Certification Memorandum

Maintenance Review Board Report/ Maintenance Type Board Report Development process

EASA CM No.: CM–MRB-001 Issue 01 issued 08 February 2019

Regulatory requirement(s): the CM relates to:

* CS 25 paragraph 1529 Appendix H H25.3 (b) (1)
* CS 29 paragraph 1529 Appendix A A29.3 (b) (1)
* CS 27 paragraph 1529 Appendix A A25.3 (b) (1)
* Annex I of Commission Regulation (EU) No 1321/2014 (Part M)

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Log of issues

Issue	Issue date	Change description
01	08.02.2019	First issue.

Table of Content

1. Introduction

1.1. Purpose and scope

The purpose of this Certification Memorandum is to provide acceptable procedures and guidelines for the development of manufacturer scheduled maintenance requirements that will be used as one of the sources to develop/revise the maintenance schedule of the aircraft maintenance programme specified in Annex I (Part M) to Commission Regulation (EC) No. 1321/2014 (or equivalent State of Registry requirements).

As part of the compliance with CS 2X.1529 (Instructions for Continued Airworthiness (ICA) – § (b) (1) Scheduling Information), the manufacturer may use a Maintenance Review Board (MRB) process or a Maintenance Type Board (MTB) process in order to develop or revise the initial minimum recommended scheduled maintenance/inspection requirements for a derivative or newly type certified aircraft (Aeroplanes and Rotorcrafts) or STC products.

The manufacturer scheduled maintenance requirements established using the MRB/MTB Process are published through a Report which can be called: Maintenance Review Board Report (MRBR) or Maintenance Type Board Report (MTBR). For clarity purposes, only the term "Maintenance Review Board Report (MRBR)" will be used in this document.

Similarly, for clarity purposes, only the term EASA MRB Chairperson will be used in this document but should be understood as:
1. MRB Chairperson in case EASA is the Certifying Authority (CA),
2. Focal person in case EASA is a Validating Authority (VA).

This document is based on the IMRBPB issued IMPS document, at the referenced revision level (refer to 1.2).

Note: This document has been developed independently from any Bilateral Aviation Safety Agreements (BASA) consideration. Depending on the BASA, the working arrangements agreed with the non-EU country might impact the content of this document. The EASA involvement including the need for a specific EASA letter for the approval of a MRBR will be defined as per the Technical Implementation Procedure (TIP).

1.2. References

It is intended that the following reference materials be used in conjunction with this Certification Memorandum:

Reference	Title	Code	Issue	Date
IMPS	International MRB/MTB Process Standard (IMPS)	IMPS	00	2016-04-29
ATA MSG-3	ATA MSG-3 - Operator/Manufacturer Scheduled Maintenance Volume 1 – Fixed Wing Aircraft Volume 2- Rotorcraft	ATA MSG-3	2015.1	September 2015

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1.3. Abbreviations

AFM	Aircraft Flight Manual
AMP	Aircraft Maintenance Programme
APU	Auxiliary Power Unit
ATA	Air Transportation Association of America (now called A4A)
A4A	Airlines for America
BASA	Bilateral Aviation Safety Agreements
CA	Certifying Authority
CMC	Central Maintenance Computer
CMCC	Certification Maintenance Coordination Committee
CPCP	Corrosion Prevention and Control program
CS	Certification Specification
EASA	European Aviation Safety Agency
EC	European Commission
EIS	Entry into Service
EU	European Union
EWIS	Electrical Wiring Interconnection System
EZAP	Enhanced Zonal Analysis Procedure
FAA	Federal Aviation Administration
GVI	General Visual Inspection
IMPS	International MRB/MTB Process Standard (IMPS)
IMRBPB	International Maintenance Review Board Policy Board
ISC	Industry Steering Committee
JAA	Joint Aviation Administration
L / HIRF	Lightning / High Intensity Radiated Field
MMEL	Master Minimum Equipment List
MPIG	Maintenance Programs Industry Group

MRB	Maintenance Review Board
MRBR	Maintenance Review Board Report
MSI	Maintenance Significant Item
MSG	Maintenance Steering Group
MTB	Maintenance Type Board
MTBR	Maintenance Type Board Report
MWG	Maintenance Working Group
NAA	National Aviation Authority
PCM	Project Certification Manager
PE	Panel of Expert
PPH	Policy and Procedures Handbook
RMPIG	Rotorcraft Maintenance Programs Industry Group
SSI	Structural Significant Item
STC	Supplemental Type Certificate
SC	Steering Committee
TIP	Technical Implementation Procedure
TC	Type Certificate
TCH	Type Certificate Holder
TR	Temporary Revision
VA	Validating Authority
WG	Working Group

