

2016 IMRBPB Meeting Minutes

April 25–29, 2016

São José dos Campos, SP, Brazil, hosted by Brazil's National Civil Aviation Agency (ANAC)

1 Attachments

Attachment 1: Attendance List

Attachment 2: Meeting Agenda

Attachment 3: Summary of MPIG-IMRBPB WG discussion on Wear Damage Detection Task (CIP IND 2016-01)

2 Minutes

On the week of April 25 to April 29, 2016, the International Maintenance Review Board Policy Board (IMRBPB) members and guest civil aviation authorities were gathered in São José dos Campos, SP, Brazil, along with representatives from the aeronautical industry (**see Attendance List attached**), for a joint regulatory/industry discussion according to the **Meeting Agenda (see attachment)**.

2.1 Welcome and initial procedures

With apologies from the IMRBPB chairperson for not being able to attend to the meeting, the meeting was chaired by the IMRBPB co-chair, Mark Kieft, from EASA.

The chairperson opened the meeting and welcomed the participants.

Mr. César Hess, from ANAC, hosting authority, welcomed the participants, presented opening remarks and practical information.

There was a round of introductions in which each participant introduced his/herself.

With 7 of the 9 IMRBPB member authorities represented, the chairperson validated the minimum quorum required to hold the meeting.

After a review of the Meeting Agenda, one substitution was performed: the topic “The application of risk based principles in MSG3” was dropped from the agenda, and in place was added a discussion about Fatigue Damage (FD) assessment within MSG-3, related to the outcome of the MPIG structures working group that addressed this topic.

2.2 Discussions

Several of the topics under discussions were held in three different moments, as per the agenda: an initial discussion, a breakout discussion, and a final review. For ease of reference, the following paragraphs are organized not in chronological order; instead, they address, for each topic, all the discussions regarding that particular subject.

2.2.1 International MRB Process Standard (IMPS)

A review of the IMPS was presented.

Due to agenda constraints, discussions of the IMPS were restricted to those that might have affected the acceptance and publication of its initial revision.

2.2.1.1 Data packages and virtual meetings

The industry presented some initial considerations: we are bringing together the existing MRB processes from 9 authorities, but we also need to look to the future. One point of concern would be the need for an MRB report, as opposed to the approval of individual MRB data modules. If we can't amend that now, perhaps we could at least identify the paragraphs that would need to be amended. A second point would be the need to consider valid means of communicating other than meetings for the purposes of this process, e.g., an online chatroom.

IMRBPB highlighted it is not the intent of the document to limit either of these points and they would be taken to the breakout discussions for a possible solution, probably by adding a general statement.

After final review, IMPS Issue 00 paragraphs 3.9 and 5.17 address these two issues.

2.2.1.2 Wording (should versus shall/must); harmonized adoption of the IMPS

A comment was done regarding the general use of "should" as opposed to "shall" or "must", and the related concern is whether any of the member authorities would be able to conduct an incomplete process, but still consider it as compliant, because of the way the document is written.

In reply, it was pointed that the proposed wording is in line with the Advisory Circulars (AC) wording, which are not mandatory, but with which full compliance is expected.

For the IMPS, though, it would be important that the Validating Authority (VA) be sure that the applicant will follow all that is expected, and that the Certifying Authority (CA) would try to enforce that. Maybe a statement such as those in the ACs, that when the applicant decides to adopt them, they should be adopted in full.

A reminder was added that paragraph 13 of the revised (proposed) IMRBPB Charter addresses the commitment to adopt the IMPS among the IMRBPB members.

On the other side of the discussion, the possibility was raised that one authority might want to consider additional requirements than those of the IMPS (e.g. external lighting requirements). Industry expressed concerns with this approach, saying this would go against this effort for harmonization.

In the end, the group agreed that wording issues should be clear, but they need to be addressed in the long term rather than during this meeting, due to agenda constraints.

2.2.1.3 MRB/MTB applicability

When discussing the MRB/MTB applicability criteria, a question was raised regarding the lack of a passengers constraint for the transport category airplane, under the argument that, on the risk based approach, passengers would matter more than weight.

