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| Applies To: | |
| Vol 1: |  |
| Vol 2: |  |
| Both: | X |

**Title:** Clarification of MSG-3 Applicability & Effectiveness Criteria

**Submitter:** Airbus

**Issue:** The accuracy and adequacy of the Table 2-3-7.1 ‘Criteria for Task Selection’ has been challenged during MSG-3 training events. It has also been highlighted that clarification is desirable to address issues identified during Working Group discussions. Airbus has collated the various change proposals into a single CIP to allow discussion within MPIG to determine which ones may be appropriate for inclusion in a future revision.

**Problem:** The table does not clarify which Effectiveness criteria should be considered for each Failure Effect Category. Experience has shown that Operational considerations within FEC 9 are not always addressed. In addition to evaluation of consequences on aircraft operation it shall be recognised that even if these are assessed as ‘economic’ to the operator experiencing the double failure, it is necessary to assess wider implications since airport operation may be compromised as a result of, for example, an aborted t/o, the aircraft being stuck on the runway or a go-around.

There have been misunderstandings that the consideration of cost effectiveness for an FEC9 OPC/VC should be made with reference to the cost of the consequences of the double failure whereas it is equally important to consider the costs, if any, directly resulting from the latent failure, e.g. engine seal degradation leading to higher fuel consumption.

The text in the table does not provide guidance on what is meant by ‘cost effective’.

The Applicability criterion for an OPC/VCK is valid only for a hidden failure. The existing text ‘Identification of failure must be possible’ must be read in the context of a hidden failure.

The Effectiveness criteria for a Discard task distinguishes between a ‘safe life limit’ (Safety effectiveness) and an ‘economic life limit’ (Economic Effectiveness) but has no equivalent term to address Operational effectiveness. The use of the term ‘life limit’ has also led to confusion with life limited components that are subject to airworthiness limitations.

**Recommendation (including Implementation):**

See attached revision to Table 2-3-7.1 with additions shown in blue and deletions shown in red.

| **TASK** | **APPLICABILITY CRITERIA** | **EFFECTIVENESS CRITERIA** | | |
| --- | --- | --- | --- | --- |
| **SAFETY**  **~~EFFECTIVENESS~~**  **FEC 5 & 8** | **OPERATIONAL**  **~~EFFECTIVENESS~~**  **FEC 6 & 9** | **ECONOMIC**  **~~EFFECTIVENESS~~**  **FEC 7 & 9** |
|
| **LUBRICATION  OR**  **SERVICING** | The replenishment of the consumable must reduce the rate of functional deterioration. | The task must reduce the risk of failure to assure safe operation. | The task must reduce the risk of failure to an acceptable level. | The task must be cost effective, i.e., the cost of these repetitive tasks must be less than the cost of the failure effect prevented. |
| **OPERATIONAL CHECK  OR**  **VISUAL CHECK** | Identification of failure must be possible.  *Note: Not applicable for an evident failure.* | The task must ensure adequate availability of the hidden function to reduce the risk of a multiple failure.  *Note: Applicable to FEC 8 only. Not applicable to FEC 5* | ~~Not applicable~~  The task must ensure adequate availability of the hidden function in order to avoid operational effects of multiple failures. The task must reduce the risk of failure to an acceptable level.  *Note: Applicable to FEC 9 only. Not applicable to FEC 6.* | The task must ensure adequate availability of the hidden function in order to avoid economic effects of multiple failures and must be cost effective. i.e., the cost of these repetitive tasks must be less than the cost of the effect of the multiple failures prevented and the costs, if any, directly resulting from the latent failure.  *Note: Applicable to FEC 9 only. Not applicable to FEC 7.* |
| **INSPECTION**  **OR FUNCTIONAL CHECK** | Reduced resistance to failure must be detectable and there exists a reasonably consistent interval between a deterioration condition and functional failure. | The task must reduce the risk of failure to assure safe operation | The task must reduce the risk of failure to an acceptable level. | The task must be cost effective; i.e., the cost of ~~the task~~ these repetitive tasks must be less than the cost of the failure effect prevented. |
| **RESTORATION** | The item must show functional degradation characteristics at an identifiable age, and a large proportion of units must survive to that age. It must be possible to restore the item to a specific standard of failure resistance. | The task must reduce the risk of failure to assure safe operation | The task must reduce the risk of failure to an acceptable level. | The task must be cost effective; i.e., the cost of ~~the task~~ these repetitive tasks must be less than the cost of the failure effect prevented. |
| **DISCARD** | The item must show functional degradation characteristics at an identifiable age and a large proportion of units must survive to that age. | The ~~safe life limit~~ task must reduce the risk of failure to assure safe operation. | The task must reduce the risk of failure to an acceptable level. | ~~An economic life limit~~The task must be cost effective; i.e., the cost of ~~the task~~ these repetitive tasks must be less than the cost of the failure effect prevented. |

**Table 2-3-7.1. Criteria for Task Selection**

**IMRBPB Position:**

**Date:**

**Position:**

**Status of Issue Paper (when closed state the closure date):**

**Recommendation for implementation:**

**Important Note:** The IMRBPB positions are not policy. Positions become policy only when the policy is issued formally by the appropriate National Aviation Authority.