1.4. Definitions

Certifying Authority	The regulatory authority responsible for initial certification of an aeronautical product and would typically also be identified as the state of design. Normally the CA provides the MRB Chairperson during the MRB process
Maintenance Review Board (MRB) Chairperson	An airworthiness inspector/expert competent in the MRB process who has system/structures training on particular aircraft and have Maintenance Steering Group—3rd Task Force (MSG-3) formal training.

	For a validating authority, the MRB Chair is called "Focal Person" but should show the same skills as the MRB Chair.
Member Authorities	Regulatory Authorities who are members of the IMRBPB.
Validating Authority	Either an authority that is responsible for validating the initial CA MRBR as defined in the letter of confirmation, or who carries out a post certification validation exercise, whether the validating authority signs the MRBR or not.

2. Background

The process of developing aircraft maintenance programmes for new aircraft (including its powerplants) has evolved from one in which each operator proposed its own unique programme, to one in which the regulatory authorities and industry work together to develop the initial minimum recommended scheduled maintenance/inspection requirements for aircraft (including its powerplants), used as a basis for the operators' AMP.

Early experience in the development of initial minimum recommended scheduled maintenance/inspection requirements revealed that a programme of effective recommended maintenance tasks could be developed through the use of logical analysis and decision processes. In 1968, an industry team called the Maintenance Steering Group, 1st Task Force developed maintenance requirements decision and analysis logic. This decision logic and analysis procedure was entitled MSG. These MSG procedures were used by industry and the FAA to develop the initial minimum maintenance/inspection recommendations for the Boeing 747 aircraft (including its powerplants). The National Aviation Authority (NAA) members of JAA endorsed the process for the B-747 aircraft. A later task force utilised the experience gained on the B-747 project to update the MSG procedures so that a universal document could be applicable for subsequent newly type-certificated aircraft (including its powerplants).

This effort resulted in the MSG-2 document. MSG-2 procedures were used to develop the initial minimum scheduled maintenance/inspection recommendations for aircraft/powerplants of the 1970's. In 1980, the combined efforts of U.S. and European aircraft and engine manufacturers, U.S. and foreign airlines, the Air Transport Association of America (now Airlines for America A4A), and the FAA generated new decision logic and analysis procedure which was published in a new document called MSG-3. In 1987, after using MSG-3 analysis procedures on a number of new aircraft and powerplants in the first half of the 1980's, industry felt that the benefits of the experience gained should be used to improve the document for future applications. Thus Revision 1 (R1) was developed.

The JAA-NAA's and the Industry used MSG-3 R1 from 1988, MSG-3 R2 since 1993 and MSG3 revisions every 2 years since 2001 up to 2015. Starting with MSG-3 revision 2015, a 3 year revision cycle of MSG-3 document is adopted.

3. Maintenance Steering Group (MSG) logic

The EASA recognizes MSG-3 as an appropriate methodology for the development of aircraft (including its powerplants) initial minimum recommended scheduled maintenance/inspection requirements.

Since 2003, EASA has been involved in the IMRBPB developing the MSG-3 revisions. The applicant should always use the latest revision of the MSG published at the date of the application for new TC/STC to the CA. Deviations may be agreed at program level in order to maintain a consistent set of requirements. E. g.

when a new series or model is added to an existing Type Certificate changes to existing MSG-3 dossiers (not new ones) may be permitted to follow earlier MSG-3 revisions.

Copies of the latest MSG logic can be obtained from:

Airlines for America
1301 Pennsylvania Avenue, NW – Suite 1100,
Washington DC 2000 - 4 – 1707
ATTN: Publications
Tel. No. +1-202-626-4000

http://www.airlines.org

4. International MRB Policy Board

The International Maintenance Review Board Policy Board (IMRBPB) is constituted as a system for the continuing development of policies, procedures and guidance for the use of personnel involved in the Maintenance Review Board/ Maintenance Type Board process. The IMRBPB comprises member Regulatory Authorities with Industry (MPIG & RMPIG) being invited to contribute to the activities of that forum.

