Task 9 Harmonization Working Group - Report to ATSRAC Committee

DATE: July 25, 2001

Task 9 HWG Membership	Co-Chairs: Randy Boren — Northwest Airlines Martin Cheshire — Virgin Atlantic Airways

Name	Organization	Name	Organization
Fred Sobeck	FAA	Armin Bruning	Lectromec
Roy Patzke	FAA	Nick Drival	AirTran
Tony Heather	JAA/CAA	Tim Herndon	Delta Airlines
Henry Dyck	Transport Canada	Stefan Heutmann	Lufthansa Technik
Tony Harbottle	Airbus	Thomas Laxar	Austrian Airlines
Gil Palafox	Boeing	Hank Zuberer	United Airlines
Alex Brytak	Bombardier	Rollin Brown	Goodrich

T9HWG Meeting Schedule	Date	Location	
Past Meetings:	May 22, 2001 (Planning)	Atlanta, GA	Northwest
	June 26 – 27, 2001	London - Gatwick	CAA/JAA
Future Meetings:	October 2 – 3, 2001	Burlington, VT	Goodrich
	January 8 – 9, 2002	Toulouse, France	Airbus
	April 9 – 10, 2002	Orlando, FL	AirTran
	June 18 – 19, 2002	Frankfurt, Germany	Lufthansa

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Overview

Task 9 HWG has the responsibility to define general criteria for maintenance and inspection activities that maintenance programs should exhibit to address aging systems issues.

Sub-Tasks	Description	Estimated Completion	Status: Red - Green - Yellow
Task 9.1	Establish a Harmonization Work Group	May 2001	Green - Complete
Task 9.2	Development Coordination with other ATSRAC WG's	June 2001	Green - Complete
Task 9.3	Develop Guidance Material for Enhanced Maintenance Criteria for Systems	October 2001	Yellow - In progress
Task 9.4	Assist in Development of a SFAR for Performance of the Enhanced Zonal Analysis Procedure (EZAP)	April 2002	Red
Task 9.5	Recommend Wire System Instructions for Continued Airworthiness	April / June 2002	Red

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Martin Cheshire

Date: July 25, 2001

Sub-Task 9.1	Establish a Harmonization Working Group (HWG).
Concept: To assist the FAA in formulating appropriate rulemaking and guidance pertaining to the enhancement of transport airplane maintenance program for systems, ATSRAC is tasked to identify and appoint an Enhanced Maintenance Practices (HWG).	
Work Plan - Task 9.1 1. Solicit nominations for HWG Co-Chairs and members 2. Select Co-Chairs and members based on qualifications. 3. Schedule first meeting.	
Deliverables: T9HWG.	
Status - Task 9.1 Work Plan Items 1, 2, 3: Complete. T9HWG established, first meeting held June 26-27, 2001, and work on tasking is in progress.	
Roadblocks: N/A	
Assistance Needed: N/A	

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Sub-Task 9.2	Coordination with other ATSRAC HWGs

Concept: Develop a process for coordination between T9HWG and the HWGs addressing Tasks 6, 7, and 8.

Work Plan - Task 9.2

1. Identify collegial relationships between T9WG members and other WG members.

2. Assign responsibilities to appropriate T9WG members to serve as points of contact with other WGs where coordination is required.

Deliverables: List of T9HWG members comprising points of contact with other WGs:

Status - Task 9.2

Work Plan Items 1 and 2: Complete. T9HWG to other WGs contacts:

T9HWG Member	Other WG Contact
Tony Harbottle, Airbus	T6HWG - Jean-Luc Ballenghien , Airbus.
Tim Herndon, Delta	T7HWG - Bob Sitz, Delta
Gil Palafox, Boeing	T8HWG - Mick Conahan, Boeing

Roadblocks: N/A

Assistance Needed: N/A

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Sub-Task 9.3	Description: Develop Guidance for Enhanced Maintenance Criteria for Systems

Concept: To assist the FAA in formulating appropriate guidance material for defining an acceptable maintenance program for systems. The recommended program must consider the previous recommendations from the ATSRAC Task 3 report, and recommendations from previously submitted ATSRAC reports with a focus on those provided by the Intrusive Inspection Report.

Work Plan - Task 9.3: (Note: This task is viewed as the most labor intensive for the WG and will be afforded agenda time accordingly.)

1. Determine quantity of AC/TGLs needed Based on number of Parts affected by proposed SFAR (Task 9.4)..

2. Determine technical content for each AC/TGL.

3. Draft generic outline and format for AC/TGL using Enhanced Maintenance Criteria for Part 91, 121, 125, and 129 Operators as a prototype.

4. Action FAA to utilize in-house resources to develop draft.

5. Distribute draft for review / comments / changes.

6. Review revised draft at T9WG Meeting 2 (October 2001) - finalize changes to format and content.

7. Utilizing final draft of prototype AC for Part 91, 121, 125, and 129 Operators, replicate process for additional AC/TGLs needed. (Meetings 2 and 3)

8. Compile all AC/TGL drafts / recommendations into T9HWG Final Report (Meetings 4 and 5).

Deliverables: The T9HWG Final Report will contain draft Advisory Circulars/Technical Guidance Leaflets required to support compliance with each rule (Part) affected by the SFAR (Task 9.4). The ACs/TGLs will include use of EZAP to identify tasks necessary to address aging affects on wiring systems.

