



Issue Paper 44

IMRBPB Evolution / Optimization Criteria

Presented to: IMRBPB

By: IP 44 Working Group

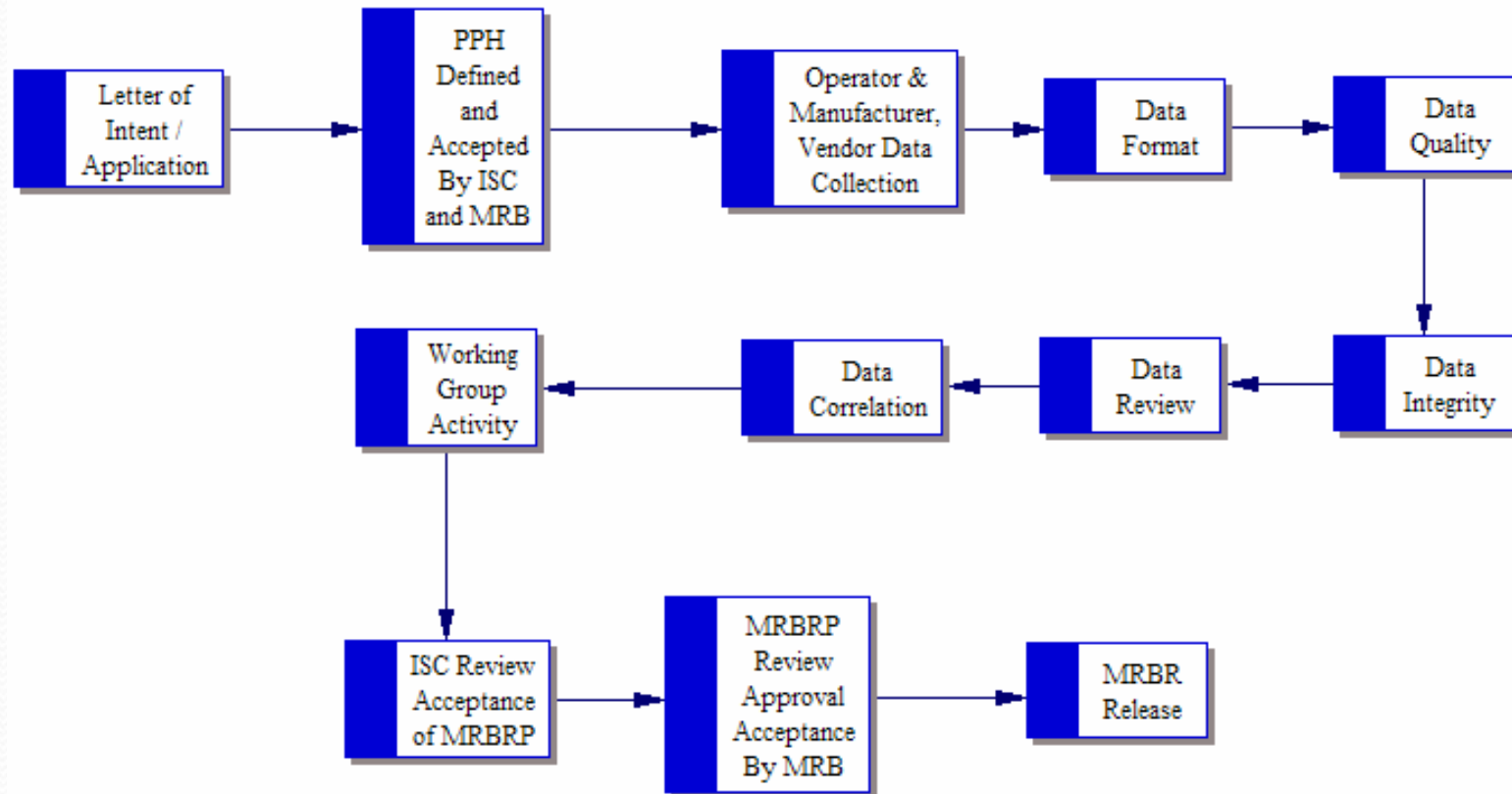
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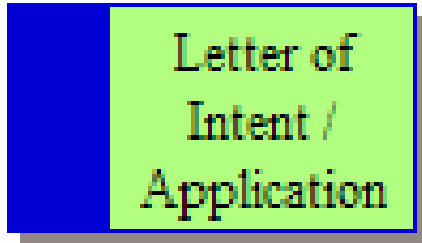
Introduction

- This document is intended for use by those Original Equipment Manufacturer/TC Holder (OEM/TCH) and Maintenance Review Board (MRB)/Industry Steering Committee (ISC) members who will be involved with the evolution/optimization of a current MRB Report (MRBR). It shall be applied for evolution / optimization activities where no letter of intent/application has been forwarded to the airworthiness authorities or for activities to be finalized after April 2009. The following framework is provided as guidance within which proposals to amend the MRBR shall be developed and assessed.
- While this guidance is not intended to be exhaustive it shall be utilized as the basis for a Policy and Procedures Handbook (PPH) procedure when the OEM/TCH, MRB, and ISC wish to proceed with evolution / optimization.