In addition to promoting harmonisation with other regulatory authorities, the IMRBPB advocates the standardisation of MRB/MTB policy and procedures. The IMRBPB also provides a structured forum for discussions leading to the development of national and international policy regarding all MRB/MTB activities.

Changes are addressed through Candidate Issue Papers (CIPs) which are discussed during the IMRBPB meetings. When accepted, the CIP becomes an Issue Paper (IP) which typically leads to an amendment to IMPS, MSG-3 volume 1 and/or volume 2 or to the IMRBPB process/charter, with these documents being formally amended on a routine basis.

Note: Further information on the IMRBPB, EASA Issue Paper Management Procedure and EASA published policy can be found at the following link.

5. EASA MRB Policy
The procedures and guidelines described herein shall be read in conjunction with the International MRB/MTB Process Standard (IMPS).

The IMPS is owned and issued by the IMRBPB. The IMPS provides the international standard to be followed for the implementation of an MRB/MTB process. The purpose of that document is to reinforce harmonization and standardization of the MRB/MTB process implementation between Regulatory Authorities.

The IMPS is fully endorsed by EASA through this certification memorandum which provides additional guidelines only when necessary.

This Certification Memorandum in conjunction with the IMPS provides guidance that may be used by the industry for the development and revision of the initial minimum recommended scheduled maintenance/inspection requirements for derivative or newly type-certificated aircraft or STC product during the demonstration of compliance with Certification Specification CS 2X.1529 through the MRB or MTB process.

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In addition, EASA policy is to consider all agreed and closed IPs as applicable and part of EASA policies, unless clearly stated otherwise in this certification memorandum or in another EASA document.

For a new aircraft, in order to develop the related PPH, TCH shall use the latest MSG-3 revision and shall evaluate and incorporate as appropriate all IPs which are issued at the date of the first application for TC/STC to the CA.

For an existing MRBR, unless retroactivity is clearly highlighted in the IP, implementation of subsequent IPs can be done on a voluntary basis.

This Certification Memorandum and the IMPS are complemented by the EASA procedure PR.MRB.00001 Maintenance Review Board, which explains how EASA will internally handle applications for approval of MRBR or MTBR.

This certification memorandum will be updated as necessary with no predefined cycles. ‡ At a minimum, each revision of the IMPS is likely to trigger a revision of this certification memorandum.

6. Applicability

6.1. For Aircraft Type Certificate (TC)

6.1.1. Where EASA is the Certifying Authority

As part of the compliance with CS 2x.1529 Appendix A, G and H paragraph 2X.3(b)(1), the MRB/MTB process (with MSG-3 as a tool) is used as an acceptable means of compliance to develop manufacturer recommended scheduled maintenance requirements ensuring the objectives of an efficient aircraft maintenance programme required by M.A.302.

In compliance with the IMPS paragraphs 3.2, 3.3 & 3.4, it is recommended that the TCH:
1. Implement a Maintenance Review Board (MRB) process and apply for an EASA approval of the associated MRBR for:
   a. Large Aeroplanes above 15000 kg (33,000lb) maximum take-off weight - MSG-3 Volume 1 is the reference document, or
   b. Rotorcraft above 9000 kg (20000lb) maximum take-off weight or 10 or more occupants - MSG-3 Volume 2 is the reference document
   c. Powered-lift aircraft - MSG-3 Volume 2 is the reference document.
2. Implement a Maintenance Type Board (MTB) process for aeroplanes or rotorcraft which do not meet criteria identified in 1. and apply for an EASA approval of the associated MTBR. The MRB process may also be used at the applicant's option.
3. MRB and MTB processes are usually not expected for CS 23 Aeroplanes and for CS 27 Rotorcraft. However the applicant may implement an MRB/MTB process at the applicant's option.

6.1.2. Where EASA is a Validating Authority

The EASA level of involvement will depend on the Bilateral Aviation Safety Agreements (BASA) signed between EASA and the CA as defined in the associated Technical Implementation Procedures (TIP).

When the TIP identifies some EASA involvement, foreign applicants establishing or using MRB/MTB process and seeking an EASA approval/recognition of their MRB Report or MTB Report should contact the EASA Aircraft Maintenance Section for coordination.

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EASA Aircraft Maintenance Section will review the applicant proposal according to EASA applicability criteria as defined in paragraph 0 above and iaw BASA provisions.

