MPIG/RMPIG position on Regulatory CIPs

IP Number	Title	Submitter	MPIG position
CIP EASA 2020-02	The role of an L/HIRF assurance program in MSG-3 MPIG POC/s SME's from dedicated working group: Lorenz Wenk Kyle Smith Luca Musso Armando Chieffi	EASA	Thanks, EASA, for exceptional coordination efforts. The paper's intent is supported. Points exchanged during collaborative working session have been considered and amendments were made with good faith. Verbiage requires further clarification in several areas. Current interpretation implies all tasks are to become part of an assurance program and not limited to those which maintenance experience is not available (as described by both ARP 5415 and 5583). Paper needs additional work. MPIG believes the team could reach consensus if given ~ 3 more dedicated collaboration sessions. MPIG does not support as written Problem Statement Comments ● Reference to '*SAE ARP 5415B*' (2nd paragraph) ○ The link is for HIRF regulation, consider listing SAE ARP5583A here and listing 5415B when AMC 20.136 is mentioned. ● Last paragraph of 1st page starting '*The current wording of MSG-3 also [..]* ' ○ consider changing 'is needed' to 'may be', and correct typo: '*while in fact only a very small sample of components is indeed may be covered.*' Reasoning: the OEM may use the Assurance Program to go beyond what the ARP states (seems limited to those protections that are novel and/or the OEM/Industry has no experience with.). 4th paragraph of page 2 starting '*The extent of the surveillance program*', reference to statement '*A surveillance program is needed if the maintenance program does not directly determine the effectiveness of the HIRF protection.* ' ○ We disagree with this statement. The surveillance program, within the scope of ARP mentioned above (since other data gathering processes may also be considered as surveillance) is limited to those protections whose in-service experience is not known. Common protections used in aviation for years may be known and functional degradation properly addressed via visual inspections. New OEMs may opt to use those protections and focus the assurance plan on items that are indeed unknown. The text implies that you either have a bonding measurement, or you need a dedicated assurance plan item. That might not be the case as outlined above. Consider deleting this whole paragraph (from highlighted text down to 'inspection intervals'). Page #2 (7th bullet) "Collect in-service maintenance data to support ~~later~~ optimization of the design or the maintenance requirements (including support to IP44 exercises) " Recommendation Section Comments ● Reference to proposed change to 1st paragraph of Sec 2-6, when adding '*and the Working Group* ' ○ Goes beyond the scope of the CIP. Agree to change it. Consider clarification in the recommendation that this is being changed given the opportunity, so that if disagreement on this arises, we already know it is ok to remove it from the recommendation. ● Reference to proposed change to Sec 2-6 1.b., added text '*protecting systems, structures, engine, piping & ducting etc. from direct and indirect effects of lightning and/or HIRF,*'

			○ Goes beyond the scope of the CIP. Agree to change it. Propose to just clarify on the recommendation that this is being changed given the opportunity, so that if disagreement on this arises, we already know it is ok to remove it from the recommendation. ● Reference to proposed change to Sec 2-6 para 2, ○ Bullet *'Validate the performance and operating environment assumptions*' ■ Consider deletion of this bullet. We should only focus on the maintenance validation, which is the scope of the next bullets. Ineffective maintenance task root cause may be due to incorrect operating environment assumptions. ○ Bullet '*Validate that the MSG-3 derived L/HIRF tasks and intervals (where selected) are providing for an effective maintenance program that allows to maintain the required protection for the life of the aircraft* ' ■ Consider deletion of '*(where selected)*' and add '*applicable*' to *'Validate that the applicable MSG-3 derived [..]*'. The meaning of applicable are those tasks that are related to an Assurance Program item. Not all LHIRF MSG-3 tasks will have a related Assurance Program item (previous OEM experience, industry-known robust items, etc.). ○ Bullet '*Validates that the Zonal Inspections do effectively cover those LHSIs without dedicated L/HIRF task*' ■ This bullet implies all bonding will be part of the assurance program. Consider: '*Validate that applicable LHSI are the design or the maintenance requirements (including support to IP44 exercises)*' ■ Consider using '*Evolution/Optimization of task intervals*' to be in line with the IMPS term. ○ Last paragraph of page 3, '[..] *However, in specific cases, for example in cases where there is little data and the potential for degradation is low, an LHSI may be more effectively covered by the L/HIRF Assurance Program rather than by scheduled L/HIRF tasks derived by MSG-3 analysis.*' ■ Consider adding '*and the potential for degradation is low, and there is consensus that an MSG-3 would not be selected, [..]*' ○ First paragraph of page 4, '*As failure of L/HIRF protection components typically remains hidden until a relatively rare lightning or HIRF event is encountered, [..]*' ■ Comment: HIRF events are not rare, they are part of the operating environment. Consider deleting 'relatively rare'. ○ First paragraph of page 4, '*To confirm that the LHSI do perform as expected, this needs to be explicitly verified by dedicated tasks. These tasks may require a more sophisticated examination than the scheduled MSG-3 tasks (e.g. conductivity tests requiring disassembly, impedance tests).*' ■ Comment: 1st sentence states, 'needs to be', implying mandatory actions. Second sentence says 'may'. Suggest changing 1st sentence to: '*Maintenance experience with the L/HIRF protection features may justify surveillance via the Assurance Program.*' ○ 3rd paragraph of page 4, '*Normally the L/HIRF Assurance Program, if in place, should continue for the life of the fleet.*' ■ Comment: See ARP5415B 9.5.1 (h). *The duration of the program is to be defined*. Consider deleting this sentence – no added value and may cause confusion. ● Reference to added text of Step 9 *'if no relevant in-service maintenance experience covering the full aircraft life is existing.*' ○ Comment: typo, should be 'exists.' ● Reference to added text of Step 10 '*Additionally monitoring through the L/HIRF Assurance Program may be necessary for items not visible.*' Comment: Consider deletion. Visibility is not the sole parameter to add the LHSI to the Assurance Plan. If there is enough data (industry or OEM data) to support no task, then no need to add to the assurance program (which should be

