

"2. ~~Typical t~~Tasks that may be certified and/or carried out by the commander holding an ATPL or CPL are ~~minor~~ simple maintenance ~~or simple checks~~. Simple maintenance means a repair, inspection/check/test, replacement, modification or defect rectification described in approved maintenance data and meeting all the following criteria:

(i) To configure the aircraft prior to the task (e.g. opening of access panels), or to return the aircraft to its initial configuration, does not involve:

a. A sequence of more than 10 actions as described in the approved maintenance data, or

b. Equipment necessitating special training.

(ii) The task does not involve more than 10 actions as described in the approved maintenance data (not including those required to configure the aircraft prior to the task, i.e. flaps down, etc, or to return the aircraft to its initial configuration). Pushing a control, switch or button, and reading the corresponding outcome may be considered as a single step even if the maintenance data shows them separated.

(iii) The serviceability of the aircraft can be verified using aircraft controls, switches, Built-in Test Equipment (BITE), Central Maintenance Computer (CMC) or external test equipment not involving special training.

(iv) The outcome of the test is a unique go – no go indication or parameter, which can be a single value or a value within an interval tolerance. No interpretation of the test result or interdependence of different values is allowed.

Some examples of tasks are included in the following list:

a. Replacement of internal lights, filaments and flash tubes.

b. Closing of cowlings and refitment of quick access inspection panels.

c. Role changes, e.g., stretcher fit, dual controls, FLIR, doors, photographic equipment etc.

d. Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools.

e. Any ~~check/replacement~~ maintenance for a particular aircraft type involving simple techniques consistent with this AMC and as agreed by the competent authority.".

- It was already proposed to re-identify AMC1 145.A.30(j)(4) into AMC1 145.A.30(i)(4) and it is proposed to modify the paragraph 2. to read:

"2. ~~Typical t~~Tasks that may be certified and/or carried out by the commander holding an ATPL or CPL are ~~minor~~ simple maintenance ~~or simple checks~~. Simple maintenance

means a repair, inspection/check/test, replacement, modification or defect rectification described in approved maintenance data and meeting all the following criteria:

(i) To configure the aircraft prior to the task (e.g. opening of access panels), or to return the aircraft to its initial configuration, does not involve:

a. A sequence of more than 10 actions as described in the approved maintenance data, or

b. Equipment necessitating special training.

(ii) The task does not involve more than 10 actions as described in the approved maintenance data (not including those required to configure the aircraft prior to the task, i.e. flaps down, etc, or to return the aircraft to its initial configuration). Pushing a control, switch or button, and reading the corresponding outcome may be considered as a single step even if the maintenance data shows them separated.

(iii) The serviceability of the aircraft can be verified using aircraft controls, switches, Built-in Test Equipment (BITE), Central Maintenance Computer (CMC) or external test equipment not involving special training.

(iv) The outcome of the test is a unique go – no go indication or parameter, which can be a single value or a value within an interval tolerance. No interpretation of the test result or interdependence of different values is allowed.

Some examples of tasks are included in the following list:

(a) Replacement of internal lights, filaments and flash tubes.

(b) Closing of cowlings and refitment of quick access inspection panels.

(c) Role changes e.g. stretcher fit, dual controls, FLIR, doors, photographic equipment, etc.

(d) Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools.

~~(e) Any check/replacement involving simple techniques consistent with this AMC and as agreed by the competent authority.~~

~~In addition to paragraph 2(a) to (e) other typical minor maintenance or simple defect rectification tasks that may be carried out are included in the following list:~~

(~~a~~e) Replacement of wheel assemblies.

(~~b~~f) Replacement of simple emergency equipment that is easily accessible.

(~~c~~g) Replacement of ovens, boilers and beverage makers.

(~~d~~h) Replacement of external lights.

(~~e~~i) Replacement of passenger and cabin crew seats, seat belts and harnesses.

(~~f~~j) Simple replacement of overhead storage compartment doors and cabin furnishing items.

(~~g~~k) Replacement of static wicks.

(~~h~~l) Replacement of aircraft main and APU aircraft batteries.

(~~i~~m) Replacement of in-flight entertainment system components other than public address.

(j~~n~~) The de-activation only of sub-systems and aircraft components as permitted by the operator's minimum equipment list where such de-activation is agreed by the competent authority as a simple task.

(k~~o~~) Re-setting of tripped circuit breakers under the guidance of maintenance control.

(p) Any maintenance for a particular aircraft type involving simple techniques consistent with this AMC and as agreed by the competent authority.

~~(l) Any other task agreed by the competent authority as a simple task for a particular aircraft type.~~"

3. RATIONALE / REASON / JUSTIFICATION:

The Article 2 defines maintenance. "Maintenance" means any one or combination of overhaul, repair, inspection, replacement, modification or defect rectification of an aircraft or component, with the exception of pre-flight inspection. So, what is "minor maintenance"? For example, could it mean "minor repair"? A minor repair is defined in Part-21 as one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, noise, fuel venting, exhaust emission, or other characteristics affecting the airworthiness of the product. It is to be noted that the category of a repair (minor/major) may be indicated on the repair design approval documentation issued by the design approval holder.

Therefore, it is believed that there is currently an incompatibility between the definition found in Part-21 and the intent of AMC1 M.A.607(d)(2). (holistic approach)

This may lead to confusion, errors, or extensive judgment.

Would not it be appropriate to adopt an approach similar to the GM 66.A.20(a) (for the category A aircraft maintenance license)? It refers to the term "simple test" and defines its meaning.

Note: No need has been found for minor overhaul.
"Defect rectification" is covered by the term "repair" in Part M Appendix II "Authorised Release Certificate EASA Form 1", paragraph 5., Block 11 Status/Work, item (ii). It is believed that this is inappropriate (found in contradiction with Article 2).

Comment No. 34:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 90/218, section B., GM1 M.A.706(c)
NPA 2013-01(C), page 59/184, section B., GM1 145.A.30(c)

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify GM1 M.A.706(c) into GM1 M.A.706(b) and to modify it to read:

  "RESPONSIBILITY FOR ENSURING COMPLIANCE

  'Person or group of persons' referred to in M.A.706(~~c~~b) includes the compliance monitoring manager, as the compliance monitoring function itself is one of the elements to 'ensure' compliance with the applicable requirements.

  This means that an EASA Form 4 should be provided for this person. It also means that the compliance monitoring function itself should be subject to ~~monitoring~~checking of compliance in accordance with M.A.712(a)(6). This check of compliance should be carried out by competent personnel not pertaining to the compliance monitoring function of the organisation."

- It is proposed to re-identify GM1 145.A.30(c) into GM1 145.A.30(a) and to modify it to read:

  "RESPONSIBILITY FOR ENSURING COMPLIANCE

  The compliance monitoring function itself is one of the elements to 'ensure' compliance with the applicable requirements.

  This means that an EASA Form 4 should be provided for the person referred to in 145.A.30 (~~c~~a)(3). It also means that the compliance monitoring function itself should be subject to ~~monitoring~~checking of compliance in accordance with 145.A.65(a)(6). This check of compliance should be carried out by competent personnel not pertaining to the compliance monitoring function of the organisation."

3. RATIONALE / REASON / JUSTIFICATION:

There are three functions in the EASA regulation system:

- The demonstration of compliance: The demonstration of compliance function should consist of the compliance data creation.
- The verification of compliance: The independent checking function of the demonstration of compliance should consist of the verification by a person not creating the compliance data.
- The independent monitoring: The independent monitoring function should consist of the continuing evaluation of the organisation system to ensure that it remains effective.

When applied to the compliance monitoring organisation activities, the verification of compliance should be carried out by competent personnel not pertaining to the compliance monitoring organisation. Further, the independent monitoring function should be carried out by the Agency.

Comment No. 35:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), pages 90-91/218, section B., GM1 & 2 M.A.706(j)
[NPA 2013-01(C), page 61/218, section B., GM2 145.A.30(e)]

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify GM1 M.A.706(j) into GM3 M.A.706(g).
- It is proposed to re-identify GM2 M.A.706(j) into GM2 M.A.706(g) and to modify it to read:

  "HUMAN FACTORS TRAINER

  A competent Human Factors trainer should meet the following criteria:

  (a) attended training that is at least equivalent to the EASA Part 145 Maintenance Human Factors Initial training syllabus defined in ~~GM 145.A.30(e)~~GM1 M.A.706(g);

  (b) received instruction in training techniques, and training development compatible with the skills to influence attitudes and behaviours;

  (c) has worked for a minimum of three years within the aviation industry, or possesses a suitable academic background; and

  (d) has an appropriate level of understanding of Human Factors in the continuing airworthiness management and maintenance environment in relation to the organisation's HF programme (module 10 of ~~GM1 145.A.30(e)~~GM1 M.A.706(g)).".

3. RATIONALE / REASON / JUSTIFICATION:
Editorial.

Comment No. 36:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
GM M.A.706(g)

2. PROPOSED TEXT / COMMENT:
It is proposed to introduce a new GM4 M.A.706(g) to read:

"SAFETY TRAINING

1. The scope of safety training and related training programme will differ significantly depending on the size and complexity of the organisation. Safety training should reflect the evolving management system, and the changing roles of the personnel who make it work.
2. In recognition of this, training should be provided to management and staff at least:
   (a) during the initial implementation of safety management processes;
   (b) for all new staff or personnel recently appointed for any safety management related task;
   (c) on a regular basis to refresh their knowledge and to understand changes to the management system;
   (d) when changing roles which affects their safety management roles and responsibilities; and
   (e) when performing specialist safety roles, such as: safety manager, safety investigator, focal point for Emergency Response Planning, and Safety Auditor."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 37:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

GM M.A.706(g)
NPA 2013-01(C), pages 59-61/218, section B., GM1 145.A.30(e)

2. PROPOSED TEXT / COMMENT:

– It is proposed to introduce a new GM1 M.A.706(g) based on GM1 145.A.30(e) to read:

"TRAINING SYLLABUS FOR INITIAL HUMAN FACTORS TRAINING

The training syllabus below identifies the topics and subtopics to be addressed during the human factors training.

The continuing airworthiness management organisation may combine, divide, change the order of any subject of the syllabus to suit its own needs, as long as all subjects are covered to a level of detail appropriate to the organisation and its personnel.

Some of the topics may be covered in separate training (health and safety, management, supervisory skills, etc.) in which case duplication of training is not necessary.

Where possible, practical illustrations and examples should be used, especially accident and incident reports.

Topics should be related to existing legislation, where relevant. Topics should be related to existing guidance/advisory material, where relevant (e.g. ICAO HF Digests and Training Manual).

Topics should be related to continuing airworthiness management and maintenance engineering where possible; too much unrelated theory should be avoided.

1 General/Introduction to human factors

1.1 Need to address human factors

1.2 Statistics

1.3 Incidents

2 Safety Culture/Organisational factors

2.1 Just Culture

2.2 Reporting culture

2.3 Informed culture

2.4 Flexible culture/learning culture

2.5 Safety Risk Management

3 Human error

3.1 Error models and theories

3.2 Types of errors in continuing airworthiness management and maintenance tasks

3.3 Violations

3.4 Implications of errors

3.5 Avoiding and managing errors

3.6 Human reliability

4 Human performance & limitations

- 4.1 Vision
- 4.2 Hearing
- 4.3 Information-processing
- 4.4 Attention and perception
- 4.5 Situational awareness
- 4.6 Memory
- 4.7 Claustrophobia and physical access
- 4.8 Motivation
- 4.9 Fitness/Health
- 4.10 Stress
- 4.11 Workload management
- 4.12 Fatigue and fatigue management
- 4.13 Alcohol, medication, drugs
- 4.14 Physical work
- 4.15 Repetitive tasks/complacency

5 Environment

- 5.1 Peer pressure
- 5.2 Stressors
- 5.3 Time pressure and deadlines
- 5.4 Workload
- 5.5 Shift Work
- 5.6 Noise and fumes
- 5.7 Illumination
- 5.8 Climate and temperature
- 5.9 Motion and vibration
- 5.10 Complex systems
- 5.11 Hazards in the workplace
- 5.12 Lack of manpower
- 5.13 Distractions and interruptions

6 Procedures, information, tools and practices

- 6.1 Visual Inspection
- 6.2 Work logging and recording
- 6.3 Procedure - practice/mismatch/norms
- 6.4 Technical documentation - access and quality

7 Communication

- 7.1 Shift/Task handover
- 7.2 Dissemination of information

7.3 Cultural differences
8 Teamwork
8.1 Responsibility
8.2 Management, supervision and leadership
8.3 Decision making
9 Professionalism and integrity
9.1 Keeping up to date; currency
9.2 Error provoking behaviour
9.3 Assertiveness
10 Organisation's HF program
10.1 Safety risk assessment
10.2 Confidential internal reporting scheme
10.3 Reporting errors and hazards
10.4 Safety policy as related to non-punitive reporting and just culture
10.5 Occurrence investigation process
10.6 Action to address problems
10.7 Feedback"

– It is proposed to re-identify GM1 145.A.30(e) into GM1 145.A.30(d).

3. RATIONALE / REASON / JUSTIFICATION:

For consistency with Part-145 (adapted from the re-identified GM1 145.A.30(d)). This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 38:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
GM M.A.706(g)
[NPA 2013-01(C), pages 62-65/218, section B., GM5 145.A.30(e)]

2. PROPOSED TEXT / COMMENT:
It is proposed to introduce a new GM5 M.A.706(g) to read:

"COMPETENCE ASSESSMENT PROCEDURE

The organisation should develop a procedure describing the process of competence assessment of personnel. The procedure should specify:

(a) persons responsible for this process;

(b) when the assessment should take place;

(c) credits from previous assessments;

(d) validation of qualification records;

(e) means and methods for the initial assessment;

(f) means and methods for the continuous control of competence including feedback on personnel performance;

(g) competences to be observed during the assessment in relation with each job function;

(h) actions to be taken when assessment is not satisfactory; and

(i) recording of assessment results.

For example, according to the job functions and the scope, size, and complexity of the organisation, the assessment may consider the following (list not exhaustive):

- Knowledge of applicable officially recognised standards;
- Knowledge of auditing techniques: planning, conducting and reporting;
- Knowledge of human factors, human performance and limitations;
- Knowledge of organisation capabilities, privileges and limitations;
- Knowledge of Part-M, Part-145 and any other relevant regulations;
- Knowledge of relevant parts of the continuing airworthiness management exposition and procedures;
- Knowledge of occurrence reporting systems (mandatory and internal) and understanding of the importance of reporting occurrences, incorrect continuing airworthiness instructions, maintenance data and existing or potential defects;
- Knowledge of safety risks linked to the working environment;
- Knowledge of Safety Management Systems and Just Culture;
- Knowledge on CDCCL when relevant;
- Knowledge on EWIS when relevant;
- Understanding of professional integrity, behaviour and attitude towards safety;
- Understanding of conditions for ensuring continuing airworthiness of aircraft and components;
- Understanding of his/her own human performance and limitations;

- Understanding of personnel authorisations and limitations;
- Understanding critical maintenance task and procedures;
- Ability to compile and control completed work cards;
- Ability to consider human performance and limitations;
- Ability to determine required qualifications for task performance;
- Ability to identify and rectify existing and potential unsafe conditions;
- Ability to manage third parties involved in continuing airworthiness activity;
- Ability to confirm proper accomplishment of maintenance tasks on the basis of maintenance records;
- Ability to identify and properly plan performance of critical maintenance tasks and procedures;
- Ability to prioritise tasks and report discrepancies;
- Ability to process the work requested by the operator;
- Ability to promote the safety and quality policy;
- Ability to properly process removed, uninstalled, rejected and suspected unapproved parts;
- Ability to recognise the acceptability of parts to be installed prior to fitment;
- Ability to split complex maintenance procedures into clear stages;
- Ability to understand work orders, work cards and refer to and use applicable maintenance data;
- Ability to use information systems;
- Adequate communication and literacy skills;
- Analytical and proven auditing skills (for example, objectivity, fairness, open-mindedness, determination, …);
- Continuing airworthiness error investigation skills;
- Resources management and production planning skills;
- Teamwork, decision-making and leadership skills;
- Ability to encourage a positive safety culture and apply a just culture."

3. RATIONALE / REASON / JUSTIFICATION:

For consistency with Part-145 (adapted from re-identified GM5 145.A.30(d)). This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 39:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
Point M.A.707

2. PROPOSED TEXT / COMMENT:
It is proposed to modify point M.A.707 to take into account:

- the approval of the aircraft maintenance programme by the CAMO, and
- the similarities of point 145.A.35.

Point M.A.707 would state:

"M.A.707 ~~Ariworthiness review s~~Staff exercising a privilege held by the organisation

(a) Airworthiness reviews and permits to fly

To be approved to carry out airworthiness reviews and, if applicable, to issue permits to fly, an approved continuing airworthiness management organisation shall have appropriate airworthiness review staff to issue airworthiness review certificates or recommendations referred to in Section A of Subpart I and, if applicable, to issue a permit to fly in accordance with point M.A.711(c):

(1)~~.~~ For complex motor-powered aircraft or ~~all~~ aircraft ~~used~~operated in commercial air transport~~, and aircraft above 2730 kg MTOM~~, except balloons, these staff shall have acquired:

(~~a~~i) at least five years' experience in continuing airworthiness~~, and~~;

(~~b~~ii) an appropriate license in compliance with Annex III (Part-66) or an aeronautical degree or a national equivalent;~~ and~~

(~~c~~iii) formal aeronautical maintenance training; and

(~~d~~iv) a position within the approved organisation with appropriate responsibilities.

(~~e~~v) Notwithstanding points (~~a~~i) to (~~d~~iv), the requirement laid down in point M.A.707(a)(1)(~~b~~ii) may be replaced by five years of experience in continuing airworthiness additional to those already required by point M.A.707(a)(1)(~~a~~i).

(2)~~.~~ For aircraft that are not classified as complex motor-powered aircraft or aircraft not used in commercial air transport~~ of 2730 kg MTOM and below~~, and balloons, these staff shall have acquired:

(~~a~~i) at least three years' experience in continuing airworthiness;~~ and~~

(~~b~~ii) an appropriate license in compliance with Annex III (Part-66) or an aeronautical degree or a national equivalent;~~ and~~

(~~c~~iii) appropriate aeronautical maintenance training; and

(~~d~~iv) a position within the approved organisation with appropriate responsibilities~~;~~.

(~~e~~v) Notwithstanding points (~~a~~i) to (~~d~~iv), the requirement laid down in point M.A.707(a)(2)(~~b~~ii) may be replaced by four years of experience in continuing airworthiness additional to those already required by point M.A.707(a)(2)(~~a~~i).

(b) Aircraft Maintenance Programme

To be authorised to approve an Aircraft Maintenance Programme or its amendments in accordance with point M.A.302(c), an approved continuing airworthiness management organisation shall have appropriate Aircraft Maintenance Programme approvers to carry out the review and approval of an Aircraft Maintenance Programme or its amendments. These staff shall have acquired:

(1)~~.~~ an aeronautical degree;

(2) at least five years' experience in continuing airworthiness;

(3) at least two years' experience in maintenance programme development for the aircraft in the scope and limits of the contemplated authorization;

(4) formal aeronautical maintenance training; and

(5) a position within the approved organisation with appropriate responsibilities.

(c) The organisation shall ensure that all staff exercising a privilege held by the organisation receive sufficient continuation training in each three year period to ensure that such staff have up-to-date knowledge of relevant technology, organisation procedures and human factor issues.

(d) The organisation shall establish a programme for continuation training for staff exercising a privilege held by the organisation, including a procedure to ensure compliance with the relevant paragraphs of M.A.707 as the basis for issuing authorisations under this Regulation to staff exercising a privilege held by the organisation.

(~~b~~e) The organisation shall issue an authorization that clearly specifies the scope and limits of such authorization, when:

(i) the conditions of paragraphs (a) and/or (b) and (c) have been fulfilled by the staff exercising a privilege held by the organisation; and

(ii) ~~Airworthiness review staff nominated by the approved continuing airworthiness organisation can only be issued an authorisation by the approved continuing airworthiness organisation when~~ formally accepted by the competent authority after satisfactory completion under supervision of an airworthiness review or an Aircraft Maintenance Programme review, as appropriate~~under supervision~~.

(f) The authorisation must be in a style that makes its scope clear to the staff exercising a privilege held by the organisation and any authorised person who may require to examine the authorisation. Where codes are used to define scope, the organisation shall make a code translation readily available.

"Authorised person" means the officials of the competent authorities, the Agency and the Member State who have responsibility for the oversight of the maintained aircraft and component thereof.

(g) The person responsible for the compliance monitoring system shall also remain responsible on behalf of the organisation for issuing authorisations to staff exercising a privilege held by the organisation. Such person may nominate other persons to actually issue or revoke the authorisations in accordance with a procedure as specified in the exposition.

(~~c~~h) Continued validity of the authorisation is dependent upon:

(i) continued compliance with paragraphs (a) and/or (b) and (c);

(ii) The ~~organisation shall ensure that aircraft airworthiness review staff can~~ demonstration~~e~~ of appropriate recent ~~continuing airworthiness management~~airworthiness review experience; and

(iii) The successful assessment of the airworthiness review staff every 5 years by currently valid authorised senior airworthiness review staff.

(~~d~~i) ~~Airworthiness review s~~Staff exercising a privilege held by the organisation shall be identified by listing each person in the continuing airworthiness management exposition together with their ~~airworthiness review~~ authorisation reference.

(~~e~~j) The organisation shall maintain a record of all ~~airworthiness review~~ staff exercising a privilege held by the organisation~~,~~ ~~which shall~~ that includes the scope of the authorisation, details of any ~~appropriate~~pertinent qualification held together with a summary of relevant continuing airworthiness management experience and training, and a copy of the authorisation. This record shall be retained until two years after the ~~airworthiness review~~ staff exercising a privilege held by the organisation have left the organisation or the authorization has been withdrawn.

The staff exercising a privilege held by the organisation shall be given access on request to their personal records as detailed above.

(k) The organisation shall provide staff exercising a privilege held by the organisation with a copy of their authorisation in either a documented or electronic format.

(l) Staff exercising a privilege held by the organisation shall produce their authorisation to any authorised person within 24 hours.

(m) The minimum age for staff exercising a privilege held by the organisation is 21 years."

3. RATIONALE / REASON / JUSTIFICATION:

For consistency with Part-145 (adapted from point 145.A.35). This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

The application of requirements depending on the aircraft category has been modified with the introduction of the notion of complex motor-powered aircraft. The proposal aligns requirements on this new classification.

The approval privilege for the Aircraft Maintenance Programme has been added for completeness. Some AMC should be developed on this matter.

The airworthiness review staff are currently authorised to perform airworthiness reviews without a periodic assessment by a competent assessor (his/her peers) of their competence on this matter. The proposal introduces this assessment. Refer also to AMC1 M.A.707(c).

Comment No. 40:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.707(a)

2. PROPOSED TEXT / COMMENT:
It is proposed to re-identify the AMC M.A.707(a) into AMC1 M.A.707(a) and to modify it to read:

"AMC1 M.A.707(a) ~~Airworthiness review s~~Staff exercising a privilege held by the organisation

1. Airworthiness review staff are only required if the M.A. Subpart G organisation wants to be granted M.A.711(b) airworthiness review and, if applicable, M.A.711(c) permit to fly privileges.

   Aircraft Maintenance Programme approvers are only required if the M.A. Subpart G organisation wants to be granted M.A.302(c) Aircraft Maintenance Programme privilege.

2. "experience in continuing airworthiness" means any appropriate [What is appropriate? Ambiguous] combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management (engineering) and/or surveillance of such tasks.

3. A person qualified to the AMC2 M.A.706(g) subparagraph (a)~~4.~~(5) should be considered as holding the equivalent to an aeronautical degree.

4. An appropriate licence in compliance with Annex III (Part-66) is any one of the following:

   – a category B1 licence in the subcategory of the aircraft reviewed, or

   – a category B2 or C licence, or

   – in the case of piston-engine non-pressurised aeroplanes of 2 000 kg MTOM and below, a category B3 licence.

   It is not necessary to satisfy the experience requirements of Part-66 at the time of the review.

5. To hold a position with appropriate responsibilities means the ~~airworthiness review~~ staff exercising a privilege held by the organisation should have a position in the organisation independent from the airworthiness management process or with overall accountability and authority on the airworthiness management process of complete aircraft.

   Independence from the airworthiness management process may be achieved, among other ways, by:

   • Being authorised to perform airworthiness reviews only on aircraft for which the person has not participated in their management. For example, performing airworthiness reviews on a specific model line, while being involved in the airworthiness management of a different model line.

   • M.A. Subpart G organisations with Part-145/M.A. Subpart F approval, may nominate maintenance personnel from their Part-145/M.A. Subpart F organisation as airworthiness review staff, as long as they are not involved in the airworthiness management of the aircraft. These personnel should not have been involved in the release to service of base maintenance for that particular aircraft (other than maintenance tasks performed during the physical ~~survey~~inspection of the aircraft or performed as a result of findings discovered during such physical ~~survey~~inspection) to avoid possible conflict of interests.

   • Nominating as airworthiness review staff or Aircraft Maintenance Programme approvers personnel from the ~~Quality Department~~ compliance monitoring function of the continuing airworthiness management organisation.

   Overall accountability and authority on the airworthiness management process of complete aircraft may be achieved, among other ways, by:

- Nominating as airworthiness review staff or Aircraft Maintenance Programme approvers the Accountable Manager or the Maintenance Post-holder.
- Being authorised to perform airworthiness reviews only on those particular aircraft for which the person is responsible for the complete continuing airworthiness management process.
- In the case of one-man organisations, this person has always overall authority. This means that this person cannot be nominated as airworthiness review staff or Aircraft Maintenance Programme approver, as no independence is possible.

3. RATIONALE / REASON / JUSTIFICATION:

For consistency with amendments introduced in point M.A.707.

The term "appropriate" is found ambiguous in accordance with practices recommended in the paragraph 4.1.5 of the EASA Proposed CM-21A-J-001 Issue 01.

The extent of line maintenance should not be considered as a possible source of significant conflicts of interests for maintenance personnel involved for the same aircraft in the accomplishment of an airworthiness review and the release to service of line maintenance.

Comment No. 41:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.707

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify AMC M.A.707(a)(1) and AMC M.A.707(a)(2) into AMC1 M.A.707(a)(1) and AMC1 M.A.707(a)(2), respectively.
- It is proposed to modify the AMC1 M.A.707(a)(1) to read:

  "For complex motor-powered aircraft and ~~all~~ aircraft used ~~in~~ for commercial air transport ~~and any other aircraft,~~ other than balloons~~, above 2730 kg MTOM~~, formal aeronautical maintenance training means training (internal or external) supported by evidence on the following subjects:

  - Relevant parts of initial and continuing airworthiness regulations.
  - Relevant parts of operational requirements and procedures~~, if applicable~~.
  - [...]."
- It is proposed to modify the AMC1 M.A.707(a)(2) to read:

  "For non-complex motor-powered aircraft, ~~all balloons and any other aircraft of 2730 Kg MTOM and below,~~ aircraft not used in commercial air transport, and all balloons:

  [...]

