

International Maintenance Review Board Policy Board (IMRBPB)

Issue Paper (IP)

IP Number: CIP IND 2020-01

Initial Date: 07/JAN/2020

Revision / Date: 04/MAR/2020

Effective Date: TBD

Retroactivity: N

Title:	Update of MRB and CMCC process interface description
Submitter:	MPIG

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

Issue:

Current MSG-3 Section 2-3-8 (6) Certification Maintenance Requirements (CMRs) Section is outdated given the latest guidelines issued by some regulatory authorities. Also, the current description is inadequate to account for differences between regulatory authorities guidance.

Problem:

Current MSG-3 document does not reflect EASA AMC 25-19 (Amdt 20) and FAA AC 25-19A guidance.

Revision to the MSG-3 document is required to ensure proper understanding of the roles, responsibilities and expected process and procedures to be used by the ISC when interfacing with the Certification Maintenance Coordination Committee (CMCC).

Recommendation (including Implementation):

1) 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, 25.671, 25.783, 25.901, and 25.933). This section explains the interaction between the certification process and the MRB process. If the TCH and ISC elect to use MRBR tasks to satisfy Candidate CMRs (CCMRs) during the certification activities, the TCH will develop a process acceptable to the certifying authority.

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 of a significant failure condition identified by the System Safety process conducted by the TCH to show compliance with the applicable requirements. ~~applicable to catastrophic and hazardous failure conditions.~~ However CMRs may also result from a qualitative, engineering judgment-based analysis. The Certification Maintenance Coordination Committee (CMCC) will review the Candidate CMRs (CCMR) and designate a CMR when applicable in accordance with the process agreed between the

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TCH and the CA. A CMR is intended to detect or prevent safety significant latent failures that would contribute to a significant Failure Condition, ~~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.~~

It is important to note that CMRs are derived from a fundamentally different analysis process than the MRBR maintenance tasks and intervals that result from MSG-3 analysis. The process for coordinating ~~MSG-3 derived~~ MRBR tasks with CCMRs involves a Certification Maintenance Coordination Committee (CMCC). During the CMCC, the ISC may be informed, or identify the need to revise the MSG-3 analysis for correctness and completeness based on new information not available when the MSG-3 analysis was prepared. In such a case, the ISC will review the information and request an amendment to the MSG-3 analysis if applicable. It shall be noted that it is not the intent of the CMCC to request the MSG-3 logic to be bypassed. Interval reduction proposals are possible, and will be assessed by the ISC accordingly. ~~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~~ MRBR task to accommodate the CCMR.

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

1. TCH System Safety Process ~~CMCC~~ identifies the CCMR's from the Safety Analyses (SA).
2. CMCC deliberates about the need for a CMR. ~~determines if a MSG-3 defined safety category task exists that will detect the latent failure identified in the SA.~~
3. The CMCC assesses if a MRBR task could be used to satisfy the CCMR. If the CMCC assesses that a MRBR task could be used to satisfy the CCMR, the CMCC asks the ISC if an existing MRBR task could detect the latency (go to Box 6), otherwise go to Box 4. ~~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 CMCC assesses that a MRBR task cannot be used to satisfy the CCMR, or the ISC does not offer a MRBR task to be used, the CMCC determines the CMR scope and interval. ~~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. After CMCC agreement on the scope and interval of the CMR, the TCH will document the CMR per the established means and processes, agreed between the TCH and the CA. ~~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 ISC will assess whether the CCMR latency would be detected by an MSG-3 task. If it would and the ISC supports the CMCC intention to use the task to detect the latency, go to box 7. If there is no MRBR task that would effectively detect the latency, or the ISC decides not to offer a task to be used, go to box 4. ~~The MSG-3 task is considered to properly cover the CCMR.~~