It was pointed that the current definition would be more in line with a paragraph under the "MTB requirements" section, that mentions that "Large aircraft designed in accordance with a Transport Category Design Standard should normally use a MRB."

A point was raised regarding special cases where there would be no operators or special mission types (some business jets or Airbus's Beluga, for example). Despite the size and weight of the aircraft, an MTB-like process might be acceptable.

The group agreed that applicability should be addressed for these special cases, though the solution remains as an open issue for the next IMPS revision.

2.2.1.4 MTB Requirements (Manufacturer Recommendations)

A suggestion was made to remove the reference to the intent of publishing the maintenance requirements as manufacturer recommendations from the conditions leading to an MTB process, under the argument that an MTB process requires an approval signature, which is not normally required for manufacturer recommendations.

A manufacturer disagreed, saying they would like the option to use the MSG-3 methodology in order to develop Manufacturer Recommendations.

It was clarified that MSG-3 is a tool, and the use of MSG-3 doesn't make the process an MTB. If the manufacturer applies for an MTB process, in the end they are publishing an MTB Report, not Manufacturer Recommendations. Clarification followed that an MTB process can be followed voluntarily, but publishing manufacturer recommendations is not a condition for an MTB process.

As agreement was reached, the reference was removed as per suggestion.

Revised text is now paragraph 6.1.1 of IMPS Issue 00.

2.2.1.5 Wording (MRB Members x MRB Advisors x WG Advisors x Consultants)

A request was made as for consistency in use and definition of terms such as: "MRB members", "MRB Advisors", "WG Advisors", "Consultants"...

A general action was taken to come back during next revision of the IMPS document for a proposal on how this will be addressed.

2.2.1.6 WG Organizational Rules (Maintenance Organizations)

Under the recommendation that a minimum of three operators (or their representatives) should support each WG meeting, a suggestion was made to add "Maintenance Organizations" also. It was clarified, though, that the intent is that only those MROs that would be appointed by an operator as their representatives should be accounted for, and this is properly covered in the current text.

2.2.1.7 PPH Rules (ISC approval prior to MRB review)

A request was made for adding clarification that PPH should not be forwarded to the MRB for review and acceptance prior to it being properly dealt with (approved) at the ISC level.

Revised text is now paragraph 4.5.3 of IMPS Issue 00.

2.2.1.8 Record keeping and Historical Files

There was a discussion regarding what goes in the historical files, and whose responsibility they are. Authorities should have the MSG-3 dossiers for approval of the MRBR, but should they maintain the MSG-3 dossiers for the life of the aircraft? Are the historical files keeping a TCH responsibility?

Authorities record keeping are governed by national regulations, should not be addressed at the IMPS level. Former paragraph 4.7 of the IMPS was deleted.

Agreement was reached that historical files of the MRB process need to be kept, and that currently the TCH are the ones doing it.

After discussions, the IMPS Issue 00 text references the TCH historical files in paragraph 9.3, under the section “9.0 The Periodic Review”.

2.2.1.9 STC Organization performing MTB

A question was raised whether an STC organization should be added to the MTB section, whether they should be able to apply an MTB process when the original design would have followed an MRB process, and considering the fact that they cannot apply an MRB process as they are not an OEM.

It was clarified that the STC is a separate process from the TC, that it has its own approval process and its own sets of ICAs.

Decision was to keep as originally proposed, no “STC organization” added to the MTB section.

2.2.1.10 Validating Authority / Guest Authority

There was a debate as to whether the Validating Authority (VA) should be defined as the one validating the design, or as the one validating the MRB process. There was a split understanding about this among the attendants. Either would be acceptable as long as the definition is clear.

There was also debate as to whether the VA necessarily signs the MRBR or not.

It became clear in the discussion that VA are approving authorities whether or not they choose to sign the MRBR, and that Guest NAA are not part of the MRBR approval. VA choice to sign the MRBR should follow agreement between CA and VA.

After discussion, VA was defined in IMPS Issue 00 as “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.”

Paragraph 10.3 of IMPS Issue 00 addresses the VA definition of their level of involvement: “The VA focal person will determine the VA initial and ongoing level of involvement, and communicate their needs to the MRB Chairperson. These needs will be agreed to by the letter of confirmation.”