  This knowledge may be demonstrated by documented evidence or by an assessment performed by the competent authority or by ~~other~~ a senior airworthiness review staff already authorised within the organisation in accordance with approved procedures. This assessment should be recorded."
- It is also proposed to re-identify AMC M.A.707(b) into AMC1 M.A.707(e) and to modify it to read:

  "The formal acceptance by the competent authority of the ~~airworthiness review~~ staff exercising a privilege held by the organisation is granted through the corresponding EASA Form 4.

  An airworthiness review or an Aircraft Maintenance Programme review "under supervision" means under the supervision of the competent authority. If the organisation has already properly authorised ~~airworthiness review~~ staff exercising the privilege held by the organisation, the competent authority may accept that the supervision be performed by ~~this~~the appropriate senior existing ~~airworthiness review~~ staff in accordance with an approved procedure. In such case, evidence of the airworthiness review or the Aircraft Maintenance Programme review performed under supervision should be provided to the competent authority together with the EASA Form 4. If satisfied, the competent authority will issue the formal acceptance through the EASA Form 4.

  Once the ~~airworthiness review~~ staff exercising a privilege held by the organisation has been accepted by the competent authority, the inclusion of their name in the exposition (refer to M.A.704(a)~~5~~7.) constitutes the formal authorisation by the organisation."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with amendments introduced in points M.A.704 and M.A.707.

The proposal introduces also consistency with AMC1 M.A.707(c) for the airworthiness review staff assessment. Nevertheless, it is found acceptable for the initial assessment of airworthiness review staff to proceed with a senior airworthiness review staff of the concerned organisation.

Comment No. 42:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.707
NPA 2013-01(C), page 69/184, section B., AMC1 145.A.35(d)

2. PROPOSED TEXT / COMMENT:

– It is proposed to re-identify AMC M.A.707(c) into AMC1 M.A.707(c) and to modify it to read:

"In order to keep the validity of the airworthiness review staff authorisation, the airworthiness review staff should have either:

1. For complex motor-powered aircraft or aircraft operated in commercial air transport:
   - conducted at least one airworthiness review in the last six month period.
2. For aircraft that are not classified as complex motor-powered aircraft or not operated in commercial air transport:
   - been involved in continuing airworthiness management activities for at least six months in every two year period, or
   - conducted at least one airworthiness review in the last twelve month period.

In order to restore the validity of the authorisation, the airworthiness review staff should conduct at a satisfactory level an airworthiness review under the supervision of the competent authority or, if accepted by the competent authority, under the supervision of another currently valid authorised senior airworthiness review staff. ~~of the concerned~~ The senior airworthiness review staff should pertain to a continuing airworthiness management organisation other than the concerned one and should process in accordance with an approved procedure."

– It is proposed to introduce a new AMC2 M.A.707(c) harmonised with AMC1 145.A.35(d):

"1. Continuation training is a two way process to ensure that staff exercising a privilege held by the organisation remain current in terms of procedures, human factors and technical knowledge and that the organisation receives feedback on the adequacy of its procedures and continuing airworthiness management instructions. Due to the interactive nature of this training, consideration should be given to the possibility that such training has the involvement of the compliance monitoring function and safety management key personnel to ensure that feedback is collected and disseminated. Alternatively, there should be a procedure to ensure that feedback is formally passed from the training department to the compliance monitoring function and safety management key personnel to initiate action.

2. Continuation training should cover changes in relevant requirements such as in this Regulation, changes in organisation procedures and the modification standard of the products being maintained plus human factor issues identified from any internal or external analysis of occurrences. It should also address instances where staff failed to follow procedures and the reasons why particular procedures are not always followed. In many cases the continuation training will reinforce the need to follow procedures and ensure that incomplete or incorrect procedures are identified to the company in order that they can be corrected. This does not preclude the possible need to carry out an audit of such procedures.

3. Continuation training should be of sufficient duration in each 3 year period to meet the intent of M.A.707(c) and may be split into a number of separate elements. M.A.707(c) requires such training to keep staff exercising a privilege held by the organisation updated in terms of relevant technology, procedures and human factors issues which means this training is one part of ensuring compliance. Therefore sufficient duration

should be related to relevant audit findings and other internal/external sources of information available to the organisation on human errors in continuing airworthiness management and/or maintenance. This means that in the case of an organisation that manages the continuing airworthiness of aircraft with few relevant audit findings, continuation training could be limited to hours rather than days, whereas a similar organisation with a number of relevant audit findings, such training may take several days. The content of continuation training should be related to relevant audit findings, hazards and related safety risks identified. It is recommended that such training is reviewed at least once in every 36 month period.

4. The method of training is intended to be a flexible process and could, for example, include a Part-147 continuation training course, aeronautical college courses, internal short duration courses, seminars, etc. The elements, general content and length of such training should be specified in the continuing airworthiness management organisation's exposition unless such training is undertaken by an organisation approved under Part-147 when such details may be specified under the approval and cross referenced in the continuing airworthiness management organisation's exposition."

– It is proposed to modify AMC1 145.A.35(d) to read:

"1. Continuation training is a two way process to ensure that certifying staff remain current in terms of procedures, human factors and technical knowledge and that the organisation receives feedback on the adequacy of its procedures and maintenance instructions. Due to the interactive nature of this training, consideration should be given to the possibility that such training has the involvement of the compliance monitoring function and safety management key personnel to ensure that feedback is ~~actioned~~collected and disseminated. Alternatively, there should be a procedure to ensure that feedback is formally passed from the training department to the compliance monitoring function and safety management key personnel to initiate action.

2. Continuation training should cover changes in relevant requirements such as ~~Part-145~~in this Regulation, changes in organisation procedures and the modification standard of the products being maintained plus human factor issues identified from any internal or external analysis of ~~incidents~~occurrences. It should also address instances where staff failed to follow procedures and the reasons why particular procedures are not always followed. In many cases the continuation training will reinforce the need to follow procedures and ensure that incomplete or incorrect procedures are identified to the company in order that they can be corrected. This does not preclude the possible need to carry out an audit of such procedures.

3. Continuation training should be of sufficient duration in each 2 year period to meet the intent of 145.A.35(d) and may be split into a number of separate elements. 145.A.35(d) requires such training to keep certifying staff updated in terms of relevant technology, procedures and human factors issues which means ~~it~~this training is one part of ensuring compliance. Therefore sufficient duration should be related to relevant audit findings and other internal/external sources of information available to the organisation on human errors in maintenance. This means that in the case of an organisation that maintains aircraft with few relevant audit findings, continuation training could be limited to days rather than weeks, whereas a similar organisation with a number of relevant audit findings, such training may take several weeks. For an organisation that maintains aircraft components, the duration of continuation training would follow the same philosophy but should be scaled down to reflect the more limited nature of the activity. For example certifying staff who release hydraulic pumps may only require a few hours of continuation training whereas those who release turbine engine may only require a few days of such training. The content of continuation training should be related to relevant audit findings,

hazards and related safety risks identified. It is recommended that such training is reviewed at least once in every 24 month period.

4. The method of training is intended to be a flexible process and could, for example, include a Part-147 continuation training course, aeronautical college courses, internal short duration courses, seminars, etc. The elements, general content and length of such training should be specified in the maintenance organisation exposition unless such training is undertaken by an organisation approved under Part-147 when such details may be specified under the approval and cross referenced in the maintenance organisation exposition."

3. RATIONALE / REASON / JUSTIFICATION:

For consistency with point M.A.707 and Part-145 (adapted from AMC1 145.A.35(d)). This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

The proposal introduces also consistency with M.A.707(h)(iii) for the airworthiness review staff assessment.

Comment No. 43:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.707

2. PROPOSED TEXT / COMMENT:
It is proposed to introduce a new AMC1 M.A.707(d) harmonised with AMC 145.A.35(e):

"The programme for continuation training should list all staff exercising a privilege and when training will take place, the elements of such training and an indication that it was carried out reasonably on time as planned. Such information should subsequently be transferred to the record for staff exercising a privilege, as required by M.A.707(j)."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with point M.A.707 and Part-145 (adapted from AMC 145.A.35(e)). This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 44:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.707

2. PROPOSED TEXT / COMMENT:
It is proposed to re-identify the AMC M.A.707(c) into AMC1 M.A.707(h) and to modify it to read:

"In order to keep the validity of their ~~airworthiness review staff~~ authorization, the ~~airworthiness review~~ staff exercising a privilege held by the organisation should have either:

- been involved in continuing airworthiness management activities for at least ~~six~~ twelve months in any~~every~~ consecutive ~~two~~three-year period, or
- conducted at least one airworthiness review or an Aircraft Maintenance Programme review, as appropriate, in the last twelve month period.

In order to restore the validity of their authorisation, the ~~airworthiness review~~ staff exercising a privilege held by the organisation should conduct at a satisfactory level an airworthiness review or an Aircraft Maintenance Programme review, as appropriate, under the supervision of the competent authority or, if accepted by the competent authority, under the supervision of another currently valid authorised airworthiness review staff or Aircraft Maintenance Programme approver, as appropriate, of the concerned continuing airworthiness management organisation in accordance with an approved procedure."

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with amendments introduced in point M.A.707.

Comment No. 45:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 66/218, section B., AMC1 M.A.607(e)
AMC M.A.707
NPA 2013-01(C), page 70/184, section B., AMC1 145.A.35(j)

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the AMC1 M.A.607(e) to read:

"1. The following minimum information as applicable should be kept on record in respect of each certifying person:

(a) Family name and first name;

(b) ~~d~~Date of birth;

(c) Basic education,

(d) Part-66 qualification and/or nationally-recognised maintenance personnel qualification, and any Aeronautical degree,

(~~c~~e) ~~b~~Basic training;

(~~d~~f) ~~t~~Type training;

(~~e~~g) ~~recurrent~~Continuation training;

(~~f~~h) ~~s~~Specialised training;

(~~g~~i) ~~e~~Experience;

(j) Experience in maintenance and within the organisation,

(k) Responsibilities of current role in the organisation,

(~~h~~l) ~~q~~Qualifications relevant to the approval;

(~~i~~m) ~~s~~Scope of the authorisation and personal authorisation reference;

(~~j~~n) ~~d~~Date of first issue of the authorisation; ~~and~~

(~~k~~o) ~~i~~If appropriate – expiry date of the authorisation; and

(p) Copy of the authorization.

2. The record may be kept in any format but should be controlled by the organisation's compliance monitoring function. This does not mean that the compliance monitoring manager should run the record system.

~~2~~3. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.

~~3~~4. The competent authority should be granted access to the records upon request."

- It is proposed to re-identify the AMC M.A.707(e) into AMC1 M.A.707(j) and to modify it to read:

"1. The following minimum ~~content~~information as applicable should be kept on~~of the~~ record in respect of each~~airworthiness review~~ staff exercising a privilege held by the organisation~~record should be~~:

~~-~~(a) Family ~~N~~name and first name,

~~-~~(b) Date of ~~B~~birth,

-(c) Basic Eeducation,

- Experience,

-(d) Aeronautical Ddegree and/or Part-66 qualification and/or nationally-recognised maintenance personnel qualification,

(e) Basic training,

(f) Continuation training,

- Initial Training received,

-(g) Type(s) of Ttraining received,

- Continuation Training received,

(h) Experience,

-(i) Experience in continuing airworthiness and within the organisation,

-(j) Responsibilities of current role in the organisation,

(k) Qualifications relevant to the authorization,

(l) Scope of the authorization,

(m) Date of first issue of the authorization,

(n) If appropriate — expiry date of the authorization,

(o) Identification Number of the authorization,

-(p) Copy of the authorisation.

2. The record may be kept in any format but should be controlled by the organisation's compliance monitoring function. This does not mean that the compliance monitoring manager should run the record system.

3. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.

4. The officials of the competent authorities, the Agency and the Member State, who have responsibility for the oversight of the maintained aircraft and component thereof are authorised persons when investigating the records system for initial and continued approval or when they have cause to doubt the competence of a particular person."

– It is proposed to modify the AMC1 145.A.35(j) to read:

"1. The following minimum information as applicable should be kept on record in respect of each certifying staff and support staff:

(a) Family Nname and first name,

(b) Date of Bbirth,

(c) Basic education,

(d) Part-66 qualification and/or nationally-recognised maintenance personnel qualification, and any Aeronautical degree,

(e) Basic Ttraining,

(df) Type Ttraining,

(eg) Continuation Ttraining,

(h) Type(s) of training received,

(~~f~~i) Experience,

(j) Experience in maintenance and within the organisation,

(k) Responsibilities of current role in the organisation,

(~~g~~l) Qualifications relevant to the authorization,~~.~~

(~~h~~m) Scope of the authorization,

(~~i~~n) Date of first issue of the authorization,

(~~j~~o) If appropriate — expiry date of the authorization,

(~~k~~p) Identification Number of the authorization~~.~~,

(q) Copy of the authorization.

2. The record may be kept in any format but should be controlled by the organisation's compliance monitoring function. This does not mean that the compliance monitoring manager should run the record system.

3. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.

4. The officials of t~~T~~he competent authorities~~y~~, the Agency and the Member State, who have responsibility for the oversight of the maintained aircraft and component thereof ~~is an~~are authorised persons when investigating the records system for initial and continued approval or when they ~~competent authority has~~have cause to doubt the competence of a particular person."

3. RATIONALE / REASON / JUSTIFICATION:

For consistency between Part-M and Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 46:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 66/218, section B., AMC1 M.A.610

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the point M.A.610 to read:

"Before the commencement of maintenance a written work order shall be agreed between the organisation and the person or organisation requesting maintenance to clearly establish the maintenance to be carried out.".

3. RATIONALE / REASON / JUSTIFICATION:
For clarity (to take into account that maintenance may be ordered by a person, e.g. the pilot-owner).

Comment No. 47:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.501
Point M.A.608
NPA 2013-01(C), page 70/184, section B., point 145.A.42

2. PROPOSED TEXT / COMMENT:

– It is proposed to modify point M.A.501 to read:

"M.A.501 Installation by the pilot-owner

(a) Prior to installing a component on its aircraft, the pilot-owner shall comply with point M.A.608(c), (e), (h) and (i).~~No component may be fitted unless it is in a satisfactory condition, has been appropriately released to service on an EASA Form 1 or equivalent and is marked in accordance with Part-21 Subpart Q, unless otherwise specified in Annex (Part-21) to Regulation (EC) No 1702/2003, Annex II (Part-145) or Subpart F, Section A of Annex I to this Regulation.~~

~~(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 modification and/or airworthiness directive configurations may be applicable.~~

~~(c) Standard parts shall only be fitted to an aircraft or a component when the maintenance data specifies the particular standard part. Standard parts shall only be fitted when accompanied by evidence of conformity traceable to the applicable standard.~~

~~(d) Material being either raw material or consumable material shall only be used on an aircraft or a component when the aircraft or component manufacturer states so in relevant maintenance data or as specified in Part-145. Such material shall only be used when the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.~~"

– It is proposed to modify point M.A.608 (first part of modifications) to read:

"(a) […]

(b) […]

(c) No component may be fitted unless it is in a satisfactory condition for safe operation, has been appropriately released to service on an EASA Form 1 or equivalent, and is marked in accordance with Subpart Q of the Annex (Part-21) to Regulation (EU) No 748/2012, unless otherwise specified there, or in this Regulation.

(~~c~~d) The organisation shall inspect, classify and appropriately segregate all incoming components~~.~~ into the following categories:

1. Serviceable components which are in a satisfactory condition for safe operation, released on an EASA Form 1 or equivalent, and marked in accordance with Subpart Q of the Annex (Part-21) to Regulation (EU) No 748/2012.

2. Unserviceable components which shall be maintained in accordance with this Regulation.

3. Unsalvageable components which shall not be permitted to re-enter the component supply system, unless their serviceability has been restored by application of a solution approved in accordance with the provisions of the Annex (Part-21) to Regulation (EU) No 748/2012.

(e) Prior to installation of a component on another or an aircraft, the person or approved maintenance organisation shall ensure that the particular component is serviceable and eligible to be fitted when different modification and/or airworthiness directive configurations may be applicable.

(f) The organisation may fabricate a restricted range of parts to be used in the course of undergoing work within its own facilities provided procedures are identified in the exposition.

(g) Components referred to in point 21.A.307(c) of the Annex (Part-21) to Regulation (EU) No 748/2012 shall only be installed if considered eligible for installation by the aircraft owner in its own aircraft.

(h) Standard parts shall only be fitted to an aircraft or a component when the maintenance data specifies the particular standard part. Standard parts shall only be fitted when accompanied by evidence of conformity traceable to the applicable standard.

(i) Material being either raw material or consumable material shall only be used on an aircraft or a component when the aircraft or component manufacturer states so in relevant maintenance data or as specified in this Regulation. Such material shall only be used when the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a statement confirming the conformity to specification ~~statement~~, plus both the manufacturing and supplier source."

– It is also proposed to modify (the existing) point 145.A.42 to read:

"(a) No component may be fitted unless it is in a satisfactory condition for safe operation, has been appropriately released to service on an EASA Form 1 or equivalent, and is marked in accordance with Subpart Q of the Annex (Part-21) to Regulation (EU) No 748/2012, unless otherwise specified there, or in this Regulation.

(~~a~~b) All components shall be classified and appropriately segregated into the following categories:

1. Serviceable ~~C~~components which are in a satisfactory condition for safe operation, released on an EASA Form 1 or equivalent, and marked in accordance with Subpart Q of the Annex (Part-21) to Regulation (EU~~C~~) No 748/2012~~1702/2003~~.
2. Unserviceable components which shall be maintained in accordance with this ~~section~~Regulation.
3. Unsalvageable components which ~~are classified in accordance with point 145.A.42(d)~~ shall not be permitted to re-enter the component supply system unless their serviceability has been restored by application of a solution approved in accordance with the provisions of the Annex (Part-21) to Regulation (EU) No 748/2012.
4. ~~Standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer's illustrated parts catalogue and/or the maintenance data.~~
5. ~~Material both raw and consumable used in the course of maintenance when the organisation is satisfied that the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.~~
6. ~~Components referred to in point 21A.307(c) of the Annex (Part-21) to Regulation (EC) No 1702/2003.~~

(~~b~~c) Prior to installation of a component on another or an aircraft, the organisation shall ensure that the particular component is eligible to be fitted when different modification and/or airworthiness directive ~~standards~~configurations may be applicable.

(~~c~~d) The organisation may fabricate a restricted range of parts to be used in the course of undergoing work within its own facilities provided procedures are identified in the exposition.

~~(d) Components which have reached their certified life limit or contain a non-repairable defect shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended or a repair solution has been approved according to Part-21.~~

(e) Components referred to in point 21.A.307(c) of the Annex (Part-21) to Commission Regulation (EU~~C~~) No 748/2012~~1702/2003~~ shall only be installed if considered eligible for installation by the aircraft owner in its own aircraft.

(f) Standard parts shall only be fitted to an aircraft or a component when the maintenance data specifies the particular standard part. Standard parts shall only be fitted when accompanied by evidence of conformity traceable to the applicable standard.

(g) Material being either raw material or consumable material shall only be used on an aircraft or a component when the aircraft or component manufacturer states so in relevant maintenance data or as specified in this Regulation [where?]. Such material shall only be used when the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a statement confirming the conformity to specification, plus both the manufacturing and supplier source."

3. RATIONALE / REASON / JUSTIFICATION:

For consistency between Part-M and Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 48:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC for M.A.608
NPA 2013-01(C), pages 71 to 74/184, section B. AMC & GM for 145.A.42

2. PROPOSED TEXT / COMMENT:

It is proposed to create AMC and GM for M.A.608 on the basis of those for point 145.A.42:

- AMC1 M.A.608(c) on the basis of AMC1 145.A.42(a),
- GM1 M.A.608(c) on the basis of GM1 145.A.42(a). It is proposed to modify GM1 145.A.42(a) to read:

  "The purpose of the EASA Form 1 is to release components after manufacture, to release maintenance work carried out on such components under the approval of a competent authority, and to allow components removed from one aircraft/component to be fitted to another aircraft/component.

  An EASA Form 1 is not necessarily enough to confirm the airworthiness of a component, particularly in case of multiple releases. The person or approved maintenance organisation installing a component shall ensure, with the help of the person or organisation responsible for the aircraft continuing airworthiness management, if necessary, that the particular component is airworthy before installation."

- AMC1 M.A.608(d) on the basis of AMC1 145.A.42(b),
- AMC1 M.A.608(e) on the basis of AMC1 145.A.42(c). It is proposed to modify AMC1 145.A.42(c) to read:

  "~~The EASA Form 1 or equivalent identifies the status of an aircraft component.~~ Block 12 'Remarks' on the EASA Form 1 in some cases contains vital airworthiness related information which may need appropriate and necessary actions. The receiving organisation should be satisfied that the component in question is in satisfactory condition and has been appropriately released to service.

  In addition, the organisation should ensure that the component meets the approved data/standard, such as the required design and modification standard. This may be accomplished by reference to the manufacturer's parts catalogue or other approved data (~~i.e.~~e.g. Service Bulletin). Care should also be taken in ensuring compliance with applicable aircraft maintenance programme requirements such as airworthiness directives, the status of any life-limited parts fitted to the aircraft component as well as Critical Design Configuration Control Limitations."

- AMC1 M.A608(f) on the basis of AMC1 145.A.42(d),
- AMC1 M.A.608(h) on the basis of AMC1 145.A.42(g),
- GM1 M.A.608(h) on the basis of GM1 145.A.42(g),
- AMC1 M.A.608(i) on the basis of AMC1 145.A.42(h),
- GM1 M.A.608(i) on the basis of GM1 145.A.42(h).

3. RATIONALE / REASON / JUSTIFICATION:

For consistency between Part-M and Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 49:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.504
Point M.A.608
NPA 2013-01(C), pages 74 & 75/184, section B., point 145.A.43

2. PROPOSED TEXT / COMMENT:

– It is proposed to modify point M.A.504 to read:

"(a) A component shall be considered unserviceable in any one of the following circumstances:

1. ~~expiry of the service life limit as~~non-compliance with the instructions specified in the applicable aircraft maintenance programme or in approved variations thereto;

~~2. non-compliance with the applicable airworthiness directives and other continued airworthiness requirement mandated by the Agency;~~

~~3~~2. absence of the necessary information to determine the airworthiness status or eligibility for installation;

~~4~~3. evidence of defects or malfunctions;

~~5~~4. involvement in an incident or accident likely to affect its serviceability.

(b) Unserviceable components shall be identified and stored in a secure location under the control of an approved maintenance organisation until a decision is made on the future status of such component. ~~Nevertheless, for aircraft not used in commercial air transport other than large aircraft, the person or organisation that declared the component unserviceable may transfer its custody, after identifying it as unserviceable, to the aircraft owner provided that such transfer is reflected in the aircraft logbook or engine logbook or component logbook.~~

(c) Components ~~which have reached their certified life limit or contain a non-repairable defect shall be~~ classified as unsalvageable ~~and~~ shall not be permitted to re-enter the component supply system, unless ~~certified life limits have been extended or~~their serviceability has been restored in compliance with a ~~repair~~ solution ~~has been~~ approved according to ~~M.A.304~~ Annex (Part-21) to Regulation (EU) No 748/2012.

(d) Any person or organisation accountable under ~~Part-M~~this Regulation shall, in the case of a paragraph (c) unsalvageable components:

1. arrange for ~~retain~~ such component to be retained in the paragraph (b) location, or;

2. arrange for the component to be mutilated in a manner that ensures that it is beyond economic salvage or repair before relinquishing responsibility for such component.

(e) Notwithstanding paragraph (d) a person or organisation accountable under ~~Part-M~~this Regulation may transfer responsibility of components classified as unsalvageable to an organisation for training or research without mutilation."

– It is proposed to modify point M.A.608 (second part of modifications) to read:

"(a) […]

(d) The organisation shall inspect, classify and appropriately segregate all incoming components into the following categories:

1. Serviceable components […].

2. Unserviceable components which shall be maintained in accordance with this Regulation. They shall be identified and stored in a secure location under the control of

the maintenance organisation as specified in M.A.605, until a decision is made on the future status of such component. Nevertheless, for components of aircraft not used in commercial air transport other than large aircraft, the person or organisation that declared the component unserviceable may transfer its custody after identifying it as unserviceable, to the component owner or a maintenance organisation provided that such transfer is reflected in the aircraft continuing airworthiness records.

3. Unsalvageable components which shall not be permitted to re-enter the component supply system, unless their serviceability has been restored by application of a solution approved in accordance with the provisions of the Annex (Part-21) to Regulation (EU) No 748/2012. The maintenance organisation shall:

(1) retain such components in the paragraph (d)2. location, or;

(2) on owner's request, mutilate the unsalvageable component in a manner that ensures that it is beyond economic salvage or repair before delivering such component.

(3) Notwithstanding paragraph (2), on owner's request, the maintenance organisation may transfer components classified as unsalvageable to an organisation for training or research without mutilation.

[…]."

– It is also proposed to modify point 145.A.43 to read:

"~~(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 continuing 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; and~~

~~(5) involvement in an incident or accident likely to affect its serviceability.~~

(~~b~~a) Unserviceable components shall be identified and stored in a secure location under the control of the maintenance organisation as specified in 145.A.25, until a decision is made on the future status of such component. Nevertheless, for components of aircraft not used in commercial air transport other than large aircraft, the organisation that declared the component unserviceable may transfer its custody after identifying it as unserviceable, to the ~~aircraft~~ component owner or a maintenance organisation provided that such transfer is reflected in the aircraft continuing airworthiness records~~logbook, or engine logbook, or component logbook~~.

(~~c~~b) In the case of unsalvageable components the organisation shall:

(1) retain such component in the paragraph (~~b~~a) location, or;

(2) ~~arrange for~~on owner's request, mutilate the component ~~to be mutilated~~ in a manner that ensures that it is beyond economic salvage or repair before ~~relinquishing responsibility for~~ delivering such component.

(~~d~~e) Notwithstanding paragraph (~~c~~b), on owner's request, the maintenance organisation may transfer ~~responsibility of~~ components classified as unsalvageable to an organisation for training or research without mutilation."

3. RATIONALE / REASON / JUSTIFICATION:

The current list of conditions implying a component is unserviceable is not exhaustive. Further, how could a maintenance organisation be responsible to determine whether a component:

- is or not in compliance with the instructions specified in the aircraft maintenance programme?
- was involved in an incident or accident likely to affect its serviceability?

These matters are under the responsibility of the person or organisation managing the aircraft airworthiness. Nevertheless, the maintenance organisation should report any evidence of defects or malfunctions to the person or organisation managing the aircraft airworthiness.