6.2. For Supplemental Type Certificate (STC)

When the manufacturer's recommended scheduled maintenance requirements -for the basic aircraft have been developed using MRB/MTB process (withMSG3 tool), an STC applicant may implement a MTB process in the following cases:

1. Significant impact on CPCP – EWIS related tasks - L/HIRF protection
2. Major conversion (e.g., Passenger to Freighter, Tanker, ...)

In other cases, an alternative process acceptable to EASA should be followed.

In addition, to select the most appropriate process (MTB process or another acceptable process), the STC Applicant should also take into account whether they have some support from the TC Holder (e.g. possibility to retrieve some necessary MRBR supporting data). This information will be highlighted to the EASA PCM and the Aircraft Maintenance Section.

Considering the above criteria, the STC applicant will make a proposal to the PCM for the development of the recommended scheduled maintenance/inspection requirements. In case the STC applicant intends to develop a MTB process the final decision will be made in agreement with the EASA PCM and the Aircraft Maintenance Section.

7. Process for approving a MRBR/MTBR

Note: Depending on the BASA, the working arrangements agreed with the non-EU country might impact the process for approving a MRBR/MTBR. The EASA involvement including the need for a specific EASA letter for the approval of a MRBR will be defined as per the TIP.

The TC/STC Applicant should apply to the EASA Aircraft Maintenance Section for approval of the "Maintenance Review Board Report" and agree payment of the relevant fees.

Note 1: Application is to be made using EASA Form 40 'Application for Approval of Maintenance Review Board Report (MRBR), Maintenance Type Board Report (MTBR) or other Manufacturer Scheduled Maintenance Requirements Report, Supplement and revisions thereto'. The form and associated completion instructions are available at https://www.easa.europa.eu/document-library/application-forms.

Note 2: The EASA fees are detailed in the Commission Regulation (EC) No. 319/2014 of 27 March 2014 on the fees and charges levied by the European Aviation Safety Agency, and repealing Regulation (EC) No 593/2007 available at https://www.easa.europa.eu/document-library/regulations/commission-regulation-eu-no-3192014#group-easa-downloads

When the TC/STC Applicant formally makes application to proceed with development of an MRB/MTB process, the EASA Aircraft Maintenance Section will appoint an EASA MRB chairperson and EASA MRB WG advisors as necessary (EASA staff or EU-NAA seconded staff under appropriate contractual arrangements) to form the EASA MRB.

The initial EASA team composed for the initial MRBR should remain up to the end of the first approval. However after this first approval, rotation will be ensured on a basis as defined by the Agency policy in the frame of conflict of interest.

The EASA Aircraft Maintenance Section will ensure (prior to appointment) that the EASA MRB team has the appropriate level of knowledge & competence with regards to their role.

The EASA MRB chairperson will issue a report to the applicant following each meeting. This report should indicate the future schedule of meetings, the date at which the materials supporting the meeting has been submitted and the MRB comments on the meeting highlighting potential or real problem areas. EASA working group advisors are required to:

1. Attend Working Group meetings and provide guidance to the Working Group Members. For non-EU projects, the EASA WG advisor will inform the CA WG Advisor of any EASA regulatory or technical differences or any specific issues in compliance with the IMPS.

2. Attend MRB meetings when requested by the EASA MRB chairperson.

3. Provide Working Group reports, to the EASA MRB Chairperson, normally within fifteen days following each meeting and prior to the next scheduled ISC meeting. This report will contain an assessment of Working Group activities, including notification of controversial or potential problem areas. Any issues related to an already accepted policy shall be reported to the EASA MRB Chairperson. For non-EU projects, the EASA MRB Chairperson will coordinate the reported issues with the CA MRB Chairperson as defined in the IMPS. Part of this report is sent to the applicant.

4. Review the MRBR proposal and provide the EASA MRB chairperson with EASA MRB advisor check list in accordance with WI.CSERV.00008 latest revision.

Note: EASA MRB Working Group Advisors may include EASA Certification staff.

The EASA MRB team will also provide comments in regard to the efficiency of the ongoing MRB process. As part of its duties, the EASA MRB team will highlight to the TC/STC applicant unnecessary work or any issues such as lack of quality, late submission of data, among others, which may jeopardize the efficiency of a meeting or of the MRB process.