Status - Task 9.3:

Work Plan Item 1. Complete. Four AC/TGLs needed to support SFAR (Task 9.4) as follows:

- Part 21 - Single Element, Dual Load Path Devices
- Part 91, 121, 125, 129 Operators
- Part 145 Repair Stations
- Part 25.1529, Appendix H - Instructions for Continued Airworthiness

Work Plan Item 2. Complete. Key elements of technical content identified.

Work Plan Item 3. Complete. Generic outline and format for AC/TGL for Part 91, 121, 125, and 129 Operators determined during T9HWG June, 2001 meeting.

Work Plan Item 4. In progress - FAA developing draft AC for Part 91, 121, 125, and 129 Operators.

Work Plan Item 5: Open - Expect distribution of FAA draft for T9HWG review and comment by July 30, 2001.

Work Plan Items 6, 7, 8: Open

Roadblocks: NIL at this time.

Assistance Needed: NIL at this time.

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Martin Cheshire

Date: July 25, 2001

Sub-Task 9.4	Description: Assist in Development of a Special Federal Aviation Regulation for Performance of the Enhanced Zonal Analysis Procedure.

Concept: To review pertinent recommendations of the ATSRAC Task 3 working group, particularly the Enhanced Zonal Analysis Procedure (EZAP), and recommend the proposed content of an SFAR to require the enhancement of existing maintenance and inspection programs based on the EZAP logic. The recommendation should identify scope (aircraft effectivity) and contain appropriate timelines for aircraft type design holders to complete their application for the EZAP logic for each aircraft.

Work Plan - Task 9.4:

1. Review SFAR concept, gain understanding of application to Task 9. (T9HWG Meeting 1)
2. Develop recommendation for SFAR scope; i.e., what aircraft types to be affected. (T9HWG Meeting 1)
3. Identify FAR Parts to be affected by SFAR (T9HWG Meeting 1)
4. Draft language / concepts for SFAR using SFAR 88 as model (T9HWG Meeting 2)
5. Refine draft SFAR language (T9HWG Meeting 3)
6. Incorporate draft SFAR into T9HWG Final Report (T9HWG Meeting 4).

Deliverables: The T9WG Final Report will contain recommended content and language for the proposed SFAR.

Status - Task 9.4

Work Plan Item 1. Complete.

Work Plan Item 2: Complete. T9HWG will recommend SFAR effectivity to be for turbine powered aircraft with 10 or more seats, certified after January 1, 1958. A proposed timeline for compliance will be determined at a later date.

Work Plan Item 3. Complete. SFAR will affect Parts 21, 91, 121, 125, 129, and 145.

Work Plan Item 4, 5, 6: Open.

Roadblocks: NIL at this time

Assistance Needed: NIL

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Sub-Task 9.5	Description: Recommend Wire System Instructions for Continued Airworthiness.

Concept: To provide comment and recommendation for the inclusion of the following items in Appendix H to part 25.1529, Instructions for Continued Airworthiness. Standard wire practice data (HWG 7), wire separation design guidelines, special identification requirements (HWG 6), electrical load analysis and enhanced zonal analysis procedure.

Work Plan - Task 9.5

1. Review FAR 25.1529, Appendix H in detail to assess present status / shortcomings with regard to requirements for Type Certificate and Supplemental Type Certificate Holders to provide Instructions for Continued Airworthiness. (T9HWG Meeting 2)

2. Obtain OEM/STC Holder comments / recommendations as to what specific changes are required. (T9HWG Meeting 2)

3. Develop draft revision to FAR 25.1529, Appendix H with consideration of OEM/STC Holder comments / recommendations. (T9HWG Meeting 3)

4. Finalize language for revision to Appendix H for inclusion in T9HWG Final Report (Meetings 4 and 5)

Deliverables: The T9HWG Final Report will include recommended changes to FAR 25.1529, Appendix H, Instructions for Continued Airworthiness.

Status - Task 9.5 Work Plan Items 1, 2, 3, 4: Open
Roadblocks: None at this time.
Assistance Needed: T9HWG requests ATSRAC to provide additional guidance on the retroactivity of changes to FAR 25.1529, Appendix H, regarding reference to (new) wire separation guidelines that may be developed by Task 6. T9HWG is concerned that it will be difficult to apply new wire separation requirements to existing designs.

Update on Northwest Airlines DC9 EZAP Prototype Project

July 25, 2001

Objective

- **Conduct a prototype EZAP analysis on an existing fleet to provide proof of concept of EZAP logic and process.**

- **Identify new tasks derived from the analysis.**

First EZAP Prototype Meeting - July 17-19, 2001, Atlanta, GA

Participants

Northwest Airlines		FAA	Boeing
Ken McCraley	Joe Gerbert	Roy Patzke	Curt Curtis
Lon Wojtowicz	Larry Stevick		
James Barnett	Richard Fizzaroti		
David Perry	Chuck Rasch		

Milestones Achieved

- **Established common understanding of the EZAP logic.**
- **Reviewed Boeing and Airbus sample Zone Review Forms against EZAP logic.**
- **Agreed to utilize best concepts of each and develop into more user friendly format.**
- **Successfully analyzed 11 Zones: Horizontal stabilizer (simple) and wheel-wells (hostile environment, high density of installed equipment)**

Key Conclusions

- **EZAP works, provided clearly defined Zonal Inspection Program already exists.**
- **Photos / Videos of zones that depict size and density of installed equipment helpful.**
- **Based on hostility of environment and proximity to adjacent structure and components, it may be necessary to identify specific function of some wiring.**
- **Wire size may need to be considered in Wire Inspection Level determination.**
- **Direct access to aircraft zones being analyzed deemed critical to successful application of EZAP**

Next meeting scheduled for September, 2001.