Guest authorities are referenced in paragraph 3.8 of IMPS Issue 00: “A guest NAA is normally neither a CA nor a VA but could be representing a country who is, or may become, an operator of the aircraft. See Section 10 for further details.”

Letter of confirmation examples (Figure 5 of IMPS Issue 00) were revised to address the understanding that VAs approve the MRBR, whether they sign it or not, and Guest NAAs do not participate in the approval of the MRBR.

2.2.1.11 Invitation letter recipients

There was a discussion regarding which authorities would the invitation letter be sent to. Should it be sent to all IMRBPB members? Should it be sent also to non-member authorities from an expected state of registration of that particular program? Should the CA and/or the TCH decide which authorities to invite?

There was also discussion as to whether the letter template/example would be necessary.

After discussion, the template was removed from the IMPS document as it was considered too formal and unnecessary.

With regards to the invitation recipients, it was agreed that paragraphs that are now numbered 4.2.1 and 10.2 in IMPS Issue 00 are sufficiently clear that this definition is a coordinated action between the MRB chair and the TCH/OEM.

2.2.1.12 WG Chair

It was raised that in some cases the WG chair is a person from the manufacturer rather than from the operator. MPIG mentioned that the majority of OEMs have their ISC chaired by operators, and the WG chaired by the TCH.

Authorities would prefer to have an operator chairing the WG, to preserve the “3-legged stool philosophy”, since the chairmanship provides some necessary influence to the process. However, authorities also agreed that, in some cases, having a chair from the TCH would not be objectionable.

Paragraph 4.4.2 of IMPS Issue 00 properly conveys this idea.

2.2.1.13 IMPS and Issue Papers Retroactivity

Some non-retroactive IMRBPB issue papers are reflected in the IMPS (e.g. IP 154). There is a concern whether the IMPS would make these retroactive or not.

A suggestion was made to mention, in the IMPS text, that a particular paragraph would not be retroactive. This, in the other hand, would imply that every other paragraph would be retroactive.

As part of the solution to this, IP 161, which proposes IMRBPB acceptance of the IMPS document, brings the retroactive statement as “Retroactivity is as defined in the existing IPs”.

Complementing that, there is already an action for the IMRBPB to define the new CIP/IP process, and this should also address the IPs lifecycle and retroactivity.

2.2.1.14 Other changes to the IMPS document

Other changes were performed to the IMPS document, with no recorded relevant discussion. Those changes are either cosmetic, minor or self-explanatory.

Additional changes were performed as a result from the CIP discussions, and are documented in the appropriate CIP.

Final document recorded as IMPS Issue 00 and submitted to IMRBPB Members for signing.

2.2.2 CIP ANAC-2015-01 – Sampling Programs Purpose

After CIP presentation, there was agreement with the concept, but the actual proposed text was missing.

There was discussion as to whether the proposal should actually affect the IMPS document (as initially proposed) or the MSG-3. There were also concerns with that proposal could limiting some of the structural analyses procedures for which a sampling might be considered acceptable (e.g. a corrosion samplings, where no corrosion at all is expected, a lower interval would be published until confirmed by a properly designed sampling program that the areas actually have no corrosion, as initially expected).

After the breakout meetings, a revised proposal was presented, applicable the MSG-3 instead of the IMPS as initially proposed, also limiting the CIP scope to the Systems and Powerplant analysis procedure. Should the need still exist to address sampling programs related to structures analysis procedure, a new CIP would have to be proposed.

Since the revised CIP text now affects the MSG-3, Industry requested that this CIP should be subjected to a broader MPIG/RMPIG evaluation, including the non-present members.

Since discussion of the CIP in the Joint IMRBPB 2017 meeting would still occur in time for the decision to be adopted in the MSG-3 2017 revision, the request was accepted.

CIP Status: ON HOLD

2.2.3 CIP TCCA-2016-01 – International MRB/MTB Process Standard (IMPS)

After CIP presentation, there was a question from the Industry regarding whether the TCH would be expected to comply with the IMPS, or whether they should wait until the regulator adopts the IMPS.