7.1. MRBR Approval

1. Upon receipt of the MRBR proposal from the TCH, the EASA MRB Chairperson confirms its reception and invites the MRB Team members to review the MRBR proposal and then send comments to the MRB Chairperson. After review and any necessary conflict resolution, a consolidated set of MRB comments is sent to the applicant. As defined in the IMPS, the EASA MRB Chairperson should also coordinate with other approving authorities. Depending on whether EASA is the CA or the VA, the EASA MRB Chairperson will either collect all comments or will send the consolidated EASA comments to the CA MRB Chairperson. When all issues have been resolved, including if appropriate, those of the other approving authorities, the EASA MRB Chairperson will recommend to the EASA Aircraft Maintenance Section approval of the MRBR. The EASA 'Approval Letter of the MRBR' will be issued upon submission of the Statement of Technical Satisfaction and associated checklists from the EASA MRB Chairperson.

    The aim is to perform the above mentioned review process (including coordination with other approving authorities) as soon as practicable and not exceeding ninety calendar-days after confirmation of the MRBR proposal receipt by the chairperson, unless corrections are required.

2. A dedicated EASA approval letter will be provided to the applicant and ISC Chairperson by the EASA MRB chairperson.
3. The approved MRBR will be forwarded to the ISC Chairperson/Co-Chairperson under a letter of transmittal. Normally, approval of the other approving authorities should be coordinated by the EASA MRB chairperson. For non-EU projects, the EASA approval letter, if any, will be coordinated with the CA.
4. The TC/STC Applicant/holder is responsible for providing EASA with initial and revised MRBR (final versions including all regulatory authority approval letters), and any supporting documents.

It may be necessary to identify specific instructions or requirements that are not compatible, acceptable or applicable to all regulatory authorities. When this condition exists, a section or appendix within ~~to~~ the MRBR is used to list these differences, this being approved only by the respective regulatory authority.

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The EASA Aircraft Maintenance Section will maintain a register on the EASA Website of EASA Aircraft Maintenance Section approved documents that contain the manufacturer's recommended scheduled maintenance requirements at the following link:

https://www.easa.europa.eu/easa-and-you/aircraft-products/manufacturer-scheduled-maintenance-requirements

Note 1: The MRBR is published by the TC/STC Holder and with the exception of the approval letter should not include Regulatory Authority logos.

Note 2: The TC/STC Holder may publish the MRBR in digital or paper format or both.

7.2. Resolution of Disagreements

According to Article 18(1) of MB Decision 12/2007, every effort shall be made to resolve any disagreements between the applicant and the EASA at the lowest possible level.

The EASA MRB Chairperson, together with the applicant and the ISC Chairperson, will be the primary decision maker in the process. They shall have the ability and power to take the first decisions to the largest possible extent.

When agreement cannot be found between the EASA MRB Chairperson, the applicant and the ISC Chairperson, the issue together with the necessary supporting data will be brought to the attention of the EASA Aircraft Maintenance Section Manager. When the applicant, the ISC and MRB are in dispute, each will submit its own report for consideration by the EASA Aircraft Maintenance Section Manager.

7.3. Completeness and timely availability of the MRBR

An approved MRBR is not required at time of TC issuance but needs to be available upon the aircraft delivery or upon the first issue of the certificate of airworthiness, whichever occurs later (refer to Certification Memorandum - EASA CM-ICA-001: Completeness and timely availability of Instructions for Continued Airworthiness).

Indeed, if an MRB process is selected to show compliance with CS 2X.1529 (refer to 1.1), a specific process runs concurrently with the certification process. Some basic conditions to an MRBR approval (such as AFM, MMEL Assumptions closure) are usually achieved very late just before or at TC. Therefore the MRBR is usually not approved at the time of Type Certification.

In case the MRBR is not approved at TC, it is the use of the MRB process which forms part of the compliance to the applicable Certification Specification.

However, it might happen that an applicant needs to get the MRBR approved before or at TC. In this case,
1.   The applicant shall clearly identify the intermediate design definition to which the MRBR is applicable,

2.   The Applicant shall clearly demonstrate that a design change (Configuration) Management is implemented which allows the follow-up of the modifications at least from this design definition on.

3.   The PCM must be informed about the design definition used as reference for the MRBR and about the design change management.

In addition, before EIS, the applicant shall perform a review of all modifications embodied and not covered in the MRBR Draft as submitted and the resulting impact analysis should be presented to the ISC/MRB to ensure that the approved MRBR will represent the initial minimum recommended scheduled maintenance/inspection requirements required at the aircraft delivery or at the first issue of the certificate of airworthiness, whichever occurs later.

