

MEETING NOTES

2022 IMRBPB ANNUAL MEETING

20TH TO 24TH JUNE 2022

Time: 05:00 – 09:00 Pacific Daylight Time, UTC minus 7 hours

Location: Online Meeting hosted by ANAC

Meeting participants:

ANAC	Fernando LACERDA Sérgio CRUZ Sander CARNEIRO Rogério POSSI Junior André Luiz MORETO
CAAC	WANG Jin FAN Jingzhu HUANG Jun SUN Bin LI Xiaolei LIU Yunlei
CAAS	Gerald POH LEE Tak Loon
CASA	David PUNSHON
EASA	Raffaele IOVINELLA (IMRBPB Co-Chairperson) Luca TOSINI David MANCEBO Antonino LEVANTINO Dominique DUMORTIER (OSAC) Matthieu LALANDE (OSAC)
FAA	William (Bill) HELIKER (IMRBPB Chairperson) John DUGAN
GCAA	Hatem DIBIAN
HKCAD	Jimmy LEUNG (IMRBPB Secretary) Claire NG
JCAB	Hiro FUKUYAMA YOSHIDA Masao
TCCA	Jeff PHIPPS Ryan HENNIGAR Jeffrey MARTIN Robert McMULLAN Ben SIEBARTH
CAA UK	Andrew SANDERSON Emma McCREESH
A4A	Kevin BERGER (MPIG Secretary)
Aeronovo	Manny GDALEVITCH



International MRB Policy Board

AeroTechna Solutions / NBAA	Leonard BEAUCHEMIN	
AgustaWestland Philadelphia Corporation (Leonardo Helicopters, U.S.)	Titos M. GOSALVEZ	
Airbus	Oliver WEISS Jen HUELSMANN Lorenz WENK	(MPIG Co-Chairperson)
Airbus Canada	Jean-Pierre GELINAS Hamid NOURI	
Airbus Defense & Space	Pilar ROJAS Federico HITA	
Airbus Helicopter	Elodie CARMONA	(RMPIG Chairperson)
All Nippon Airways	Hiroyuki TAWARA	
Allegiant Travel	Damon COOKE	
American Airlines	Avril BENSON Beth LLOYD	
Archer	Armando CHIEFFI	
ATR	Ana-Maria PIVNICERU	
Azul Linhas Aereas Brasileiras	Osvaldo da SILVA Junior	
Bell Helicopter	Jeremy BURGESS	
Bombardier Aviation	Christian BONIN Ahmed HASAN Mervinth Jerome Canistus JULIAN Gregory BENNETT	
Collins Aerospace	Rhonda WALTHALL	
COMAC	WANG Yiping Guie SHANG LIN Xiao	
Dassault Aviation	Laurent BOYER	
De Havilland Aircraft of Canada	Matthew SCOTT Cesar LAZARO	
Delta Airlines	David PIOTROWSKI	
Embraer	Rodrigo Manzione CORRÊA Fernando ARAUJO Alan SOUZA Eber GUSMÃO Adriana FAIAS Paulo DINIZ	
FedEx	George WEED	
Fokker Services	Hans MOEN	
Gulfstream Aerospace	Jeff POULIOT	
Honeywell Aerospace	Chris HICKENBOTTOM	
IATA	Dragos BUDEANU Chris MARKOU	
Jazz Aviation LP	Atanu CHAKRABORTY	
Leonardo Helicopters	Giacomo GIBILISCO	(RMPIG Co-Chairperson)
MHIRJ	Margaret HASWELL Si ZHANG	



International MRB Policy Board

MPIG	William MERCIER	(MPIG Chairperson)
SAE International (IVHM SG)	Ravi Rajamani	
Timothy GIBSON	Republic Airways	
Textron Aviation	Shaun JULIAN	
The Boeing Company	Jeff MILLER	
	Kayode ARIWODOLA	
United Airlines	Million ALI	
University of South Carolina	Rhea MATTHEWS	(RMPIG Secretary)

Item	Discussion / Disposition / Action Item
1	Introductions and welcome
2	General house-keeping rules for this online meeting
3	Review of agenda and plan for the week
4	Update contact listing
5	CAA UK welcome
6	Review of MPIG Meetings and Introductory Remarks
7	Review of RMPIG Meetings and Introductory Remarks
8	Initial Presentation of Regulatory and Industry Candidate Issue Papers
9	Review / Update of Existing Action Items
10	<p>IMRBPB Action Item 2021-05 MPIG/RMPIG update on IP180/IP170 applications</p> <p>A4A / (Kevin BERGER) presented “AHM Update” (Refer to Appendix A).</p> <p>Boeing / (Jeff MILLER) presented “PPH Integration of IP 180” (Refer to Appendix B).</p> <p>Airbus / (Oliver WEISS) presented “IP 180 Deployment on Airbus” (Refer to Appendix C).</p> <p>Collins / (Rhonda WALTHALL) presented “ARP7122: A Process for Utilizing Integrated Vehicle Health Management Systems for Airworthiness Credit” (Refer to Appendix D)</p> <p>IATA / (Dragos BUNDEANU) presented “Airlines’ AHM Readiness / Considerations for IMRBPB” (Refer to Appendix E).</p>
11	Decision on implementation of IP180 into MSG-3



