

International Maintenance Review Board Policy Board (IMRBPB)

Issue Paper (IP)

IP Number: CIP IND 2020-01

Initial Date: 18/04/2022

Revision / Date:

Effective Date: TBD

Retroactivity: N

Title:	Clarification of MRB and CMCC process interface
Submitter:	MPIG

Applies To:	
MSG-3 Vol 1	X
MSG-3 Vol 2	X
IMPS	X

Issue:

The interface of the MRB and CMCC processes is not dependent upon the MSG-3 methodology and guidance should be placed in the IMPS instead. Moreover, the current MSG-3 Section 2-3-8 (6) Certification Maintenance Requirements (CMRs) Section is outdated given the latest guidelines issued by some regulatory authorities and inadequate to account for differences between those regulatory authorities' guidance.

Problem:

Current MSG-3 document does not reflect differences among regulatory guidance related to the CCMRs. Given that the CCMR/CMCC is independent from the MSG-3 methodology, the description of the interface process would be better placed in the IMPS instead of the MSG-3 document as currently outlined.

A description of the process in the IMPS is required to ensure proper understanding of the ISC roles, responsibilities and expected deliverables when interfacing with the Certification Maintenance Coordination Committee (CMCC).

Recommendation (including Implementation):

- 1) Delete references to the CCMR/CMCC process in the MSG-3 Document Changes (Changed text in blue, removed text in red)

~~2-3-8. Systems/Powerplant Task Interval Determination~~

~~6. Certification Maintenance Requirements (CMRs)~~

~~In addition to those tasks and intervals established through MSG-3 analysis, scheduled maintenance tasks may arise within the certification process (e.g. from compliance with 25.1309.~~

~~A CMR is a required scheduled maintenance task, established during the design certification of the airplane systems as an operating limitation of the type certificate or supplemental type certificate. CMRs are a subset of the instructions for continued airworthiness identified during the type certification process. A CMR usually results from a formal, numerical analysis conducted to show compliance with the requirements applicable to catastrophic and hazardous failure conditions. A CMR is intended to detect safety significant latent failures that would, in combination with one or more other specific failures or events, result in a hazardous or catastrophic failure condition. A CMR can also be used to establish a required task to detect an impending wear-out of an item whose failure is associated with a hazardous or catastrophic failure condition.~~

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~~It is important to note that CMRs are derived from a fundamentally different analysis process than the maintenance tasks and intervals that result from MSG-3 analysis. The process for coordinating MSG-3 derived tasks with CCMRs involves a Certification Maintenance Coordination Committee (CMCC). The CMCC may influence the MWG's decision as per the flowchart (figure 2-3-8.6). This process provides an acceptable means to identify when a CMR designation may not be necessary if there is an equivalent MSG-3 task to accommodate the CCMR.~~

~~Flowchart Procedure (Figure 2-3-8.6.):~~

- ~~1. CMCC identifies the CCMR's from the Safety Analyses (SA).~~
- ~~2. CMCC determines if a MSG-3 defined safety category task exists that will detect the latent failure identified in the SA.~~
- ~~3. If a MSG-3 task does not exist, the CMCC will ask the ISC/WG if a reassessment of the MSG-3 analysis is possible to include a task, based on additional information provided by the SA report.~~
- ~~4. If the reassessment was performed, and a MSG-3 task generated, does that task meet the interval and scope of the CCMR? If the scope does not meet the intent of the CCMR, go directly to box 8.~~
- ~~5. If the reassessment was not performed, or if the reassessment did not generate a MSG-3 task, then the CCMR becomes a CMR.~~
- ~~6. The MSG-3 task is considered to properly cover the CCMR.~~
- ~~7. The ISC/WG may accept a CMCC proposed reduction in the MSG-3 task interval, in lieu of a CMR. ISC/WG should consider advantages and disadvantages of either. No change to scope should be acceptable.~~
- ~~8. If the ISC/WG does not accept the CMCC proposed change, then a CMR is established. The CMR and MSG-3 tasks remain independent.~~
- ~~9. If the ISC/WG accepts the CMCC proposed task, the revised MSG-3 task is considered to properly cover the CCMR.~~

[Comment] Current flowchart below to be deleted.