IP 44 Flow Chart

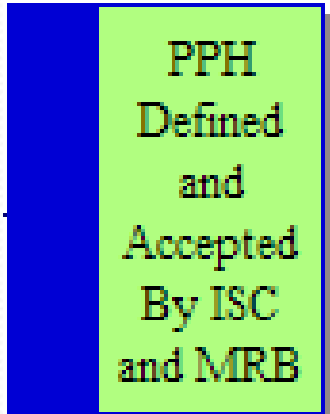


Letter of Intent / Application



- Regulatory Authorities are notified in writing of OEM/TCH Applicant intent to begin an evolution / optimization process.
- Communication is opened between regulatory authorities to define and obtain agreement on the evolution / optimization process.

PPH Defined and Acceptance



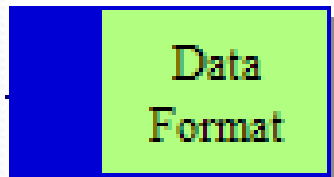
- OEM/TCH must meet the policy requirements defined by the regulatory authorities and shall define further details and procedure clarifications.
- Data Management (Evolution, Optimization) is a means to improve the program and does not focus on escalation. PPH revisions should be coordinated and approved by the ISC.
- Where “Incorporated By Reference” is used within the PPH, any changes to referenced documents must be updated in the PPH by document number and revision number.

Data Collection System



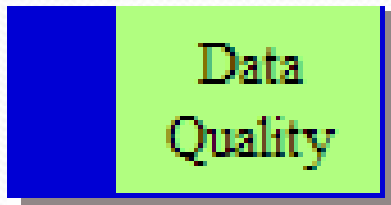
- The OEM/TCH system must include a data quality, data integrity, data quantity, audit system, and historical data tool as defined in the next steps.
- All data must be in a format that can be audited and traced to its original source.

Data Format



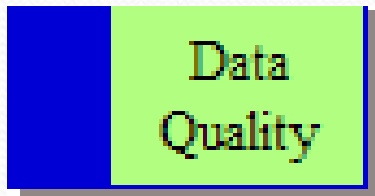
- As deemed acceptable by the regulatory authority to ensure data quality and the integrity of the data is maintained.
- The OEM/TCH shall provide clean data under a standardized format.

Data Quality



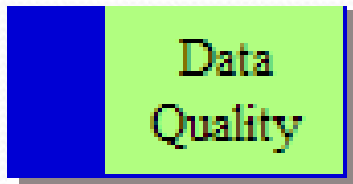
- Qualifying data shall contain as a minimum the following:
 - Aircraft Age
 - Geographical Representation
 - Number of Checks
 - Interval of Tasks findings applied
 - Shop Findings
 - Correct Mapping to the MRBR task. If applicable.
 - Failure effect category considerations

Data Quality Cont.



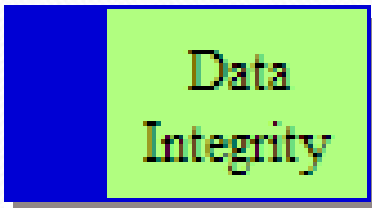
- Operational Representation
Flight Hour vs Cycles,
Calendar time
- Consecutive tasking
requirements
- Unscheduled maintenance
findings
- Scheduled maintenance
findings
- Unrelated significant
findings
- Four digit ATA code

Data Quality Cont.



- Modification Status (AD, SB, SL, AOM)
- Removals and failures
- Transfer of unrelated significant and related significant findings
- Serial Number of Aircraft

Data Integrity



- Data Validation - Description of data validation system / all factors have been met for submitted data.
- Analysis Schedule
 - a. Evolution/Optimization timeline
 - b. Validation timeline to verify the Evolution/Optimization.
- Task Mapping - Maintenance events(scheduled and unscheduled) are to be mapped to MRBR tasks.

Data Integrity Cont.