	<p>The meeting discussed and member authorities voted on the agreement of incorporating IP180 into the next revision of MSG-3 document.</p>
12	<p>MSG-3 to MSG-4 proposal – Open discussion</p> <p>FAA / (Bill HELIKER) opened the discussion on whether IP180/IP170, as well as the development on IAHM / AHM / SHM etc. would be considered as a fresh start for the evolution into MSG-4 logic.</p> <p>A4A / (Kevin BERGER) shared the Summary of the Survey on MGS-4 Proposal (see Reference G). The Summary was previously shared within industry.</p> <p>HKCAD / (Jimmy LEUNG) shared the Summary with the member authorities immediately after the adjournment of Day 1 Meeting.</p> <p>Aeronovo / (Manny GDELEVITCH): What we are changing is only on Systems, not on Structure and Zonal so due consideration should be taken.</p> <p>CAAC / (WANG Jin): What would be the relationship between IP180 and the SAE Documents mentioned in item 10 above? We have previously IP on interfacing with CMCC, and how about the need for interfacing Continuing Airworthiness with SAE documents.</p> <p>Collins / (Rhonda WALTHALL): SAE documents putting recommended practices so that the industry can go out and apply MSG-3 analysis so that they can approach the regulators to get approval for doing health monitoring for a particular components.</p> <p>EASA / (Raffaele IOVINELLA): SAE documents as standalone cannot be used to change any PPH policy. The use of SAE documents on MSG-3 analysis have to go through amendments such as IP180 and when agreed by Policy Board it would then be included into PPH.</p>
13	<p>CIP EASA-2020-02 - LHIRF Assurance Program in MSG-3</p> <p>A4A / (Kevin BERGER): Industry came up with the Industry Position on the Five Regulatory CIPs (Refer to Appendix F). The Summary will be shared with IMRBPB Leadership for onward distribution among regulatory members.</p> <p>HKCAD / (Jimmy LEUNG) distributed the Industry Position on the Five Regulatory CIPs regulatory members immediately after Day 2 Meeting.</p> <p>EASA / (Luca TOSINI) briefed the meeting on CIP EASA-2020-02.</p> <p>COMAC / (WANG Yiping): The current logic diagram may need review, for example Box / Step 19 of the logic diagram in relation to task selection and L/HIRF assurance program.</p>

EASA / (Luca TOSINI): The comments from COMAC had been discussed during the drafting of the CIP. It was believed that revising the logic diagram would be subject to a potentially new CIP, rather than addressed by this CIP.

OSAC / (Dominique DUMORTIER): If intent is not to touch the flow chart for the time being, the phrasing in some different cells, like steps 16 / 17 / 19, which are referring to assurance plan may need to have the term assurance plan replaced by assurance program.

EASA / (Luca TOSINI): Thanks Dominique. Good catch.

TCCA / (Jeff PHIPPS): IMPS 4.10 & 9.2 may be impacted by this CIP too in regard to the phrasing of assurance plan. Moreover, on paragraph 2 of the CIP, the term “real service” is used but normally in MSG-3 “in-service” is normally used hence suggested to use “in-service” instead of “real service” in this CIP. Besides, some of the information in the final two or three paragraphs of the proposed section may need to be reviewed whether it is associated with the analysis or managing the assurance program. IMPS 4.10 would be a better place for that sort of information in the form of managing that assurance program following the completion of the analysis.

CAAC / (WANG Jin): There is a need to align the term such as L/HIRF validation program used by Certification.

EASA / (Luca TOSINI): CIP will be updated with both MSG-3 and IMPS to use the verbiage “L/HIRF Assurance Program, or equivalent”.

A4A / (Kevin BERGER): MPIG support the CIP intent but suggest to have 2 or 3 more collaborative sessions between EASA and industry to refine certain verbiage, such as the current CIP would imply all tasks are to be part of the insurance program, flowcharts, IMPS, etc. MPIG supported the intent of the CIP but not in the language as it is current written.

EASA / (Luca TOSINI): Agree to have more collaborative sessions with MPIG / RMPiG on further develop this CIP.

Archer / (Armando CHIEFFI): For technology that is well known today, they should not be subject to insurance plan to justify a task or not task for those protection. Moreover, suggest to align the glossary to those words used in the SAE ARP.

EASA / (Raffaele IOVINELLA): EASA would continue to develop the content of the CIP, the flowchart, impact on IMPS, however, the comments on the glossary and SAE ARP is that ARP is SAE guidance. Such SAE guidance is useful information but there may not exist a one-to-one direct relationship in the IMRBPB documents (MSG-3 / IMPS).