			focusing on the 'novel' protection features). The proposal of this IP considers the Assurance Plan in several points of the flowchart methodology, becoming redundant, examples in step 6, step 9, step 11. In addition, this proposal would increase the scope of the Assurance Plan, going against the established-on ARP 5415 and ARP 5583. The scope of the L/HIRF methodology should be kept in systems and structural components required to maintain the inherent safety of the aircraft, according to OEM engineering. L/HIRF protections of piping and ducting for example, should remain part of the Zonal Inspection. If one of the purposes of this IP is that the assurance plan no longer covers an LHIRF maintenance requirement, steps 16, 17, 18 and 19 of the flowchart must be removed and the entire flowchart re-evaluated. Glossary change - recommend consideration of text already used in the ARPs : *fleet level sampling program of* *protection features for which maintenance experience is not available, that consists of dedicated assessment to ensure that the maintenance actions detect and effectively restore L/HIRF protection features that may degrade in service. Reason: some words used are not focus of ARPs* **9/June/2022: RMPIG supports the intent of the CIP to clarify the conditions under which the LHIRF assurance plan can be used during MSG3 process. RMPIG supports also MPIG to further work on the CIP on detailed wording issues** **Additional comments (too extensive to re-compose in this log also contained in this embedded file)**  CIP EASA 2020-02 _LHIRF assurance proc
CIP EASA 2020-05	Analysis of bonding devices in MSG-3 MPIG POC/s SME's from dedicated working group: Lorenz Wenk Kyle Smith Luca Musso Armando Chieffi	EASA	Once again MPIG SMEs recognize and appreciate the collaborative effort and flexibility demonstrated by the EASA specialist/s. MPIG agrees with the intent of the paper, but some minor work is needed. Issue with the word 'All' in the Recommendation section verbiage (not part of the recommendation in the documents themselves). Consider differentiating between selection criteria and those that are contained within the LHSI. The problem and recommendation address "bonding" and the changes being proposed do not address bonding content within MSG3. Is this accepted or should more be explained. Whether LHIRF protection is related to direct or indirect effects of LHIRF is not directly related to the MSG-3 analysis. This type of information is an input that OEM engineering uses in the design of the LHIRF protections. This is not a type of information that should be described in the LHIRF methodology. The first part of the IP describes the discrepancies between the methodologies however the proposal is not well related to this description. The scope of the L/HIRF methodology should be kept in systems and structural components required to maintain the inherent safety of the aircraft, according to OEM engineering.