7.4. Additional technical guidelines compared to the IMPS

7.4.1. Task procedure validation

Refer to IMPS §3.7.

The TC Holder has the responsibility to develop a methodology to validate the maintenance procedures written to support the completion of MRBR tasks.

Although a feedback to ISC & MRB is expected when it is found that the intent of a task cannot be met, the validation process is out of the MRB process and the validation exercise is not a pre-requisite to the MRBR approval.

7.4.2. MRB process Meetings

Refer to IMPS §3.9.

It is recognized that virtual meetings and the use of interactive tool to review some analyses could be an alternative option to the physical meetings. However, the policy and procedures related to those alternate processes (type of activities which can be conducted, which tool, how ….) should be clearly described in the PPH and as such, should be agreed with the MRB Chairperson.

7.4.3. Coordination with Certification

Refer to IMPS §4.1.5.

The EASA MRB chairperson, is responsible for coordination on all issues of concern with the EASA certification directorate as described in the IMPS. Within EASA an Issue Paper is called a Certification Review Item (CRI) and can only be opened by the Project Certification manager (PCM) of the programme. In case of need, the EASA MRB Chairperson can contribute in the drafting of the CRI.

7.4.4. MSI, SSI, LHSI Selection process

Refer to IMPS §4.2.2.

The TCH should provide the ISC with a candidate Maintenance Significant Items (MSI), Lightning/HIRF Significant Items (LHSI), and Structural Significant Items (SSI) list and a list of the items not selected as MSI/LHSI/SSI. This is recommended to happen early enough in the process to prevent the ISC to reject MSI/LHSI/SSI reviewed by the WG.

In addition, in order to be validated, those lists should be supported by a selection process described in the PPH and documented on a MSI/SSI/LHSI selection document.

7.4.5. Operators' representatives to MWG meetings

Refer to IMPS §4.3.6.

The goal of the TCH should be to ensure the participation of a minimum of three operators to MWG meetings. In case this goal cannot be met, the issue should be reported and justified to the MRB Chairperson in order to assess whether or not the meeting is representative enough to maintain it.

7.4.6. MRBR Approval Period

Refer to IMPS §4.6.1 and §4.6.2.

The approval of a submitted MRBR should not exceed ninety calendar-days, unless corrections are required.

The clock starts only when the full package of data (MRBR proposal and any supporting documents) is submitted to the MRB Chairperson who acknowledges receipt.

In some cases, it might be acceptable that only a partial package of work is released but this must be agreed by the MRB Chairperson. The clock for the 90 day approval period will start when the complete package is received unless agreed otherwise by the MRB Chairperson.

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7.4.7. PPH Recommended Content

Refer to IMPS § 4.5 and Appendix 1.

When developing a PPH, the following guidance should be considered:

1. Organisational Outline (including the number and type of Working Groups) and Duties/Responsibilities of Personnel, ISC, Manufacturer(s), Working Group Members, MRB Members and Advisors, Non EASA-NAA participants. The PPH should contain details of the ISC and Working Group constitution. The procedure should include how operators who only attend the ISC but do not support the WG's will be handled (i.e. voting rights) and also how operators who join the process after it has commenced are handled (i.e. they must accept established policies and procedures). If required the procedure should detail how operators can be represented on the ISC by their maintenance organisations and if other maintenance organisations can also take part but only with the agreement of the ISC. The procedure for appointing/electing an ISC Chairperson and Co-Chairperson should be stated.

2. The ATA MSG-3 document is the standard recognised by the EASA and the introduction to the PPH should specify its use along with the revision status of MSG used. If for whatever reason differing MSG revision standards are to be used and/or other procedures to cover unique features adopted these should be clearly identified. The policy regarding the consideration of existing approved IP or future IP should also be explained

3. Temporary Revisions to the MRBR – The PPH should detail the procedure that is to be adopted in the case where the applicant wishes to use a procedure to address "temporary revisions" (TR's) to the MRBR. The procedure should specify a time limit for incorporation of TR's into a full revision of the MRBR.

4. Combined Maintenance Planning Document and MRBR – If the TC/STC applicant proposes to use a combined document the PPH should detail the procedure. It should always be possible to clearly identify the requirements derived from the MRB/MTB process.