	<p>A4A / (Kevin BERGER): Agree with Raffaele’s view on SAE ARP & IMRBPB documents.</p> <p>EASA / (Raffaele IOVINELLA): Agree to have more collaborative sessions with MPIG / RMPIG on further develop this CIP. CIP to be re-present in 2023.</p>
14	<p>CIP EASA-2020-04 - Periodic review update</p> <p>EASA / (Luca TOSINI) briefed the meeting on CIP EASA-2020-04.</p> <p>Meeting participants provided comments on the CIP. EASA amended the CIP accordingly.</p> <p>CIP accepted, as amended, as IP 199.</p>
15	<p>CIP EASA-2022-01 - Classic task intent</p> <p>EASA / (Luca TOSINI) briefed the meeting on CIP EASA-2022-01.</p> <p>Meeting participants provided comments on the CIP. EASA amended the CIP accordingly.</p> <p>CIP accepted, as amended, as IP 200.</p>
16	<p>CIP EASA-2022-02 - Management of AFM-RFM assumptions</p> <p>EASA / (Luca TOSINI) briefed the meeting on CIP EASA-2022-02.</p> <p>Meeting participants provided comments on the CIP. EASA amended the CIP accordingly.</p> <p>CIP accepted, as amended, as IP 201.</p>
17	<p>CIP EASA-2020-05 - Analysis of Bonding Devices in MSG-3</p> <p>EASA / (Luca TOSINI) briefed the meeting on CIP EASA-2020-05.</p> <p>A4A / (Kevin BERGER) provided the general comments from industry. Refer to Appendix F.</p> <p>Archer / (Armando CHIEFFI): Would like to discuss if the word “all” would be misinterpreted hence would prefer to have this word removed.</p> <p>EASA / (Luca TOSINI): The word “all” in the context of all LHIRF protection components must be considered in LHSI selection process. This does not mean all must be analyzed. There may be either EWIS or standalone MSG-3 analysis. The introduction of this terminology “all” is just related to the LHSI selection process, and to the use of the direct and in-direct degradation of the lightning effect. Full components must be analyzed but some of them may be declared not eligible for</p>



LHSI selection and most of them will be consolidated and a fewer number of more effective tasks may be identified.

Airbus / (Lorenz WENK): Currently, the LHIRF analysis and the preparation is a very bulky and heavy process that in the end typically leads to the selection of five to ten maintenance tasks per program. Industry would not be very happy if we enlarge the preparation that needs to be done to derive in the end a very similar result. It needs to be clear how this (LHSI) selection process is running. We would suggest the (LHSI) selection process to be streamlined and be more efficient. Besides, we support the other position on that the bonding leads may not be really an item to be going through the EZAP analysis. The point though, is today they lead to quite a number of tasks ending up with an EWIS identifier or EZAP identifier in the maintenance program for areas where there's nothing else but just some bonding leads that will make this zonal task to the level of EWIS compliance and this may distract the attention of the operators and MRO. My question there is EASA is also intending to revise and approaching the EZAP analysis to make it clear what conditions of bonding leads in the sense of an EZAP list.

EASA / (Raffaele IOVINELLA): Legacy projects were approached very differently by different TCHs thus it may not be most suitable to be judged only by the number of tasks generated. On bonding device, our position is that it should best located in the lightning branch of MSG-3. This CIP would try to streamline the analysis of bonding device, just to focus on the lightning effects and to avoid linking to zonal as it would then lead to EWIS. One of the main goal of this CIP is where the analysis of bonding device is a better place and we believe it is in the LHIRF analysis.

COMAC / (Guie SHANG): Suggest to do analysis on those bonding device with more significant consequences such as operational or safety.

EASA / (Luca TOSINI): All LHIRF protection components should be considered in the initial selection process of LHSI, the selection process would then identify which ones should be subject to LHSI MSG-3 analysis. For bonding device not associated with operation and safety, the PPH would be the most appropriate place to disposition such economic consideration.

OSAC / (Dominique DUMORTIER): Support the intent of the CIP. However, there may be bonding devices that are just purely for electrically functionality purpose and definitely not for LHIRF protection purpose. It may be good to look into the introduction part of the CIP in this regard.

Embraer / (Adriana FAIAS), Archer / (Armando CHIEFFI) & COMAC / (Guie SHANG) would like to clarify the protection features subject to LHSI selection are the ones identified by Design Engineering as critical to the aircraft safety. The use of the word "all" may be different in this regard.

EASA / (Luca TOSINI): The intention is that all bonding devices should be subject to LHSI selection process. The system level of redundancy would be re-visited in the re-work of this CIP.



EASA / (Raffaele IOVINELLA): Agree **to have more collaborative sessions with MPIG / RMPiG on further develop this CIP. CIP to be re-present in 2023. Recommend to re-open the LHIRF WG.**

18 CIP IND-2018-04 - SSI selection and analysis organization guidelines

Airbus Canada / (Hamid NOURI) briefed the meeting on CIP IND-2018-04.

TCCA / (Jeff PHIPPS): Suggest to use the standard / traditional logic diagram, instead of digital electronic logic tree, to align with those currently shown in MSG-3 document.

OSAC / (Dominique DUMORTIER): The logic diagram is a visual aid but not exhaustively the process on SSI selection. For example the title can simply be SSI definition.

Airbus Canada / (Hamid NOURI): Agree on the logic diagram is a visual aid but not exhaustively the process on SSI selection. Can either add text to clarify such or to change the title of the figure / diagram.

EASA / (Raffaele IOVINELLA): SSI List is reviewed / finalized by the WG, and approved by ISC.

ANAC / (Fernando LACERDA): If this CIP is accepted, Part A will go to the MSG-3 document but where should Part B (i.e. the recommendation) be resided? Part B as standalone contained in the IP for future referencing / tracking?

EASA / (Raffaele IOVINELLA): Suggest to include in the CIP itself what will be the method of disposition of Part B of the CIP.