The person or continuing airworthiness management organisation should be accountable for declaring components unserviceable. The maintenance organisations should be responsible to correctly reflect this decision on the component and accompanying documents.

It should be noted that a repair is not the only solution to restore the serviceability of unsalvageable components.

Modifications are introduced take into account the owners' rights on their unsalvageable components and to bring consistency between maintenance organisations approved under Part-M Subpart F and Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 50:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.504(a)
AMC M.A.504(b)

2. PROPOSED TEXT / COMMENT:

It is proposed to re-identify AMC M.A.504(a) into AMC1 M.A.504(a) and to modify it to read:

"A component continues to be unserviceable until a decision is taken ~~pursuant to AMC M.A.605(c) 6.~~ in accordance with procedures described in the continuing airworthiness management organisation.

Procedures should be defined by the organisation describing the decision process for the status of unserviceable components. This procedure should identify at least the following:

- role and responsibilities of the persons managing the decision process;
- description of the decision process to chose between maintaining, storing or mutilating a component;
- traceability of decision."

It is proposed to delete AMC M.A.504(b).

3. RATIONALE / REASON / JUSTIFICATION:

The decisions on component serviceability should be under the responsibility of the person or organisation managing the aircraft airworthiness. Nevertheless, the maintenance organisation should report any evidence of defects or malfunctions to the person or organisation managing the aircraft airworthiness.

Comment No. 51:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.608
NPA 2013-01(C), page 75/184, section B., AMC1 145.A.43(b)

2. PROPOSED TEXT / COMMENT:

- It is proposed to create AMC2 M.A.608(d) to read:

"1. The organisation should ensure proper labelling of any unserviceable components.

2. The unserviceable status of the component should be clearly indicated on a tag together with the component identification data and any reference to information defining actions necessary to be taken. Such information should state, as applicable, in-service times, maintenance status, preservation status, failures, defects or malfunctions reported, or detected exposure to adverse environmental conditions if the component has been involved in or affected by an accident/incident. Means should be provided to prevent unwanted separation of this tag from the component.

3. On aircraft owner/lessee request, the organisation performing aircraft maintenance should send any unserviceable component to an approved maintenance organisation for controlled storage, or transfer the custody of the component to the owner itself under the conditions specified in M.A.608(d)."

- It is proposed to re-identify AMC1 145.A.43(b) into AMC1 145.A.43(a) and to modify it to read:

"(a) The organisation should ensure proper ~~identification~~labelling of any unserviceable components.

(b) The unserviceable status of the component should be clearly ~~declared~~indicated on a tag together with the component identification data and any reference to information ~~useful to define~~defining actions necessary to be taken. Such information should state, as applicable, in-service times, maintenance status, preservation status, failures, defects or malfunctions reported, or detected exposure to adverse environmental conditions if the component has been involved in or affected by an accident/incident. Means should be provided to prevent unwanted separation of this tag from the component.

~~(c) 'A secure location under the control of an approved maintenance organisation' means a secure location for which security is the responsibility of the approved maintenance organisation. This may include facilities established by the organisation at locations different from the main maintenance facilities. These locations should be identified in the relevant procedures of the organisation.~~

(c) On aircraft owner/lessee request, the organisation performing aircraft maintenance should send any unserviceable component to an approved maintenance organisation for controlled storage, or transfer the custody of the component to the owner itself under the conditions specified in 145.A.43(a)."

3. RATIONALE / REASON / JUSTIFICATION:

Consideration has been given to accountabilities/responsibilities/authorities of CAMO and maintenance organisations.

For consistency between Part-M and Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 52:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.605
AMC 145.A.25(d)

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify AMC M.A.605(c) into AMC1 M.A.605(c) and to modify it to read:

"1. Storage facilities for serviceable aircraft components should be clean, well-ventilated and maintained at an even dry temperature to minimise the effects of condensation. Manufacturer's storage recommendations should be followed for those aircraft components identified in such published recommendations.

2. Adequate storage racks should be provided and strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not damaged during storage.

3. All aircraft components, wherever practicable, should remain packaged in their protective material to minimise damage and corrosion during storage. A shelf life control system should be utilised and identity tags used to identify components.

4. Segregation means storing unserviceable components in a separate secured location from serviceable components.

5. Segregation and management of any unserviceable component should be ensured according to the pertinent procedure approved to that organisation.

~~6. Procedures should be defined by the organisation describing the decision process for the status of unserviceable components. This procedure should identify at least the following:~~

~~– role and responsibilities of the persons managing the decision process;~~

~~– description of the decision process to chose between maintaining, storing or mutilating a component;~~

~~traceability of decision~~

~~7~~6. Once unserviceable components or materials have been identified as unsalvageable in accordance with M.A.504 (~~c~~d)1., the organisation should establish secure areas in which to segregate such items and to prevent unauthorised access. Unsalvageable components should be managed through a procedure to ensure that these components receive the appropriate final disposal according to M.A.504 (d)2. or (e). The person responsible for the implementation of this procedure should be identified.

7. 'Secure storage facility' means a secure location for which security is the responsibility of the approved maintenance organisation. This may include facilities established by the organisation at locations different from the main maintenance facilities. These locations should be identified in the relevant procedures of the organisation."

- It is proposed to re-identify AMC 145.A.25(d) into AMC1 145.A.25(d) and to modify it to read:

"1. Storage facilities for serviceable aircraft components should be clean, well-ventilated and maintained at a constant dry temperature to minimise the effects of condensation. Manufacturer's storage recommendations should be followed for those aircraft components identified in such published recommendations.

2. Storage racks should be strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not distorted during storage.

3. All aircraft components, wherever practicable, should remain packaged in protective material to minimise damage and corrosion during storage.

4. 'Secure storage facility' means a secure location for which security is the responsibility of the approved maintenance organisation. This may include facilities established by the organisation at locations different from the main maintenance facilities. These locations should be identified in the relevant procedures of the organisation."

3. RATIONALE / REASON / JUSTIFICATION:

Consolidation of requirements for facilities.

For consistency between Part-M and Part-145. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Comment No. 53:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.504(c)
NPA 2013-01(C), pages 75 & 76/184, section B., AMC1 145.A.43(c)

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify AMC M.A.504(c) into AMC1 M.A.504(d).
- It is proposed to re-identify AMC1 145.A.43(c) into AMC1 145.A.43(b) and to modify it to read:

"1. The maintenance organisation should report to the person or organisation responsible for the aircraft continuing airworthiness management ~~T~~the following types of components, which should typically be classified as unsalvageable:

(a) Components with non-repairable defects, whether visible or not to the naked eye;

(b) Components that do not meet design specifications, and cannot be brought into conformity with such specifications;

(c) Components subjected to unacceptable modification or rework that is irreversible;

~~(d) Certified life-limited parts that have reached or exceeded their certified life limits, or have missing or incomplete records;~~

(~~e~~d) Components that cannot be returned to airworthy condition due to exposure to extreme forces, heat or adverse environment;

(~~f~~e) Components for which conformity with an applicable airworthiness directive cannot be accomplished;

~~(g) Components for which maintenance records and/or traceability to the manufacturer cannot be retrieved.~~

2. It is common practice for owners of aircraft components to dispose of unsalvageable components by selling, discarding, or transferring such items. In some instances, these items have reappeared for sale and in the active parts inventories of the aviation community. Misrepresentation of the status of components and the practice of making such items appear serviceable have resulted in the use of unsalvageable nonconforming components. Therefore organisations disposing of unsalvageable aircraft components should consider the possibility of such components later being misrepresented and sold as serviceable components. Caution should be exercised to ensure that unsalvageable components are disposed of in a manner that does not allow them to be returned to service."

3. RATIONALE / REASON / JUSTIFICATION:

Consideration has been given to accountabilities/responsibilities/authorities of CAMO and maintenance organisations.

The decisions on component serviceability should be under the responsibility of the person or organisation managing the aircraft airworthiness. Nevertheless, the maintenance organisation should report any evidence of defects or malfunctions to the person or organisation managing the aircraft airworthiness.

Comment No. 54:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.504(d)(2)
NPA 2013-01(C), page 76/184, section B., AMC1 145.A.43(c)(2)

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify AMC M.A.504(d)(2) into AMC1 M.A.608(d)(3) and to modify it to read:

  "[…]

  4. Since manufacturers producing approved aircraft components should maintain records of serial numbers for "retired" ~~certified life-limited or other~~ critical components, including those having a mandatory life limitation, the organisation that mutilates a component should provide the original manufacturer with the data plate and/or serial number and final disposition of the component."

- It is proposed to modify AMC1 145.A.43(c)(2) to read:

  "[…]

  (d) Since manufacturers producing approved aircraft components should maintain records of serial numbers for 'retired'~~, certified, life-limited, or other~~ critical components, including those having a mandatory life limitation, the organisation that mutilates a component should provide the original manufacturer with the data plate and/or serial number and final disposition of the component."

Could the following be reminded?

- What is the definition of "critical component" for large aeroplanes?
- Which manufacturer publication lists critical components for a given aircraft? Is this publication made available to Part-M/Part-145 approved organisations so that compliance with the above requirement can be demonstrated?
- What Regulation requirement imposes on manufacturers producing approved aircraft components to maintain records of serial numbers for 'retired' critical components?

3. RATIONALE / REASON / JUSTIFICATION:

It is to be noted that some component replacements are recommended only (i.e. not mandatory). The associated life limitations are therefore recommended. A clarification is needed in the acceptable means of compliance here above.

Airbus supports the objective of these AMC. However, until the list of critical components is systematically published for all kinds of Products, CAMO and maintenance organisations will not be in the position to fulfil this obligation uniformly. To ensure a uniform level of reporting, the list of critical components should be made available to CAMO and maintenance organisations.

CS-E 15, CS-E 25, CS-E 110, CS-E 120, CS-E 510, CS-E 515 and its AMC describe good practices on critical parts/components.

Comment No. 55:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.504(e)
NPA 2013-01(C), page 77/184, section B., AMC1 145.A.43(d)

2. PROPOSED TEXT / COMMENT:

- It is proposed to re-identify AMC M.A.504(e) into AMC1 M.A.504(e) and to modify it to read:

  "~~A maintenance organisation~~The component's owner may choose~~, in agreement with the component's owner,~~ to release an unsalvageable component for legitimate non-flight uses, such as for training and education, research and development. In such instances, mutilation may not be appropriate. The person or organisation responsible for the aircraft continuing airworthiness management should ensure the unsalvageable component will be processed in accordance with~~following~~ acceptable methods ~~should be used~~ to prevent the component re-entering the aviation supply system.~~:~~

  ~~(a) permanently marking or stamping the component, as "NOT SERVICEABLE." (Ink stamping is not an acceptable method);~~

  ~~(b) removing original part number identification;~~

  ~~(c) removing data plate identification;~~

  ~~(d) maintaining a tracking or accountability system, by serial number or other individualised data, to record transferred unsalvageable aircraft component;~~

  ~~(e) including written procedures concerning disposal of such components in any agreement or contract transferring such components.~~

  NOTE: Unsalvageable components should not be released to any person or organisation that is known to return unsalvageable components back into the aviation supply system, due to the potential safety threat."

- It is proposed to create AMC3 M.A.608(d) to read:

  "A component's owner may choose to release an unsalvageable component for legitimate non-flight uses, such as for training and education, research and development. In such instances, mutilation may not be appropriate. The following methods should be used by the maintenance organisation to prevent the component re-entering the aviation supply system:

  (a) Permanently marking or stamping the component, as 'UNSALVAGEABLE.' (Ink stamping is not an acceptable method);

  (b) Removing original part number identification;

  (c) Removing data plate identification;

  (d) Maintaining a tracking or accountability system, by serial number or other individualised data, to record transferred unsalvageable aircraft component; and

  (e) including written procedures concerning disposal of such components in any agreement or contract transferring such components.

  NOTE: Unsalvageable components should not be released to any person or organisation that is known to return unsalvageable components back into the aviation supply system, due to the potential safety threat."

- It is proposed to re-identify AMC1 145.A.43(d) into AMC1 145.A.43(e) and to modify it to read:

  "A ~~maintenance organisation may choose, in agreement with the~~ component's owner~~,~~ may choose to release an unsalvageable component for legitimate non-flight uses, such as for

training and education, research and development. In such instances, mutilation may not be appropriate. The following methods should be used by the maintenance organisation to prevent the component re-entering the aviation supply system:

(a) Permanently marking or stamping the component, as '~~NOT SERVICEABLE~~UNSALVAGEABLE.' (Ink stamping is not an acceptable method);

(b) Removing original part number identification;

(c) Removing data plate identification;

(d) Maintaining a tracking or accountability system, by serial number or other individualised data, to record transferred unsalvageable aircraft component; and

(e) including written procedures concerning disposal of such components in any agreement or contract transferring such components.

NOTE: Unsalvageable components should not be released to any person or organisation that is known to return unsalvageable components back into the aviation supply system, due to the potential safety threat."

3. RATIONALE / REASON / JUSTIFICATION:

Consideration has been given to accountabilities/responsibilities/authorities of CAMO and maintenance organisations.

The decisions on unsalvageable component transfers should be under the responsibility of the owner/person or organisation managing the aircraft airworthiness.

The statement 'NOT SERVICEABLE' is ambiguous compared with 'UNSALVAGEABLE': unserviceable/not serviceable components include also components requiring maintenance before release to service.

Comment No. 56:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.301
NPA 2013-01(B), page 91/218, section B., point M.A.708

2. PROPOSED TEXT / COMMENT:

The duplication of regulation requirements creates hazards (potential future contradictions, confusion, etc.) and makes the compliance demonstration more complex than necessary. Therefore, it is proposed to simplify point M.A.708(b).

Point M.A.708(d) proposed in NPA 2013-01 should be improved on the basis of point 145.A.47 to ensure a more global consideration of human factors and human performance and limitations.

– It is proposed to modify point M.A.708 to read:

"(a) All continuing airworthiness management shall be carried out according to the prescriptions of M.A Subpart C.

(b) For every aircraft managed, the approved continuing airworthiness management organisation shall:

~~(1) develop and control a maintenance programme for the aircraft managed including any applicable reliability programme,~~

(~~2~~1) ~~present the aircraft maintenance programme and its amendments to the competent authority for approval, unless covered by an approval procedure in accordance with point M.A.302(c), and~~ provide the owner with a copy of the approved aircraft maintenance programme ~~to the owner of aircraft not involved in commercial air transport~~when the option specified in M.A.201(e)(ii) is selected,

~~(3) manage the approval of modification and repairs,~~

~~(4) ensure that all maintenance is carried out in accordance with the approved maintenance programme and released in accordance with M.A. Subpart H,~~

~~(5) ensure that all applicable airworthiness directives and operational directives with a continuing airworthiness impact, are applied,~~

~~(6) ensure that all defects discovered during scheduled maintenance or reported are corrected by an appropriately approved maintenance organisation,~~

(~~7~~2) ensure that the aircraft, engine(s), propeller(s), and components thereof ~~is~~are taken to an appropriately approved maintenance organisation whenever necessary,

(~~8~~3) order maintenance, supervise activities, and coordinate decisions~~scheduled maintenance, the application of airworthiness directives, the replacement of service life limited parts, and component inspection~~ to ensure the work ~~is~~ carried out ~~properly~~ and decisions made are appropriately released and suitable, respectively, for the determination of the final airworthiness of the aircraft,

~~(9) manage and archive all continuing airworthiness records and/or operator's technical log.~~

~~(10) ensure that the mass and balance statement reflects the current status of the aircraft.~~

(c) In the case of commercial air transport, when the operator is not appropriately approved to Part-145, the operator shall establish a written maintenance contract between the operator and a Part-145 approved organisation or another operator, detailing the functions specified under M.A.301-2, M.A.301-3, M.A.301-5 and M.A.301-6, ensuring that all maintenance is ultimately carried out by a Part-145 approved maintenance organisation and

defining the support of the compliance monitoring function of M.A.712(a)(6). The aircraft base, scheduled line maintenance and engine maintenance contracts, together with all amendments, shall be approved by the competent authority. However, in the case of:

(1) an aircraft requiring unscheduled line maintenance, the contract may be in the form of individual work orders addressed to the Part-145 maintenance organisation.

(2) component maintenance, including engine maintenance, the contract as referred to in paragraph (c) may be in the form of individual work orders addressed to the Part-145 maintenance organisation.

(d) For the cases other than the one described under M.A.708(c), [to be developed]

(~~d~~e) The organisation shall ensure that human factors and human performance and limitations are taken into account during continuing airworthiness management ~~resulting in good maintenance practices~~:

(1) The organisation shall have a system appropriate to the amount and complexity of the continuing airworthiness management tasks to plan the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities in order to ensure the correct completion of these tasks.

(2) The planning of continuing airworthiness management tasks, and the coordination of shifts if any, shall take into account human performance and limitations.

(3) When it is required to hand over the continuation or completion of continuing airworthiness management tasks for reasons of a shift or personnel changeover, relevant information shall be adequately communicated between outgoing and incoming personnel.

(4) Human factors and human performance and limitations in the accomplishment of maintenance shall be taken into account during the development of deliverables such as work orders to prevent consequential risks."

- It is proposed to modify point M.A.301 to read:

"The aircraft continuing airworthiness and the serviceability of both operational and emergency equipment shall be ensured by:

[…]

9. delivering to the pilot-in-command, or to the operator in the case of commercial air transport, the mass and balance statement, which reflects the current configuration of the aircraft."

3. RATIONALE / REASON / JUSTIFICATION:

It appears that point M.A.708(a) covers the requirements of the following sub-paragraphs of M.A.708(b):

- M.A.708(b)(1): refer to M.A.301 point 4. and, M.A.302(a) and (f),
- M.A.708(b)(2): refer to M.A.302(b) and (c). The requirement to provide a copy to the aircraft owner is not covered,
- M.A.708(b)(3): refer to M.A.301 point 6. and M.A.304,
- M.A.708(b)(4): refer to M.A.301 point 3., M.A.305(a) and M.A.306,
- M.A.708(b)(5): refer to M.A.301 point 5., M.A.302(d)(i), and M.A.303,
- M.A.708(b)(6): refer to M.A.301 point 2.,
- M.A.708(b)(7): The requirement (aircraft taken to an appropriately approved maintenance organisation) is not currently covered by M.A.708(a).
- M.A.708(b)(8): The (coordination) requirement is not covered by M.A.708(a),
- M.A.708(b)(9): refer to M.A.305 and M.A.306,

- M.A.708(b)(10): This requirement is not specific to CAMO. Therefore, it should be relocated in the subpart C.

The point M.A.708(c) covers only one case (commercial air transport, when the operator is not appropriately approved to Part-145). The other cases should be addressed to prevent possible confusion or extensive judgment.

With regard to human factors and human performance and limitations, the Part-145 already includes prescriptions (e.g. in point 145.A.47) more detailed than those of the proposal for Part-M, which introduce only a general requirement. In addition, the AMC1 M.A.708(d) proposed in the NPA 2013-01 gives the impression the scope is restricted to the consequences of human factors and human performance and limitations on the maintenance organisation. In other words, the scope is partially covered as it does not consider the consequences of human factors and human performance and limitations in the development of CAMO deliverables (e.g. work order requesting an operational check instead of a functional check… a mistake due to fatigue, etc…) that could not necessarily be detected downstream.

Comment No. 57:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 92-95/218, section B., AMC & GM for M.A.708
NPA 2013-01(C), pages 77-84/184, section B., AMC & GM for 145.A.47

2. PROPOSED TEXT / COMMENT:

- It is proposed to cancel AMC M.A.708(b)(3).
- It is proposed to modify AMC1 M.A.708(c) to read:

  "[…]

  (d) For line maintenance, the actual layout of the contract the IATA Standard Ground Handling Agreement may be used as a basis, but this does not preclude the competent authority of operator from ensuring that the content of the contract is acceptable to them, and especially that the contract allows the operator to properly exercise its ~~maintenance~~ supervision responsibility. Those parts of a contract that have no bearing on the technical or operational aspects of airworthiness are outside the scope of this paragraph.

  […]

  (g) […]. Typical examples of such arrangements follow:

  - Component maintenance:

    […].

  - Aircraft, engine and component maintenance:

    The operator may wish to have a maintenance contract with another operator of the same type of aircraft not approved under Part-145. A typical case is that of a dry-leased ~~aeroplane~~aircraft between operators where the parties, for consistency or continuity reasons (especially for short term lease agreements), find it appropriate to keep the aircraft under the current maintenance arrangement. Where this arrangement involves various Part-145 approved contractors, it might be more manageable for the lessee to have a single contract with the lessor. Such an arrangement should not be understood as a transfer of responsibility to the lessor: the lessee, being the approved operator of the aircraft, remains responsible for the continuing airworthiness of the aircraft in performing the M.A.708 functions, and employing the M.A.706 continuing airworthiness management group of persons and staff.

  In essence, this does not alter the intent of M.A.201(h) in that it also requires that the operator has to establish a written maintenance contract acceptable to the competent authority of operator and, whatever type of acceptable arrangement is made, the operator is required to exercise the same level of control on contracted maintenance, particularly through the M.A.706(c) continuing airworthiness management group of persons and management system as referred to in M.A.712."

- It is proposed to create AMC and GM for M.A.708(e) on the basis of those for point 145.A.47:
  - AMC1 M.A.708(e)(1) on the basis of AMC 145.A.47(a),
  - AMC2 M.A.708(e) on the basis of AMC1 145.A.47(b),
  - AMC3 M.A.708(e) on the basis of AMC2 145.A.47(b),
  - AMC1 M.A.708(e)(3) on the basis of AMC 145.A.47(c),
  - GM1 M.A.708(e) on the basis of GM1 145.A.47(b),
  - GM2 M.A.708(e) on the basis of GM2 145.A.47(b). However, the guidance material should not refer to, but should state the contents of UK CAP716 Appendix P that are retained.

- It is proposed to modify the following paragraphs of the Appendix XI to AMC1 M.A.708(c) to read:

"1. Maintenance contracts

[…].

A maintenance contract is not normally intended to provide appropriate detailed work instruction to the personnel (and is not normally distributed as such). Accordingly there should be established organisational roles and responsibilities~~y~~, procedures and routines in the operator's M.A. Subpart G & Part-145 organisations to take care of these functions in a satisfactory way such that any person involved is informed about his/her accountabilities, responsibilities~~y~~ and authorities, and the procedures which apply. These procedures and routines can be included/appended to the operator's CAME and maintenance organisation's MOE or consist in separate procedures. In other words procedures and routines should reflect the conditions of the contract.

[…]

2.3. Subcontracting

The maintenance contract should specify under which conditions the Part-145 approved organisation may subcontract tasks to a third party (whether this third party is Part-145 approved or not). At least the contract should make reference to 145.A.75. Additional guidance is provided by the AMC 145.A.75(b). In addition the operator may require the Part-145 approved organisation to obtain the operator's approval before subcontracting to a third party. Access should be given to the operator to any information (especially the ~~quality~~compliance monitoring information) about the Part-145 approved organisation's subcontractors involved in the contract. It should however be noted that under operator's responsibility both the operator and its competent authority are entitled to be fully informed about subcontracting, although the competent authority will normally only be concerned with aircraft, engine and APU subcontracting.

[…]

2.5 Monitoring

The terms of the contract should include a provision allowing the operator to monitor the Part-145 organisation in terms of compliance with the applicable requirements and effectiveness of the organisation's safety risk management processes. The maintenance contract should specify how the results of such monitoring are taken into account by the Part-145 organisation (See also paragraph 2.23~~2~~. 'Meetings').

For Part-145 approved organisations certified in accordance with industry management system standards, such as ISO 9001 or EN 9110, the terms of contract should specify if and how the operator intends to consider this certification for its own monitoring. Where relevant, this should in particular address the elements specified in 2.3 'Subcontracting', 2.22 'Exchange of information' and 2.23~~2~~. 'Meetings'."

- It is proposed to modify AMC1 145.A.47(b) to read:

"FATIGUE RISK MANAGEMENT

(a) In order to manage the fatigue related risk of personnel, as an aviation hazard, the organisation should:

~~(1) as part of its safety policy develop and maintain a policy for the management of fatigue related risk and define the related procedures;~~

(2~~1~~) define and use a work schedule scheme with maximum work and minimum rest hours not exceeding the limitations laid down in the Directive 2003/88/EC[10]. Where temporary derogations and opt-outs to Directive 2003/88/EC are agreed between

the organisation and its personnel, the organisation should conduct and document a risk assessment, and take the necessary actions to mitigate the applicable risks;

(~~3~~2) ensure existing reporting systems enable the identification of fatigue related hazards;

(~~4~~3) assess and manage the risks of such fatigue related hazard reports in accordance with the organisation's safety risk management procedures in accordance with AMC1 145.A.65(a)(3), and monitor the effectiveness of related risk mitigation actions implemented; and

(~~5~~4) provide training on the management of fatigue.

(b) By derogation from point (a)(~~2~~1) above, when the organisation does not apply the maximum work and minimum rest hours laid down in the Directive 2003/88/EC[11], it should establish as part of its management system a fatigue risk management scheme in accordance with AMC2 145.A.65(a)(3) acceptable to the competent authority."

With regard to fatigue risk management, has consideration been given to a consolidation of the requirements, acceptable means of compliance and guidance material?

3. RATIONALE / REASON / JUSTIFICATION:

The subparagraph (d) of the AMC1 M.A.708(c) is modified to align with M.A.201(c): "Any person or organisation performing maintenance shall be responsible for the tasks performed". Therefore, the person or organisation responsible for the continuing airworthiness management is not responsible for the maintenance accomplishment. However, this person or organisation is responsible for ensuring that all maintenance is carried out in accordance with the approved maintenance programme and appropriately released (supervision role).

AMC and GM for M.A.708(e) should be consistent with those for point 145.A.47. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation". It is to be noted that although some national regulation materials may help in defining those of the EASA, it is found inappropriate (e.g. in case of contents evolutions) to include references to national guidance materials: the contents that are retained should be restated instead.

The paragraph (a)(1) of the AMC1 145.A.47(b) is proposed for deletion as there is no reason to focus on only one matter involving human factors and human performance and limitations in the definition of the safety policy.

For the consolidation of material on fatigue risk management, for example, more guidance is given in GM7 145.A.65(a)(3) than for point 145.A.47(b). Refer also to Comment No. 83.

Comment No. 58:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

M.A.402
NPA 2013-01(C), page 84/184, section B., point 145.A.48

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify point M.A.402 to read:

"(a) All maintenance shall be performed by ~~qualified~~competent personnel, according to M.A.606, M.A.803 or 145.A.30 as appropriate, following the methods, techniques, standards and instructions specified in the M.A.401 or 145.A.45 maintenance data, as appropriate.

(b) ~~Furthermore, a~~An independent inspection shall be carried out after any ~~flight safety sensitive~~critical maintenance task or procedure unless otherwise specified ~~by~~ in the maintenance data specified in M.A.401, this ~~Part-145~~Regulation or agreed by the competent authority.