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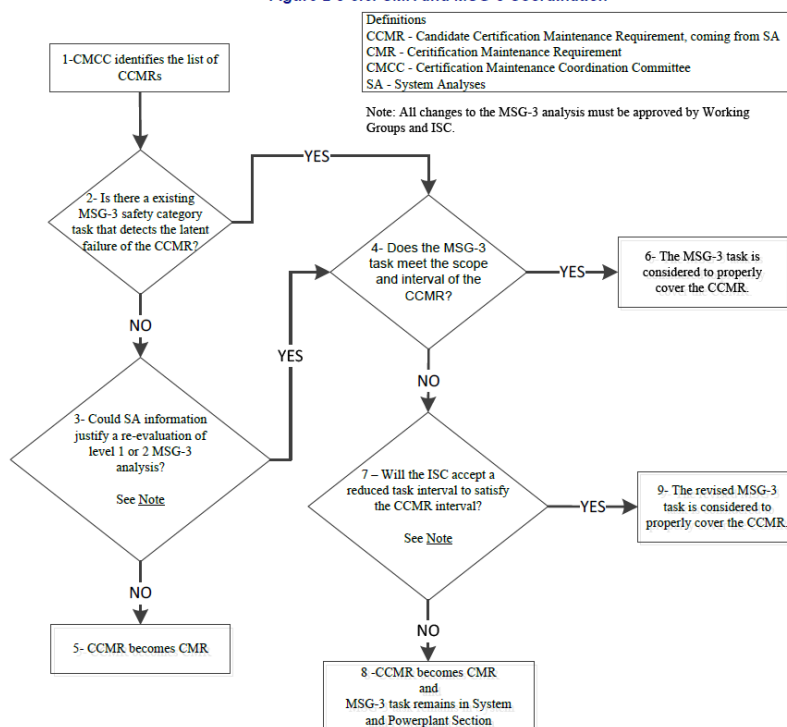
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Figure 2-3-8.6. CMR and MSG-3 Coordination



Numbering of existing Section 7 shall be changed to 6:

~~7~~6. Sampling

Numbering of existing Section 8 shall be changed to 7:

~~8~~7. Controlled Service Introduction

2) IMPS Changes (Changed text in blue, removed text in red)

Add new IMPS paragraph 11.0 and on, as follows:

11.0 Coordination between the MRB process and CMCC

If the TCH and ISC agree that no MSG-3 task will be used in lieu of an airworthiness limitation to detect a CCMR latency, no further action is required by the MRB or ISC. Nevertheless, ISC input to the CMCC is recommended to share their maintenance experience with the CMCC.

When the CMCC and the ISC are both willing to use MRBR tasks in lieu of an airworthiness limitation to detect a CCMR latency coordination is required between the MRB process and the CMCC.

The latter is explained in this paragraph.

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11.1 If one or more MRBR tasks are intended to be relied upon in lieu of a CMR the ISC along with the TCH will develop an in service process to ensure that:

- a) the MRBR task(s) relied upon would not be changed to the extent that the CCMR task intent is adversely affected, and
- b) the MRBR task(s) relied upon would not be escalated beyond the interval that would otherwise be required by a CMR, and
- c) the MRBR task(s) relied upon would not be exceeded by operational tolerances for scheduled task management (i.e. operator packaging, flexible compliance windows, one time escalations, etc.)

11.2 If one or more MRBR tasks are intended to be relied upon in lieu of a CMR the ISC along with the TCH will develop the task-evolution process to ensure that task evolutions performed under IMPS Appx 3 do not invalidate CMCC decisions.

11.3 The ISC proposed processes to protect the CCMRs, if required per 11.1 and 11.2 above, will be discussed with the certifying authority and recorded in the PPH and applicable task evolution document. When accepted, the processes shall be presented by the ISC to the CMCC and recorded accordingly.

11.4 The ISC will receive a list of CCMRs and corresponding candidate MRBR task(s) that will detect the latent failure as identified in the Safety Process. The list may be provided by the TCH System Safety or by the CMCC, depending upon the TCH process.

11.5 The ISC will review the list of CCMRs and check if the MRBR tasks used to detect latency are adequate to accommodate the CCMR. The ISC may also provide valuable feedback in terms of the maintenance operation aspects of each CCMR. It will be the CMCC's decision to use the ISC's input to validate if the compatible MRBR task can indeed be used in lieu of a CMR and deliberate on the CCMR.

Note: should the ISC learn new information from the CCMRs that would require MSG-3 analysis correction (such as adding failure modes, new evidence of CAS messages, etc), the ISC will coordinate the review of the affected MSG-3 analysis. It is not the intent that the CCMR or CMCC bypasses the MSG-3 logic.

IMPS Appendix 1 - POLICY AND PROCEDURES HANDBOOK (PPH) SUGGESTED CONTENT (Section '3. Systems and Powerplant Analysis Procedures')

3.6 ~~The Certification Maintenance Requirements (CMR) Process~~ ISC and MRB CCMR Policy and Procedures

~~3.6.1 CMR Process~~

~~3.6.2 Certification Maintenance Coordination Committee (CMCC)~~

~~3.6.3 Documentation and Handling of CCMRs~~

~~3.6.4 ISC and MRB CCMR Policy and Procedures~~

NOTE: The original CIP proposal was submitted by Gulfstream and Archer.

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IMRBPB Position:	
Date:	
Position:	
Recommendation for Implementation:	

Status of the Issue Paper:	<input checked="" type="checkbox"/>	Active
	<input checked="" type="checkbox"/>	Incorporated in MSG-3 / IMPS (with details)
	<input checked="" type="checkbox"/>	Archived