HKCAD / (Jimmy LEUNG): Would R/MPIG's MAP be a suitable place for Part B? However, it is the IMRBPB position that MAP would not be reviewed / formally accepted by IMRBPB.

Airbus Canada / (Hamid NOURI): MAP would only be available to R/MPIG members but the goal of this CIP is the information in Part B be available to the wider public. Besides, as regulatory authorities may not have access to MAP hence have Part B available in public would allow more future feedback from regulatory authorities.

TCCA / (Robert McMULLAN): What is the problem identified by this CIP? The problem mentioned in this CIP may not have been experienced by TCCA.

Airbus Canada / (Hamid NOURI): Part A of CIP is seen as improvement rather than handling any known problem while Part B as the criteria to fine tune the analysis.

OSAC / (Dominique DUMORTIER): This CIP would be useful for young TCHs or young MSG-3 users. On the disposition of Part B, maybe Step 4 of Part A can be expanded a bit and linking it to Part B.



EASA / (Luca TOSINI): We are not having the intention to change the definition of the SSI. It is only a matter of other structures that can be considered for SSI analysis. This does not relate the other structure departing from an aircraft to the SSI definition. The Boolean logic diagram must not change the definition of SSI, to remain in line with IP 192. The departing structure from the aircraft does not become an SSI by definition, nevertheless can be eligible for an SSI analysis following working group evaluation. We are on the right path but we may be mis-interpreting IP 192 if we convert it in such a diagram. The title of the figure is “SSI selection logic diagram” and IP 192 is explicitly not aiming to change the definition of the SSI, but open the door for having an SSI analysis to something that per definition is not an SSI.

Airbus Canada / (Hamid NOURI): What would be the way forward? Changing the SSI or updating IP 192 or changing the diagram in the CIP?

EASA / (Raffaele IOVINELLA): The problem here is the SSI definition. The detachment of a structure does not determine that it is a SSI, but should be considered as per IP 192 for possible evaluation under the SSI analysis. The definition of SSI remains unchanged. Thus if CIP call the figure 2-4-4.2 SSI definition it is a mistake because are only trying to define what should be analyzed as per SSI. IP 192 says considerations should be given to any structure that if failed or detached inflight could through secondary damage compromise continued safe flight and landing. It is not the definition of SSI, because it does not say inflight loss of structure equals SSI. It is the decision of the working group whether it should be considered in the framework of SSI analysis, then it is added on top of the other SSI.

Airbus Canada / (Hamid NOURI): Since it is already there as per IP 192 then we should eliminate the last question from step one of this CIP as consideration should be given to these parts without changing the definition of SSI.

OSAC / (Dominique DUMORTIER): What have been moved from yesterday’s draft CIP the flow chart from SSI selection to SSI definition, we would have to move back to SSI selection.

EASA / (Raffaele IOVINELLA): Please also consider revising the numbering, whether it can be integrated into the main structural analysis diagram, the figure 2-4-4.1. We may also get rid of any diagram and just refer to a table, i.e. standalone table as we are using in MSI selection that was selected done through questions that people reply yes or no.

Airbus Canada / (Hamid NOURI): A diagram may still be beneficial as it can make it visualized. Nevertheless, we would change the SSI definition to SSI selection and the box to select SSI, and also D1 step.

EASA / (Raffaele IOVINELLA): The keyword should be SSI selection instead of categorization. The departing parts are not SSI by definition but are listed in the SSI list because of their departing issues as per IP 192.



	<p>ANAC / (Fernando LACERDA): In the flowchart, there is a categorized list as other structure and list as SSI. It may be subject to a full review of these steps and the charts need to be done for consistency. Such will be a huge change in the CIP.</p> <p>Airbus Canada / (Hamid NOURI): Agreed that it is a big change and subject to double checking / sanity check. It would take time and suggest to re-present this CIP in 2023.</p> <p>EASA / (Raffaele IOVINELLA): EASA would support the development this CIP.</p> <p>CIP IND-2018-04 returned to submitter for re-work with EASA SME. Re-present in 2023.</p>
19	<p>IND-2021-03 - Integration of the basic CPCP steps</p> <p>Airbus / (Jen HUELSMANN) briefed the meeting on CIP IND-2021-03.</p> <p>TCCA / (Jeff PHIPPS): The content of the CIP appears to be task procedure, what is the value in putting it into MSG-3 document.</p> <p>EASA / (Raffaele IOVINELLA): The main steps are just to clarify task applicability and effectiveness, not to define a procedure. The CIP proposal here is mainly extracted from EASA AMC 20-20. The proposal on corrosion level / CPCP steps may be most suitable to reside, say in AMM.</p> <p>OSAC / (Dominique DUMORTIER): The main steps mentioned in the CIP is for task procedure, not steps for the MSG-3 analysis.</p> <p>Airbus / (Jen HUELSMANN): based on the comments received, there is no added value in continuing this CIP.</p> <p>MPIG/RMPIG would like to withdraw this CIP.</p>
20	<p>IND-2022-01 - Supplementary factors to be considered in the definition of the CPCP task</p> <p>Airbus / (Jen HUELSMANN) briefed the meeting on CIP IND-2022-01.</p> <p>Meeting participants provided comments on the CIP. CIP was amended accordingly.</p> <p>CIP accepted, as amended, as IP 202.</p>
21	<p>MSG-3 to MSG-4 proposal – Open discussion</p> <p>A4A / (Kevin BERGER) briefed the meeting on the summary of the Survey on MGS-4 Proposal (see Appendix G).</p>



EASA / (Raffaele IOVINELLA) and A4A / (Kevin BERGER) discussed and agreed that the survey could have attracted multiple respondents from individual organisation (regulatory authority / TCH / Operator) hence the validity of the survey was not intended to be the deciding factor of the decision.