That will depend on how the National Authority will implement the IMPS in their regulation. They could go from creating their own AC based on the IMPS text, or they could simply say that they will follow the IMPS at the latest version as soon as it is released, for example.

Industry highlighted that this is a big concern, but understand the solution would not to be provided in this CIP.

There were comments regarding retroactivity. Intent is that the IMPS would not be retroactive, but some of the paragraphs might be. Decision was to make the IMPS paragraphs retroactivity linked to the retroactivity of the IP implemented by that paragraph.

CIP Status: APPROVED as revised, published as IP 161

2.2.4 CIP EASA-2016-01 – Power-up Built-In Tests (PBITs)

After CIP presentation, industry presented a concern with the example linking to an approved section of the AFM requiring the aircraft to be depowered, arguing that there must be an alternative way for the TCH to prove that an operator will depower the aircraft in a timely manner. There are assumptions that the system would be depowered at least every 1,000 FH, for example, that can be considered acceptable for System Safety Assessments during certification process, even though these “depowering requirements” are not published in the AFM. If this type of assumption can’t be considered sufficient for the MRB process, there might be a lot of unnecessary MRBR tasks.

There was the suggestion to revise the notes to clarify that any assumption that the aircraft would be depowered at a particular frequency should be formalised in the MRB Report Program/Operating rules.

After discussions, the group agreed to remove the example mentioning the AFM, and the notes were revised.

CIP Status: APPROVED as revised, published as IP 156

2.2.5 CIP EASA-2016-02 – MRBR Temporary Revisions Policy

After CIP presentation, industry raised the issue that in some states, ICAs are required to be published before a modification goes into service, and normally a TR is the means to achieve that.

Industry highlighted the need for harmonization among all regulatory authorities, that all OEMs would follow the same policy when issuing a TR.

Regarding the need to publish the ICAs prior to entry into service of a modification, IMRBPB questioned what would be the issue with publishing a full MRBR revision instead of a TR when the complete MRB process would have been followed (WG, ISC...), since meetings can be quickly setup (virtually if necessary) and MRBR easily published.

It was explained that the issue would be the impact on the operators, considering a deep review is normally performed by the operator every time a full MRBR revision is out. This was challenged by the statement that the same data that goes in the TR is the data that goes in the MRBR revision, this would not justify a higher impact.

After some discussion, it became evident that there are two usual types of TR:

- Those that are urgent, addressing safety or significant operational/economic impacts to the operating fleet, that should be evaluated and published expeditiously and do not follow the complete MRB process, normally with a restricted forum involving only the ISC and MRB chairpersons. These TRs would trigger a priority/expeditious analysis and approval process among the approving authorities.
- Those that are non-urgent, that follow the complete process (WG meeting, ISC meeting) and still involve the complete forum. Though these TRs are also expected to be analyzed/approved expeditiously, these should not trigger a priority/expeditious analysis process among the approving authorities.

As the CIP intent is to make sure the priority analysis/approval process is only applicable to urgent TRs, but the current proposal makes no distinction regarding both types of TRs, the CIP will be withdrawn and revised before being re-submitted.

CIP Status: Temporarily WITHDRAWN

2.2.6 CIP EASA-2016-03 – MRBR Annual Review

After CIP was presented, some suggestions were made to the text.

There was a question about the VA involvement in the periodic review. It was clarified that this would be in accordance with the procedures established in the letter of confirmation.

There was a suggestion to add “MMEL revision and impact to MRBR” to the list of inputs that should be considered for review. After discussion it was decided to keep only AFM/RFM and not to add the MMEL, since the risk would be lower, as it would apply to non-safety tasks (distinction between FEC 7 and 6), whereas AFM/RFM reviews potentially affect dormancies and may potentially generate FEC 8s. The amount of effort applied in systematically reviewing MMEL changes may not be justified, considering the low risk.

After revisions to the text, CIP was approved.

CIP Status: APPROVED as revised, published as IP 160

2.2.7 CIP EASA-2016-04 – Description of Scheduled and Non-scheduled maintenance

After CIP was presented, some suggestions to the text were made.