			RMPIG: **Align with MPIG**
CIP EASA 2022-01	MSG-3 “classic task intent” definition	EASA	MPIG supports paper with minor amendments. Comment: The term “classic” was introduced purely to recognize it as a level two (2) output and to differentiate it from level 3. It has been understood that task intent is a summarization of the task’s mitigation characteristics. This summarization is developed on the task analysis data sheets after the analysis is completed and all failure causes are addressed. When all failure causes are addressed satisfactorily the task intent can be summarized, not before. IP180 does not alter the resultant task intent from level two (2). Rather it intends to ensure all failure causes are satisfied by either the AHM alternative or hybrid. The context of the paper implies task intent is somehow done prior to the analysis. We do not agree with the text in the CIP “Problem” section stating: “Last but not least, we cannot disregard the fact that many tasks can do more than what they have been selected for, so there is a difference between “the intent” and “the capability” of a task”. Such a statement is not recognizing that a task was selected only for its sufficiency in addressing F/FF/FE/FC within the selection criteria of Table 2-3-7.1. Any other capabilities that the selected task may have, are not relevant to its selection unless the selection is the result of task consolidation. The statement is used to suggest an AHM potential limitation which is not relevant to the task. Glossary entry is proposed to be “Task Intent (MSI)” – to clearly limit to system and powerplant. Remove all four (4) bullets as redundant. This content is already within MSG3 2-3-8 section 4. Task Interval Selection Criteria • Lubrication/Servicing (failure prevention): • Operational Checks & Visual Checks (failure-finding): • Inspections & Functional checks (potential failure finding): • Restoration and Discard (failure avoidance): Consider title change to ~~classic~~ “task intent” definition Does the CIP also apply to Vol 2? or is it not affected? Should the “task intent” also be captured in the IMPS doc Appendix 4 List of Abbreviations and Glossary of Terms? Thus, the proposed CIP “Recommendation (including Implementation)” is: **Task Intent The reasons or summary of reasons for which the task has been selected as the outcome of the Level 2 analysis**
CIP EASA 2022-02	Management of AFM/RFM Assumptions	EASA	MPIG acknowledges and agrees with the intent of the paper (partially) but not with the problem statement and recommendation. MPIG proposes consideration should also make clarification in the IMPS since the IMPS is more adequate for procedural guidance at the MRB/MTB level. Issue Statement Comments ● Reference to paragraph ‘*In case AFM/RFM assumptions cannot be verified (due to AFM/RFM not approved), the initial MRBR cannot be approved, unless all the MSG-3 Level 1 analysis based on AFM/RFM assumptions are changed from evident to hidden Failure Effect Category (FEC) route.*’ ○ The proposed text in the Recommendation section is supported ‘*the manufacturer shall propose an appropriate method documented in the "Policy and Procedures Handbook" to adequately cover AFM assumptions,*’ ○ This method of documenting the AFM assumptions may include how the OEM is updating the MWG or ISC in regards to the AFM development.

			○ The issue statement referring to the initial MRBR not being able to be approved is very conservative if proper AFM development oversight is provided by the ISC. Recommendation Section Comments ● This recommendation wording contradicts the problem statement as it refers to '*In case* *AFM/RFM assumptions cannot be verified (due to AFM/RFM not approved), the initial MRBR cannot be approved, unless all the MSG-3 Level 1 analysis based on AFM/RFM assumptions are changed from evident to hidden Failure Effect Category (FEC) route.*' ○ Consider changing to: '*Since the AFM is not available during the initial MSG-3 analysis, the manufacturer shall propose an appropriate method documented in the "Policy and Procedures Handbook" to adequately cover AFM assumptions and coordinate the AFM/RFM development with the ISC and MRB/MTB until its approval.*' ○ Rationale: some MTBRs/MTBRs may be approved prior to EIS while other type certification data, ICA and operating instructions are being finalized. The appropriate gate to have all AFM verified against the approved MSG-3 analysis and MRBR should be the EIS. There are many interdependencies in such a complex development and some of those activities may happen concurrently. Action Items at the MRB/MTB level should be appropriate to ensure completeness and correctness of the MRBR by EIS while at the same time accounting for concurrent activities. *RMPIG : Recommend to remove the "e.g....." in the sentence: Any change affecting the MSG-3 analysis with a direct impact on the MRBR content should be reflected as soon as possible, e.g. by mean of a MRBR Temporary Revision. Reason is that a change in the assumption might not necessarily produce an effect requireing a TR. TR are not used just if there is a change in the MSG-3 methodology but if there is a safety efffect as said in IMPS section 4.6.6.1* Align with MPIG Additional comments contained with this embedded file  CIP EASA 2022-02_Managemen
CIP EASA 2020-04	Periodic Review – Updates	EASA	MPIG request additional insight to the specific reason for adding the bullets? The paper should consider differentiating between initial development and post TC / EIS. MPIG recommends deletion of the brackets and content in • bullet 13 (e.g.: FAR 26, EASA Part 26, EWIS) and • bullet 15 (e.g., MMEL, AFM/RFM, Design Solutions) – AFM and Design changes are already accounted for in the previous bullets. This list already applies only to approved maintenance programs, so I disagree to ask EASA to clarify. I did not previously consider whether the items in the list are recommended or required but reading the paragraph 9.2 I see "have to" and "should" both used. Additional comments contained with this embedded file  CIP EASA 2020-04_Periodic revie RMPIG : No objection to CIP