5. Design Changes – The PPH should contain details of how modifications to the aircraft will be addressed.

6. Maintenance Task Accountability - The PPH should provide details of how all tasks arising from the MSG-3 analysis will be reflected in the MRBR including those that fall out at less than "A" check frequency (All MSG-3 requirements have to be published in the MRBR) and a list of MSI's for which no tasks have been selected.

7. Sampling programmes - MWG will establish sampling requirements when the analysis determines that such sampling is applicable and effective. If appropriate, a procedure should be included in the PPH.

8. The PPH should request that all assumptions made during the development of the MRBR are documented and regularly monitored for impact assessment e.g. annual utilisation, design assumptions, MMEL/AFM assumptions, Vendor Recommendations from CMM

9. Except as permitted in EASA regulatory material (e.g. AMC 25-19), any references to Certification aspects (Certification Personnel, Certification processes…) should not be part of the MRBR. In case some information related to the certification aspects need to be included in the MRBR for any reasons then this should be raised to the MRB Chairperson and could be put as appendix and excluded from the approval.

10. Responsibilities of Partners, Suppliers, Vendors can be added to the PPH. However, from the regulatory authority perspective, only the Aircraft TCH is responsible for the MRB process and its related MSG-3 data.

7.4.8. MRBR Content

Refer to IMPS §5.

This paragraph provides guidance regarding the content and the use of an MRBR which should be also considered:

1. Each MRBR should be entitled "MRB Report".

2. The MRBR should be available in English language. However if a second language is used in the same document, such as the language of the country where the applicant is located, the other approving authorities must agree and EASA accept. In this case the English version prevails.

3. Checks and Intervals

    All tasks and their frequencies are identified in the MRBR. Maintenance tasks and tasks intervals arising from MSG-3 analysis may and do, in some cases, have a shorter interval than an "A" check such as "7 days" or "24 hours elapsed". Such tasks and intervals are also identified in the MRBR.

4. **General principles for the use of the MRBR**

    The following principles should be applied to the MRBR:

    a. If there is an optimization procedure contained in the MRBR, the following rule applies: "*The individual task intervals may be optimized based on satisfactory substantiation by the operator, and review and approval by the responsible competent authority, or in accordance with the operator's competent authority approved reliability programme.*"

    b. If there is a sampling programme for the engines, propellers, and/or other aircraft components, the following rule applies:

        When derived from MSG-3 guidelines, a sampling program needs to be either included in the MRBR or at least a reference to a stand-alone document should be made. In the other cases, a stand-alone document may be referenced in the MRBR.

        "*The (insert the name(s) of the unit) sampling programme identified in this Report specifies the number of (insert the name(s) of the unit) to be sampled and the respective inspection thresholds.*

        A sampling programme should not be used to select an initial task interval larger than could be justified by application of MSG-3 criteria and available technical data.

    c. "*Task interval parameters expressed in the MRBR may be converted to an individual operator's desired units, provided this conversion does not result in the operator exceeding the initial requirements of the MRBR.*"

    d. "*Within this Report the terms "check" and "inspection" are not intended to imply a level of skill required to accomplish a task.*"

    e. "*Life-limited parts must be retired in accordance with the limits established in the engine and aircraft Type Certificate Data Sheets or the Airworthiness Limitations Section of the engine or aircraft manufacturer's Instructions for Continued Airworthiness.*"

    f. *The MRBR is a living document and is periodically updated to reflect design changes and in-service experience*"

5. **Systems / Powerplant Section**

    The following are recommended principles of the System and Powerplant section of the MRBR:

    a. *This section covers all aircraft systems, powerplant and APU. In addition specific stand-alone tasks requirements resulting from the Enhanced Zonal Analysis Procedure (EZAP) and the L/HIRF protection Analysis are usually shown in ATA Chapter 20 of this section.*

    b. *MSG3 (specify the revision) logic was used to develop systems and powerplant initial minimum scheduled maintenance/inspection requirements. This process does not specifically include detailed shop maintenance procedures. MSG-3 derived tasks requiring off-aircraft detailed procedures are controlled by individual operators and are in accordance with the OEM/TC/STC Holder's Instructions for Continued Airworthiness.*

    c. Maintenance Significant Items (MSI's): the list of MSI should be provided or reference should be given to a separate list. The following rule is recommended: *All identified MSI are subject to MSG3 analysis; this process has resulted in the identification of maintenance tasks which are contained in this Report. Those MSI's for which a task was not generated during the analysis are identified as*

follows:" (Insert MSI listing for which no tasks were identified in order for these MSI to be monitored by an operator's reliability programme in accordance with MSG3).

