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Rotorcraft Maintenance Programs Industry Group (RMPIG) update

International MRB Policy Board Meeting

May 8th, 2023
IMRB PB, Cologne

Overview

- » **Current leadership:**

- » Chair: Elodie Carmona (Airbus Helicopters)
- » Vice-Chair: Giacomo Gibilisco (Leonardo)
- » Vice-Chair depute: Jeremy Burgess (Bell)
- » Secretary: Gordon Bruce (Fokker) New

- » **RMPIG Action Items:**

- » No currently OPEN Action Items



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Latest Meeting and Activities Summary

» Participation since last IMRB PB

» Dedicated RMPiG monthly WebEx meetings held since last IMRBPB Intermediate Meeting (IIM Dec-2021):

» Sept 9, 2022

» Oct 26, 2022

» Nov 9, 2022

» Dec 2, 2022

» Jan 11, 2023

» March 29, 2023

» April 26, 2023



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- » **CIP IND 2020-02 HUMS Usage Data to Increase Restoration (Overhaul) & Discard Intervals**
 - » **RMPIG elaborated CIPs on initiative of David L. Green based on Power Train Inspection Intervals Paper**
 - » CIP IND-2020-02 received comments in IMM Dec 2022
 - » (S-UM) Scheduled usage monitoring term was not defined in Glossary
 - » Avoid another definition unless necessary respect to current HUMS
 - » Clarify that RS task is intended to be substituted by HUMS verification task
 - » CIP IND 2020-03 & CIP IND 2020-04 have been withdrawn and incorporated in CIP IND 2020-02 being on the same topic.
 - » Details about method applied on drive system components originating CIP proposal is now available as SAE AIR6334



- » **CIP IND 2020-02 HUMS Usage Data to Increase Restoration (Overhaul) & Discard Intervals**
RMPIG moved from comments in this direction
 - » Simplify the problem focusing on HUMS parameter use in task interval selection for discard and overhaul.
 - » Go back to only one CIP with the following modifications:
 - » Removed addition S-UM definition from CIP
 - » § 2-3-2 Analysis procedure: clarified HUMS use for intervals (not task) revisions taken from IND CIP 2020-03
 - » § 2-3-8-2 Source of information: expanded bullets about Customer requirements including HFDM (from CIP 2020-04) and bullet on HUMS usage data from service experience (from CIP 2020-03)
 - » §2-3-8-4 Task Interval Selection Criteria: expanded guidance allowing HUMS data to be used for interval selection for Discard/Restoration tasks (power train assemblies given as an example in brackets)



» **CIP IND 2020-02 HUMS Usage Data to Increase Restoration (Overhaul) & Discard Intervals**
RMPIG moved from comments in this direction

» Comments on the CIP during last IRMB PB

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.

» RMPIG set up a specific session with EASA which resulted with a rework of the problem statement description. No change on recommendations



» **CIP IND 2020-02 HUMS Usage Data to Increase Restoration (Overhaul) & Discard Intervals**
RMPIG moved from comments in this direction

» Comments on the CIP during last IRMB PB

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.

» RMPIG agree with the fact that MSG-3 is not restricting nor limiting the usage of parameters. Nevertheless, the intent of the CIP is to give more guidance on the usage of HUMS related parameters as source for restoration/discard interval, based on rotorcraft industry use case (SAE AIR6334)



RMPIG CIP IND-2022-03 Periodic review : in-service issues timely assessment

» CIP IND 2022-03 Periodic review : in-service issues timely assessment

» Scope anticipated in IMRBPB 2022

- Periodic review agenda in IMPS par 9.0 requires to consider “*Non-MSG3 derived requirements (e.g. Inspection Service Bulletin) for their potential impact on MSG3 analyses*” and “*In-service main Issues and potential impact on MRBR*”.
- Those situations are managed by TCH/STCHs with the timely issue of bulletins in the frame of the fleet continuous airworthiness surveillance process.

The importance of the above inputs is clear towards their impact to the MSG-3 analysis but can be better specified with respect to the adequate timing when such impact should be considered.



RMPIG CIP IND-2022-03 Periodic review : in-service issues timely assessment

» CIP IND 2022-03 Periodic review : in-service issues timely assessment

» Problem of CIP

- Example of cases where an early update of the MRBR would not be efficient without any effect on jeopardizing the continues airworthiness.

» Proposal of CIP

- It is suggested to clarify that the above bullets of the IMPS periodic review agenda have to be considered in the frame of the ISC periodic agenda with the intent of reassessing the MSG-3 analysis and (eventually) MRBR only once a terminating action is identified and in agreement with NAA responsible office for CA.



RMPIG CIP IND-2022-03 Periodic review : in-service issues timely assessment

» CIP IND 2022-03 Periodic review : in-service issues timely assessment

» Recommendation

Recommendation (including Implementation):

1) In section 9 **Periodic Review**, sub-section 9.2 add the following sentence at the end of the section:

- ...
- New retroactive airworthiness requirements
- Review of MWGs results
- ...

For those inputs pertaining to in-service issues the update of MSG-3 Analysis should wait until the associated investigation has come to a conclusion, as to its impact towards MSG-3 analysis.



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Rotorcraft Maintenance Programs Industry Group (RMPIG) update Back-up

International MRB Policy Board Meeting

RMPIG position on IP170/IP180

- » **Development of IP170 HUMS for credit**

- » **IP170 implementation current status :**

- » Still no use case of application with a HUMS certified for credit.
 - » Implemented in PPH
 - » Limited benefit for additional analysis complexity and administrative burden related to IP180 is foreseen being most of the failure causes potentially monitored related only to FEC 5 or 8 (currently out of scope of IP180).
 - » Further complexity in future application “HUMS for credit” will be posed by the concept behind current EASA NPA 2022-03 *Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems.*

