International Maintenance Review Board Policy Board (IMRBPB)
Issue Paper (IP)

Initial Date: 20/Feb/2015
IP Number: IP 151
Revision 0/ Date: 22/Apr/2015

Title: LHIRF structural protection identification within the MSG-3 analysis process

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

Submitter: A4A LHIRF WG Committee

Issue: There are no instructions on how to determine what Structural components need to be listed as LHSIs. MSG-3 guidelines are unclear whether structural protection components are inclusive of structure that protects underlying systems (indirect effects), lightning protection that provide protection against damage due to a lightning strike (direct effects), or both.

Problem: Lack of a definition or examples of LHIRF protected structural components that should be addressed in MSG-3 LHIRF analysis may result in analysis of components that are not necessary to meet the intent of MSG-3. For example, without clarification in MSG-3, the OEM engineering department may identify protection components as candidates for inclusion in LHSIs based on whether the component contains LHIRF protection rather than whether that protection is required to maintain the inherent safety or reliability of the aircraft.

Recommendation (including Implementation):

Delete current Glossary 'Lightning/HIRF Significant Item' definition:

~~L/HIRF components are determined to be significant if they protect critical systems and structure as determined by engineering. A Lightning/HIRF Significant Item (LHSI) consists of aircraft system or structural Lightning/HIRF protection components or group of components in an installed environment. Components that make up LHSIs are selected using engineering judgment based on the anticipated consequences of the protection component degradation.~~

~~The LHSI list includes the aircraft critical system or structural L/HIRF protection components (examples can be bonding jumpers, connectors, and structural panels with protection) provided by the OEM Design Engineering team and any additional protection components added by the MSG-3 analyst. The LHSI list is analyzed through the MSG-3 logic process to determine initial L/HIRF scheduled maintenance requirements.~~

Add revised definition to existing Glossary item:

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Lightning/HIRF Significant Item:

Lightning/HIRF Significant Items (LHSIs) address L/HIRF protection components that protect critical systems / structure as determined by the OEM Design Engineering specialists. The scope of each LHSI is defined by the MSG-3 analyst. LHSIs may also address operational or economic considerations determined significant by the MSG-3 analyst.

LHSIs will include all of these significant aircraft system or structural Lightning/HIRF protection components or groups of components in an installed environment. Components that make up LHSIs are selected using engineering judgement based on the anticipated consequences of the protection component degradation. Typical protection components may include bonding jumpers, connectors, and embedded mesh in structural panels.

NOTE:
All L/HIRF protection components that protect critical systems/ structures as defined by OEM Design Engineering must be addressed in an LHSI. Other L/HIRF protection components may be included by the MSG-3 analyst as desired and accepted by the ISC.

IMRBPB Position:
Date: April 22, 2015
Position:
Accepted with changes by the IMRBPB and closed as IP 151.

Status of Issue Paper (when closed state the closure date): April 22, 2015

Recommendation for implementation: Next revision of MSG-3.

Retroactive: NO

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