EASA / (Raffaele IOVINELLA): EASA acknowledge the important of AHM that it is a first step towards the innovation, it is at this stage a limited change to MSG-3 to bring along a complete revision of the document. There are a lot of implications in terms of current regulations to be adapted the effect that some projects may want to stay MSG-3 because they will never use Level 3 analysis. In the past we have also introduced EWIS and LHIRF that we did not change from MSG-3 to MSG-4. AHM can be a starting point for a serious conversation among us on the direction that scheduled maintenance is taking. Maybe in the future we will not have the need to call it scheduled maintenance anymore because we will have it in hybrid situation where we will have scheduled maintenance, predictive maintenance, condition based maintenance, hard time and the combination of all these things. We need to be prepared for such changes.

TCCA / (Jeff PHIPPS): Since the introduction of MSG-3 over 30 years ago, there have been changes such as EWIS, LHIRF, AHM, Volume 1, Volume 2 and none of these changes really deviated from the pure concepts of MSG-3. However, with future changes to system architecture, and emerging technology such as E/VSTOL and AHM systems, traditional MSG-3 analysis may not be appropriate or possible, which would then require an updated analysis concept that could be MSG-4. Also, the IMRBPB members are still in the process of implementing IMPS in order to better standardize the MRB process, which includes implementing new MRB guidance and updating and or implementing international agreements that will recognize a CA initial MRBR. If MSG-3 were to be updated to MSG-4 now, it would further delay the implementation of IMPS, new MRB guidance, and the possible mutual acceptance of the MRB process. For example the implementation of the new FAA AC 121-22D or the new guidance that would replace TCCA TP-13850. Once we achieve full implementation of IMPS and better harmonization of the MRB process, the IMRBPB would be in a better position to start a meaningful discussion on the development of MSG-4, which may include considerations such as guidance implementation, training aspects, rule making process.

EASA / (Raffaele IOVINELLA): Maybe a good time to start a working group comprises of regulatory authorities and industry may be a good starting point to evaluate the roadmap to MSG-4 and preparation of such.

Airbus / (Oliver WEISS): During the AHM Working Group that prepared IP 180, there was a discussion on whether MSG-4 should be start. The discussion was to focus on system analysis only and not to touch MSG-3 entirely. The new technology on E/VSTOL would likely to operated and maintained in a new different way and this may be what we need to consider.

COMAC / (WANG Yiping): The level 3 analysis may have limited current application. The current AHM technologies may not up to the full use of AHM.



FAA / (Bill HELIKER): FAA is working on finalizing AC 43-218, as well as FAA Order 8900.1, inspector guidance are being changed to address IAHM. Operation specifications are coming in that will be using with the operators and within the FAA. FAA considered IAHM as a huge philosophical change in maintenance programs development and aircraft maintenance program management. The FAA believed that the MSG-4 would be a good starting point to cut in the new and emerging technologies that are coming out very rapidly. Agreed that it is good time to start a MSG-4 working group.

A4A / (Kevin BERGER): Agreed that it is a good time to start MSG-4 working group.

American Airlines / (Avril BENSON): If we change the name to MGS-4, what will likely be impacted? How an operator has to incorporate or will it simply be addition to the current MSG-3 maintenance program. Do operator have to go and re-evaluate the entire program to make this change?

FAA / (Bill HELIKER): I could not imagine the operator have to go back and re-evaluate the whole program with MSG-4. We just include the attributes of IAHM and these new emerging technologies and these new prognostic process that we are going to see in the future.

EASA / (Raffaele IOVINELLA): The issues on operators' implementation may also be subject to working group discussion. At the same time, there may still be new projects where MSG-3 would be based on, hence such would also be subject to working group discussion.

MPIG / (William MERCIER): Agree that the task force should also discuss on how operators would transit to MSG-4 in terms of maintenance program, ACs and so on.

TCCA / (Jeff PHIPPS): Task force is a good idea, in particular with the participation from authorities and industry. However it would be good if we can stay focused right now on getting this MSG-3 revision completed and harmonized implementation of IMPS. For MSG-4 task force, there are no objectives and no terms of reference developed, which would be required. As IMRBPB member authorities have not met since 2019, it should be on our agenda to have a really meaningful discussion at our next annual meeting, hence next year the IMRBPB would be in a better position to actually start the development of such working group to look at the possible development of MSG-4.

EASA / (Raffaele IOVINELLA): There are new projects coming that are making use of prediction based concept. It may be good to start the task force / working group now.

FAA / (Bill HELIKER): Agree to start the task force and start the discussion from the baseline, initial framework and the work all along.



