

# International Maintenance Review Board Policy Board (IMRBPB)

## Issue Paper (IP)

**IP Number:** IP 195

**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

<b>Title:</b>	Deletion of duplicated information in Task Development (Second Level) section
<b>Submitter:</b>	MPIG

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

### Issue:

Duplicated information does not facilitate updates or usage of the document, and could potentially provide conflicting information.

However, as discussed during CIP review, some duplicated information could be considered necessary for MSG-3 understanding.

### Problem:

The task selection criteria section of the document provides information for applicability and effectiveness criteria, which could be considered necessary even if duplicated within MSG-3 document.

The glossary, not only applicable to “Systems/Powerplant” section, provides the definition of the task types, thus this duplicated information is unnecessary.

### Recommendation (including Implementation):

It is proposed to update MSG-3 as follow:

#### 2-3-7. Task Development (Second Level)

Task development is handled in a similar manner for each of the five Effect categories. For task determination, it is necessary to apply the failure causes for the functional failure to the second level of the logic diagram. [Definition of Task types can be found at Appendix A. Glossary.](#)

There are seven possible task resultant questions in the Effect categories as follows

#### 1. Lubrication/Serviceing (All Categories)

**QUESTION 5A, 6A, 7A, 8A, 9A: IS A LUBRICATION OR SERVICING TASK APPLICABLE AND EFFECTIVE?**

~~Any act of Lubrication or Serviceing for the purpose of maintaining inherent design capabilities.~~

##### 1.1. Applicability Criteria

The replenishment of the consumable must reduce the rate of functional deterioration.

##### 1.2. Effectiveness Criteria - Safety

The task must reduce the risk of failure to assure safe operation.

##### 1.3. Effectiveness Criteria - Operational

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The task must reduce the risk of failure to an acceptable level.

### **1.4. Effectiveness Criteria - Economic**

The task must be cost-effective.

## **2. Operational Check (Hidden Functional Failure Categories Only)**

### **QUESTION 8B & 9B. IS AN OPERATIONAL OR VISUAL CHECK TO DETECT HIDDEN FAILURE APPLICABLE AND EFFECTIVE?**

~~An Operational Check is a task to determine that an item is fulfilling its intended purpose. The check does not require quantitative tolerances. This is a failure finding task.~~

#### **2.1. Applicability Criteria**

Confirmation that an item is fulfilling its intended purpose must be possible.

#### **2.2. Effectiveness Criteria - Safety**

The task must ensure adequate availability of the hidden function to reduce the risk of multiple failures.

#### **2.3. Effectiveness Criteria - Operational**

The task must ensure adequate availability of the hidden function in order to avoid operational effects of multiple failures.

#### **2.4. Effectiveness Criteria - Economic**

The task must ensure adequate availability of the hidden function in order to avoid economic effects of multiple failures and must be cost-effective.

## **3. Visual Check (Hidden Functional Failure Categories Only)**

### **QUESTION 8B & 9B. IS AN OPERATIONAL OR VISUAL CHECK TO DETECT HIDDEN FAILURE APPLICABLE AND EFFECTIVE?**

~~A Visual Check is an observation to determine that an item is in its intended state. The check does not require quantitative tolerances. This is a failure finding task with obvious pass/fail criteria.~~

NOTE: A Visual Check identified through application of Systems/Powerplant logic may not subsequently be considered as covered by a zonal inspection as described in paragraph 2-5-1(j) if it is derived from a Category 8 analysis. At the level of the originating document, such a task must be retained as a standalone Visual Check task within the MSI from which it was identified.

#### **3.1. Applicability Criteria**

Visual identification of pass / fail state must be possible.

#### **3.2. Effectiveness Criteria - Safety**

The task must confirm the state of a component which indicates that a function required for safe operation is available and reduces the risk of multiple failures.

#### **3.3. Effectiveness Criteria – Operational**

The task must confirm a state of a component which indicates availability of the hidden function in order to avoid operational effects of multiple failures.

#### **3.4. Effectiveness Criteria – Economic**

The task must confirm a state of a component which indicates availability of the hidden function in order to avoid economic effects of multiple failures and must be cost effective.

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### 4. Inspection/Functional Check (All Categories)

#### QUESTION 5B, 6B, 7B, 8C & 9C. IS AN INSPECTION OR FUNCTIONAL CHECK TO DETECT DEGRADATION OF FUNCTION APPLICABLE AND EFFECTIVE?

An Inspection can be a General Visual Inspection (GVI), Detailed Inspection (DET), Special Detailed Inspection (SDI). A Functional Check (FNC) can also be selected.