After revisions to the text, CIP was approved.

CIP Status: APPROVED as revised, published as IP 158

2.2.8 CIP IND 2015-08 – Use of the Term “Critical Protection” in LHIRF MSG-3 Guidelines

After CIP was presented, some were proposed to the text.

After revisions to the text, CIP was approved.

CIP Status: APPROVED as revised, published as IP 157

2.2.9 CIP IND 2015-10 – ‘Maintenance functions’ definition

After CIP was presented, there was a question as to why the need for analysis would be restricted to those with safety or operational impact, disregarding those with economic impact. The reply was that if this would be the case, all items would likely have an economic impact and thus would have to be analyzed as an MSI.

A possible conflict with IP 104 was identified. Justification is that maintenance functions were not clearly defined in IP 104, there are maintenance functions today that are not even being identified as such. This proposed CIP was intended to supplement IP 104.

During the final review, the IMRBPB conveyed its position that all four of the MSI-defining questions, including the one regarding significant economic impact, should be asked for all items.

There was an inconclusive debate about the definition of “maintenance function” and as to whether these functions should be treated differently. A comment was raised that it was not the intention of IP 104 to create a separate list of functions called maintenance functions; but rather to ensure all functions should be analyzed as an MSI.

If there would be functions that should be treated differently, and not considered in the complete analysis, there might be a benefit in defining these functions.

An action (AI 16/01) was raised to the IMRBPB to agree upon a definition of maintenance function and provide a consolidated position, consider whether there should be a separate definition and what it should be. Discuss the way forward on this and provide feedback to the MPIG.

MPIG will go back, look at the definition as agreed by the IMRBPB, and look at how that maintenance function should be addressed in the MSG-3, not disregarding, though, any of the 4 MSI-defining questions.

CIP Status: ON HOLD

2.2.10 CIP IND-2016-01 – Wear Damage Detection Task

After the CIP was presented, there were concerns about a possible ambiguity generated in the analyses.

Concerns were presented about the introduction of “measuring tool” to the SDI definition, that could lead systems working groups to select an SDI instead of a FNC whenever a measurement would be required.

The possibility of transferring tasks from structures to systems was suggested, so that all wear measurements would be classified as FNC.

After discussions, a mini-Working Group was conveyed with representatives from industry and regulators to debate this issue, see Attachment 3 for a summary of the discussion.

After the results from the mini-Working Group were presented, the CIP was withdrawn.

CIP Status: WITHDRAWN

2.2.11 CIP IND-2016-02 – MSG-3 training to support maintenance program optimization

After CIP was presented, IMRBPB conveyed its position supporting the intent of the CIP, considering that MSG-3 knowledge is very beneficial for the operator in managing his own program, but the board considers that the proposal goes beyond the scope of the MSG-3 document.

Also, some states have their own requirements for the Reliability Program for operators, and adding these training requirements to the MSG-3 document might generate a conflict.

A4A proposed to address the intent of the CIP by adding a similar statement to ATA Spec 104 (Guidelines for Aircraft Maintenance Training).

CIP Status: REJECTED

2.2.12 CIP RIND-2015-01 – Systems and Powerplant Analysis Flowchart Figure 2-3.1-Clarification

After CIP was presented, suggestions were made for the proposed flowchart.

A revised proposal was presented and accepted.

CIP Status: APPROVED as revised, published as IP 159

2.2.13 MRB Report Approval Page

There was a dedicated discussion about the possibility of including an example of MRBR approval page in the IMPS.

Paragraph 4.6.8 of IMPS Issue 00 implies that each signing authority should provide their own approval letter.

After discussion, the group decided not to add an example/template.

2.2.14 IP Life Cycle, disposition of IP 48 and IP 72

Considering that the IMPS is changing the context of IP 48 and IP 72 there was a discussion related as to whether these IPs should be revised or updated somehow. A more general discussion followed as to how the IPs will be managed after the introduction of the IMPS.

The idea of having IPs classified as “active” and “archived”, and that IPs would remain “active” until they would be implemented either in the IMPS or in MSG-3. From then on they would be “archived”. The question on how to handle IPs that implement no change to either document was raised.