	<p>HKCAD / (Jimmy Leung): Suggest to use the term Working Group to align with the IMRBPB Charter.</p> <p>Nine member authorities voted yes to establish the MSG-4 Working Group while TCCA would prefer a defined tasking and terms of reference to be developed & agreed by IMRBPB prior to the establishment of the MSG-4 Working Group.</p> <p>Action Item 2022-05: IMRBPB Leadership and MPIG/RMPIG Leadership, by 2022 ILM Meeting, to discuss the preparatory work to form the MSG-4 Working Group. (Action assigned to IMRBPB Leadership and MPIG/RMPIG Leadership)</p>
22	<p>CIP IND-2020-05 Recognition of the VTOL Aircraft</p> <p>Leonardo Helicopters / (Giacomo GIBILISCO) briefed the meeting on CIP IND-2020-05.</p> <p>Meeting participants provided comments on the CIP. CIP was amended accordingly.</p> <p>CIP accepted, as amended, as IP 203.</p>
23	<p>CIP IND-2020-01 - Removal of MRB and CMCC process coordination section from MSG-3 document (formerly Clarification of MRB and CMCC process interface)</p> <p>Archer / (Armando CHIEFFI) briefed the meeting on CIP IND-2020-01.</p> <p>Meeting participants provided comments on the CIP. CIP was amended accordingly.</p> <p>EASA / (Raffaele IOVINELLA): For existing as well as future aircraft programs, the guidance on CMCC process should be the ones issued by the certification team such as FAA AC 25-19a / EASA AMC 25-19, but not in MSG-3 documents.</p> <p>Action Item 2022-06: With the removal of CMCC process from MSG-3 document, IMRBPB members and participants are kindly requested to document policy associated with their sustainment practices of legacy programs (even if they are different) regarding CCMR results realized under previous MSG-3 guidance. Each NAA is also requested to update industry routinely (e.g. quarterly) given the significant impact and confusion which currently exists for both OEMs and Operators. (Action assigned to IMRBPB Leadership and MPIG/RMPIG Leadership)</p> <p>TCCA / (Jeff PHIPPS): We are removing CMCC from MSG-3 document so in future, ISC and MRB attend CMCC meeting with the results from the MSG-3 on task interval. It is up to the CMCC to decide whether they would accept what was done in MSG-3 or not. MSG-3 task interval would not be affected by CMCC process (i.e. outcome of system safety analysis) and no need to re-evaluate with MSG-3 analysis. Hence CMCC may still be good to keep in IMPS for ISC MRB interfacing with CMCC, but not in MSG-3. The decision to remove CMCC from MSG-3 document should be brought to the attention of the CMT during the October 2022</p>



	<p>CMT meeting in order to have comments from the CMT members, which may impact on amending IMPS with regards to the ISC/MRB interface with the CMCC.</p> <p>Action Item 2022-07: IMRBPB Leadership, with the help of TCCA IMRBPB focal who would participate in the CMT meeting, (a) to include an agenda item in the 2023 IAM (May 8th to 12th 2023) on the topic of CMCC interface with ISC, and (b) the development of an CIP on updating IMPS in regard to CMCC process. (Action assigned to IMRBPB Leadership)</p> <p>CIP accepted, as amended, as IP 204.</p>
24	<p>CIP IND-2020-02 - HUMS usage data to increase restoration (overhaul) & discard intervals</p> <p>Airbus Helicopter / (Elodie CARMONA) briefed the meeting on CIP IND-2020-02.</p> <p>EASA / (Raffaele IOVINELLA): the continued optimization of restoration intervals based on the fact that there is data coming from the fleet, not only from service experience (IP 44) but also from HUMS systems onboard a rotorcraft. If using section 2-3-8 which is initial task interval determination it may not be suitable as the HUMS data is data accumulating from the fleet either in service finding feedback or data on utilization. This data maybe at a single operator level which may be difficult to address at MRBR level to be effective for the whole fleet. Section 2-3-8 may not be a good place to place such. This data is more like normal follow-up activity at working group and ISC level that take into account of the new methodologies to gather information.</p> <p>Airbus Helicopter / (Elodie CARMONA): Our intent here was to think about the possibilities towards new parameters that could have helped also in the initial MRBR. We understand the concern on IP 44 interval evolution. We aimed at section 2-3-8 which we think data from HUMS for credit may also be useful for initial selection now we may need to re-evaluate whether section 2-3-8 is a good place for such.</p> <p>EASA / (Raffaele IOVINELLA): On the way forward of this CIP, it is suggest RMPiG to discuss internally and then engage EASA SME on how and where to disposition the HUMS data in the MSG-3 document in regard to the determination of interval of restoration tasks.</p> <p>OSAC / (Dominique DUMORTIER): It is a matter of task usage parameter. In MSG-3 it is clearly identified and the verbiage is following the most widely used parameters are the calendar time and flight hours, but there are no limitation and restriction in MSG-3 as to offer a new parameter. The question is it must be able to demonstrate to show that the parameter is well justified, and well covered by the certification in such cases as HUMS for credit from certification.</p> <p>CIP IND-2020-02 is returned to submitter for re-work with EASA SME. Re-present in 2023.</p>
25	<p>IAHM Industry Brief</p>



Dr. Ravi Rajamani, Chairman of SAE International IVHM Working Group, briefed the meeting on Use of IVHM Systems for Airworthiness Credits (Refer to Appendix H).