(c) Only the authorised certifying staff, according to M.A.607 or 145.A.35, as appropriate can decide, using M.A.401 or 145.A.45 maintenance data, whether a defect hazards seriously the aircraft continuing airworthiness or the serviceability of operational or emergency equipment and, therefore, decide when and which rectification action shall be taken before further flight, and which defect rectification can be deferred. However, this does not apply when:

(1) the approved minimum equipment list as mandated by the competent authority is used by the pilot; or

(2) aircraft defects are defined as being acceptable by the competent authority.

(~~b~~d) All maintenance shall be performed using the tools, equipment and material specified in the M.A.401 or 145.A.45 maintenance data, as appropriate~~unless otherwise specified by Part-145~~. Where necessary, tools and equipment shall be controlled and calibrated to an officially recognised standard.

(~~c~~e) The area in which maintenance is carried out shall be well organised and clean in respect of dirt and contamination.

(~~d~~f) All maintenance shall be performed within any environmental limitations specified in the M.A.401 maintenance data.

(~~e~~g) In case of inclement weather or lengthy maintenance, proper facilities shall be used.

(~~f~~h) After completion of all maintenance a general verification must be carried out to ensure the aircraft or component is clear of all tools, equipment and any other extraneous parts and material, and that all access panels removed have been refitted."

- It is proposed to modify point 145.A.48 to read:

"(a) All maintenance shall be performed by ~~qualified~~competent personnel, according to 145.A.30, following the methods, techniques, standards, and instructions specified in the 145.A.45 maintenance data.

(b) An independent inspection shall be carried out after any ~~flight safety sensitive~~critical maintenance task or procedure unless otherwise specified in the maintenance data specified in M.A.401 and 145.A.45, this ~~Part-145~~Regulation or agreed by the competent authority.

(c) Only the authorised certifying staff, according to 145.A.35 can decide, using 145.A.45 maintenance data, whether a~~n aircraft~~ defect hazards seriously the ~~flight safety~~aircraft

continuing airworthiness or the serviceability of operational or emergency equipment and, therefore, decide when and which rectification action shall be taken before further flight, and which defect rectification can be deferred. However, this does not apply when:

(1) the approved minimum equipment list as mandated by the competent authority is used by the pilot; or

(2) aircraft defects are defined as being acceptable by the competent authority.

(d) After completion of all maintenance, a general verification must be carried out to ensure the aircraft or component is clear of all tools, equipment, and any other extraneous parts and material, and that all access panels removed have been refitted."

3. RATIONALE / REASON / JUSTIFICATION:

In the Part-145 (and AMC M.A.606(f)), the term 'qualified' is usually associated to Part-66 licenses (or EN4179 license). The term 'competent' is used in the AMC 145.A.30(d) and AMC M.A.402(a) and is preferred in this context.

The use of the term 'flight safety sensitive' is causing concerns. Refer to Comment No 2.

Note: "aircraft continuing airworthiness or the serviceability of operational or emergency equipment" originates from point M.A.301.

An independent inspection should not be required after accomplishment of a critical maintenance task/procedure when the M.A.401 or 145.A.45 maintenance data explicitly does not impose it (M.A.401 maintenance data should take precedence over 145.A.45 maintenance data).

Comment No. 59:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 93/218, section B., AMC1 M.A.708(d)

2. PROPOSED TEXT / COMMENT:
It is proposed to re-identify AMC1 M.A.708(d) into AMC1 M.A.708(e) and to modify it to read:

"HUMAN FACTORS AND HUMAN PERFORMANCE AND LIMITATIONS

(a) Consideration of human factors and human performance and limitations in the context of continuing airworthiness management should address, at least, the following:

(1) identification of ~~flight safety sensitive~~ critical maintenance tasks and procedures; […]"

Can the Agency clarify the meaning of the term 'recommendations for the maintenance planning' in the paragraph (a)(2) of this AMC? Is it the consideration of human factors and human performance and limitations in the development of an aircraft maintenance programme or in the implementation of CAMO outputs (e.g. work orders) by the maintenance organisation? This is ambiguous.

3. RATIONALE / REASON / JUSTIFICATION:
The use of the term 'flight safety sensitive' is causing concerns. Refer to Comment No. 2.

The FAA KSI Team defined in its final report, dated 12-Mar-2007, the following terms (refer to http://www.skybrary.aero/bookshelf/books/1436.pdf):

Task: Short description (e.g. a descriptive title) of what is to be accomplished by a procedure. Example: "Operational check of static inverter."

Procedure: Instructions for how a task is to be accomplished. A procedure consists of one or more sequential steps. Procedures are shown in maintenance, operation, or training manuals."

Maintenance tasks (scheduled or unscheduled) are rather listed in the Airworthiness Limitations Section (ALS), the Maintenance Review Board Report (MRBR), the Maintenance Planning Document (MPD), while procedures can be found typically in the Aircraft or Component Maintenance Manual (AMM/CMM), the Trouble Shooting Manual (TSM), the Structural Repair Manual (SRM), the Non-Destructive Testing Manual (NTM), etc…

Therefore, the terms 'critical maintenance task' and 'critical maintenance procedure' are preferred to 'flight safety sensitive task'.

Comment No. 60:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.402(a) paragraph 4.
NPA 2013-01(C), pages 85-86/184, section B., AMC1 145.A.48(b)

2. PROPOSED TEXT / COMMENT:

This AMC is causing great concerns: it shows that no coordination has been ensured between Part-21 and Part-M/Part-145 to make sure that the needs for independent inspections will be correctly identified. Consequently, Part-M/Part-145 could be required to perform design reviews, using criteria that are not consistent with those of the applicable Certification Basis.

– It is proposed to delete the paragraph 4. of AMC M.A.402(a), to be re-identified AMC1 M.A.402(a) and to create a new AMC1 M.A.402(b) to read:

"INDEPENDENT INSPECTIONS

(a) The instructions for continued airworthiness issued by organisations holding a design approval should be followed when determining the need for an independent inspection.

(b) In the absence of independent inspection requirements published by organisations holding a design approval:

(1) Maintenance organisations should revert to the aircraft owner or continuing airworthiness management organisation, as appropriate, to obtain the list of required independent inspections.

(2) The aircraft owner or continuing airworthiness management organisation should revert to the appropriate organisation holding a design approval or the competent authority to establish the list of required independent inspections.

(c) The maintenance organisation may need to develop and apply some additional independent inspections considering the specific maintenance environment (e.g. in case of sand storms, etc…) or maintenance operations (e.g. previous experience of maintenance errors during night shifts).

(d) An independent inspection should consist of the verification on aircraft, engine(s), propeller(s), or component(s) thereof, as appropriate, of the work recorded by a person not issuing the maintenance release. A technical record of an independent inspection should contain the signatures of the following persons before the relevant certificate of release to service is issued.

(1) An authorised person signing the maintenance release who assumes full responsibility for the satisfactory completion of the work before being subsequently inspected by another.

(2) Another competent person, suitably qualified to carry out the independent inspection, who attests to the satisfactory completion of the work recorded and that no deficiencies have been found.

(e) When work is being done under the control of an approved maintenance organisation, the organisation should have procedures to demonstrate that the signatories have been trained, and have gained experience on the specific aircraft item being inspected.

(f) When work is being undertaken by an independent M.A.801(b)2. certifying staff, the qualifications and experience of the second independent competent person should be directly assessed by the person certifying for the maintenance, taking into account the individual's training and experience. It should not be acceptable for the certifying staff signing the release to show the person performing the independent inspection how to perform the inspection at the time the work is completed."

– It is therefore proposed to modify the AMC1 145.A.48(b) to read:

"INDEPENDENT INSPECTIONS

(a) The ~~manufacturer's~~ instructions for continued airworthiness issued by organisations holding a design approval should be followed when determining the need for an independent inspection.

(b) In the absence of ~~maintenance and~~independent inspection ~~standards~~requirements published by organisations ~~responsible for the type~~holding a design approval, maintenance organisations should revert to the aircraft owner or continuing airworthiness management organisation, as appropriate, to obtain the list of required independent inspections.~~tasks that involve the assembly or any disturbance of a control system that, if errors occurred, could result in a failure, malfunction, or defect endangering the safe operation of the aircraft should be considered as flight safety sensitive maintenance tasks needing an independent inspection. A control system is an aircraft system by which the flight path, attitude, or propulsive force of the aircraft is changed, including the flight, engine and propeller controls, the related system controls and the associated operating mechanisms.~~

(c) The maintenance organisation may need to develop and apply some additional independent inspections considering the specific maintenance environment (e.g. in case of sand storms, etc…) or maintenance operations (e.g. previous experience of maintenance errors during night shifts).

(~~c~~d) ~~Independent inspections should be carried out by at least two persons, to ensure correct assembly, locking and sense of operation.~~An independent inspection should consist of the verification on aircraft, engine(s), propeller(s), or component(s) thereof, as appropriate, of the work recorded by a person not issuing the maintenance release. A technical record of ~~the~~an independent inspection~~s~~ should contain the signatures of ~~both~~the following persons before the relevant certificate of release to service is issued.

(1) ~~An independent inspection is an inspection first made by a~~An authorised person signing the maintenance release who assumes full responsibility for the satisfactory completion of the work before being subsequently inspected by another ~~second independent~~ competent person ~~who attests to the satisfactory completion of the work recorded and that no deficiencies have been found~~.

(2) ~~The second independent~~Another competent person~~,is not issuing a maintenance release, therefore, is not required to hold certification privileges. However, they should be~~ suitably qualified to carry out the independent inspection, who attests to the satisfactory completion of the work recorded and that no deficiencies have been found.

(~~d~~e) The organisation should have procedures to demonstrate that the signatories have been trained, and have gained experience on the specific aircraft item~~control systems~~ being inspected.

~~(e) In summary, the following maintenance tasks should primarily be considered when inspecting aircraft control systems that have been disturbed:~~

~~(1) installation, rigging, and adjustment of flight controls;~~

~~(2) installation of aircraft engines, propellers; and rotors; and~~

~~(3) overhaul, calibration or rigging of components such as engines, propellers, transmissions, and gearboxes.~~

~~Consideration should also be given to:~~

~~(1) previous experience of maintenance errors, depending on the consequences of the failure; and~~

~~(2) information arising from an 'occurrence reporting system'~~

~~(f) When checking control systems that have undergone maintenance, the person signing the maintenance release and the person performing the independent check should consider the following points independently:~~

~~(1) all those parts of the system, that have actually been disconnected or disturbed, should be inspected for correct assembly and locking;~~

~~(2) the system as a whole should be inspected for full and free movement over the complete range;~~

~~(3) cables should be tensioned correctly with adequate clearance at secondary stops;~~

~~(4) the operation of the control system as a whole should be observed to ensure that the controls are operating in the correct sense;~~

~~(5) if the control system is duplicated to provide redundancy, each system should be checked separately; and~~

~~(6) if different control systems are interconnected so that they affect each other, all interactions should be checked through the full range of the applicable controls.~~"

3. RATIONALE / REASON / JUSTIFICATION:

The concerns are the following:

- The AMC indicate that the Instructions for Continued Airworthiness (ICA) should be followed when determining the need for an independent inspection. But, is there a requirement that impose on organisations holding a design approval (Part-21) to flag maintenance tasks and procedures entailing an independent inspection?
- The AMC acknowledge in the paragraph (b), the possibility to have no information on this matter issued by the organisation responsible for the type design. In such a case, the accomplishment of design reviews is implicitly imposed on Part-M/Part-145 organisations, for which they may hold no approval.

  Note: some modifications to ICA are changes to type design governed by the Part-21.
- Are the criteria provided in the paragraph 4.2 of the AMC M.A.402(a)) and the paragraph (b) of the AMC1 145.A.48(b) adequate to identify <u>all</u> the needs? For example, the installation procedure of an avionic bay air extraction fan would not be identified as a critical procedure, although the loss of ventilation in the avionic bay may lead to the loss (overheat) of many key computers. The correlation between the severity of failure condition effects, as described in the Certification Basis, and the need for an independent inspection should be established.

Comment No. 61:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 96/218, section B., GM M.A.709

2. PROPOSED TEXT / COMMENT:
The AMC M.A.709 has been downgraded to the level of guidance material. Some of its contents give a means to comply with M.A.709. It is proposed to re-identify GM1 M.A.709(b) into AMC1 M.A.709(b).

The AMC1 M.A.709(b) gives the impression that a maintenance programme contains only scheduled maintenance tasks. It is therefore proposed to modify AMC1 M.A.709(b) to read:

"'Baseline' maintenance programme: it is a maintenance programme developed for a particular aircraft type that includes a maintenance schedule generated following, where applicable, the maintenance review board (MRB) report, the type certificate holder's maintenance planning document (MPD), the relevant chapters of the maintenance manual or any other maintenance data containing information on scheduling. […]

However, this does not mean that this adaptation must be performed for each contracted aircraft registration. ~~The reason is that t~~The customer may already have an approved aircraft maintenance programme, which in that case should be used by the continuing airworthiness management organisation to manage the continuing airworthiness of such aircraft.

[...]"

3. RATIONALE / REASON / JUSTIFICATION:
For example, "[...] the baseline or generic maintenance programme, as applicable, may be used to establish the M.A.302 aircraft maintenance programme [...]" is an acceptable means of compliance.

On the basis of M.A.201(a)(4) requirements, the AMC1 M.A.709(b) should stress that the maintenance schedule is not the only constituent of the aircraft maintenance programme. Refer to Comment No. 9.

Comment No. 62:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.710
AMC M.A.710

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify point M.A.710 to read:

"(a) To satisfy the requirement for the airworthiness review of an aircraft referred to in point M.A.901, a full documented review of the aircraft records shall be carried out by the approved continuing airworthiness management organisation in order to be satisfied that:

[...]

8. all maintenance has been released in accordance with ~~Annex I (Part-M)~~this Regulation; and

[...]

(b) The airworthiness review staff of the approved continuing airworthiness management organisation shall carry out a physical ~~survey~~inspection of the aircraft. For this ~~survey~~inspection, airworthiness review staff not appropriately qualified to Annex III (Part-66) shall be assisted by such qualified personnel.

(c) Through the physical ~~survey~~inspection of the aircraft, the airworthiness review staff shall ensure that:

[...]

(h) The airworthiness review shall be completed within 15 consecutive days.

(i) Should the outcome of the airworthiness review be inconclusive as a result of level 1 findings, the competent authority shall be informed as soon as practicable but in any case within 72 hours of the organisation identifying the condition to which the review relates."

- It is proposed to modify AMC M.A.710(a), re-identified AMC1 M.A.710(b), to read:

"1. A full documented review is a check of at least the following categories of documents:

- [...]
- modification and SB status
- modification and repair approval sheets
- production concessions and deviations approved by the competent authority
- [...]

As a minimum, sample checks within each document category should be carried out.

2. [...]."

- It is proposed to modify AMC M.A.710(b) and (c), re-identified AMC1 M.A.710(b) and (c), to read:

"1. The physical ~~survey~~inspection could require actions categorised as maintenance (e.g. operational tests, tests of emergency equipment, visual inspections requiring panel opening etc.). In this case, after the airworthiness review a release to service should be issued in accordance with ~~Part-M~~this Regulation.

When the airworthiness review staff are not appropriately qualified to Part-66 in order to release such maintenance, M.A.710(b) requires them to be assisted by such qualified personnel.

However, the function of such Part-66 personnel is limited to perform and release the maintenance actions requested by the airworthiness review staff, it not being their function to perform the physical ~~survey~~inspection of the aircraft. As stated in M.A.710(b), the airworthiness review staff shall carry out the physical ~~survey~~inspection of the aircraft, and this ~~survey~~inspection includes the verification that no inconsistencies can be found between the aircraft and the documented review of records.

This means that the airworthiness review staff who are going to sign the airworthiness review certificate or the recommendation should be the one performing both the documented review and the physical ~~survey~~inspection of the aircraft, it not being the intent of the rule to delegate the ~~survey~~inspection to Part-66 personnel who are not airworthiness review staff. Furthermore, the provision of M.A.710(d) allowing a 90 days anticipation for the physical ~~survey~~inspection provides enough flexibility to ensure that the airworthiness review staff are present.

2. The physical ~~survey~~inspection may include verifications to be carried out during flight.
3. The M.A. Subpart G organisation should develop procedures for the airworthiness review staff to produce a compliance report that confirms the physical ~~survey~~inspection has been carried out and found satisfactory.
4. To ensure compliance the physical ~~survey~~inspection may include relevant sample checks of items."

– It is proposed to modify AMC M.A.710(e), re-identified AMC1 M.A.710(e), to read:

"A copy of both physical ~~survey~~inspection and document review compliance reports stated above should be sent to the competent authority together with any recommendation issued."

– It is proposed to create a new AMC1 M.A.710(g) to read:

"An airworthiness review of the aircraft and its continuing airworthiness records is an indivisible assessment. In other words, an individual task or group of tasks of an airworthiness review cannot be subcontracted. However, nothing prevents a continuing airworthiness management organisation to subcontract a whole airworthiness review of the aircraft and its continuing airworthiness records to another organisation approved to carry out such airworthiness reviews."

3. RATIONALE / REASON / JUSTIFICATION:

Concerning point M.A.710(a), item 8. is modified to take into account that the release to service can also be issued by an organisation approved under Part-145.

The effectiveness of an airworthiness review (i.e. a spot check) cannot be guaranteed if the review is lasting too long. Therefore, a limit is proposed in point M.A.710(h). Beyond this limit, a new airworthiness review should be required.

With regard to the point M.A.710(i), experience shows that when the airworthiness review is inconclusive, most of the time the aircraft operation is temporarily discontinued to solve the issues, whether the report is sent or not to the competent authority within 72 hours. Therefore, it is believed that the report could be sent to the competent authority within 72 hours only in case of level 1 findings.

Note: the report is still sent to the authority in any case (level 1 or 2 findings, or nil finding), but not within 72 hours when level 2 findings or no findings are identified.

The term survey in this context may be misunderstood. Inspection is found more appropriate and the term survey is kept in the context of the safety management system. Definitions should be consolidated in an AMC or a GM. Refer to Comment No 74.

In the AMC1 M.A.710(b), production concessions and deviations approved by the competent authority are added to the list because experience shows that they are frequently omitted from airworthiness reviews.

Note: MDM.076 outputs (KREs) should be taken into account for sample checks.

The comment on AMC1 M.A.710(g) aims at clarifying what a management system may or may not do with regard to airworthiness review subcontracting.

Comment No. 63:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 97/218, section B., point M.A.711 & GM

2. PROPOSED TEXT / COMMENT:

- The paragraph (a)(3) refers to subcontracting of "limited continuing airworthiness tasks". What is the limit to subcontracting continuing airworthiness tasks? It is proposed that the Agency develops an AMC on this matter.
- It is proposed to modify the paragraph (c) of point M.A.711 to read:

  "(c) A continuing airworthiness management organisation whose approval includes the privileges referred to in point M.A.711(b) may additionally be approved to issue a permit to fly in accordance with Part 21.A.711(d) of the Annex (Part-21) to Regulation (EU) No 748/2012 for the particular aircraft for which the organisation is approved to issue the airworthiness review certificate, when the continuing airworthiness management organisation is attesting conformity with approved flight conditions, subject to an adequate approved procedure in the exposition referred to in point M.A.704."
- It is proposed to modify the paragraph (a) of GM1 M.A.711(b) to read:

  "(a) An organisation may be approved for the privileges of M.A.711(a) only, without the privilege to carry out airworthiness reviews. ~~This~~An airworthiness review can be contracted to another appropriately approved organisation. In such a case, it is not mandatory that the contracted organisation is linked to an AOC holder, being possible to contract an appropriately approved independent continuing airworthiness management organisation which is approved for the same aircraft type."

3. RATIONALE / REASON / JUSTIFICATION:

The AMC to M.A.711(a)(3) will prevent possible extensive interpretation of this requirement.

Editorial change in paragraph (c) is in line with changes in paragraph references introduced in Regulation (EU) No 748/2012.

The change in the paragraph (a) of GM1 M.A.711(b) aims at clarifying what can be contracted.

Comment No. 64:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 69/218, section B., point M.A.616
NPA 2013-01(B), pages 98-99/218, section B., point M.A.712
NPA 2013-01(C), page 93/184, section B., point 145.A.65

2. PROPOSED TEXT / COMMENT:

It is proposed to create the GM1 M.A.616(a), GM1 M.A.712(a) and GM1 145.A.65(a) to read:

"SAFETY MANAGEMENT SYSTEM

(a) The management of safety should be organised according to four overarching processes that underlie the actual safety management system:

(1) safety policy and objectives;

(2) safety risk management;

(3) safety assurance; and

(4) safety promotion: i.e. training and communication on safety.

(b) The two core operational activities are safety risk management and safety assurance.

Safety risk management must be considered as an early safety management system design activity, aimed at initial identification of hazards in the context in which operations of the organisation related to the delivery of [continuing airworthiness management/maintenance] services will take place.

Safety assurance must be considered as a continuous, on-going activity aimed at:

(1) ensuring that the initial identification of hazards and assumptions in relation to the assessment of the consequences of safety risks, and the defences that exist in the safety management system as a means of control, remain valid and applicable as the safety management system evolves over time; and/or

(2) introducing changes in the defences as necessary.

Thus, hazard identification can be considered as a one-stop or one-shot activity that is conducted either during safety management system design or when facing significant changes to the original system. Safety assurance, on the other hand, is a daily activity that is conducted non-stop to ensure that the operations of the organisation that support the delivery of [continuing airworthiness management/maintenance] services are properly protected against hazards. Simply put, hazard identification provides the initial frame of reference against which assurance of safety is conducted on a daily basis.

Additional explanations may be found in the ICAO Doc 9859 'Safety Management Manual'."

3. RATIONALE / REASON / JUSTIFICATION:

A basic explanation of the SMS framework is found necessary. Further, a (bottom-up) reference to the ICAO SMM is a means to limit the extent of this explanation.

Comment No. 65:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 69/218, section B., point M.A.616
NPA 2013-01(B), pages 98-99/218, section B., point M.A.712
NPA 2013-01(C), page 93/184, section B., point 145.A.65

2. PROPOSED TEXT / COMMENT:

Point 145.A.65(a)(5) refers to "documentation of all management system key processes and procedures", while paragraphs M.A.616(a)(5) and M.A.712(a)(5) refer to "documentation of all management system key processes".

It is proposed to add a reference to 'procedures' to the points M.A.616(a)(5) and M.A.712(a)(5).

3. RATIONALE / REASON / JUSTIFICATION:

No reason has been found to justify the difference between these paragraphs. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Reference to 'procedures', in addition to 'processes', indicates the possibility of various levels of organisational instructions.

Comment No. 66:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 69/218, section B., point M.A.616
NPA 2013-01(B), pages 98-99/218, section B., point M.A.712
NPA 2013-01(C), page 93/184, section B., point 145.A.65

2. PROPOSED TEXT / COMMENT:

Point 145.A.65(a)(6) refers to "Compliance monitoring shall include a feedback system of findings to the person or group of persons specified in 145.A.30(b), and ultimately to the accountable manager to ensure effective implementation of corrective actions as necessary", while the paragraphs M.A.616(a)(6) and M.A.712(a)(6) refer to "Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary".

It is proposed to add a reference to 'the person or group of persons specified in M.A.606(b)/M.A.706(b) and M.A.706(c)' to the paragraphs M.A.616(a)(6) and M.A.712(a)(6).

3. RATIONALE / REASON / JUSTIFICATION:

No reason has been found to justify the difference between these paragraphs. This NPA promotes consistency: "the existence of multiple safety/quality management system frameworks with differing, duplicated or inconsistent requirements can have not just negative economic but possibly adverse safety impacts caused by confusions, in particular if implemented within a single organisation".

Reference to 'the person or group of persons specified in M.A.606(b)/M.A.706(b)' ensures the whole maintenance/continuing airworthiness management structure of the organisation is informed on findings (not relying only on a unique and very busy person, i.e. the accountable manager).

Comment No. 67:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 69/218, section B., point M.A.616
NPA 2013-01(B), pages 98-99/218, section B., point M.A.712
NPA 2013-01(C), page 93/184, section B., point 145.A.65
NPA 2013-01(B), pages 69-70/218, section B., AMC1 M.A.616(a)
NPA 2013-01(B), pages 99-100/218, section B., AMC1 M.A.712(a)(1);(2);(3);(5) and AMC1 M.A.712(a)(1)
NPA 2013-01(C), pages 94-95/184, section B., AMC1 145.A.65(a)(1)

2. PROPOSED TEXT / COMMENT:

– It is proposed to modify the paragraph (a)(1) of the points M.A.616, M.A.712 and 145.A.65 to read:

"(a) The organisation shall establish, implement, and maintain a management system that includes:

(1) clearly defined lines of authority, responsibility and accountability throughout the organisation, including a direct safety accountability of the accountable manager;"

– It is proposed to create a new AMC1 M.A.616(a)(1), a new AMC2 M.A.712(a)(1) and a new AMC2 145.A.65(a)(1) to read:

"ACCOUNTABILITIES, RESPONSIBILITIES AND AUTHORITIES

In the English language, the notion of accountability is different from the notion of responsibility. Responsibility refers to the situation where a person must execute specific actions, while accountability extends this to the obligation or willingness to assume responsibility for the execution of such actions.

To express it in safety management terms, safety responsibilities describe the safety purpose of the duties an individual is required to deliver. Safety accountabilities are statements of what (from a safety standpoint) the individual is required to deliver, either directly, or through supervision and management of others, including those to whom the individual has delegated responsibility.

There is clearly a significant difference between both terms. However, this is a difference that exists only in the English language.

In the context of safety accountabilities, responsibilities and authorities, the term 'authority' refers to the power or right to settle or decide by an authoritative or conclusive decision. It also refers to the right to act in a specified way, when the authority is delegated from one person or organisation to another.

The organisation should define, document and communicate safety accountabilities, responsibilities and authorities (refer to [points M.A.604/M.A.704/145.A.70]).

Every departmental head or person responsible for a functional unit will have a degree of involvement in the operation of the safety management system and its safety performance. This involvement will certainly be deeper for those responsible for operational departments or functional units directly involved in the delivery of the basic [continuing airworthiness management/maintenance] services of the organisation (refer to [points M.A.606(b)/M.A.706(b) & (c)/145.A.30(b)]: operations, maintenance, engineering, training and dispatch, usually referred to by the generic term "line managers") than for those responsible for supporting functions (human resources, administration, legal and financial).

The job description (or any equivalent document) of all employees, regardless the employee position level in the organisation hierarchy, should describe the safety accountabilities, responsibilities and authorities."

3. RATIONALE / REASON / JUSTIFICATION:

The paragraph (i)(5)(iii) of both GM3 M.A.712(a)(3) and GM4 145.A.65(a)(3) indicates that in the management of changes, the larger/complex organisations should demonstrate that safety accountabilities, authorities and responsibilities are reviewed. However, there is no explanation of what is expected for the initial determination of these safety accountabilities, authorities and responsibilities.