An Inspection is:

##### ~~A. GENERAL VISUAL INSPECTION (GVI)~~

~~A visual examination of an interior or exterior area, installation or assembly to detect obvious damage, failure or irregularity. This level of inspection is made from within touching distance, unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight or drop-light and may require removal or opening of access panels or doors. Stands, ladders or platforms may be required to gain proximity to the area being checked. Basic cleaning may be required to ensure appropriate visibility.~~

~~OR~~

##### ~~B. DETAILED INSPECTION (DET)~~

~~An intensive examination of a specific item, installation or assembly to detect damage, failure or irregularity. This could include tactile assessment in which a component or assembly can be checked for tightness/security. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors and magnifying lenses may be necessary. Surface cleaning and elaborate access procedures may be required.~~

~~OR~~

##### ~~C. SPECIAL DETAILED INSPECTION (SDI)~~

~~An examination of a specific item, installation, or assembly making use of specialized inspection techniques such as Non Destructive Testing (NDT) and/or equipment (e.g. boroscope, videoscope, tap test) to detect damage, failure or irregularity. Intricate cleaning and substantial access or disassembly procedure may be required. Classification of a task as an SDI does not define the required qualifications for the person performing the task.~~

**NOTE 1:** A GVI identified through application of Systems/Powerplant logic may not subsequently be considered as covered by a zonal inspection as described in paragraph 2-5-1(h) if it is derived from either a Category 5 or 8 analysis. At the level of the originating document, such a task must be retained as a standalone GVI task within the MSI from which it was identified.

**NOTE 2:** A Special Detailed Inspection identified through application of Systems/Powerplant logic can be used to detect wear damage within specified limits using a measuring tool.

~~A Functional Check is a quantitative check to determine if one or more functions of an item performs within specified limits.~~

#### 4.1. Applicability Criteria

Reduced resistance to failure must be detectable, and there exists a reasonably consistent interval between a deterioration condition and functional failure.

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**NOTE:** If the deterioration identified is of a structural nature (e.g. corrosion) the Structures Working Group could be consulted to help determine an applicable inspection task and interval in accordance with established transfer policies and procedures.

### **4.2. Effectiveness Criteria - Safety**

The task must reduce the risk of failure to assure safe operation.

### **4.3. Effectiveness Criteria - Operational**

The task must reduce the risk of failure to an acceptable level.

### **4.4. Effectiveness Criteria - Economic**

The task must be cost-effective.

## **5. Restoration (All Categories)**

### **QUESTION 5C, 6C, 7C, 8D, & 9D. IS A RESTORATION TASK TO REDUCE FAILURE RATE APPLICABLE AND EFFECTIVE?**

~~That work necessary to return the item to a specific standard.~~

Since Restoration may vary from cleaning or replacement of single parts up to a complete overhaul, the scope of each assigned restoration task has to be specified.

#### **5.1. Applicability Criteria**

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.

#### **5.2. Effectiveness Criteria - Safety**

The task must reduce the risk of failure to assure safe operation.

#### **5.3. Effectiveness Criteria - Operational**

The task must reduce the risk of failure to an acceptable level.

#### **5.4. Effectiveness Criteria - Economic**

The task must be cost-effective.

## **6. Discard (All Categories)**

### **QUESTION 5D, 6D, 7D, 8E, 9E IS A DISCARD TASK TO AVOID FAILURES OR TO REDUCE THE FAILURE RATE APPLICABLE AND EFFECTIVE?**

~~The removal from service of an item at a specified life limit.~~

Discard tasks are normally applied to so-called single celled parts such as cartridges, canisters, cylinders, engine disks, safe-life structural members, etc.

#### **6.1. Applicability Criteria**

The item must show functional degradation characteristics at an identifiable age and a large proportion of units must survive to that age.

#### **6.2. Effectiveness Criteria - Safety**

A task must reduce the risk of failure to assure safe operation.

#### **6.3. Effectiveness Criteria - Operational**

The task must reduce the risk of failure to an acceptable level.

#### **6.4. Effectiveness Criteria - Economic**

The task must be cost-effective.

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**7. Combination (Safety Categories Only)**

**QUESTION 5E, 8F. IS THERE A TASK OR COMBINATION OF TASKS APPLICABLE AND EFFECTIVE?**

Since this is a safety category question and a task is required, all possible avenues must be analyzed. To do this, a review of the task(s) that are applicable is necessary. From this review the most effective task(s) must be selected. If multiple tasks are selected these may only be consolidated in accordance with Para 2-3-7.9.

***NOTE: The original CIP proposal was submitted by Dassault-Aviation.***

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<b>IMRBPB Position:</b>	
<b>Date:</b>	28 May 2021
<b>Position:</b>	Agreed, closed in 2021 meeting as IP195
<b>Recommendation for Implementation:</b>	As per effective date

<b>Status of the Issue Paper:</b>	<input checked="" type="checkbox"/>	Active
	<input type="checkbox"/>	Incorporated in MSG-3 / IMPS (with details)
	<input type="checkbox"/>	Archived