6. **Structure Section**

   a. The Structure program is designed to detect and prevent structural degradation due to environmental deterioration (corrosion, stress corrosion), accidental damage and fatigue throughout the life of the aircraft.

   b. The following are recommended principles of the Structure section of the MRBR: "*All aircraft in an operator's or group of operator's fleet should be subject to the provisions of this Report. These requirements include external and internal inspections, structural sampling and age-exploration programmes, corrosion prevention and control programmes, and additional supplemental structural inspections that may be required for fatigue-related items.*"

7. **Zonal Inspections Section**

   a. The Zonal Inspections Section provides consolidation of a number of GVI tasks for each zone. A zonal inspection may include GVI tasks derived from Maintenance Significant Items (MSI's), Structural Significant Items (SSI's) and a L/HIRF protection analysis. An MSI/SSI/L-HIRF protection task which is in the Zonal Inspection Section should be cross referenced, in the supporting documentation, as a zonal item, likewise, the zonal item should be cross referenced as an MSI/SSI/L-HIRF protection task to ensure content and accountability. The Zonal Inspections Section identifies zonal inspections that have been developed through application of the MSG-3 logic. This logic includes an enhanced zonal analysis procedure that allows appropriate attention to be given to electrical wiring installations in order to identify any need for standalone inspections and cleaning tasks.

   b. The following are recommended principles of the Zonal Inspections section of the MRBR: "*The Zonal Inspections Section is derived from a combined Standard Zonal and EZAP analysis.*

   The Zonal Inspections Section contains a series of General Visual Inspection tasks. Detailed and special Detailed Inspections shall not be contained in the Zonal Inspections Section.

   Zonal inspection requirements apply only to zones.

   Access to zones should be easily accomplished and should not require the use of special tools. Normally, the inspections aids to be used are a flashlight and/or inspection mirror. The entire visible contents of the zone must be inspected for obvious damage, security of installation, and general condition including corrosion and leaks.

   Means of access (such as doors and panels) opened or removed during the Zonal Inspections, and not having a separate defined task, shall receive a General Visual Inspection together with the relevant Zonal Inspection.

   Zones that do not contain system installations or EWIS but receive adequate surveillance from other maintenance or structural inspection tasks are listed (specify where in the MRBR). Accordingly, these zones are not specified in the inspection requirements presented in the Zonal Inspections Section."

7.5. Non-EU projects

The EASA MRB focal person will coordinate the MRB process with the CA MRB Chairperson as defined in the IMPS (and the issued "letter of confirmation") and in compliance with the TIP associated to any Bilateral Agreements in place.

For non-EU projects,

1. To ensure the PPH acceptance within thirty calendar days, the EASA MRB Chairperson should provide the EASA comments on the PPH to the CA MRB Chairperson within twenty five calendar days after confirmation of receipt.

2. With regard to the MRBR approval, the applicant will ensure that the EASA MRB Chairperson receives the MRBR proposal and its associated supporting documents. The CA MRB Chairperson will coordinate

the review and the expected MRBR approval date with the EASA MRB Chairperson in compliance with the IMPS (and the attached "letter of confirmation"). The EASA MRB Chairperson will coordinate the review of the submitted MRBR proposal with EASA MRB Advisors, if any, and will provide the EASA consolidated comments to the CA MRB Chairperson or directly to the applicant if agreed with the CA MRB Chairperson.

3. The EASA Aircraft Maintenance Section involvement and the need to issue an EASA approval letter will depend on the TIP associated to the Bilateral Agreement in place.

8. Who this Certification Memorandum affects

All persons (Design Approval Holders/Applicants, Operators) involved in an MRB/MTB process leading to development of a report containing the requirements derived from application of MSG-3 logic that is to be approved by the EASA Aircraft Maintenance Section.

9. Remarks

1. Suggestions for amendment(s) to this EASA Certification Memorandum should be referred to the Certification Policy and Safety Information Department, Certification Directorate, EASA. E-mail CM@easa.europa.eu.

2. For any question concerning the technical content of this EASA Certification Memorandum, please contact:

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