Proposal based mainly on the paragraphs 6.7 and 8.5 of the ICAO Doc 9859 'Safety Management Manual'

Comment No. 68:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 100/218, section B., AMC1 M.A.712(a)(1)
NPA 2013-01(C), pages 94-95/184, section B., AMC1 145.A.65(a)(1)

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the AMC1 M.A.712(a)(1) to read:

"COMPLEX ORGANISATIONS — ORGANISATION AND ACCOUNTABILITIES

(a) The management system should encompass safety by including a safety manager, and a safety review board in the organisational structure.

(b) The functions of the safety manager should be to:

(1) facilitate hazard identification, risk analysis and management;

(2) monitor the implementation of actions taken to mitigate risks, as listed in the safety action plan;

(3) provide periodic reports on safety performance;

(4) ensure ~~maintenance of~~ safety management documentation is maintained;

(5) ensure that there is safety management training available, and that it meets ~~acceptable standards~~the Safety Management training syllabus defined in [a new AMC/GM, to be defined];

(6) provide advice on safety matters; and

(7) ensure initiation and follow-up of internal occurrence/accident investigations.

(c) Safety review board

(1) The Safety review board should be a high level committee that considers matters of strategic safety in support of the accountable manager's safety accountability.

(2) The board should be chaired by the accountable manager, and be composed of the persons nominated in accordance with M.A.706(~~c~~b) and (~~d~~c).

(3) The safety review board should monitor:

(i) safety performance against the safety policy and objectives;

(ii) that any safety action is taken in a timely manner; and

(iii) the effectiveness of the organisation's safety management processes.

(d) The safety review board should ensure that appropriate resources are allocated to achieve the established safety performance, eventually by recommending the establishment of one or more safety action groups.

(e) The safety manager or any other relevant person may attend, as appropriate, safety review board meetings. He/she may communicate to the accountable manager all information, as necessary, to allow decision making based on safety data."

- It is proposed to modify the AMC1 145.A.65(a)(1) to read:

"ORGANISATION AND ACCOUNTABILITIES

(a) The management system should encompass safety by including a safety manager and a safety review board in the organisational structure.

(b) The functions of the safety manager should be to:

(1) facilitate hazard identification, risk analysis, and management;

(2) monitor the implementation of actions taken to mitigate risks as listed in the safety action plan;

(3) provide periodic reports on safety performance;

(4) ensure ~~maintenance of~~ safety management documentation is maintained;

(5) ensure that there is safety management training available, and that it meets ~~acceptable standards~~the Safety Management training syllabus defined in [a new AMC/GM, to be defined];

(6) provide advice on safety matters; and

(7) ensure initiation and follow-up of internal occurrence/accident investigations.

(c) Safety review board

(1) The safety review board should be a high level committee that considers matters of strategic safety in support of the accountable manager's safety accountability.

(2) The board should be chaired by the accountable manager, and be composed of the persons nominated in accordance with 145.A.30(b).

(3) The safety review board should monitor:

(i) safety performance against the safety policy and objectives;

(ii) that any safety action is taken in a timely manner; and

(iii) the effectiveness of the organisation's safety management processes.

(d) The safety review board should ensure that appropriate resources are allocated to achieve the established safety performance, eventually by recommending the establishment of one or more safety action groups.

(e) The safety manager or any other relevant person may attend, as appropriate, safety review board meetings. He/she may communicate to the accountable manager all information, as necessary, to allow decision making based on safety data.

[...]"

3. RATIONALE / REASON / JUSTIFICATION:

The use of the term "maintenance" is potentially confusing in this context due to the definition of maintenance given in the article 2 of Regulation (EC) 2042/2003.

The term "acceptable standards" is confusing as they are not defined. It is proposed to proceed like for training on human factors and human performance and limitations.

Comment No. 69:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 70, section B., GM1 M.A.616(a)(1)
NPA 2013-01(B), page 101, section B., GM1 M.A.712(a)(1)
NPA 2013-01(C), page 96, section B., GM1 145.A.65(a)(1)

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the paragraph (a) of the GM1 M.A.712(a)(1) to read:

  "SAFETY MANAGER

  (a) Depending on the size of the organisation and the nature and complexity of its activities, the safety manager may be assisted by additional safety personnel for the performance of all allocated safety management tasks as defined in AMC1 M.A.712(a)(1) point ~~2~~(b)."

- It is proposed to modify the paragraph (b) of the GM1 M.A.616(a)(1), GM1 M.A.712(a)(1), and GM1 145.A.65(a)(1) to read:

  "(b) Regardless of the organisational set-up, it is important that the safety manager remains the unique focal point as regards the development, administration, and ~~maintenance~~evolution of the organisation's management system as related to safety."

3. RATIONALE / REASON / JUSTIFICATION:

Editorial.

The use of the term "maintenance" is potentially confusing in this context due to the definition of maintenance given in the article 2 of Regulation (EC) 2042/2003.

Comment No. 70:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 101, section B., GM2 M.A.712(a)(1)
NPA 2013-01(C), page 96, section B., GM2 145.A.65(a)(1)

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the GM2 M.A.712(a)(1) to read:

  "COMPLEX ORGANISATIONS - SAFETY ACTION GROUP

  (a) A safety action group may be established as a standing group or as an ad hoc group to assist, or act on behalf of the safety manager or safety review board.

  (b) More than one safety action group may be established depending on the scope of the task, and specific expertise required.

  (c) The safety action group should report to, and take strategic direction from the safety review board, and should be comprised of managers, and continuing airworthiness management personnel.

  (d) The safety action group may be tasked with:

  (1) monitoring safety performance;

  (2) ~~resolving~~defining mitigation strategies against the identified safety risks of the consequences of hazards;

  (3) assessing the impact on safety of organisational changes; and

  (4) ensuring that safety actions are implemented within agreed timescales.

  (e) The safety action group may also be tasked with the review the effectiveness of previous safety actions and safety promotion."

- It is proposed to modify the GM2 145.A.65(a)(1) to read:

  "SAFETY ACTION GROUP

  (a) A safety action group may be established as a standing group or as an ad hoc group to assist, or act on behalf of the safety manager or safety review board.

  (b) More than one safety action group may be established depending on the scope of the task and specific expertise required.

  (c) The safety action group should report to, and take strategic direction from the safety review board, and should be comprised of managers, supervisors, and maintenance personnel.

  (d) The safety action group may be tasked with:

  (1) monitoring safety performance;

  (2) ~~resolving~~defining mitigation strategies against the identified safety risks of the consequences of hazards;

  (3) assessing the impact on safety of organisational changes; and

  (4) ensuring that safety actions are implemented within agreed timescales.

  (e) The safety action group may also be tasked with the review the effectiveness of previous safety actions and safety promotion."

3. RATIONALE / REASON / JUSTIFICATION:

It is believed that the role of the safety action group is rather to define mitigation strategies than "resolving" risks. In any case, the term "resolving" is ambiguous as it is not clear whether reference is made to the definition of mitigation strategies or to the deployment of such strategies.

Comment No. 71:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 69, section B., point M.A.616
NPA 2013-01(B), pages 101-102, section B., AMC1 M.A.712(a)(2)
NPA 2013-01(C), pages 96-97, section B., AMC1 145.A.65(a)(2)

2. PROPOSED TEXT / COMMENT:

- The AMC1 M.A.712(a)(2) and AMC1 145.A.65(a)(2) refer to a "proactive and systematic management" of safety.

  Does EASA consider that proactive safety management includes predictive schemes or can the EASA confirm that no predictive scheme is required?

- It is proposed to create a new AMC1 M.A.616(a)(2) to read:

  "SAFETY POLICY

  (a) The safety policy should:

  (1) be endorsed by the accountable manager;

  (2) reflect organisational commitments regarding safety, and its proactive and systematic management;

  (3) be communicated, with visible endorsement, throughout the organisation;

  (4) include internal reporting principles, and encourage personnel to report maintenance related errors, incidents and hazards; and

  (5) recognise the need for all personnel to cooperate for compliance monitoring and safety investigations.

  (b) The safety policy should include a commitment:

  (1) to improve towards the highest safety standards;

  (2) to comply with all applicable legislation, meet all applicable standards, and consider best practices;

  (3) to provide appropriate resources;

  (4) to enforce safety as one primary responsibility of all managers; and

  (5) to ensure that personnel are not inappropriately punished for reporting or cooperating with occurrence investigations.

  (c) Management should:

  (1) continually promote the safety policy to all personnel, and demonstrate their commitment to it;

  (2) provide necessary human and financial resources for its implementation; and

  (3) establish safety objectives and performance standards."

3. RATIONALE / REASON / JUSTIFICATION:

The ICAO refers to predictive, proactive and reactive hazard identification as part of safety management. With the help of the ICAO Doc. 9859 Safety Management Manual, these terms can be defined as:

- Reactive schemes: require a very serious triggering event, with oftentimes considerable damaging consequences, to take place in order to launch the safety data capture process. Reactive schemes are based upon the notion of waiting until "something breaks to fix it".

They are most appropriate for situations involving failures in technology and/or unusual events. Reactive schemes are an integral part of mature safety management. The contribution of reactive schemes to safety management nevertheless depends on the extent to which the information they generate goes beyond the triggering cause(s) of the event, and the allocation of blame, and includes contributory factors and findings as to safety risks.

Examples: The investigation of accidents and serious incidents.

- Proactive schemes: require a less serious triggering event, probably with little or no damaging consequences, to take place in order to launch the safety data capture process. Proactive schemes are based upon the notion that aviation system failures can be minimized by identifying safety risks within the system before it fails, and taking the necessary actions to mitigate such safety risks.

  Examples: Mandatory and voluntary reporting systems, safety audits and safety surveys.

- Predictive schemes: do not require a triggering event to take place in order to launch the safety data capture process. Routine operational data are continually captured, in real time. Predictive schemes are based upon the notion that safety management is best accomplished by trying to find trouble, not just waiting for it to show up. Therefore, predictive safety data capture systems aggressively seek safety information that may be indicative of emerging safety risks from a variety of sources.

GM7 145.A.65(a)(3) paragraph D. states: "[...] Proactive data collection is often the product of ongoing safety programmes and not necessarily triggered by an event.". This seems to imply that predictive schemes are included in proactive ones, but this needs to be confirmed.

The creation of AMC1 M.A.616(a)(2) brings consistency with Part-M subpart G and Part-145. Human factors and human performance and limitations have not been taken into account for this AMC as no requirement on human factors training are applied to Part-M subpart F organisations (refer to page 18/218 of the NPA 2013-01(B)). Refer to Comment No. 73.

Comment No. 72:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 70, section B., GM1 M.A.616(a)(2)
NPA 2013-01(B), page 102, section B., GM1 M.A.712(a)(2)
NPA 2013-01(C), page 97, section B., GM1 145.A.65(a)(2)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise the GM1 M.A.616(a)(2) with the GM1 M.A.712(a)(2) and the GM1 145.A.65(a)(2). Therefore:

- It is proposed to modify the GM1 M.A.616 (a)(2) to read:

  "SAFETY POLICY

  The safety policy is the means whereby the organisation states its intention to maintain and, where practicable, improve safety levels in all its activities, and to minimise its contribution to the consequences of hazards~~risk of an aircraft accident~~ as far as it is reasonably practicable.

  It reflects the management's commitment to safety, and should reflect the organisation's philosophy of safety management, and become the foundation on which the organisation's management system is built. It serves as a reminder as to 'how we do business here'. The creation of a positive safety culture begins with the issuance of a clear, unequivocal direction.

  The safety policy should state that the purpose of internal safety reporting and internal safety investigations is to improve safety, not to apportion blame to individuals."

- It is proposed to modify the GM1 M.A.712(a)(2) to read:

  "SAFETY POLICY

  The safety policy is the means whereby the organisation states its intention to maintain and, where practicable, improve safety levels in all its activities and to minimise its contribution to the consequences of hazards~~risk of an aircraft accident or serious incident~~ as far as it is reasonably practicable.

  It reflects the management~~'~~'s commitment to safety, and should reflect the organisation's philosophy of safety management, and become the foundation on which the organisation's management system is built. It serves as a reminder as to 'how we do business here~~'~~'. The creation of a positive safety culture begins with the issuance of a clear, unequivocal direction.

  The safety policy should state that the purpose of internal safety reporting~~,~~ and internal safety investigations is to improve safety, not to apportion blame to individuals."

- It is proposed to modify the GM1 145.A.65(a)(2) to read:

  "SAFETY POLICY

  The safety policy is the means whereby the organisation states its intention to maintain and, where practicable, improve safety levels in all its activities, and to minimise its contribution to the consequences of hazards~~risk of an aircraft accident or serious incident~~ as far as it is reasonably practicable.

  It reflects the management~~'~~'s commitment to safety, and should reflect the organisation's philosophy of safety management, and become the foundation on which the organisation's management system is built. It serves as a reminder as to 'how we do business here'. The creation of a positive safety culture begins with the issuance of a clear, unequivocal direction.

  The safety policy should state that the purpose of internal safety reporting and internal safety investigations is to improve safety, not to apportion blame to individuals."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

The organisation should state that it intends to implement mitigation strategies against the safety risks of the consequences of hazards, not limited to aircraft accidents or serious incidents (refer to Comment No. 97.

Comment No. 73:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 70-71/218, section B., AMC1 M.A.616(a)(3)
NPA 2013-01(B), page 122/218, section B., AMC1 M.A.721
NPA 2013-01(C), pages 89-90/184, section B., AMC1 145.A.62

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the AMC1 M.A.616(a)(3), the AMC1 M.A.721 and the AMC1 145.A.62. Therefore:

– It is proposed to modify the AMC1 M.A.616(a)(3)

"INTERNAL SAFETY REPORTING SCHEME

(a) As part of its management system, the organisation should establish an internal safety reporting scheme to enable the collection and evaluation of such occurrences to be reported under M.A.202.

(b) The scheme shall also enable the collection and evaluation of those errors, near-misses, and hazards reported internally that do not fall under point (a) above.

(c) Through this scheme the organisation should:

(1) identify and address the factors contributing to occurrences in order to reduce the likelihood of reoccurrence;

(2) identify adverse trends, corrective actions taken or to be taken by the organisation to address deficiencies; ~~and~~

(3) ensure evaluation of all known relevant information relating to errors, near-misses and hazards, and a method to circulate the information as necessary; and

(4) ensure immediate action may be taken in case of occurrences that have an impact on the airworthiness of products or their components on which maintenance is performed, or which have already been released.

(d) The organisation shall cooperate on occurrence investigations with the person or organisation responsible for the continuing airworthiness management of an aircraft.

(~~c~~e) The internal safety reporting scheme should be confidential and enable and encourage free and frank reporting of any potentially safety related occurrence, including ~~incident s~~occurrences such as errors or near-misses, safety issues, and hazards identified. This will be facilitated by the establishment of a just culture. An organisation should ensure that personnel are not inappropriately punished for reporting or cooperating with occurrence investigations. The internal safety reporting scheme should contain the following elements:

(1) clearly identified aims and objectives with demonstrable corporate commitment;

(2) a just culture policy and process identified and published;

(3) an investigation process to:

(i) identify those reports which require further investigation; and

(ii) establish all root causes, including any technical, organisational, or managerial~~, or human factors~~ issues, and any other contributing factors relating to the event; and

(4) appropriate corrective actions based on investigation findings.

(~~d~~f) The internal reporting scheme should:

(1) assure confidentiality to the reporter;

(2) be closed-loop, to ensure that actions are taken internally to address any safety issues and hazards; and

(3) feed into the organisation's safety training, whilst maintaining appropriate confidentiality;

(~~e~~g) Feedback should be given to reportees both on an individual and more general basis to ensure their continued support of the occurrence reporting scheme.

- It is proposed to modify the AMC1 M.A.721

"(a) The internal safety reporting scheme should be confidential and enable and encourage free and frank reporting of any potentially safety related occurrence, including ~~incident-s~~occurrences such as errors or near-misses, safety issues and hazards identified. This will be facilitated by the establishment of a just culture. An organisation should ensure that personnel are not inappropriately punished for reporting or cooperating with occurrence investigations. The internal safety reporting scheme should contain the following elements:

(1) clearly identified aims and objectives with demonstrable corporate commitment;

(2) a just culture policy and process identified and published;

(3) an investigation process to:

i. identify those reports which require further investigation; and

ii. establish all root causes, including any technical, organisational, managerial, or human factors issues, and any other contributing factors relating to the event;

(4) appropriate corrective actions based on investigation findings;

(5) for complex organisations:

i. investigators selected and trained on a recurrent basis; and

ii. analysis of the collective data showing contributing factor trends and frequencies; and

(6) where relevant, the operator and the organisation should cooperate on occurrence investigations by exchanging relevant information for improved aviation safety.

(b) The internal safety reporting scheme should:

(1) assure confidentiality to the reporter;

(2) be closed-loop, to ensure that actions are taken internally to address any safety issues and hazards; and

(3) feed into the continuation's safety training as defined in ~~the AMC to~~ M.A.706~~(k)~~, whilst maintaining appropriate confidentiality.

(c) Feedback should be given to reportees both on an individual and a more general basis to ensure their continued support of the safety reporting scheme."

- It is proposed to modify the AMC1 145.A.62

"(a) The internal safety reporting scheme should be confidential and enable and encourage free and frank reporting of any potentially safety related occurrence, including ~~incident-s~~occurrences such as errors or near-misses, safety issues, and hazards identified. This will be facilitated by the establishment of a just culture. An organisation should ensure that personnel are not inappropriately punished for reporting or cooperating with occur-

rence investigations. The internal safety reporting scheme should contain the following elements:

(1) clearly identified aims and objectives with demonstrable corporate commitment;

(2) a just culture policy and process identified and published;

(3) an investigation process to:

(i) identify those reports which require further investigation; and

(ii) establish all root causes, including any technical, organisational, managerial, or human factors issues, and any other contributing factors relating to the event;

(4) appropriate corrective actions based on investigation findings;

(5) for complex organisations:

(i) investigators selected and trained on a recurrent basis; and

(ii) analysis of the collective data showing contributing factor trends and frequencies; and

(6) where relevant, the operator and the organisation should cooperate on occurrence investigations by exchanging relevant information for improved aviation safety.

(b) The internal safety reporting scheme should:

(1) assure confidentiality to the reporter;

(2) be closed-loop, to ensure that actions are taken internally to address any safety issues and hazards; and

(3) feed into the continuation's safety training as defined in the 145.A.30, whilst maintaining appropriate confidentiality;

(c) Feedback should be given to reportees both on an individual and a more general basis to ensure their continued support of the safety reporting scheme."

3. RATIONALE / REASON / JUSTIFICATION:

Page 18/218 of the NPA 2013-01(B) indicates implicitly that no human factors training requirements are applied to organisations managing aircraft (and components thereof) other than complex motor-powered aircraft or aircraft used for commercial air transport. How can it be required that the organisations approved under Part-M subpart F address such issues if their personnel have not been trained?

Refer to Comment No. 71.

Refer to Comment No. 97.

Comment No. 74:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 102-104/218, section B., AMC1 M.A.712(a)(3)
NPA 2013-01(B), pages 97-99/218, section B., AMC1 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

Could the EASA define the terms "emergency" and "major safety event" within the frame of the the activation of the Emergency Response Plan?

– It is proposed to modify the AMC1 M.A.712(a)(3) to read:

"COMPLEX ORGANISATIONS — SAFETY MANAGEMENT KEY PROCESSES

(a) Hazard identification processes

[…]

(3) The organisation should in particular focus on:

(i) [...]

(ii) hazards that may stem from the existence of complex, multi-tier, subcontract continuing airworthiness management task~~maintenance and operational~~ arrangements, or contract maintenance and operational arrangements, in particular at the interfaces.

(b) Risk management processes

[...]

(2) The levels of management who have the authority to make decisions regarding the tolerability of safety risks, in accordance with (2)(a), should be specified as described in AMC2 M.A.712(a)(1).

[...].

(d) Safety performance monitoring and measurement

[...].

(2) This process may include, as appropriate to the size, nature and complexity of the organisation:

[...]

(ii) safety reviews including trends reviews which would be conducted during introduction and deployment of new Products and components thereof, new equipment/technologies, implementation of new or changed procedures, or in situations of organisational changes that may have an impact on safety;

[...]

(iv) safety surveys, examining particular elements or procedures of a specific area, such as problem areas identified, or bottlenecks in daily ~~maintenance~~continuing airworthiness management activities, perceptions and opinions of continuing airworthiness management and/or maintenance personnel, and areas of dissent or confusion.

[...]

(f) Continual improvement

The organisation should continually seek to improve its safety performance. Continual improvement should be achieved through:

(1) proactive and reactive evaluations of facilities, equipment, documentation, and procedures through safety audits and surveys;

(2) proactive evaluation of individuals' performance to verify the fulfilment of their safety responsibilities;

(3) proactive and reactive evaluations in order to verify the effectiveness of the system for control and mitigation of risk; and

(4) an annual review of the safety performance and the effectiveness of the management system.

(g) Emergency response planning

(1) An Emergency Response Plan (ERP) should be established that provides the actions to be taken by the organisation, or specified individuals in an emergency [What is an emergency?]. The ERP should reflect the size, nature, and complexity of the organisation's scope of work.

(2) The ERP should ensure:

(i) planned and coordinated action to ensure the risks attributable to a major safety event [What is a major safety event?] can be managed and minimised;

[...]"

– It is proposed to modify the AMC1 145.A.65(a)(3) to read:

"SAFETY MANAGEMENT KEY PROCESSES

(a) Hazard identification processes

[…]

(3) The organisation should in particular focus on:

(i) [...]

(ii) hazards that may stem from the existence of complex, multi-tier, subcontract maintenance and operational arrangements, in particular at the interfaces.

(b) Risk management processes

[...]

(2) The levels of management who have the authority to make decisions regarding the tolerability of safety risks, in accordance with (b)(1), should be specified as described in AMC2 145.A.65(a)(1).

[...]

(d) Safety performance monitoring and measurement

[...]

(2) This process may include, as appropriate to the size, nature, and complexity of the organisation:

[...]

(ii) safety reviews including trends reviews which would be conducted during introduction and deployment of new Products and components thereof, new equipment/technologies, implementation of new or changed procedures, or in situations of organisational changes that may have an impact on safety;

(iiiv) audits focussing on the integrity of the organisation's management system, and periodically assessing the status of safety risk controls; and

(iv) safety surveys, examining particular elements or procedures of a specific area, such as problem areas identified or bottlenecks in daily maintenance activities, perceptions and opinions of continuing airworthiness management and/or maintenance personnel, and areas of dissent or confusion.

[...]

(f) Continual improvement

The organisation should continually seek to improve its safety performance. Continual improvement should be achieved through:

(1) proactive and reactive evaluations of facilities, equipment, documentation and procedures through safety audits and surveys;

(2) proactive evaluation of individuals' performance to verify the fulfilment of their safety responsibilities;

(3) proactive and reactive evaluations in order to verify the effectiveness of the system for control and mitigation of risk; and

(4) an annual review of the safety performance and the effectiveness of the management system.

(g) Emergency response planning

(1) An Emergency Response Plan (ERP) should be established that provides the actions to be taken by the organisation or specified individuals in an emergency [What is an emergency?]. The ERP should reflect the size, nature, and complexity of the organisation's scope of work.

(2) The ERP should ensure:

(i) planned and coordinated action to ensure the risks attributable to a major safety event [What is a major safety event?] can be managed and minimised;

[...]"

3. RATIONALE / REASON / JUSTIFICATION:

A particular emphasis is put on the hazards originating from interfaces between organisations. This is one of the main source of organisational hazards.

The paragraph (b)(2) of these AMC and the AMC2 M.A.712(a)(1)/AMC2 145.A.65(a)(1) consolidate each other.

"new Products and components thereof" has been added to the paragraph (d)(2)(ii) as it is an important example of significant changes (liveware-hardware interface) that deserves a safety review.

The ICAO refers to predictive, proactive and reactive schemes as part of safety management. Does EASA consider that proactive safety management includes predictive schemes or can the EASA confirm that no predictive scheme is required? Refer to Comment No. 71.

Reactive schemes are based upon the notion of waiting until "something breaks to fix it" (very serious triggering event). It is believed that relying on a reactive scheme to evaluate the effective-

ness of the system for control and mitigation of risk is not ambitious enough. The evaluation should be in accordance with a more predictive/proactive scheme.

With regard to the ERP, no definition is given for the terms "emergency" and "major safety event" (only some examples are listed in the GM6 145.A.65(a)(3)). These definitions are needed to ensure a uniform level of ERP triggering. Refer also to Comment No. 80.

These AMC use terms such as 'audit', 'survey' and 'investigation' in wordings similar to a definition. The GM1 M.A.712(a)(6) and GM2 145.A.65(a)(6) provide definitions for the terms 'audit' and 'inspection'. It would be appropriate that the Agency consolidates **all** the definitions (including audit, product audit, survey, review, investigation, etc. taking into consideration the existing ones such as the one for airworthiness review) in a dedicated AMC or GM.

Comment No. 75:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 102-104/218, section B., AMC1 M.A.712(a)(3)
NPA 2013-01(B), pages 97-99/218, section B., AMC1 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

Could the EASA develop Guidance Material to support the implementation of the safety surveys referred to in the paragraph (d)(2)(iv) of the AMC1 M.A.712(a)(3)/AMC1 145.A.65(a)(3)?

3. RATIONALE / REASON / JUSTIFICATION:

For example, the Agency proposes GM3 145.A.65(a)(3) to provide one method to help organisations with little or no previous experience in safety risk assessment to get familiar with the concept, and to serve as a reference document for the definition of the related safety management procedures.

Similarly, guidance material on a method to implement safety surveys could help a lot: e.g. presentation of the Practical Problem Solving (PPS) method, or another...

Comment No. 76:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(C), page 99/184, section B., AMC2 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

- It is proposed to create the AMC3 M.A.712(a)(3) on the basis of the AMC2 145.A.65(a)(3). Refer to NPA 2013(A) Comment No. 2.
- It is proposed to re-identify the AMC2 145.A.65(a)(3) into AMC3 145.A.65(a)(3).

3. RATIONALE / REASON / JUSTIFICATION:
To ensure effective management of human factors/human performance and limitations in the area of continuing airworthiness management and to create a positive social impact by improving working conditions of existing staff and/or by increasing the demand for additional Part-M Subpart G organisation staff (ref. also to NPA 2013-01(A), page 23, section A., paragraph V., sub-paragraph 6.2).

Comment No. 77:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 104/218, section B., AMC2 M.A.712(a)(3)

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the AMC2 M.A.712(a)(3) to read:

"SAFETY RISK MANAGEMENT – INTERFACES BETWEEN ORGANISATIONS

(a) Safety risk management processes should specifically address the planned implementation of, or participation in any complex multi-tier contracting/subcontracting arrangements between an operator, one or more continuing airworthiness management organisations or their subcontractors, and different maintenance organisations.