26 MSG-3 / MSG-4 Current Revision Status

A4A / (Kevin BERGER): There are 14 IPs from previous IMRBPB meetings plus 6 further IPs from this meeting that are yet to be incorporated into MSG-3 document. Thanks to EASA who helped on validating the incorporation process.

EASA / (Raffaele IOVINELLA): EASA offered to support A4A in the editing of the new MSG-3 document revision. IMPS would also be subject to revision in regard to the (outstanding) IPs: this task will be finalized by the IMRBPB Co-Chair.

27 IMRBPB meeting and location

FAA / (Bill HELIKER): 2023 and 2024 IMRBPB Annual Meeting (May/June) are to be hosted by EASA / Cologne and GCAA / Dubai respectively. 2023 Intermediate Meeting (December) will be hosted by JCAB / Japan.

HKCAD / (Jimmy LEUNG): Venue for the 2024 Intermediate (December) Meeting, previously at Hong Kong, cannot be secured, hence would request another member authority to host this meeting.

EASA / (Raffaele IOVINELLA): Annual (May/June) Meeting is preferred in the form of face to face meeting, however, on Intermediate (December) Meeting, there may still be travel restriction due to Covid in the near term, or organizational travel (budget) constraints in the mid or longer term, hence suggesting virtual online meeting for Intermediate Meeting until a more clear situation on arranging face to face meeting.

The meeting discussed the upcoming meeting arrangement and agreed on the following:

Meeting	Date	Host	Format
2022 IIM	week of December 19 th 2022	TCCA	Virtual online
2023 IAM	week of May 8 th 2023 (1 st choice) week of May 22 nd 2023 (back-up)	EASA / Cologne	Face to face

28 IMRBPB Leadership Team Vote

TCCA / (Jeff PHIPPS): The current leadership teams, both IMRBPB and R/MPIG, are doing a fantastic job in particular in the period affected by Covid. It is proposed the current IMRBPB leadership team to continue until the next face to face meeting in May 2023.

Member authorities supported TCCA’s proposal and the IMRBPB leadership team agreed to continue until the next face to face meeting in May 2023.

29 Status on FAA AC 121-22D and FAA AC 25-19



FAA / (Bill HELIKER): AC 121-22D is expected to making many references to IMPS hence it would be a lighter document as compared with the current -22C. The current -22D draft is believed to be 95% updated, however there may be an author change on -22D and this decision is not finalized yet.

Action Item 2022-08: FAA (Bill HELIKER) to update IMRBPB and MPIG/RMPIG on the development of the revision of FAA AC 121-22D and FAA AC 25-19.

30 Disposition of CIP into IPs, IMPS, requests for rework

CIP number	CIP title	Disposition
EASA-2020-02	LHIRF assurance program in MSG-3	Returned to submitter for rework with Industry SME. Re-present in 2023
EASA-2020-04	Periodic review update	Accepted, as amended, as IP 199
EASA-2022-01	Classic task intent	Accepted, as amended, as IP 200
EASA-2022-02	Management of AFM-RFM assumptions	Accepted, as amended, as IP 201
EASA-2020-05	Analysis of bonding devices in MSG-3	Returned to submitter for rework with industry SME. Re-present in 2023. Recommend to re-open the LHIRF WG
IND-2018-04	SSI selection and analysis organization guidelines	Returned to submitter for rework with EASA SME. Re-present in 2023
IND-2021-03	Integration of the basic CPCP steps	Withdrawn
IND-2022-01	Supplementary factors to be considered in the definition of the CPCP task	Accepted, as amended, as IP 202
IND-2020-01	Removal of MRB and CMCC process coordination section from MSG-3 document	Accepted, as amended, as IP 204
IND-2020-02	HUMS usage data to increase restoration (overhaul) & discard intervals	Returned to submitter for rework with EASA SME. Re-present in 2023
IND-2020-05	Recognition of the VTOL aircraft	Accepted, as amended, as IP 203

31 Update on CMT

TCCA / (Jeff PHIPPS): TCCA hosted CMT meeting in September 2021. A powerpoint presentation was originally prepared by TCCA Operational Airworthiness to brief the CMT on the results of the 2021 IMRBPB Meeting, IPs accepted and CIP IND-2020-01 (Removal of MRB and CMCC process coordination section from MSG-3 document), however, this item was subsequently removed by the CMT agenda. However, the matters on CIP IND-2020-01 was being discussed between the members of the CMT on different occasions. A TCCA Technical Paper TCCA 005 with the title MRB Task Interval Escalation, it focuses on certification concerns with the CCMR disposition as MRBR task and the lack of tracking of some of the in-service problems. This Technical Paper should be discussed during the October 2022 CMT meeting hosted by the FAA. The accepted IP, IP 204, on the removal of MRB and CMCC process coordination section from MSG-3 document would also be



relayed to the CMT meeting. The essence being CMCC would disposition SSA derived tasks as either aCMR or as a CCMR in the airworthiness limitation section, which is one of the options provided in EASA AMC 25-19. For future programs, if a CCMR is dispositioned either as CMR or CCMR in the airworthiness limitation section, aircraft certification and design approval holders should be publishing actual interval and limits. So in the future, there could be trade off on interval selection, which task do we do, the MRBR task/interval or the CMR or CCMR task/interval? But that is not a MSG-3 issue but an interval issue. Future discussions at the IMRBPB, or individual ISC meetings, may be on whether we can take credit for a CMR or a CCMR disposition in the airworthiness limitation section, and performing an MSG-3 derived task at the SSA derived interval, verses an MSG-3 derived interval. TCCA Operational Airworthiness would attempt to update the CMT on the IMRBPB work during the October 2022 CMT meeting such as IP 204.