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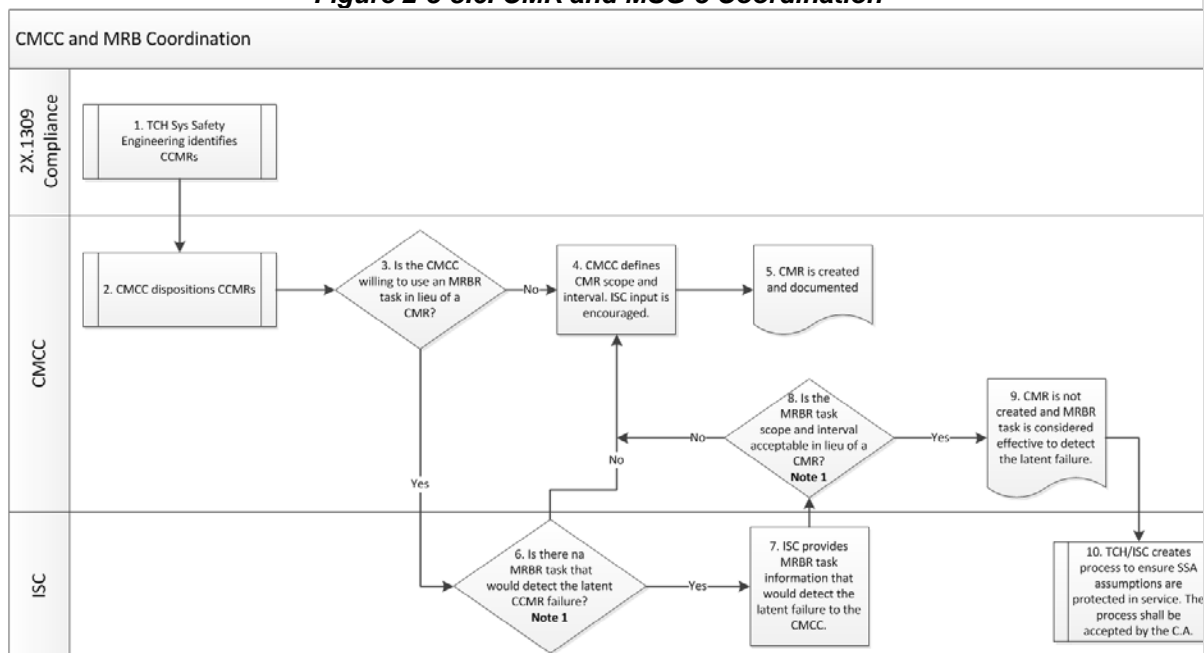
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7. The ISC forward the MRBR task that would detect the latency to the CMCC for CMCC deliberation, go to box 8. ~~The ISC/WG may accept a CMCC proposed reduction in the MSG-3 task interval, in lieu of a CMR. ISC/WG should consider advantages and disadvantages of either. No change to scope should be acceptable.~~
8. The CMCC evaluates the MRBR task and interval offered by the ISC for applicability and effectiveness to detect the latency, and deliberates if these are adequate. If they are deemed adequate, go to box 9, otherwise go to box 4. ~~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. The CMCC does not create a CMR, and the decision is recorded along with the original CCMR interval and scope, go to box 10.
10. If a MRBR task is used in lieu of a CMR, the TCH/ISC will establish a process, acceptable to the CA, to ensure that the operator does not reduce the scope of the task and does not attempt to justify escalation of the interval beyond the CCMR value.

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



Note 1: The CMCC may provide feedback to the ISC in terms of MSG-3 analysis completeness and correctness, however it is not the intent of the CMCC to bypass the MSG-3 logic. Interval reduction proposals are possible, and will be assessed by the ISC accordingly.

[Comment] Current flowchart to be deleted below and replaced by flowchart above.

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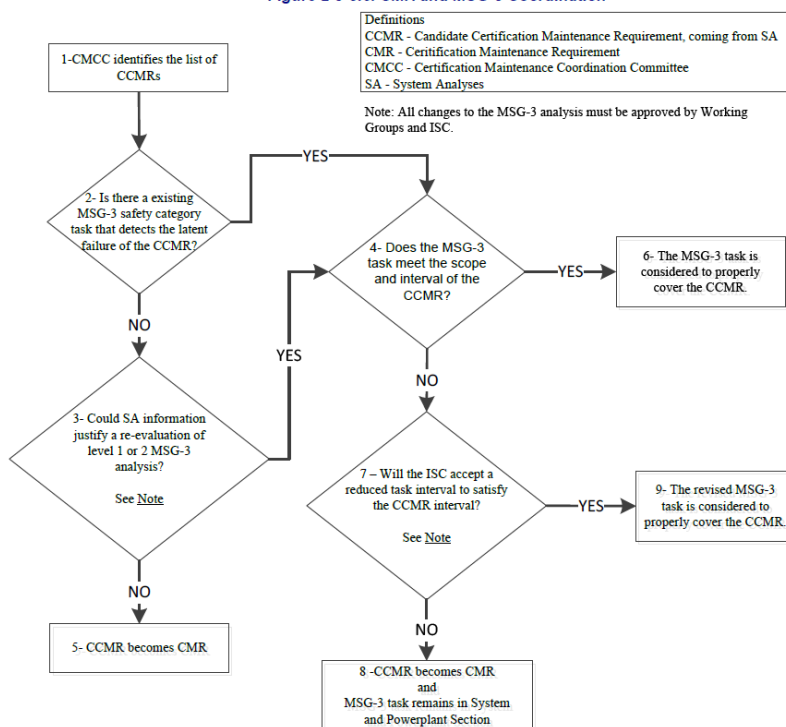
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Figure 2-3-8.6. CMR and MSG-3 Coordination



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

5.23 If MRBR tasks are used to satisfy CCMRs, the MRBR shall contain information about how those tasks are identified in the document and how they should be handled. The intent is to ensure that any operator interval escalation does not go above the CCMR interval, or the task scope change by the operator does not adversely affect the intent of the CCMR task.

NOTE: The original CIP proposal was submitted by Gulfstream.

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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