The benefit of still being able to reference archived IPs was highlighted, since most IPs contain valuable information on the discussions that do not appear as they are implemented either in the IMPS or MSG-3.

A suggestion was made for when an IP is archived, that it should be dispositioned with a statement such as “Incorporated in MSG-3/IMPS revision 20XX”, for traceability.

AI 15/01, which relates to IP management procedures, should take these considerations into account.

2.2.15 Fatigue Damage in MSG-3

As an addition to the agenda, there was a discussion about the treatment of Fatigue Damage in MSG-3, related to the MPIG Structural WG outcome.

After presentation and discussion, the board presented its position that FD is in MSG-3 for a reason. The board also understand that the certification already handles the PSEs, therefore MSG-3 FD assessment may not be done on PSE SSIs, and the board agrees that such a change to MSG-3 could be accepted. However, non-PSE SSIs, as well as the non-PSE portions of SSIs that contain PSE(s), for the purposes of MSG-3, may still not be properly addressed by certification. The proposal as it was presented to remove FD assessments from MSG-3 was not accepted.

It was clarified that the design office, the engineering, can provide data to justify that a task is not needed for a particular SSI, and that this counts as an evaluation. What is not accepted is that nothing is done.

MPIG acknowledged receiving the feedback. Highlighted that there needs to be a step forward, the MPIG Structural WG will be asked to develop a CIP based on their original proposal. MPIG also intends to recommend the introduction of some sort of rating tables. Concern with rating tables is that they will need to be performed by the WG. Engineering analysis needs to remain as an option.

2.2.16 EASA presentation on MRBIE – MRB Industry and EASA

There was an informative presentation from EASA about the MRBIE program, related to DOA privileges to perform parts of the MRB process with reduced involvement/participation from the authorities and the operators.

There were questions about how this approach will be coordinated internationally (since most of the MRB process involve 3 authorities). It was acknowledged that this still needs some work, will need to be agreed and accepted internationally, and it will require BASAs and probably additional instruments so it works. It was highlighted that this option would have to be available to all manufacturers around the world. Until this system is internationally agreed, the OEM will apply normally to EASA and contact validating authorities and operators proposing how the work will be conducted; it will be up to the validating authorities and operators to decide whether they will agree with the proposal.

A concern from the operators was expressed about the manufacturer having a larger weight in voting decisions, as they may “represent” the regulator in some situations, which might affect the decisions taken.

There was also a concern from manufacturers about, in the future, having to have a DOA (or equivalent) in all authorities. It was clarified that this is not the intention, that it is expected that the BASAs will allow for each country to rely on each other's design systems.

Other questions and clarifications on the MRBIE were provided.

2.2.17 Review of IMRBPB Charter

The IMRBPB Charter, as revised and signed by the IMRBPB members during the breakout meeting, was presented to the group. Refer to the IMRBPB website.

2.2.18 Review of IP procedure and CIP template

A proposal was not presented in this meeting, since the IMPS was still under development. With the IMPS in place, there is now some basis to work on.

MPIG made a request for a more efficient method of developing CIPs from the industry, perhaps considering the participation of regulatory authorities. IMRBPB acknowledges the need for more efficient methods, as well as a method for approving minor changes to IPs.

The discussions will continue as part of action item AI 15/01.

2.2.19 Action Items Review

The following Action Items were reviewed:

- AI 13/01 (not in the Agenda)
- AI 13/03
- AI 13/06
- AI 13/10
- AI 13/11
- AI 14/01
- AI 15/01

AI 13/02 was in the agenda, but not reviewed, since it is already closed.

After review, the action items list was updated. The remaining open action items are:

- 13/06
- 15/01
- 16/01 (new)

For details, refer to the Action Items list on the IMRBPB website.

2.3 Final procedures

After covering the agenda items, final thanks and considerations were presented by Mark Kieft, as the acting chairperson, representing the IMRBPB, Fernando Lacerda, representing the hosting authority, Marco de Macedo, representing the RMPIG, and Tony Harbottle, representing the MPIG.

MEETING ADJOURNED