- Statistical Analysis
 - A system to determine the scheduled maintenance performance of airplane systems and structures and to identify trends that fall outside normal parameters.

Data Integrity Cont.



- Engineering analysis
 - Engineering analysis will verify that findings are relevant to the scheduled task under evaluation. Non-routine write-ups will be evaluated to determine the significance or severity of findings.
 - PIREPs, non-routines, and component reliability reports will also be examined to account for line maintenance activities that may be relevant to the task under evaluation.

Data Integrity Cont.



- For all stages of the Evolution / Optimization activity, an OEM/TCH internal approval process is required.

Data Review



- OEM/TCH within the fleet sample used must reach the following regarding their data review:
- 95% Level of Confidence
- NOTE: Data Quantity shall be dictated by the required level of confidence.

Data Review Cont.



- The following criteria within the world fleet must be addressed by the statistical tool to demonstrate the required level of confidence.
- The OEM/TCH shall provide justification that the 95% level of confidence has been achieved on a task by task basis and is acceptable to the regulatory.

Data Review Cont.



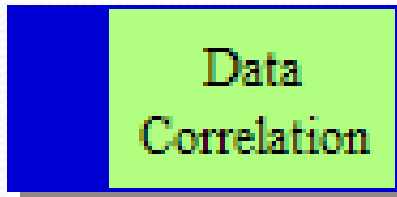
- On a task by task basis an appropriate distribution of the following criteria must be demonstrated:
 - Confidence Factor
 - Modification Status AD, SB, SL, AOM)
 - Aircraft Age
 - Geographical Representation

Data Review Cont.



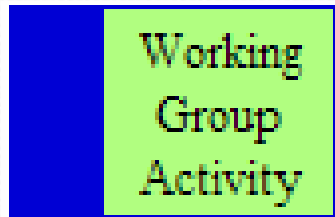
- Number of Checks
 - Interval of Tasks findings applied
 - Operational representations flight hour vs cycles, calendar time
 - Consecutive checks
-
- Applicant must demonstrate the availability of a route cause analysis tool.

Data Correlation



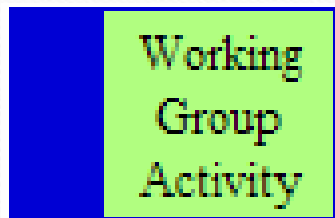
- MTBUR, MTBF, PIREPS, non-routines, technical follow-up on open technical issue.
- All pertinent data is to be correlated into a useable MSG-3 data package.

Work Group Activity



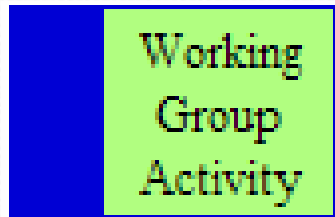
- Interval recommendation at the working group level to the ISC (Increase, decrease, remain the same, introduction of new task, or task deletion).
- Task deletion, addition, or modification requires a new/revised MSG-3 analysis.

Work Group Activity Cont.



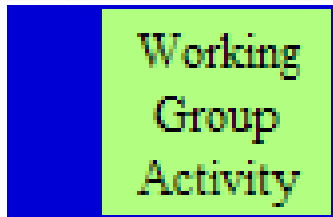
- Any decision together with justification shall be recorded and traceable in the associated MSG-3 analysis.
- Applicability and effectiveness criteria as specified in MSG-3 shall be followed.

Work Group Activity Cont.



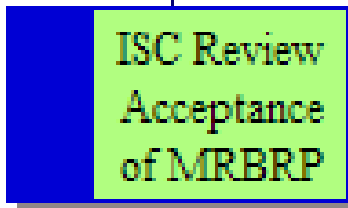
- Tasks to detect degradation should not exceed the expected Potential Failure to Failure interval.
- Consecutive checks shall be used to show failures are not occurring before the new initial interval.

Work Group Activity Cont.



- Interval determination is to be completed with a Maintenance Engineering Analysis which should be based on consideration of all the items list in the Quality and Quantity of Data.
- The process shall be referred or mentioned in the PPH for ISC approval and regulatory acceptance.

ISC Review Acceptance



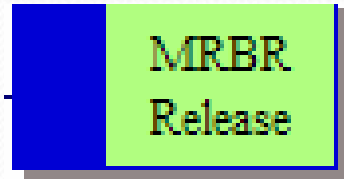
- ISC review/acceptance shall be accomplished as per normal ISC process.

MRBRP Review/Acceptance

MRBRP
Review
Approval
Acceptance
By MRB

- As per national regulatory authority.

MRBR Release



- MRBR released by OEM/TCH.

