Title: Identification of Failure Cause(s) – Clarification

Submitter: EASA

**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 analysed 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."

...
**International Maintenance Review Board Policy Board (IMRBPB)**

**Issue Paper (IP)**

*IP Number: IP 190*

*Initial Date (DD/MMM/YYYY): 28/May/2021*

*Revision / Date (DD/MMM/YYYY): Rev. 0 / 28/May/2021*

*Effective Date (DD/MMM/YYYY): 27/Jul/2021*

*Retroactivity (Y/N): N*

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