Title: Incorporate AC 25-27A (EWIS/EZAP) in ATA MSG-3 Document

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The ATA MSG-3 Zonal Analysis Procedure should be revised to reflect AC 25-27A and clarify the relationship between the “Standard” and “Enhanced” zonal analysis processes.

Problem:

1) Figure 2-5-1.1 addresses the “Standard” and “Enhanced” zonal analysis process flow. The “Enhanced” portion of the MSG-3 flow diagram is not consistent with the flow diagram in AC 25-27A Appendix A, Figure 1. In addition, changes are required to clarify the integration between the standard and enhanced portions of the flow diagram, and text and terminology should be revised for consistency with AC 25-27A, Appendix A, Figure 1.

2) Figure 2-5-1.2 addresses the “Wiring Inspection Task Determination” process flow. Terminology changes are required for consistency with AC 25-27A and changes to the flow logic are required to clarify the integration back to Figure 2-5-1.1.

3) Section 2-5 and 2-5.1 uses the terms “wiring” and “electrical wiring” instead of “EWIS”.

4) ATA MSG-3 Appendix A (Glossary) does not include a definition for “Enhanced Zonal Analysis Procedure (EZAP)” and “Inspection – General Visual (GVI) - Stand-Alone”, and the definition of “Electrical Wiring Interconnection Systems (EWIS)” should be revised for consistency with AC 25-27A.

Recommendation (including Implementation):

1) Revise ATA MSG-3 Figure 2-5-1.1 (red-line and publish-ready copies attached).

2) Revise Figure 2-5-1.2 (red-line and publish-ready copies attached).

3) Revise text and terminology in Section 2-5 and Section 2-5.1 (see red-line copy attached).

4) Revise MSG-3 Appendix A (see red-line copy attached).
IMRBPB Position:
Date: April 26, 2013
Position: Additional changes incorporated and accepted during the IMRBPB meeting.

Status of Issue Paper (when closed state the closure date): Closed as IP 133, April 26, 2013

Recommendation for implementation: Implementation into MSG-3 Volume I and II at next revision.

Important Note: The IMRBPB positions are not policy. Positions become policy only when the policy is issued formally by the appropriate National Aviation Authority.
Prepare A/C Zoning, including boundaries

List details of Zone, e.g.:
- Access
- Installed equipment
- LHRP protection features
- EWIS
- Possible combustible materials in zone
- etc.

STANDARD ZONAL ANALYSIS

Zone contains only Structure?

YES

Zonal Analysis necessary?

YES

No Task

NO

ENHANCED ZONAL ANALYSIS

EWIS portion

YES

Zonal Analysis necessary?

YES

No Task

NO

Non-EWIS portion

Perform Standard Zonal Analysis: e.g. Rating Table:
- AD
- Environmental
- Density

Define interval and access requirements

Standard EWIS inspection level

Consider candidates from System & Powerplant, and Structure Analysis Procedures

GVI Consolidated in Zonal Inspection

Consider consolidation with existing inspection tasks in systems and powerplant and/or zonal programs

 EWIS portion

NO

Are there, or are there likely to be, combustible materials in the zone?

YES

NO

Is wiring or other EWIS components close (2 in/50 mm) to both primary and/or backup hydraulic, mechanical, or electrical flight controls?

YES

NO

Is there an effective task to significantly reduce the likelihood of accumulation of combustible materials?

YES

NO

Select EWIS inspection level and interval

See Figure 2-5-1.2

Define Task and Interval

Continue Analysis

RST (e.g. cleaning)

Stand-Alone GVI, DET

MRB Report Systems and Powerplant Section

GVI Consolidated in Zonal Inspection

MRB Report Zonal Section

Figure 2-5-1.1 Typical Zonal Analysis Procedure
Using rating tables, assess zone attributes to determine appropriate level of inspection.

Is zonal GVI alone effective for all EWIS in the zone?

YES

NO

Zonal GVI must be augmented with stand-alone GVI and/or DET inspection

Define specific EWIS in the Zone for which stand-alone GVI and/or DET is justified

Using rating tables, assess likelihood of damage to EWIS in the zone to determine an appropriate interval for each inspection task identified.