International MRB Policy Board

Issue Paper (IP)

IP Number: CIP MPIG 2023-01
Initial Date: 30/01/2023
Revision / Date: R 02 / 13/Feb/2024
Effective Date (DD/MMM/YYYY):
Retroactivity (Y/N): N

Title:	Enhanced definition of General Visual Inspection (GVI) in the MSG-3 glossary
Submitter:	MPIG

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

Issue:

The use of remote power-controlled video, image capture devices (i.e., drones), handheld mechanically extended video and image capture devices (i.e., rod mounted small cameras, phones, borescopes, etc.) by manufacturers, operators, MROs and engineer/technicians has become prevalent in the industry. With many airlines and charter fleets operating multiple aircraft types by different manufacturers, the use of these devices to perform General Visual Inspection for scheduled and unscheduled maintenance has become routine. The ease of using these devices to perform GVI tasks especially after lightning strike events and the resulting economics savings has spurred operators to insist manufacturers now include this type of inspection procedural method in their maintenance manuals.
Moreover, the use of such devices at inspections for difficult to access areas may improve the safety of the maintenance operation due to reduction in human error probability, as well as reduction in inspection costs.

The advantages related to use of such technology, irrespective of the areas of inspection, are significant pertaining to:

1. reduction in accidental damage
2. reduction in risk to humans related to fall exposure
3. reduction in out of service time for maintenance
4. reduction in maintenance cost
5. capture of visual historical data
6. less intrusive maintenance, thus reduction in human error probability

Technology enables various methods of visual detection which can produce an equivalent or higher level of detection compared to a certified individual's human capabilities for GVI tasks.

Some regulatory materials do not relate visual inspections to different visual aids, but rather include the use of the visual aids in visual inspections. Example: FAA AC 43.13B states "*Visual inspection is the oldest and most common form of NDI for aircraft. [..] This inspection procedure may be greatly enhanced by the use of appropriate combinations of magnifying instruments, borescopes, light sources, video scanners, and other devices discussed in this AC.*"

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Problem:
The current definition to GVI in the MSG-3 document includes examples of means to enhance the inspection (such as light source and mirrors), and one may interpret that those quoted are the only ones that may be used for GVIs.

Recommendation (including Implementation):	
Update the GVI definition in the MSG-3 Glossary as follows:	
Inspection - General Visual (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. A visual inspection can be achieved by inspecting the subject area/component in-situ, or indirectly via a remote display (e.g., photography, video, optical lenses, etc., ensuring the entire inspection area is properly inspected).

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IMRBPB Position:	
Date:	
Position:	
Recommendation for Implementation:	

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