A4A / (Kevin BERGER): Industry conducted a survey on CCMR of sustaining programs / sustainment problems and would suggest to share the results with TCCA for possible discussion in the upcoming CMT meeting.

32 Review of the proposed amendment to the Charter / Signing of revised Charter and IMPS

IMRBPB leadership confirmed no change is required on the Charter while IMPS would also be subject to revision in regard to the (outstanding) IPs: this task will be finalized by the IMRBPB Co-Chair.

33 Review of new action items

AI number	Raised on	AI content	AI assigned to
AI 2022-05	June 2022	IMRBPB Leadership and MPIG/RMPIG Leadership, by 2022 ILM Meeting, to discuss the preparatory work to form the MSG-4 Working Group.	IMRBPB Leadership MPIG/RMPIG Leadership
AI 2022-06	June 2022	With the removal of CMCC process from MSG-3 document, IMRBPB members and participants are kindly requested to document policy associated with their sustainment practices of legacy programs (even if they are different) regarding CCMR results realized under previous MSG-3 guidance. Each NAA is also requested to update industry routinely (e.g. quarterly) given the significant impact and confusion which currently exists for both OEMs and Operators.	IMRBPB Leadership MPIG/RMPIG Leadership



AI 2022-07	June 2022	IMRBPB Leadership, with the help of TCCA IMRBPB focal who would participate in the CMT meeting, (a) to include an agenda item in the 2023 IAM on the topic of CMCC interface with ISC, and (b) the development of an CIP on updating IMPS in regard to CMCC process.	IMRBPB Leadership
AI 2022-08	June 2022	FAA (Bill HELIKER) to update IMRBPB and MPIG/RMPIG on the development of the revision of FAA AC 121-22D and FAA AC 25-19.	FAA (Bill HELIKER)

34 Final Remarks

A4A / (Kevin BERGER): It is suggested that during the pre-meeting review of CIP, on those particular complex ones it would be worthwhile to provide some sort of orientation in the form of powerpoint presentation / executive summary in the pre-meeting as well as the formal meeting.

FAA / (Bill HELIKER): Agree to work more efficiently on the more complex CIP. Would further discussed on such between IMRBPB leadership and R/MPIG leadership. Under the communication procedures, the leadership teams meet a total of eight times (virtual online).

EASA / (Raffaele IOVINELLA): Agree to work more efficiently on complex CIP. With the re-introduction of face to face meeting, the situation may improve, a good example is IP 180 which is very complex and discussed efficiently with face to face meeting.

FAA / (John DUGAN): considered the challenges of a virtual online meeting, would take the opportunity to thank the IMRBPB / industry leadership teams on a productive meeting with targets met, great discussion on CIP / IP. Thank you everybody for attending and participating.

A4A / (Kevin BERGER): Being facilitating multiple industry meetings on a range of subjects, this IMRBPB forum is very unique where no other forum may have 10, or soon to be 11 regulatory authorities joining together to agree on important matters. This is very special and the entire IMRBPB / industry community should be complimented.

EASA / (Raffaele IOVINELLA): The entire IMRBPB / industry community is not only a great team working together very effectively and efficiently, it is sort of a unique community in the aviation world, a strong / united one who are willing to share. EASA would welcome everybody to join the Cologne meeting in May 2023.

HKCAD / (Jimmy LEUNG): This community has been working as a team and we will continue such in the future too.



MPIG / (William MERCIER): This is a very extraordinary opportunity to include many regulators and people from the industry. It is a very diverse team of people and opinions that are coming in here to be able to solve a lot of the issues that we do.

Leonardo Helicopters / (Giacomo GIBILISCO): This community participated all together trying always to come to the vast majority of consensus on topics that are not so easy and managed it in a harmonized way.

FAA / (Bill HELIKER): Thank you CAA UK for joining this meeting.

CAA UK / (Andrew SANDERSON): CAA UK management would be briefed on the running of this meeting. The meeting is informative and very professionally run.

FAA / (Bill HELIKER): Thank you Dr. Ravi Rajamani on the very important updates on IVHM development.

ANAC / (Fernando LACERDA): Appreciate everybody's participation in making this virtual online meeting fruitful, in particular colleagues from Australia and Asia who are attending in the very challenging hours of the day.

FAA / (Bill HELIKER): Thank you ANAC in hosting this meeting.

Appendix A - AHM Update

Appendix B - PPH Integration of IP-180

Appendix C - IP 180 Deployment on Airbus

Appendix D - SAE Update on ARP Development

Appendix E - Airlines' AHM Readiness / Considerations for IMRBPB

Appendix F - MPIG/RMPIG position on Regulatory CIPs

Appendix G - MSG-3 / MSG-4 Survey and Results

Appendix H - Use of IVHM Systems for Airworthiness Credits

---End---