(b) Hazard identification and risk assessment should start with an identification of all parties involved in the arrangement, including consultants and non-approved organisations. It should extend to the overall control structure, assessing in particular the following elements across all subcontract levels and all parties within such arrangements:

(1) coordination and interfaces between the different parties;

(2) applicable procedures;

(3) communication between all parties involved, including reporting and feedback channels;

(4) task allocation, ~~and~~ responsibilities and authorities; and

(5) qualifications and competency of key personnel defined in M.A.706.

(c) Safety risk management should focus on the following aspects:

(1) clear assignment of accountability and allocation of responsibilities;

(2) only one party is responsible for a specific aspect of the arrangement – no overlapping or conflicting responsibilities, in order to eliminate coordination errors;

(3) existence of clear and un-bureaucratic reporting lines, both for occurrence reporting and progress reporting;

(4) possibility for front-line staff in any of the parties to directly notify the ~~operator~~ organisation responsible for the aircraft continuing airworthiness management of any ~~safety significant issue~~hazard suggesting an obvious unacceptable safety risk as a result of the potential consequences of this hazard.

(d) Regular communication between all parties to discuss work progress, risk mitigation actions, changes to the arrangement, as well as any other significant issues should be ensured."

- It is proposed to create the AMC2 145.A.65(a)(3) (reference left available, refer to Comment No. 76) to read:

"SAFETY RISK MANAGEMENT – INTERFACES BETWEEN ORGANISATIONS

(a) Safety risk management processes should specifically address the planned implementation of, or participation in any complex multi-tier contracting/subcontracting arrangements between a maintenance organisation, a continuing airworthiness management organisation or its subcontractors, an operator, and one or more other maintenance organisations.

(b) Hazard identification and risk assessment should start with an identification of all parties involved in the arrangement, including consultants and non-approved organisations. It

should extend to the overall control structure, assessing in particular the following elements across all subcontract levels and all parties within such arrangements:

(1) coordination and interfaces between the different parties;

(2) applicable procedures;

(3) communication between all parties involved, including reporting and feedback channels;

(4) task allocation, responsibilities and authorities; and

(5) qualifications and competency of key personnel defined in 145.A.30.

(c) Safety risk management should focus on the following aspects:

(1) clear assignment of accountability and allocation of responsibilities;

(2) only one party is responsible for a specific aspect of the arrangement – no overlapping or conflicting responsibilities, in order to eliminate coordination errors;

(3) existence of clear and un-bureaucratic reporting lines, both for occurrence reporting and progress reporting;

(4) possibility for front-line staff in any of the parties to directly notify the organisation responsible for the aircraft continuing airworthiness management of any hazard suggesting an obvious unacceptable safety risk as a result of the potential consequences of this hazard.

(d) Regular communication between all parties to discuss work progress, risk mitigation actions, changes to the arrangement, as well as any other significant issues should be ensured."

3. RATIONALE / REASON / JUSTIFICATION:

In this context (management of interfaces between organisations), it is better to refer to the organisation responsible for the aircraft continuing airworthiness management than to the operator. The operational body that will address the subject issues is this organisation.

What is a "safety significant issue"? To prevent extensive interpretations, "hazard suggesting an obvious unacceptable safety risk as a result of the potential consequences of this hazard" is found more precise and therefore preferred.

It is proposed to create the AMC2 145.A.65(a)(3) as maintenance organisations are facing similar issues (e.g. interfaces between maintenance organisations working at component level vs. maintenance organisations working at Product level).

Comment No. 78:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 105/218, section B., GM1 M.A.712(a)(3)
NPA 2013-01(C), page 108/184, section B., GM3 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

The GM1 M.A.712(a)(3) refers to GM3 145.A.65(a)(3). It is proposed to directly include the GM3 145.A.65(a)(3) contents into the Part-M GM, after adaptation.

It is advisable to develop a flowchart to support the description of the risk assessment process steps (paragraph (e)). An indication, on this flowchart, how this process fits into the general context would be valuable: i.e. how it is connected to other processes, such as the internal and the external occurrence reporting processes and the change management process.

The following terms used in this GM need to be defined:

- Likelihood: 'frequent', 'occasional', 'remote', 'improbable', and 'extremely improbable'; and
- Severity: 'catastrophic', 'hazardous', 'major', 'minor', and 'negligible'.

Finally, it is proposed that this GM refers to the ICAO Safety Management Manual Chapters 3 to 5.

3. RATIONALE / REASON / JUSTIFICATION:

The use of consolidated (reduction of the number of scattered amendments) and self-contained (reduction of reference to external sources) versions of regulations is simpler (practical reason) and therefore makes the demonstration of compliance process easier.

A flowchart, even basic, will enhance comprehension of this process.

Definitions will help in implementing this process.

Comment No. 79:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 105/218, section B., GM2 M.A.712(a)(3)
NPA 2013-01(C), page 100/184, section B., GM2 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

The reviewers have faced difficulties to understand the objective/intent of the guidance material GM2 M.A.712(a)(3) and GM2 145.A.65(a)(3). Further, the subparagraph (a) has been found confusing. This combination has made the consolidation of an alternative proposal for this subparagraph not been possible.

- It is proposed to modify the GM2 M.A.712(a)(3) to read:

  "SAFETY RISK MANAGEMENT

  (a) [clarifications needed].

  (b) Other elements of proactive hazard identification may be:

  (1) regular assessment of the organisation's existing management system and processes, including through internal and external audits;

  (2) an assessment of any changes that may affect the organisation's management system and processes, before these become effective."

- It is proposed to modify the GM2 145.A.65(a)(3) to read:

  "SAFETY RISK MANAGEMENT

  (a) [clarifications needed].

  (b) Other elements of proactive hazard identification may be:

  (1) regular assessment of the organisation's existing management system and processes, including ~~thorough~~through internal and external audits; and

  (2) an assessment of any changes that may affect the organisation's management system and processes before these become effective."

3. RATIONALE / REASON / JUSTIFICATION:

The way this guidance material is written gives the impression to the reader that occurrences may be reported externally only when a hazard has been identified in accordance with a reactive scheme. This would mean that a very serious triggering event, with oftentimes considerable damaging consequences, needs to take place in order to launch the reporting process.

Our understanding is the following: the external reporting process is triggered depending on the severity of the consequences of the hazard, taking as reference the worst foreseeable situation, whatever the identification scheme (i.e. occurrence or no occurrence). In other words, both reporting processes (i.e. internal and external) are triggered by predictive, proactive and reactive sources (refer also to Comment No. 71), but only the hazards entailing the most severe consequences are reported externally.

Comment No. 80:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 107/218, section B., GM4 M.A.712(a)(3)
NPA 2013-01(C), page 110/184, section B., GM5 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the GM4 M.A.712(a)(3) and the GM5 145.A.65(a)(3). Therefore:

- It is proposed to modify the GM4 M.A.712(a)(3) to read:

  "(a) ~~The organisation's ERP needs to reflect the size of the organisation, and nature and complexity of its activities.~~ An ERP typically defines the procedures, roles, responsibilities, and actions of key personnel and third parties that may be affected by an emergency, considering all activities of the organisation which may affect safety of flight, and all locations for such activities. The organisation's ERP should consider the actions to be taken as a result of an accident.

  [...]"

- It is proposed to modify the GM5 145.A.65(a)(3) to read:

  "(a) An ERP typically defines the procedures, roles, responsibilities, and actions of key personnel and third parties that may be affected by an emergency, considering all activities of the organisation which may affect safety of flight, and all locations for such activities. The organisation's ERP should consider the actions to be taken as a result of an accident which has occurred to a recently released aircraft or component.

  [...]"

Is an accident (as defined in the Annex 13 to the Convention on International Civil Aviation) the only kind of events triggering the ERP? Refer also to Comment No. 74.

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

The sentence "The organisation's ERP needs to reflect the size of the organisation, and nature and complexity of its activities." is already included in the AMC1 M.A.712(a)(3) and AMC1 145.A.65(a)(3).

Comment No. 81:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

GM5 M.A.712(a)(3)
NPA 2013-01(C), pages 110-111/184, section B., GM6 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the GM for M.A.712(a)(3) and the GM for 145.A.65(a)(3). Therefore:

- It is proposed to create the GM5 M.A.712(a)(3) on the basis of GM6 145.A.65(a)(3).
- It is proposed to modify the GM6 145.A.65(a)(3) to read:

"EMERGENCY RESPONSE PLANNING

(a) For a maintenance organisation, the ERP needs to be focussed on events involving aircraft or components and which can affect safety of flight ~~for aircraft, or components~~. The need for ERP will vary significantly between different types of maintenance organisation.

(b) For aircraft maintenance organisations, the ERP scenarios may include, amongst others, as required:

(1) emergency response to a major aircraft occurrence during maintenance operations, such as oxygen fire, or engine major failure during a ground run;

(2) response to requests for expert advice from aircraft and/or aerodrome operators during an occurrence; and

(3) response to requests for expert emergency aircraft recovery assistance from aircraft and/or aerodrome operators in the case of occurrence on or around the airfield where the maintenance services are provided.

(c) For component maintenance organisations, the ERP will have less scope. For some non-complex component maintenance organisations, the scope of the ERP might only include:

(1) quarantine of components and/or maintenance documents related to an aircraft occurrence; and

(2) where the organisation detects that measurement tool(s) are found to be out of calibration limits and need a documented and formally agreed process to urgently inform owners/operators at risk.

(d) Both aircraft and component maintenance organisations may also consider including personnel-related considerations in their ERP, such as:

(~~3~~1) appropriate personal behaviours during and after the incident; and

(4~~2~~) welfare and deployability of affected personnel immediately following a major occurrence.

(e) The ERP could be documented in a separate manual, or incorporated into the organisation's MOE, or a combination of these. Many organisations find it effective to document relatively stable information in their MOE (such as ERP policies, roles and responsibilities, succession plans, training requirements, etc.) and immediate response information (such as procedures, checklists, phone numbers, locations, etc.) in separate, easily accessible booklets."

GM6 145.A.65(a)(3) indicates the ERP needs to be focussed on events which can affect safety of flights. This goes beyond what is stated in GM5 145.A.65(a)(3). Please could the EASA clarify what triggers the ERP activation? Refer to Comment No. 80.

3. RATIONALE / REASON / JUSTIFICATION:

The creation of the GM5 M.A.712(a)(3) will support continuing airworthiness management organisations like maintenance organisations approved under Part-145 are with GM6 145.A.65(a)(3).

The harmonisation will bring consistency and will benefit from the strengths of the other GM, particularly on what triggers the ERP (in this context).

Comment No. 82:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

GM6 M.A.712(a)(3)
NPA 2013-01(C), pages 111-114/184, section B., GM7 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise as much as possible the GM for point M.A.712(a)(3) and the GM for point 145.A.65(a)(3). Therefore, it proposed to develop the GM6 M.A.712(a)(3) on the basis of the GM7 145.A.65(a)(3) with the necessary adaptation.

3. RATIONALE / REASON / JUSTIFICATION:

Fatigue is not a risk limited to the maintenance personnel (refer to Comment No. 2).

The creation of the GM6 M.A.712(a)(3) will support continuing airworthiness management organisations like maintenance organisations approved under Part-145 are with GM7 145.A.65(a)(3).

Comment No. 83:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

GM6 M.A.712(a)(3)
NPA 2013-01(C), pages 111-114/184, section B., GM7 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:

The EASA has put great emphasis on fatigue risk management by developing the extensive GM7 145.A.65(a)(3). It will be a useful source for the implementation of a fatigue risk management scheme.

However, similar GM should be developed for the other significant human factor hazards such as those listed in the proposed GM1 M.A.706(g) and the GM1 145.A.30(d).

3. RATIONALE / REASON / JUSTIFICATION:

Fatigue is not the only significant human factor topic: e.g. what about peer pressure, time pressure and deadlines, or error provoking behaviour? They also affect most aspects of a person's ability to work safely. They need to be addressed in the GM so that organisations are provided with an agreed source for the implementation of schemes addressing these other topics/subtopics.

The creation of the GM6 M.A.712(a)(3) will support continuing airworthiness management organisations like maintenance organisations approved under Part-145 are with GM7 145.A.65(a)(3).

Comment No. 84:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(C), pages 111-114/184, section B., GM7 145.A.65(a)(3)

2. PROPOSED TEXT / COMMENT:
It is proposed to modify GM7 145.A.65(a)(3) to read:

"[...]

E. FATIGUE RISK ASSESSMENT AND MITIGATION

[...]

Risk controls and mitigation strategies can be centred on, at least, three objectives, including:

(a) ~~Reduce~~ Fatigue Reduction.

[...]

(b) Reduction or capture of fatigue-related errors

[...]

Individual measures. Example interventions directed toward individuals may include: self-assessment, use of fatigue detection technology, breaks, and changes in the workplace environment~~, use of stimulants such as caffeine, and progressive restriction of work responsibilities~~.

[...]

(c) Minimisation of the harm caused by fatigue related errors

A final line of defence in controlling and mitigating fatigue related errors is to minimise the harm caused by these errors. Although ~~all~~some maintenance tasks can affect flight safety, tasks vary along a continuum from the most safety critical to the least critical. [...]

To minimise the consequences of fatigue related errors, the most safety-critical tasks should be kept out of the hands of the most fatigued people. [...].

Communication of mitigations

Mitigations should be documented as part of the FRM scheme and the strategies should be communicated to the appropriate personnel. In addition, individuals implementing or applying mitigations need training and education necessary to make the mitigation successful."

3. RATIONALE / REASON / JUSTIFICATION:
Is a person considered fit for work when he/she needs stimulants (caffeine, or others) to cope with fatigue issues? The progressive restriction of work responsibilities could be a factor of stress for the affected person, and consequently counterproductive.

The title 'Communication of mitigations' should not be included in the paragraph 'Minimisation of the harm caused by fatigue-related errors'.

Comment No. 85:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 72/218, section B., AMC1 M.A.616(a)(4) and GM1 M.A.616(a)(4)
NPA 2013-01(B), pages 107-108/218, section B., AMC1 M.A.712(a)(4) and GM1 M.A.712(a)(4)
NPA 2013-01(C), pages 114-115/184, section B., AMC1 145.A.65(a)(4)

2. PROPOSED TEXT / COMMENT:

It is proposed to cancel the GM1 M.A.616(a)(4) and GM1 M.A.712(a)(4) and to transfer their contents in the AMC1 M.A.616(a)(4) and AMC1 M.A.712(a)(4), and the AMC1 145.A.65(a)(4). The aim is also to harmonise these AMC. Therefore:

– It is proposed to modify the AMC1 M.A.616(a)(4) to read:

"TRAINING AND COMMUNICATION ON SAFETY

(a) Training

(1) The safety training programme may consist of self-instruction via a media (newsletters, flight safety magazines), classroom training, e-learning, and/or similar training provided by training service providers.

(~~1~~2) Safety training should be delivered by the safety manager or a competent trainer and may be conducted by the maintenance organisation itself, independent trainers, or any training organisations acceptable to the competent authority.

(3) All personnel should receive safety training as appropriate for their safety responsibilities.

(~~2~~4) ~~Adequate r~~Records of all safety training provided should be kept. These records should include, at least, the date of training completion, the safety training level related to safety responsibilities, and the name of the trainer, the training organisation and the attendees.

(b) Communication

(1) The organisation should establish communication about safety matters that:

(i) ensures that all personnel are aware of the safety management activities as appropriate for their safety responsibilities;

(ii) conveys safety critical information, especially relating to assessed risks and analysed hazards;

(iii) explains why particular actions are taken; and

(iv) explains why safety procedures are introduced or changed.

(2) Regular meetings with personnel where information, actions, and procedures are discussed, may be used to communicate safety matters.

– It is proposed to modify the AMC1 M.A.712(a)(4) to read:

"TRAINING AND COMMUNICATION ON SAFETY

(a) Training

(1) The safety training programme may consist of self-instruction via a media (newsletters, flight safety magazines), classroom training, e-learning, and/or similar training provided by training service providers.

(~~1~~2) Safety training should be delivered by the safety manager or a competent trainer and may be conducted by the continuing airworthiness management organisation itself, independent trainers, or any training organisations acceptable to the competent

authority.~~All personnel should receive safety training as appropriate for their safety responsibilities.~~

(~~2~~3) ~~Adequate r~~Records of all safety training provided should be kept. These records should include, at least, the date of training completion, the safety training level related to safety responsibilities, and the name of the trainer, the training organisation and the attendees.

(b) Communication

(1) The organisation should establish communication about safety matters that:

(i) ensures that all personnel are aware of the safety management activities, as appropriate, for their safety responsibilities;

(ii) conveys safety critical information, especially relating to assessed risks and analysed hazards;

(iii) explains why particular actions are taken; and

(iv) explains why safety procedures are introduced or changed.

(2) Regular meetings with personnel where information, actions, and procedures are discussed, may be used to communicate safety matters."

– It is proposed to modify the AMC1 145.A.65(a)(4) to read:

"TRAINING AND COMMUNICATION ON SAFETY

(a) Training

(1) The safety training programme may consist of self-instruction via a media (newsletters, flight safety magazines), classroom training, e-learning, and/or similar training provided by training service providers.

(2) Safety training should be delivered by the safety manager or a competent trainer and may be conducted by the maintenance organisation itself, independent trainers, or any training organisations acceptable to the competent authority.

(3) Records of all safety training provided should be kept. These records should include, at least, the date of training completion, the safety training level related to safety responsibilities, and the name of the trainer, the training organisation and the attendees.

(b) Communication

(~~a~~1) The organisation should establish communication about safety matters that:

(~~1~~i) ensures that all personnel are aware of the safety management activities as appropriate for their safety responsibilities;

(~~2~~ii) conveys safety critical information, especially relating to assessed risks and analysed hazards;

(~~3~~iii) explains why particular actions are taken; and

(~~4~~iv) explains why safety procedures are introduced or changed.

(~~b~~2) Regular meetings with personnel where information, actions and procedures are discussed may be used to communicate safety matters."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

The elements related to the person receiving safety training are transferred in the AMC6 M.A.706(g) and the AMC6 145.A.30(d), except for the AMC1 M.A.616(a)(4). The elements pertaining to the safety training organisation are kept into the AMC1 M.A.712(a)(4) and the AMC1 145.A.65(a)(4).

Comment No. 86:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

GM M.A.712(a)(4)
GM 145.A.65(a)(4)

2. PROPOSED TEXT / COMMENT:

Although the criteria to define a competent human factor trainer are defined, nothing is given for safety management trainer.

- It is proposed to create the GM1 M.A.712(a)(4) (reference left available, refer to Comment No. 85) to read:

  "SAFETY MANAGEMENT TRAINER

  A competent safety management trainer should meet the following criteria:

  (a) attended training that is at least equivalent to the Safety Management training syllabus defined in [a new AMC/GM, to be defined];

  (b) received instruction in training techniques, and training development compatible with the skills to influence attitudes and behaviours;

  (c) has worked for a minimum of three years within the aviation industry, or possesses a suitable academic background; and

  (d) has an appropriate level of understanding of safety management in continuing airworthiness environment."

- It is proposed to create the GM1 145.A.65(a)(4) to read:

  "SAFETY MANAGEMENT TRAINER

  A competent safety management trainer should meet the following criteria:

  (a) attended training that is at least equivalent to the Safety Management training syllabus defined in [a new AMC/GM, to be defined];

  (b) received instruction in training techniques, and training development compatible with the skills to influence attitudes and behaviours;

  (c) has worked for a minimum of three years within the aviation industry, or possesses a suitable academic background; and

  (d) has an appropriate level of understanding of safety management in maintenance environment."

3. RATIONALE / REASON / JUSTIFICATION:

Training on safety management is one of the basics for the organisation to achieve the overarching objective of managing safety. Therefore, the criteria a safety management trainer should meet must be defined so that, downstream, the personnel trained can adequately manage the safety risks of the consequences of the hazards the organisation must confront during the activities related to the delivery of services.

Comment No. 87:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.616(a)(5)
NPA 2013-01(B), page 108/218, section B., AMC1 M.A.712(a)(5)
NPA 2013-01(C), page 125/184, section B., AMC 145.A.65(b)
NPA 2013-01(C), pages 132-133/184, section B., AMC & GM for 145.A.71

2. PROPOSED TEXT / COMMENT:

Could the EASA indicate the reasons why the AMC M.A.712(a)(5) (amended) has been processed differently from AMC 145.A.65(b) (cancelled)? Has consideration been given to create paragraphs equivalent to point 145.A.71 in Part-M?

- It is proposed to create the AMC1 M.A.616(a)(5) on the basis of the AMC1 145.A.71

  "PROCEDURES

  (a) Procedures should be held current such that they reflect best practice within the organisation. It is the responsibility of all employees to report any differences or difficulties with the procedures via the organisation's internal occurrence reporting scheme.

  (b) All procedures, and changes to the procedures, should be verified and validated before use where practicable."

- It is proposed to modify the AMC1 M.A.712(a)(5) to read:

  "PROCEDURES

  (a) Procedures should be held current such that they reflect best practice within the organisation. It is the responsibility of all employees to report any differences or difficulties with the procedures via the~~ir~~ organisation's internal ~~safety~~occurrence reporting scheme.

  (b) All procedures, and changes to the procedures, should be verified and validated before use where practicable.

  (c) All technical procedures should be designed and presented in accordance with good human factors principles."

- It is proposed to modify the AMC1 145.A.71 to read:

  "PROCEDURES – GENERAL

  (a) ~~Maintenance p~~Procedures should be held current such that they reflect best practice within the organisation. It is the responsibility of all personnel to report any differences or difficulties via the organisation's internal safety occurrence reporting scheme.

  (b) All procedures, and changes to those procedures, should be verified and validated before use where practicable.

  (c) All technical procedures should be designed and presented in accordance with good human factors principles."

- It is proposed to modify the GM1 145.A.71 to read:

  "HUMAN FACTORS PRINCIPLES

  ~~CAA UK CAP 716 chapter 6~~The following key points provide~~s~~ guidance on designing and presenting technical procedures in accordance with good human factors principles ~~and includes the following key points~~:

  (a) Procedure design and changes should involve maintenance personnel who have a good working knowledge of the tasks;

(b) All procedures, and changes to those procedures, should be verified and validated before use where practicable;

(c) Ensure procedures are accurate, appropriate and usable, and reflect best practice;

(d) Take account of the level of expertise and experience of the user; where appropriate, provide an abbreviated version of the procedure for use by experienced technicians;

(e) Take account of the environment in which they are to be used;

(f) Ensure that all key information is included without the procedure being unnecessarily complex;

(g) Where appropriate, explain the reason for the procedure;

(h) The order of tasks and steps should reflect best practice, with the procedure clearly stating where the order of steps is critical, and where the order is optional;

(i) Ensure consistency in the design of procedures and use of terminology, abbreviations, references, etc.; and

(j) Use 'Simplified English'; ASD Simplified Technical English for Aerospace and Defence (ASD-STE100[13])."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will prevent possible confusion, errors, or extensive judgment.

In this context, the reference to 'internal occurrence reporting scheme' is preferred to cover all procedures: the point M.A.712 addresses only management system key processes. Procedures describing processes other than key ones needs also to be reviewed in case of difficulties.

It is not clear when reference is made to organisational procedures or to maintenance/technical procedures (i.e. contained in maintenance data such as the Aircraft Maintenance Manual or Trouble Shooting Manual): for example, refer to the paragraph (a) of both AMC1 145.A.71 and AMC1 M.A.712(a)(5). Definitions of terms should be provided and strictly applied. Refer to Comment No. 10.

It is to be noted that although some national regulation materials may help in defining those of the EASA, it is found inappropriate (e.g. in case of contents evolutions) to include references to national guidance materials: the contents that are retained should be restated instead.

Comment No. 88:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

[NPA 2013-01(B), pages 73-74/218, section B., AMC1 M.A.616(a)(6)]
NPA 2013-01(B), pages 109-110/218, section B., AMC & GM for point M.A.712(a)(6)
NPA 2013-01(C), pages 116-121/184, section B., AMC & GM for point 145.A.65(a)(6)

2. PROPOSED TEXT / COMMENT:

– It is proposed to amend the AMC for M.A.712(a)(6) to read:

"AMC1 M.A.712(a)(6) Management System

COMPLIANCE MONITORING ~~—~~ GENERAL

(a) Compliance monitoring

(1) The primary objectives of the compliance monitoring function are to enable the organisation to ensure airworthy aircraft and to remain in compliance with the ~~Part-M~~applicable requirements.

(2) Compliance monitoring through independent audits is an essential element of the management system.

(b) ~~An essential element of the compliance monitoring function is the independent audit.~~The independence of the compliance monitoring function should be established by ensuring that audits, inspections and product sampling are carried out by personnel not responsible for the function, procedure or products being audited, inspected or sampled.

(c) The implementation and use of a compliance monitoring function should enable the organisation to monitor compliance with the relevant requirements of this Part and other applicable Parts.

(1) The organisation should specify the basic structure of the compliance monitoring function applicable to the activities conducted.

(2) The compliance monitoring function should be structured according to the size of the organisation and the complexity of the activities to be monitored.

(d) Organisations should monitor compliance with the procedures they have designed to ensure safe activities. In doing so, they should as a minimum, and where appropriate, monitor compliance with:

(1) privileges of the organisation;

(2) continuing airworthiness management procedures;

(3) training standards specified in this Regulation; and

(4) management system procedures and manuals.

AMC2 M.A.712(a)(6) Management System

COMPLIANCE MONITORING — CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURES

(~~c~~a) The independent audit should ~~be an objective process~~include inspections in the form of routine sample checks of all aspects of the organisation's ability to carry out continuing airworthiness management to the ~~required~~ standards required by this Regulation. It should include some product sampling as this is the end result of the process.

(~~d~~b) The independent audit should ~~represent~~provide an objective overview of the complete continuing airworthiness management related activities. It is intended to complement the M.A.902 requirement for an airworthiness review to be satisfied that all aircraft managed

by the organisation remain airworthy. Independent audits should include a percentage of random inspections carried out on a sample basis when continuing airworthiness management is being carried out.

~~(e) An organisation should establish an audit plan to show when and how often the activities as required by M.A. Subpart G will be audited.~~

(f~~c~~) As a demonstration of the effectiveness of continuing airworthiness management procedures compliance, ~~T~~the independent audit should ensure that all aspects of ~~M.A. Subpart G~~ compliance with this Regulation are checked during the applicable audit planning cycle~~every 12 months~~, including all the subcontracted activities, and may be carried out as a complete single exercise or subdivided over the applicable~~12-month~~ audit planning cycle in accordance with an audit schedule~~d plan~~. The independent audit does not require each procedure to be checked against each product line when it can be shown that the particular procedure is common to more than one product line and the procedure has been checked at least once during the applicable audit planning cycle ~~every 12 months~~ without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other product lines until the findings have been ~~rectified~~ closed after which the independent audit procedure may revert back to the ~~12-month~~ agreed audit planning cycle for the particular procedure. ~~Provided that there are no safety related findings, the audit planning cycle specified in this AMC may be increased by up to 100% subject to an appropriate risk assessment and agreement by the competent authority.~~

(d) It is recommended that procedures and product audits be combined by selecting a specific product example, such as an aircraft, engine or propeller (and components thereof) and sample checking all the procedures and requirements associated with the specific product example to ensure that the end result should be an airworthy product.

