International Maintenance Review Board Policy Board (IMRBPB)

Issue Paper (IP)

IP Number: CIP EASA 2020-01
Initial Date (DD/MMM/YYYY):01/JUL/2020
Revision / Date (DD/MMM/YYYY):
Effective Date (DD/MMM/YYYY):
Retroactivity (Y/N): N

Title:	**Identification of Failure Cause(s) – Clarification**
Submitter:	**EASA**

Applies To:	
MSG-3 Vol 1	X
MSG-3 Vol 2	X
IMPS	

Issue:

Unharmonized identification and description of Failure Cause(s) in the Systems analysis

Problem:

In order to comply with the Task Selection Criteria from Par 2-3-7.8, the failure causes have to be properly identified. Sometimes the identification of the LRU/Component responsible for the Functional Failure is not enough and details about the way the failure is caused needs to be specified. (example: valve closed/valve open, mechanical/electrical failure of a component, etc.)

Recommendation (including Implementation):

It is recommended to add one clarifying paragraph to the **Chapter 2-3-2. Analysis Procedure:**

Defining some functional failures may require a detailed understanding of the system and its design principles. For example, for system components having single element dual load path features, such as concentric tubes or back-to-back plates, the function of both paths should be analyzed individually. The degradation and/or failure of one path may not be evident.

Failure Causes should describe specifically why and how a function fails i.e. which component is causing the failure and by which behaviour (For Example: check valve stuck open, gland seal leaking, filter clogged, membrane ruptured) to aid in maintenance task and interval determination as well as for failure cause transfers among MSIs.

When listing functions, functional failures, failure effects, and failure causes, care should be taken to identify the functions of all protective devices. These include devices with the following functions:

a) to draw the attention of the operating crew to abnormal conditions

b) to shut down equipment in the event of a failure

c) to eliminate or relieve abnormal conditions which follow a failure

d) to take over from a function that has failed

Protective function statements should describe the protective function itself, and should also include the words "if" or "in the event of" followed by a brief description of the events or circumstances that would activate or require activation of the protection. For example, "To open the relief valve to atmosphere in the event of system X pressure exceeding 300 psi."

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IMRBPB Position:	
Date:	
Position:	
Recommendation for Implementation:	

Status of the Issue Paper:	X	Active
	X	Incorporated in MSG-3 / IMPS (with details)
	X	Archived