For the purpose of conducting:

- procedures audits, the audit scope should not be limited to the procedure only but should also cover the related continuing airworthiness management process deliverables, such as an aircraft maintenance programme, work order, airworthiness directive status, or other aircraft continuing airworthiness records.
- product audits, a product line (for the considered organisation) is defined by the aircraft type, the information system tool used to manage the aircraft continuing airworthiness, and the aircraft operational condition (operated/not operated).

(e) It therefore follows for example that a continuing airworthiness management organisation approved under Part-M with a capability of two different information system tools would need to carry out two complete product audit sample checks at least once during the applicable audit planning cycle.

(f) The product sampling means to check the physical status of the product against the associated procedures, documentation (such as an aircraft maintenance programme, work order, status or other aircraft continuing airworthiness records), and referenced maintenance data. The sample check should not involve repeat disassembly or testing unless the sample check identifies findings requiring such action.

(g) Where the organisation has more than one location approved, the compliance monitoring ~~function~~documentation should include a description~~describe~~ of how these are integrated into the system and include a plan to audit each location ~~every 12 months~~at least once during the applicable audit planning cycle or on a risk based programme as agreed by the competent authority.

(h) A report should be raised each time an audit or inspection is performed~~carried out~~ describing what was checked and the resulting findings against applicable requirements and procedures.

AMC3 M.A.712(a)(6) Management System

COMPLIANCE MONITORING — AUDIT PLANNING CYCLES

(a) The organisation should implement an audit planning cycle not exceeding 12 months, during which all management system key processes, continuing airworthiness management procedures, and products should be completely audited against the applicable requirements. When determining the audit planning cycle, the organisation should consider the results of its safety risk assessment and of past compliance monitoring in order to adapt the audit planning to the level of risk identified.

(b) Notwithstanding point (a), the competent authority may agree to increase the audit planning cycle by up to 100 % provided that there are no safety related findings, and subject to being satisfied that the organisation has a good record of rectifying findings in a timely manner.

AMC4 M.A.712(a)(6) Management system

COMPLIANCE MONITORING — INDEPENDENCE OF THE AUDIT

(a) The AMC1 M.A.712(a)(6) indicates that the independence of the audit should be established by always ensuring that audits, inspections and product sampling are carried out by personnel not responsible for the function, procedure, or products being audited, inspected or sampled. It, therefore, follows that a large continuing airworthiness management organisation approved under Part-M, being an organisation with more than about [number to be defined] continuing airworthiness management staff (FTEs) should have a dedicated group of auditors whose sole function is to conduct audits, inspections, and product sampling, issue finding reports, and follow-up to check that findings are being acted upon. For the medium sized continuing airworthiness management organisation approved under Part-M, being an organisation with no more than [number to be defined] continuing airworthiness management staff, it is acceptable to use competent personnel from one section/department, not responsible for the production, function, procedure, or product, to audit the section/department that is responsible subject to the overall planning and implementation being under the control of the compliance monitoring manager.

(b) The compliance monitoring manager of a non-complex organisation may perform all audits, inspections, and product sampling himself/herself or appoint one or more auditors. He/she may also elect to contract the independent audit element of the compliance monitoring function to another organisation, or a qualified and competent person approved by the competent authority.

A complex organisation may elect to contract the independent audit element of the compliance monitoring function to another organisation, or a qualified and competent person approved by the competent authority.

(c) In case external personnel are used to perform compliance audits, inspections or product sampling:

(1) any such audits, inspections or product sampling are performed under the responsibility of the compliance monitoring manager; and

(2) the organisation remains responsible to ensure that the external personnel has relevant knowledge, background, and experience as appropriate to the activities being audited or inspected, or to the product sampled, including knowledge and experience in compliance monitoring.

(d) The organisation retains the ultimate responsibility for the effectiveness of the compliance monitoring function, in particular for the effective implementation and follow-up of all corrective actions.

AMC5 M.A.712(a)(6) Management system

FEEDBACK SYSTEM OF FINDINGS

(a) An essential element of the compliance monitoring function is the feedback system of findings.

(b) The feedback system of findings should not be contracted to outside persons. The principal function of such feedback system is to ensure that all findings resulting from the independent audits and inspections of the organisation are properly investigated and corrected in a timely manner, and to enable the accountable manager to be kept informed of any safety issues, and of the extent of compliance with Part-M.

(~~i~~c) The feedback ~~part of the~~ system of findings should address who is required to rectify any non-compliance in each particular case, and the procedure to be followed if rectification is not completed within appropriate timescales. The procedure should lead to the accountable manager specified in M.A.706.

(~~j~~d) The independent audit reports referred to in AMC2 M.A.712(a)(6) point (h). should be sent to the relevant department(s) for correction and corrective action giving target dates for these actions. Such ~~T~~target dates should be discussed with ~~such~~ the relevant department(s) before the compliance monitoring ~~function~~ manager or nominated auditor confirms such dates in the report. The relevant department(s) ~~is required to correct non-compliances~~should act on findings and inform the compliance monitoring ~~function~~manager or nominated auditor(s) of such ~~correction~~action.

(~~k~~e) The accountable manager should hold regular meetings with ~~staff~~the compliance monitoring manager to check progress on correction and corrective actions.

(f) By derogation from point (e), ~~I~~in ~~the~~a large organisation~~s~~, being an organisation with more than X continuing airworthiness management staff (FTEs), such meetings may be delegated on a day-to-day basis to the compliance monitoring manager ~~subject to~~ provided that:

(1) ~~the accountable manager meeting~~the overall safety performance, and compliance record are reviewed at least twice ~~per~~a year by the safety review board~~with the senior staff involved to review the overall performance~~; and

(2) the accountable manager receives~~receiving~~ at least twice a year a ~~half yearly~~ summary report on ~~findings of~~ non-compliance findings.

(g) All records pertaining to the independent audit and the feedback system of findings should be retained for at least 5 years after the date of closure of the finding to which they refer to, or for such periods as to support changes to the audit planning cycle in accordance with AMC2 M.A.712(a)(6), whichever is the longer.

~~(l) The independence of the audit should be established by always ensuring that audits are carried out by personnel not responsible for the function, procedure or products being checked.~~

AMC6 M.A.712(a)(6) Management system

CONCESSION CONTROL FOR DEVIATIONS FROM ORGANISATION'S PROCEDURES

(a) In exceptional circumstances, it may temporarily be impossible for the organisation to comply with specific conditions stipulated in the procedures set forth in its management system documentation. For any deviation from those conditions a concession request should be submitted to the compliance monitoring manager. Such request should spec-

ify the reason for the request, and provide a justification, the condition/event concerned and its duration, as well as any compensatory measures that may be applied.

(b) The compliance monitoring manager, in consultation with the safety manager or person having designated safety management responsibilities, should assess the deviation envisaged and compensatory measures proposed to ensure they do not affect compliance with the applicable Part-M requirements. If required he/she should define additional compensatory measures to be applied.

(c) The deviation and compensatory measures should only be implemented upon formal acceptance by the compliance monitoring manager. Depending on the case, the deviation envisaged and compensatory measures may need to be agreed with the competent authority prior implementation.

(d) It falls within the remit of the compliance monitoring function to ensure:

(1) follow-up of all concessions granted until the organisation reverts back to the conditions stipulated in the procedures set forth in its management system documentation; and

(2) that records are kept of all concessions granted and compensatory measures implemented, in accordance with M.A.717."

– It is proposed to amend the GM1 M.A.712(a)(6) to read:

"TERMINOLOGY

(a) 'Audit' means a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements are complied with.

(b) 'Inspection' means an independent documented conformity evaluation by observation and judgement accompanied as appropriate by measurement, testing or gauging in order to verify compliance with applicable requirements.

(c) 'Survey' means [to be defined]."

– It is proposed to amend the AMC for point 145.A.65(a)(6) to read:

"AMC1 145.A.65(a)(6) Management system

COMPLIANCE MONITORING — GENERAL

[...]

(b) The independence of the compliance monitoring function should be established by ensuring that audits, inspections and product sampling~~inspections~~ are carried out by personnel not responsible for the function, procedure or products being audited, inspected or sampled.

[...]

(d) Organisations should monitor compliance with the procedures they have designed to ensure safe activities. In doing so, they should as a minimum, and where appropriate, monitor compliance with:

(1) privileges of the organisation;

(2) maintenance procedures;

(3) training standards specified in this Regulation; and

(4) management system procedures and manuals.

AMC2 145.A.65(a)(6) Management System

COMPLIANCE MONITORING — MAINTENANCE PROCEDURES

(a) The independent audit should include inspections in the form of routine sample checks of all aspects of the organisation's ability to carry out all maintenance to the ~~required~~ standards required by this Regulation and some product sampling as this is the end result of the maintenance process. It should provide an objective overview of the complete maintenance related activities and is intended to complement the 145.A.50(a) requirement for certifying staff to be satisfied that all required maintenance has been properly carried out before issue of the certificate of release to service. Independent audits should include a percentage of random inspections carried out on a sample basis when maintenance is being carried out. This means some inspections during the night for those organisations that work at night.

(b) The independent audit should ensure that all aspects of ~~Part-145~~ compliance with this Regulation are checked during the applicable audit planning cycle, including all the subcontracted activities, and may be carried out as a complete single exercise or subdivided over the applicable audit planning cycle in accordance with an audit schedule. The independent audit does not require each procedure to be checked against each product line when it can be shown that the particular procedure is common to more than one product line and the procedure has been checked at least once during the applicable audit planning cycle without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other product lines until the findings have been closed after which the independent audit procedure may revert back to the agreed audit planning cycle for the particular procedure.

(c) The independent audit should sample one product on each product line at least once during the applicable audit planning cycle as a demonstration of the effectiveness of maintenance procedures compliance. It is recommended that procedures and product audits be combined by selecting a specific product example, such as an aircraft, engine or ~~engine~~ propeller (~~or~~and components thereof) and sample checking all the procedures and requirements associated with the specific product example to ensure that the end result should be an airworthy product.

For the purpose of conducting:

- procedures audits, the audit scope should not be limited to the procedure only but should also cover the related maintenance process deliverables, such as work cards or maintenance records.
- product audits, a product line includes any product under an approval class rating as specified in the approval schedule issued to the particular organisation.

It therefore follows for example that a maintenance organisation approved under Part-145 with a capability to maintain aircraft, repair engines, brakes and autopilots would need to carry out four complete product audit sample checks at least once during the applicable audit planning cycle.

(d) The ~~sample check of a~~ product sampling means to witness any relevant testing and visually inspect the product against the associated documentation and procedures. The ~~sample check~~product sampling should not involve repeat disassembly or testing unless the sample check identifies findings requiring such action.

[...]

AMC4 145.A.65(a)(6) Management system

COMPLIANCE MONITORING — INDEPENDENCE OF THE AUDIT

(a) The AMC1 145.A.65(a)(6) indicates that the independence of the audit should be established by always ensuring that audits, ~~and~~ inspections and product sampling are carried out by personnel not responsible for the function, procedure, or products being audited, ~~or~~ inspected or sampled. It, therefore, follows that a large maintenance organisation approved under Part-145, being an organisation with more than about 200 maintenance staff (FTEs) should have a dedicated group of auditors whose sole function is to conduct audits and inspections, ~~raise~~issue finding reports, and follow-up to check that findings are being acted upon. For the medium sized maintenance organisation approved under Part-145, being an organisation with no more than 200 maintenance staff, it is acceptable to use competent personnel from one section/department, not responsible for the production, function, procedure, or product, to audit the section/department that is responsible subject to the overall planning and implementation being under the control of the compliance monitoring manager.

(b) The compliance monitoring manager of a non-complex organisation may perform all audits, ~~and~~ inspections, and product sampling himself/herself or appoint one or more auditors. He/she may also elect to contract the independent audit element of the compliance monitoring function to another organisation, or a qualified and competent person approved by the competent authority.

A complex organisation may elect to contract the independent audit element of the compliance monitoring function to another organisation, or a qualified and competent person approved by the competent authority.

(c) In case external personnel are used to perform compliance audits, ~~or~~ inspections or product sampling:

(1) any such audits, ~~or~~ inspections, or product sampling are performed under the responsibility of the compliance monitoring manager; and

(2) the organisation remains responsible to ensure that the external personnel has relevant knowledge, background, and experience as appropriate to the activities being audited or inspected, or to the product sampled, including knowledge and experience in compliance monitoring.

[...]

AMC5 145.A.65(a)(6) Management system

FEEDBACK SYSTEM OF FINDINGS

[...]

(c) The feedback system of findings should address who is required to rectify any non-compliance in each particular case, and the procedure to be followed if rectification is not completed within appropriate timescales. The procedure should lead to the accountable manager specified in 145.A.30.

(~~c~~d) The independent audit reports referred to in AMC2 145.A.65(a)(6) point ~~6.~~(f) should be sent to the relevant department(s) for correction and corrective action giving target dates for these actions. Such target dates should be discussed with the relevant department(s) before the compliance monitoring manager or nominated auditor confirms such dates in the report. The relevant department(s) should act on findings and inform the compliance monitoring manager or nominated auditor(s) of such action.

(~~d~~e) The accountable manager should hold regular meetings with ~~personnel~~the compliance monitoring manager to check progress on correction and corrective actions.

(~~e~~f) By derogation from point (~~d~~e), in a large organisation, being an organisation with more than 200 maintenance staff (FTEs), such meetings may be delegated on a day-to-day basis to the compliance monitoring manager provided that:

(1) the overall safety performance, and compliance record are reviewed at least twice a year by the safety review board; and

(2) the accountable manager receives at least twice a year a summary report on non-compliance findings.

(~~f~~g) All records pertaining to the independent audit and the feedback system of findings should be retained for at least ~~2~~5 years after the date of closure of the finding to which they refer to, or for such periods as to support changes to the audit planning cycle in accordance with AMC2 145.A.65(a)(6), whichever is the longer.

AMC6 145.A.65(a)(6) Management system

CONCESSION CONTROL FOR DEVIATIONS FROM ORGANISATION'S PROCEDURES

(a) In exceptional ~~situations~~circumstances, it may temporarily be impossible for the organisation to comply with specific conditions stipulated in the procedures set forth in its management system documentation. For any deviation from those conditions a concession request should be submitted to the compliance monitoring manager. Such request should specify the reason for the request, and provide a justification, the condition/event concerned and its duration, as well as any compensatory measures that may be applied.

[...]

(c) The deviation and compensatory measures should only be implemented upon formal acceptance by the compliance monitoring manager. Depending on the case, the deviation envisaged and compensatory measures may need to be agreed with the competent authority prior implementation."

– It is proposed to amend the GM2 145.A.65(a)(6) to read:

"TERMINOLOGY

(a) 'Audit' means a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements are complied with.

(b) 'Inspection' means an independent documented conformity evaluation by observation and judgement accompanied as appropriate by measurement, testing or gauging in order to verify compliance with applicable requirements.

(c) 'Survey' means [to be defined]."

3. RATIONALE / REASON / JUSTIFICATION:

The structure of AMC for point 145.A.65(a)(6) has been found clearer. The harmonisation of AMC 145.A.65(b) and AMC M.A.712(a), as far as possible, will bring consistency and will prevent possible confusion, errors, or extensive judgment.

With regard to the retention period (5 years) refer also to Comment No. 96.

Concerning the terminology, it is found necessary to add the definition of the term 'survey' in this context. Further, the definitions for 'audit' and 'inspection' are so similar that it introduces a hazard: confusion, errors, extensive interpretations, etc. are not prevented.

It is to be noted that the extent of modifications that will/will not be done to the definitions has a significant impact on the contents of the AMC discussed under this Comment.

The size of organisations approved under Part-145 is the criterion to have or not a dedicated group of auditors. As a result of the harmonisation objective, some criteria need to be developed for the CAMO.

Comment No. 89:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.712(b)
NPA 2013-01(B), page 110/218, section B., AMC1 M.A.712(b)
NPA 2013-01(B), page 111/218, section B., AMC1 M.A.712(e)
NPA 2013-01(C), page 123/184, section B., AMC1 145.A.65(b)
[NPA 2013-01(C), page 125/184, section B., GM2 145.A.65(b)]

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the AMC1 M.A.712(b) to read:

  "SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY

  (a) An organisation should be considered as non-complex when:

  (1) it has no more than 10 full-time equivalents (FTEs) actively engaged in continuing airworthiness management including subcontractors; and

  [...]"

- It is proposed to modify the AMC1 M.A.712(e) to read:

  "For organisations with no more than 5 full-time equivalents (FTEs) (including all M.A.706 personnel), including subcontractors, the compliance monitoring system can be replaced by an organisational review. The combination of aircraft and aircraft types, the utilisation of the aircraft and the number of approved locations of the organisations should also be considered before replacing the ~~quality~~compliance monitoring system by an organisational review.

  [...]"

- It is proposed to modify the AMC1 145.A.65(b) to read:

  "SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY

  (a) An organisation should be considered as complex when it has more than 20 Full Time Equivalent (FTE) maintenance staff, including subcontractors, actively engaged in carrying out maintenance under the Part-145 certificate.

  [...]"

- It is proposed to create the GM2 M.A.712(b) on the basis of the GM2 145.A.65(b) to read:

  "FULL TIME EQUIVALENT

  'Full time' for the purpose of Part-M means not less than 35 hours per week except during vacation periods."

3. RATIONALE / REASON / JUSTIFICATION:

Not including subcontractors in the counting method could lead to extensive interpretations and excessive solutions.

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 90:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.713
[NPA 2013-01(C), page 138/184, section B., AMC2 145.A.85]

2. PROPOSED TEXT / COMMENT:

- It is proposed to create the AMC2 M.A.713 on the basis of the AMC2 145.A.85 to read:

  "MANAGEMENT OF CHANGES

  The organisation should manage safety risks related to any changes to the organisation in accordance with AMC1 M.A.712(a)(3) point (e). For changes requiring prior approval, it should provide the safety risk assessment to the competent authority upon request."

- It is proposed to modify the AMC2 145.A.85 to read:

  "MANAGEMENT OF CHANGES

  The organisation should manage safety risks related to any changes to the organisation in accordance with AMC1 145.A.65(a)(3) point ~~5~~(e). For changes requiring prior approval, it should provide the safety risk assessment to the competent authority upon request."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 91:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 79-80/218, section B., GM1 M.A.617(a)
NPA 2013-01(B), page 118/218, section B., GM1 M.A.713(a)
NPA 2013-01(C), page 138/184, section B., GM1 145.A.85(a)

2. PROPOSED TEXT / COMMENT:

– It is proposed to modify the GM1 M.A.617(a) to read:

"GENERAL

(a) Typical examples of changes that may affect the certificate or the terms of approval are listed below:

(1) the name of the organisation;

(2) a change of legal entity;

(~~2~~3) the organisation's principal place of business;

(~~3~~4) the organisation's scope of approval;

(~~4~~5) additional locations of the organisation;

(~~5~~6) the accountable manager;

(~~6~~7) any of the persons referred to in M.A.606(b);

(~~7~~8) the organisation's documentation as required by this Regulation, safety policy, and procedures; ~~and~~

(~~8~~9) the facilities, equipment, tools, material, procedures, ~~or~~ work scope or certifying staff; and

(10) the detailed procedures for the fabrication of parts in accordance with AMC1 M.A.603(c).

(b) Prior approval by the competent authority is required for any changes to the organisation's procedure describing how changes not requiring prior approval will be managed, and notified to the competent authority.

(c) Changes requiring prior approval may only be implemented upon receipt of formal approval by the competent authority."

– It is proposed to modify the GM1 M.A.713(a) to read:

"GENERAL

(a) Typical examples of changes that may affect the certificate, or the terms of approval are listed below:

(1) the name of the organisation;

(2) a change of legal entity;

(~~2~~3) the organisation's principal place of business;

(~~3~~4) the organisation's scope of approval;

(~~4~~5) additional locations of the organisation;

(~~5~~6) the accountable manager;

(~~6~~7) any of the persons referred to in M.A.706(b) or M.A.706(c);

(~~7~~8) the organisation's documentation as required by this Regulation, safety policy and procedures;~~ and~~

(~~8~~9) the facilities, equipment, tools, material, procedures, work scope, or airworthiness review staff; and

(10) the scheme to manage human factors and human performance and limitations.

(b) Prior approval by the competent authority is required for any changes to the organisation's procedure describing how changes not requiring prior approval will be managed~~,~~ and notified to the competent authority.

(c) Changes requiring prior approval may only be implemented upon receipt of formal approval by the competent authority."

– It is proposed to modify the GM1 145.A.85(a) to read:

"GENERAL

(a) Typical examples of changes that may affect the certificate, or the terms of approval are listed below:

(1) the name of the organisation;

(2) a change of legal entity;

(3) the organisation's principal place of business;

(4) the organisation's scope of ~~work~~approval;

(5) additional locations of the organisation;

(6) the accountable manager;

(7) any of the persons referred to in 145.A.30(b) or 145.A.30(c);

(8) the organisation's documentation as required by this Regulation, safety policy and procedures;

(9) the facilities, equipment, tools, material, procedures, work scope or certifying staff;

(10) the scheme ~~fatigue risk management~~ scheme ~~established in accordance with AMC2 145.A.47(b)~~to manage human factors and human performance and limitations; and

(11) the detailed procedures for the fabrication of parts in accordance with AMC1 145.A.42(c).

(b) Prior approval by the competent authority is required for any changes to the organisation's procedure describing how changes not requiring prior approval will be managed and notified to the competent authority.

(c) Changes requiring prior approval may only be implemented upon receipt of formal approval by the competent authority."

3. RATIONALE / REASON / JUSTIFICATION:

Human factors and human performance and limitations are not taken into account in the GM1 M.A.617(a). Refer to Comment No. 71.

The paragraph (a)(10) of the GM1 145.A.85(a) is proposed for amendment as there is no reason to focus on only one matter involving human factors and human performance and limitations. Refer also to Comment No. 83.

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 92:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 119/218, section B., point M.A.714

2. PROPOSED TEXT / COMMENT:
It is proposed to modify point M.A.714 to read:

"M.A.714 Continuing airworthiness management record keeping

~~(a) The continuing airworthiness management organisation shall record all details of work carried out. The records required by M.A.305 and if applicable M.A.306 shall be retained.~~

(~~b~~a) If the continuing airworthiness management organisation has the privilege referred to in point M.A.711(b), it shall retain a copy of each airworthiness review certificate and recommendation issued or, as applicable, extended, together with all supporting documents. In addition, the organisation shall retain a copy of any airworthiness review certificate that it has extended under the privilege referred to in point M.A.711(a)4.

(~~c~~b) If the continuing airworthiness management organisation has the privilege referred to in point M.A.711(c), it shall retain a copy of each permit to fly issued in accordance with the provisions of point 21.A.729 of the Annex (Part-21) to Regulation (EU~~C~~) No 748/2012~~1702/2003~~.

(~~d~~c) The continuing airworthiness management organisation shall retain a copy of all records referred to in paragraphs (~~b~~a) and (~~c~~b) until two years after the aircraft has been permanently withdrawn from service.

(~~e~~d) The records shall be stored in ~~a manner that ensures protection from damage, alteration and theft~~accordance with AMC1 M.A.717.

~~(f) All computer hardware used to ensure backup shall be stored in a different location from that containing the working data in an environment that ensures they remain in good condition.~~

~~(g) Where continuing airworthiness management of an aircraft is transferred to another organisation or person, all retained records shall be transferred to the said organisation or person. The time periods prescribed for the retention of records shall continue to apply to the said organisation or person.~~

(~~h~~e) Where a continuing airworthiness management organisation terminates its operation, all retained records shall be transferred to the owner of the aircraft."

3. RATIONALE / REASON / JUSTIFICATION:
The paragraph (a) is proposed for deletion as the requirements are already covered by points M.A.305(f) and M.A.306(c).

The paragraph (f) is proposed for deletion as the requirement is already covered by point M.A.717.

The paragraph (g) is proposed for deletion as the requirements are already covered by point M.A.307.

Comment No. 93:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC for point M.A.201(j)
NPA 2013-01(B), page 80/218, section B., AMC for point M.A.618
NPA 2013-01(B), pages 119/218, section B., point M.A.715 and AMC
[NPA 2013-01(C), page 139/184, section B., points 145.A.90 and 145.A.92]

2. PROPOSED TEXT / COMMENT:

- It is proposed to develop an AMC for the points M.A.201(j), M.A.618(a)(2) and M.A.715(a)(2) on the basis of the contents of point 145.A.92.
- It is also proposed to harmonise the point M.A.715 with points M.A.618 and 145.A.90 to read:

"(a) The organisation's certificate shall remain valid subject to:

1. the organisation remaining in compliance with this Regulation~~Annex I (Part-M)~~, taking into account the provisions related to the handling of findings as specified under M.B.705 and;
2. the competent authority being granted access to the organisation to determine continued compliance with this Regulation, and;
3. the certificate not being surrendered or revoked.

(b) Upon revocation or surrender, the certificate shall be returned to the competent authority without delay."

- It is proposed to create the AMC1 M.A.715(b) to read:

"In the case of commercial air transport, suspension or revocation of the approval of the Part M Subpart G continuing airworthiness management approval will invalidate the AOC."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other points/AMC.

Comment No. 94:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

[NPA 2013-01(B), page 81/218, section B., AMC1 M.A.619]
NPA 2013-01(B), pages 119/218, section B., AMC1 M.A.716
[NPA 2013-01(C), page 140/184, section B., AMC1 145.A.95]

2. PROPOSED TEXT / COMMENT:

It is proposed to harmonise AMC1 M.A.716 with AMC1 M.A.619 and AMC1 145.A.95 to read:

"GENERAL

The corrective action plan defined by the organisation should address the effects of the non-compliance, as well as its root cause(s) and contributing factors.

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 95:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.619
[NPA 2013-01(B), pages 120/218, section B., GM2 M.A.716]
[NPA 2013-01(C), page 140/184, section B., GM2 145.A.95]

2. PROPOSED TEXT / COMMENT:

It is proposed to develop the GM2 M.A.619 on the basis of the GM2 M.A.716 and GM2 145.A.95 to read:

"ROOT CAUSE ANALYSIS

(a) It is important that the analysis does not primarily focus on establishing who or what caused the non-compliance but why it was caused. Establishing the root cause or causes of a non-compliance often requires an overarching view of the events and circumstances that lead to it, to identify all possible systemic and contributing factors (regulatory, organisational, managerial, cultural, technical, etc.) in addition to the direct factors. A narrow focus on single events or failures, or the use of a simple, linear model, such as fault tree, to identify the chain of events that lead to the non-compliance may not properly reflect the complexity of the issue, and, therefore, bears the risk that important factors required to be addressed in order to prevent reoccurrence will be ignored.

(b) Such inappropriate or partial root cause analysis often leads to defining 'quick fixes' addressing the symptoms of the nonconformity only. A peer review of the results of the root cause analysis may increase its reliability and objectivity.

(c) A system description of the organisation considering organisational structures, processes and their interfaces, procedures, staff, equipment, facilities, and the environment in which the organisation operates will support both effective root cause (reactive) and hazard (proactive) analysis."

3. RATIONALE / REASON / JUSTIFICATION:

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Human factors and human performance and limitations are not taken into account in the GM2 M.A.619. Refer to Comment No. 71.

Comment No. 96:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

Point M.A.305
Point M.A.306
Point M.A.614
NPA 2013-01(B), page 82/218, section B., M.A.621, its AMC and GM
NPA 2013-01(B), pages 120-121/218, section B., M.A.717, its AMC and GM
Point 145.A.55
NPA 2013-01(C), page 87/184, section B., AMC1 145.A.55 and GM1 145.A.55
NPA 2013-01(C), pages 125-126/184, section B., point 145.A.68, its AMC and GM

2. PROPOSED TEXT / COMMENT:

A consolidation of requirements about the way records should be kept seems necessary. Some requirements or acceptable means of compliance are located in different points (e.g. points M.A.305, M.A.306, M.A.714, M.A.717 and their AMC and GM). For example, AMC M.A.305(h) contains some pieces of information similar to the contents of the AMC/GM of points M.A.621 or M.A.717.

It is proposed that points M.A.305, M.A.306, M.A.614, M.A.714 and M.A.717 describe which records have to be kept and provide the retention periods. Then, a new point (common to all) should be created to describe the way records should be kept.

Same for Part-145.

3. RATIONALE / REASON / JUSTIFICATION:

The duplication of regulation requirements creates hazards (potential future contradictions, confusion, etc.) and makes the compliance demonstration more complex than necessary: e.g. paragraph (e) of the AMC2 145.A.65(a)(3) states "Records of all FRM output, including findings from collected data, recommendations, and actions taken, should be maintained in accordance with the organisation's general record keeping procedures". Which procedure: The one for "product" record keeping (point 145.A.55) or the one for "organisation" record keeping (point 145.A.68)?

The retention period for management system records is ambiguous: is it 2 years like currently (3 years for records of certifying staff and support staff), or 5 years as stated in the paragraph (d) of the AMC1 M.A.717 and AMC1 145.A.68? Is this 5-year retention period applicable only to computerized records?

Refer also to EASA RMT.0276 (MDM.076).

Comment No. 97:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 70-71/218, section B., AMC1 M.A.616(a)(3) – Refer to Comment No. 73.
NPA 2013-01(B), pages 121-122/218, section B., M.A.721
NPA 2013-01(C), pages 89/184, section B., point 145.A.62

2. PROPOSED TEXT / COMMENT:

Could the EASA clarify the reasons why the internal safety reporting scheme for organisations approved under Part-M subpart F is introduced at AMC level, unlike points 145.A.62 and M.A.721?

It is proposed to harmonise points 145.A.62 and M.A.721. Therefore:

– it is proposed to modify point M.A.721 to read:

"(a) As part of its management system, the organisation shall establish an internal safety reporting scheme, as detailed in the exposition, to enable the collection and evaluation of such occurrences to be reported under M.A.202.

(b) The scheme shall also enable the collection and evaluation of those errors, near-misses, and hazards reported internally that do not fall under point (a) above.

(c) Through this scheme, the organisation shall:

(1) identify and address the factors contributing to occurrences in order to reduce the likelihood of reoccurrence;

(2) identify adverse trends, corrective actions taken, or to be taken by the organisation to address deficiencies; ~~and~~

(3) ensure evaluation of all known relevant information relating to errors, near-misses, and hazards, and a method to circulate the information as necessary; and

(4) ensure immediate action may be taken in case of occurrences that have an impact on the airworthiness of products or their components on which maintenance is performed, or which have already been released.

(~~c~~d) ~~For all complex motor-powered aircraft and for aircraft used for commercial air transport,~~ tThe organisation shall cooperate on occurrence investigations with the owner/operator and the relevant maintenance organisation(s)."

– it is proposed to modify point 145.A.62 to read:

"(a) As part of its management system, the organisation shall establish an internal safety reporting scheme as detailed in the exposition, to enable the collection and evaluation of such occurrences to be reported under 145.A.60.

(b) The scheme shall also enable the collection and evaluation of those errors, near-misses, and hazards reported internally that do not fall under point (a).

(c) Through this scheme the organisation shall:

(1) identify and address the factors contributing to ~~incidents~~occurrences in order to reduce the likelihood of ~~such incidents~~ reoccurrence~~ing~~;

(2) identify adverse trends, corrective actions taken or to be taken by the organisation to address deficiencies;

(3) ensure evaluation of all known relevant information relating to errors, near-misses and hazards, and a method to circulate the information as necessary; and

(4) ensure immediate action may be taken in case of occurrences that have an impact on the ~~safety~~airworthiness of ~~aircraft,~~products or their components on which maintenance is performed, or which have already been released.

(d) ~~When a Part-M Subpart G organisation is responsible for the continuing airworthiness management of an aircraft, t~~The organisation shall cooperate ~~with that Part-M Subpart G organisation~~ on occurrence investigations with the person or organisation responsible for the continuing airworthiness management of an aircraft."

3. RATIONALE / REASON / JUSTIFICATION:

To take immediate action in case of occurrences having an impact on the airworthiness of products or their components is one of the aviation basics. Therefore, it should be reminded to all.

The term 'occurrences' has been found more neutral and is preferred to 'incidents' to prevent confusion with the activities related to the ICAO Annex 13 (aircraft accident and incident investigation).

In this context, the term 'airworthiness' is preferred to the term 'safety' as the main and direct impact of activities carried out by organisations approved under Part-M/Part-145 is on airworthiness. Refer to Comment No. 2.

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 98:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), pages 71-72/218, section B., GM1 M.A.616(a)(3)
NPA 2013-01(B), page 123/218, section B., GM1 M.A.721
NPA 2013-01(C), pages 91-92/184, section B., GM2 145.A.62

2. PROPOSED TEXT / COMMENT:

Is the EASA's intent really to restrict the scope of safety risk assessments (and consequently, of the mitigation strategies) to hazards, which consequences are or contribute to an aircraft incident or accident?

– It is proposed to harmonise GM1 M.A.616(a)(3) with GM1 M.A.721 and GM2 145.A.62, and to modify it to read:

"DEFINITIONS - INTERNAL OCCURRENCE REPORTING SCHEME

1. Near-miss: An occurrence which under slightly different circumstances could have led to ~~an aircraft incident or accident~~ serious or fatal injuries to people, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, during or after the delivery of the continuing airworthiness management services of the organisation.

   An example is when a mechanic on rechecking his/her work at the end of a task realises that a pipe was only connected hand tight.

2. Error: Non-intentional action or inaction by a person that may lead to deviations from accepted procedures or regulations.

   Errors are often associated with occasions where a planned sequence of mental or physical activities either fails to achieve its intended outcome, or is not appropriate with regard to the intended outcome, and when results cannot be attributed to the intervention of some chance agency. The mechanic forgetting to tighten the pipe was an error.

   Note: The basic difference between errors and violation is intent. A person who willingly deviates from rules, procedures or training received while accomplishing a task commits a violation.

3. Hazard: A condition ~~that could cause or contribute to an aircraft incident or accident~~ or an object with the potential to cause serious or fatal injuries to people, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, during or after the delivery of the continuing airworthiness management services of the organisation.

   Hazards can be related to human performance and limitations, the environment, organisational factors (commercial pressure, resource constraints, and culture) or technical factors (design of aircraft, systems, tooling, and equipment).

   An example related to human performance and limitations is that of complex maintenance performed at time of night with circadian low.

   Examples related to the environment are: line maintenance at night, excessive noise, and maintenance outside of hangar with very low temperatures.

   Examples of organisational factors are: maintenance work involving multiple contractors/subcontractors, and significant turnover rate regarding maintenance and supervisory staff.

   Examples related to technical factors are: ambiguous maintenance data, use of alternative tooling different from that recommended in maintenance data, and use of modified maintenance instructions.

4. Safety Culture: An enduring set of values, norms, attitudes, and practices within an organisation concerned with minimising exposure of the workforce and the general public to dangerous or hazardous conditions. In a positive safety culture, a shared concern for, commitment to, and accountability for safety is promoted.
5. Just Culture: A culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."

– It is proposed to harmonise GM1 M.A.721 with GM2 145.A.62 and to modify it to read:

"DEFINITIONS

1. Near-miss: An occurrence which under slightly different circumstances could have led to ~~an aircraft incident or accident~~ serious or fatal injuries to people, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, during or after the delivery of the continuing airworthiness management services of the organisation.

   An example is when an engineer on rechecking his/her work at the end of a work package preparation realises that a maintenance instruction for non-destructive testing refers to a maintenance procedure that would not allow detection of a failure (e.g. wrong non-destructive testing method).

2. Error: Non-intentional action or inaction by a person that may lead to deviations from accepted procedures or regulations.

   Errors are often associated with occasions where a planned sequence of mental or physical activities either fails to achieve its intended outcome, or is not appropriate with regard to the intended outcome, and when results cannot be attributed to the intervention of some chance agency. The engineer introducing a typo in the maintenance procedure reference was an error.

   Note: The basic difference between errors and violation is intent. A person who willingly deviates from rules, procedures or training received while accomplishing a task commits a violation.

3. Hazard: A condition ~~that could cause or contribute to an aircraft incident or accident~~ or an object with the potential to cause serious or fatal injuries to people, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, during or after the delivery of the continuing airworthiness management services of the organisation.

   Hazards can be related to human performance and limitations, the environment, organisational factors (commercial pressure, resource constraints, and culture) or technical factors (design of aircraft, systems, tooling, and equipment).

   An example related to human performance and limitations is that of complex revisions of the aircraft maintenance programme performed at the same time as another continuing airworthiness management task.

   An example related to the environment is the continuing airworthiness management tasks performed in an excessive noisy environment (open space offices).

   Examples of organisational factors are: maintenance work involving multiple contractors/subcontractors, and significant turnover rate regarding continuing airworthiness management and supervisory staff.

   Examples related to technical factors are: ambiguous maintenance data, use of new information tool system, and use of modified maintenance instructions.

4. Safety risk: The assessment, expressed in terms of predicted probability and severity, of the consequences of a hazard, taking as reference the worst foreseeable situation.

~~4~~5. Safety Culture: An enduring set of values, norms, attitudes, and practices within an organisation concerned with minimising exposure of the workforce and the general public to dangerous or hazardous conditions. In a positive safety culture, a shared concern for, commitment to, and accountability for safety is promoted.

~~5~~6. Just Culture: A culture in which front line ~~operators~~personnel or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."

– It is proposed to re-identify GM2 145.A.62 into GM1 145.A.62 and to modify it to read:

"DEFINITIONS

(~~c~~a) Near-miss: An occurrence which under slightly different circumstances could have led to ~~an aircraft incident or accident~~ serious or fatal injuries to people, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, during or after the delivery of the continuing airworthiness management services of the organisation.

An example is when a mechanic on rechecking his/her work at the end of a task realises that a pipe was only connected hand tight.

(~~d~~b) Error: Non-intentional action or inaction by a person that may lead to deviations from accepted procedures or regulations.

Errors are often associated with occasions where a planned sequence of mental or physical activities either fails to achieve its intended outcome, or is not appropriate with regard to the intended outcome, and when results cannot be attributed to the intervention of some chance agency. The mechanic forgetting to tighten the pipe was an error.

Note: The basic difference between errors and violation is intent. A person who willingly deviates from rules, procedures or training received while accomplishing a task commits a violation.

(~~e~~c) Hazard: A condition ~~that could cause or contribute to an aircraft incident or accident~~ or an object with the potential to cause serious or fatal injuries to people, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, during or after the delivery of the maintenance services of the organisation.

Hazards can be related to human performance and limitations, the environment, organisational factors (commercial pressure, resource constraints, and culture) or technical factors (design of aircraft, systems, tooling, and equipment).

An example related to human performance and limitations is that of complex maintenance performed at time of night with circadian low.

Examples related to the environment are: line maintenance at night, excessive noise, and maintenance outside of hangar with very low temperatures.

Examples of organisational factors are: maintenance work involving multiple contractors/subcontractors, and significant turnover rate regarding maintenance and supervisory staff.

Examples related to technical factors are: ambiguous maintenance data, use of alternative tooling different from that recommended in maintenance data, and use of modified maintenance instructions.

(d) Safety risk: The assessment, expressed in terms of predicted probability and severity, of the consequences of a hazard, taking as reference the worst foreseeable situation.

(~~f~~e) Safety Culture: An enduring set of values, norms, attitudes, and practices within an organisation concerned with minimising exposure of the workforce and the general public to dangerous or hazardous conditions. In a positive safety culture, a shared concern for, commitment to, and accountability for safety is promoted.

(~~g~~f) Just Culture: A culture in which front line ~~operators~~personnel or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."

3. RATIONALE / REASON / JUSTIFICATION:

Some examples have been added to GM1 M.A.721 in order to give the same level of information as for GM1 M.A.616(a)(3)/GM2 145.A.62.

There is an inconsistency between definitions given for "near-miss" and "hazard" on one hand, and for example, the definitions of "safety culture" and the severities of failure conditions taken into account for the Product certification (refer to Comment No. 2), on the other hand. Therefore, a definition of "hazard" has been developed on the basis of the one found in the ICAO Doc 9859 Safety Management Manual. Then, the definition for "near-miss" has been adapted.

It has been found necessary to introduce the notion of "safety risk" and of "violation". Finally, the term "operators" in the definition of "Just culture" has been found as potentially confusing.

The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 99:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(C), pages 91-92/184, section B., GM2 145.A.62

2. PROPOSED TEXT / COMMENT:
It is proposed to create Is the EASA's intent really to restrict the scope of safety risk assessments (and consequently, of the mitigation strategies) to hazards, which consequences are or contribute to an aircraft incident or accident?

- It is proposed to create the GM2 M.A.721 on the basis of the (re-identified) GM2 145.A.62 to read:

  "GENERAL

  (a) The overall purpose of the scheme is to use reported information to improve the level of safety performance of the organisation and not to attribute blame.

  (b) The objectives of the scheme are to:

    (1) enable an assessment to be made of the safety implications of each relevant occurrence (errors, near-miss), safety issue and hazard reported, including previous similar occurrences, so that any necessary action can be initiated; and

    (2) ensure that knowledge of relevant occurrences and hazards is disseminated so that other persons and organisations may learn from them.

  (c) The scheme is an essential part of the overall monitoring function and should be complementary to the normal day-to-day procedures and 'control' systems; it is not intended to duplicate or supersede any of them. The scheme is a tool to identify those instances where routine procedures have failed or may fail.

  (d) All safety reports judged reportable by the person submitting the report should be retained as the significance of such reports may only become obvious at a later date.

  (e) Typical occurrences to be reported are those where airworthiness was, or could have been endangered, or which could have led to an unsafe condition. If, in the view of the reporter, an occurrence did not endanger airworthiness but, if repeated in different but likely circumstances, would create an unsafe situation that could lead to an accident or serious incident, then a report should be made. What is judged to be reportable on one class of product, part, or appliance may not be the same for another, and the absence or presence of a single factor, organisational, human, or technical, can transform an occurrence into an accident or serious incident.

  (f) The collection and analysis of timely, appropriate and accurate data will allow the organisation to react to information received, and apply the necessary action. Depending on the case, such action may entail a recall of components or aircraft which have already been released, in accordance with the organisation's Emergency Response Plan (ERP), for example in the case of work orders found incomplete or non-conforming to the aircraft maintenance programme."

- It is proposed to re-identify GM1 145.A.62 into GM2 145.A.62 and to modify it to read:

  "GENERAL

  (a) The overall purpose of the scheme is to use reported information to improve the level of safety performance of the organisation and not to attribute blame.

  (b) The objectives of the scheme are to:

(1) enable an assessment to be made of the safety implications of each relevant ~~incident~~occurrence (errors, near-miss), safety issue and hazard reported, including previous similar occurrences, so that any necessary action can be initiated; and

(2) ensure that knowledge of relevant ~~incidents~~occurrences and hazards is disseminated so that other persons and organisations may learn from them.

(c) The scheme is an essential part of the overall monitoring function and should be complementary to the normal day-to-day procedures and 'control' systems; it is not intended to duplicate or supersede any of them. The scheme is a tool to identify those instances where routine procedures have failed or may fail.

(d) All safety reports judged reportable by the person submitting the report should be retained as the significance of such reports may only become obvious at a later date.

(e) Typical occurrences to be reported are those where ~~aviation safety~~airworthiness was, or could have been endangered, or which could have led to an unsafe condition. If, in the view of the reporter, an occurrence did not endanger ~~aviation safety~~airworthiness but, if repeated in different but likely circumstances, would create an unsafe situation that could lead to an accident or serious incident, then a report should be made. What is judged to be reportable on one class of product, part, or appliance may not be the same for another, and the absence or presence of a single factor, organisational, human, or technical, can transform an occurrence into an accident or serious incident.

(f) The collection and analysis of timely, appropriate and accurate data will allow the organisation to react to information received, and apply the necessary action. Depending on the case, such action may entail a recall of components or aircraft which have already been released, in accordance with the organisation's Emergency Response Plan (ERP), for example in the case of tools and equipment found non-conforming to the required standards."

3. RATIONALE / REASON / JUSTIFICATION:

The term 'occurrences' has been found more neutral and is preferred to 'incidents' to prevent confusion with the activities related to the ICAO Annex 13 (aircraft accident and incident investigation).

In this context, the term 'airworthiness' is preferred to the term 'safety' as the main and direct impact of activities carried out by organisations approved under Part-M/Part-145 is on airworthiness. Refer to Comment No. 2.

The harmonisation will bring consistency and will benefit from the strengths of the other GM.

Comment No. 100:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

NPA 2013-01(B), page 82/218, section B., point M.A.622
NPA 2013-01(B), page 123/218, section B., point M.A.722
NPA 2013-01(C), page 140/184, section B., point 145.A.97

2. PROPOSED TEXT / COMMENT:

- It is proposed to modify the title of points M.A.622, M.A.722 and 145.A.97 to read:

  "Immediate reaction to a safety ~~problem~~ measure mandated by Authorities"

- It is proposed to modify point M.A.622 to read:

  "The organisation shall implement:

  (a) any safety measures mandated by the competent authority in accordance with M.B.106; and

  (b) any relevant mandatory safety information issued by the Agency."

3. RATIONALE / REASON / JUSTIFICATION:

It is proposed to modify the title to prevent possible confusion with the Emergency Response Plan.

To prevent contradiction with the paragraph 5. of point M.A.301 (subparagraph (iii)).

Comment No. 101:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 67/218, section B., AMC1 M.A.613(a)

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the sub-paragraph (c) to read:

"2.6.2 Serviceable aircraft components removed from a non-Member State registered aircraft may only be issued with an EASA Form 1 under the following conditions:

(a) […];

(b) […];

(c) […].

An EASA Form 1 may be issued and should contain the information as specified in paragraph 2.4, including the aircraft from which the aircraft component was removed.".

3. RATIONALE / REASON / JUSTIFICATION:
For clarity. The last sentence should not be included in sub-paragraph (c).

Comment No. 102:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
Point M.A.614

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the sub-paragraph (a) to read:

"(a) The approved maintenance organisation shall record all details of work carried out. Records necessary to prove all requirements have been met for issuance of the certificate of release to service including the ~~sub-~~subcontractor's release documents shall be retained.".

3. RATIONALE / REASON / JUSTIFICATION:
NPA 2013-01(B), page 21/218, paragraph "Editorial and consistency changes".

Comment No. 103:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
NPA 2013-01(B), page 68/218, section B., AMC1 M.A.615(b)

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the sub-paragraph (c) to read:

"(c) 'Under the control of the ~~Subpart F~~ maintenance organisation' means that the Subpart F organisation should investigate the capability of the subcontracted organisation (including qualifications, facilities, equipment, and materials) and ensure that such organisation:

(1) receives appropriate maintenance instructions and maintenance data for the task to be performed;

(2) properly records the maintenance performed in the Subpart F airworthiness records; and

(3) notifies the Subpart F organisation for any deviation or non-conformity, which has arisen during such maintenance.".

3. RATIONALE / REASON / JUSTIFICATION:
For consistency with the text of point M.A.615(b).

Comment No. 104:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:

AMC M.A.402
Point M.A.701
NPA 2013-01(C), page 45/184, section B., point 145.A.10

2. PROPOSED TEXT / COMMENT:

With regard to point M.A.701, can the Agency clarify why it has not been amended (like point 145.A.10) to refer to 'certificate', instead of 'approval'? Refer to Comment No. 11.

It is proposed to create the AMC2 M.A.402(a) on the basis of the AMC1 145.A.10, point 1. to read:

"LINE MAINTENANCE

Line Maintenance should be understood as any maintenance that is carried out before flight to ensure that the aircraft is fit for the intended flight.

(a) Line Maintenance may include:

- Trouble shooting.
- Defect rectification.
- Component replacement with use of external test equipment if required. Component replacement may include components such as engines and propellers.
- Scheduled maintenance and/or checks including visual inspections that will detect obvious unsatisfactory conditions/discrepancies but do not require extensive in depth inspection. It may also include internal structure, systems and powerplant items which are visible through quick opening access panels/doors.
- Minor repairs and modifications which do not require extensive disassembly and can be accomplished by simple means.

(b) For temporary or occasional cases (AD's, SB's) the compliance monitoring manager may accept base maintenance tasks to be performed by a line maintenance organisation after an appropriate risk assessment is carried out provided all requirements are fulfilled as defined by the competent authority.

(c) Maintenance tasks falling outside these criteria are considered to be Base Maintenance.

(d) Aircraft maintained in accordance with 'progressive' type programmes should be individually assessed in relation to this paragraph. In principle, the decision to allow some 'progressive' checks to be carried out should be determined by the assessment that all tasks within the particular check can be carried out safely to the required standards at the designated line maintenance station."

3. RATIONALE / REASON / JUSTIFICATION:

For example, M.A.708(c) refers to line maintenance. No definition for this term is currently given in the Part-M. The proposal brings consistency with the corresponding text of the AMC1 145.A.10. The harmonisation will bring consistency and will benefit from the strengths of the other AMC.

Comment No. 105:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
Point M.A.901

2. PROPOSED TEXT / COMMENT:
It is proposed to modify the point M.A.901(b) to read:

"(b) An aircraft in a controlled environment is: ~~an aircraft~~

(i) an aircraft continuously managed by a unique continuing airworthiness management organisation approved in accordance with Section A, Subpart G, of this Annex (Part M) during the previous:

(1) 12 months for complex motor-powered aircraft and aircraft used for commercial air transport except balloons,

(2) 6 months for aircraft that are not classified as complex motor-powered aircraft, aircraft not used in commercial air transport and balloons~~by a unique continuing airworthiness management organisation approved in accordance with Section A, Subpart G, of this Annex (Part M); and~~

(ii) a complex motor-powered aircraft or aircraft used for commercial air transport except balloons, for which the continuing airworthiness management organisation referred to in paragraph (i) has performed an airworthiness review that is conclusive; and

(iii) an aircraft which has been maintained for the previous 12 months by maintenance organisations approved in accordance with Section A, Subpart F of this Annex (Part M), or with Annex II (Part 145). This includes maintenance tasks referred to in point M.A.803(b) carried out and released to service in accordance with point M.A.801(b)2 or point M.A.801(b)3; or

(iv) an aircraft managed continuously from the day the EASA Form 52 is issued until the Form 53 is issued, by the continuing airworthiness management body of an organisation approved under both Section A, Subpart G, of this Annex (Part M) and Annex (Part-21) to Regulation (EU) No 748/2012."

3. RATIONALE / REASON / JUSTIFICATION:
Experience shows that more than 6 months are usually necessary to have the complete history knowledge of an aircraft (for a large aircraft). This period is shorter for light aircraft and depends on the aircraft complexity.

The notion of controlled environment should also depend on the (first) airworthiness review performed for a complex motor-powered aircraft or aircraft used for commercial air transport (except balloons) recently introduced into the fleet managed (airworthiness review performed by this CAMO), as it gives a clear 'picture' of the aircraft airworthiness.

The existing definition of controlled environment should take into account the specific case of the continuing airworthiness management body of an organisation approved under both Part-M Subpart G and Part-21.

Comment No. 106:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.901(b)

2. PROPOSED TEXT / COMMENT:
It is proposed to re-identify AMC M.A.901(b) into AMC1 M.A.901(b) and to modify it to read:

"1. If the continuing airworthiness of the aircraft is not managed according to a Part-M appendix I arrangement between the owner and the ~~M.A. Subpart G~~continuing airworthiness management organisation, the aircraft should be considered to be outside a controlled environment. Nevertheless, such arrangement is not necessary when the operator and the ~~M.A. Subpart G~~continuing airworthiness management organisation are the same organisation.

2. The fact that limited pilot-owner maintenance as defined in M.A.803(b) is not carried out and released by an approved maintenance organisation does not change the status of an aircraft in a controlled environment providing the ~~M.A. Subpart G~~continuing airworthiness management organisation under contract has been informed of any such maintenance carried out.

3. 'continuously managed' means that:

(i) the aircraft is under the responsibility of the continuing airworthiness management organisation without any disruptions.

(ii) the continuing airworthiness management tasks have been done by a continuing airworthiness management organisation (subcontracted by another continuing airworthiness management organisation) before the aircraft is introduced in the fleet managed by this organisation."

3. RATIONALE / REASON / JUSTIFICATION:
The proposal clarifies the case of an aircraft entering a fleet managed by a CAMO when this organisation has performed, before this introduction, almost all the continuing airworthiness tasks for another organisation.

Comment No. 107:

1. PARAGRAPH / SECTION YOUR COMMENT IS RELATED TO:
AMC M.A.901

2. PROPOSED TEXT / COMMENT:
It is proposed to create the AMC1 M.A.901(k) to read:

"It is acceptable for an airworthiness review staff to send his/her recommendation to the competent authority for issuance or extension of the ARC with level 2 findings still open. These findings should be appropriately managed by the competent authority."

3. RATIONALE / REASON / JUSTIFICATION:
The airworthiness review staff has not to wait for the closure of level 2 findings to send his/her recommendation. This is justified by the fact that the closure of findings is not under his/her responsibility.