

**AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)**

**Task 9 Harmonization Working Group - Report to ATSRAC Committee**

**DATE: October 25, 2001 Items in RED indicate changes since last update at July ATSRAC meeting in SEA.**

Task 9 HWG Membership		<u>Co-Chairs:</u>  <u>US Airline Co-Chair</u> Randy Boren, Northwest Airlines  <u>European Airline Co-Chair</u> <b>Vacant *</b>  <b>* Martin Cheshire, Virgin Atlantic Airways, withdrew as European Co-Chair after September 11.</b>	
<u>Name</u>	<u>Organization</u>	<u>Name</u>	<u>Organization</u>
Les Blades	Goodrich (Alternate)	Tony Heather	
Rollin Brown	Goodrich	Tim Herdon	Delta Airlines
Armin Bruning	Lectromec	Stefan Heutmann	Lufthansa Technik
Alex Brytak	Bombardier	Thomas Laxar	Austrian Airlines
Martin Cheshire	Virgin Atlantic	Gil Palafox	Boeing
Nick Drivas	AirTran	Roy Patzke	FAA
Henry Dyck	Transport Canada	Fred Sobeck	FAA
Tony Harbottle	Airbus	Hank Zuberer	United

## AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

### T9HWG Meeting Schedule

	<u>Date</u>	<u>Location</u>	<u>Host</u>
Past Meetings:	May 22, 2001 (Planning)	Atlanta, GA	Northwest
	June 26 – 27, 2001	London - Gatwick	CAA/JAA
	<b>October 2–3, 2001 CANCELLED</b>	Burlington, VT	Goodrich
Future Meetings:	<b>November 13-14, 2001</b>	<b>Atlanta, GA</b>	<b>Northwest</b>
	January 8 – 9, 2002	Toulouse, France	Airbus
	April 9 – 10, 2002	Orlando, FL	AirTran
	June 18 – 19, 2002	Frankfurt, Germany	Lufthansa

### Task 9 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.

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

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Sub-Task 9.1	Establish a Harmonization Working Group (HWG).
<p>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).</p>	
<p><u>Work Plan - Task 9.1</u></p> <ol style="list-style-type: none"><li>1. Solicit nominations for HWG Co-Chairs and members</li><li>2. Select Co-Chairs and members based on qualifications.</li><li>3. Schedule first meeting.</li></ol>	
<p>Deliverables: T9HWG.</p>	
<p><u>Status - Task 9.1</u></p> <p>Work Plan Items 1, 2, 3: Complete. T9HWG established, first meeting held June 26-27, 2001, and work on tasking is in progress.</p>	

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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.	
<u>Work Plan - Task 9.2</u>  <b>Coordinate with other HWGs through Integration Team, facilitated by Mike Nancarrow.</b>	
<u>Status - Task 9.2</u>  On-Going	
Roadblocks: N/A	
Assistance Needed: N/A	

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Sub-Task 9.3	Description: Develop Guidance for Enhanced Maintenance Criteria for Systems
<p>Concept: To assist the FAA in formulating appropriate guidance material for defining an acceptable maintenance program for systems.</p> <p>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.</p>	
<p><u>Work Plan - Task 9.3:</u> (Note: This task is viewed as the most labor intensive for the WG and will be afforded agenda time accordingly.)</p> <ol style="list-style-type: none"><li>1. Determine quantity of AC/TGLs needed Based on number of Parts affected by proposed SFAR (Task 9.4).</li><li>2. Determine technical content for each AC/TGL.</li><li>3. Draft generic outline and format for AC/TGL using Enhanced Maintenance Criteria for Part 91, 121, 125, and 129 Operators as a prototype.</li><li>4. Action FAA to utilize in-house resources to develop draft.</li><li>5. Distribute draft for review / comments / changes.</li></ol>	

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6. Review revised draft at T9WG Meeting 2 (November 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. Complete - FAA draft AC for Part 91, 121, 125, and 129 Operators completed.

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**Work Plan Item 5: Complete - Two drafts of AC distributed to T9HWG members for review/comment. Several issues identified for discussion at next T9HWG meeting, November 13-14, 2001.**

Work Plan Items 6, 7, 8: Open

Roadblocks: NIL at this time.

Assistance Needed: NIL at this time.

## AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Sub-Task 9.4	Description: Assist in Development of a Special Federal Aviation Regulation for Performance of the Enhanced Zonal Analysis Procedure.
<p>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.</p> <p>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.</p>	
<p><u>Work Plan - Task 9.4:</u></p> <ol style="list-style-type: none"><li>1. Review SFAR concept, gain understanding of application to Task 9. (T9HWG Meeting 1)</li><li>2. Develop recommendation for SFAR scope; i.e., what aircraft types to be affected. (T9HWG Meeting 1)</li><li>3. Identify FAR Parts to be affected by SFAR (T9HWG Meeting 1)</li><li>4. Draft language / concepts for SFAR using SFAR 88 as model (T9HWG Meeting 2)</li><li>5. Refine draft SFAR language (T9HWG Meeting 3)</li><li>6. Incorporate draft SFAR into T9HWG Final Report (T9HWG Meeting 4).</li></ol>	

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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.

**Comments from July ATSRAC meeting indicate possible need to include aircraft weight in SFAR effectivity criteria. Agenda item for T9HWG November 13-14 meeting.**

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

**AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)**

Sub-Task 9.5	Description: Recommend Wire System Instructions for Continued Airworthiness.
<p>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.</p>	
<p><u>Work Plan - Task 9.5</u></p> <ol style="list-style-type: none"> <li>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)</li> <li>2. Obtain OEM/STC Holder comments / recommendations as to what specific changes are required. (T9HWG Meeting 2)</li> <li>3. Develop draft revision to FAR 25.1529, Appendix H with consideration of OEM/STC Holder comments / recommendations. (T9HWG Meeting 3)</li> <li>4. Finalize language for revision to Appendix H for inclusion in T9HWG Final Report (Meetings 4 and 5)</li> </ol>	
<p>Deliverables: The T9HWG Final Report will include recommended changes to FAR 25.1529, Appendix H,</p>	

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Instructions for Continued Airworthiness.
<u>Status - Task 9.5</u>  Work Plan Items 1, 2, 3, 4: Open
Roadblocks: None at this time.
Assistance Needed: T9HWG requested 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 concerned that it will be difficult to apply new wire separation requirements to existing designs.  <b>Update: ATSRAC provided needed clarification at July 2001 meeting in SEA: New wire separation guidelines will not be applied retroactively to existing designs.</b>

## T9HWG Issues since September 11, 2001

- Crisis management taking precedence over ATSRAC related activities, including loss of European Co-Chair, loss of Bombardier representative, and ban on travel to WG meetings for most members immediately following September 11.

(Note to ATSRAC and T9HWG: Following this update, Bombardier representative Alex Brytak contacted the U.S. Co-Chair and confirmed that he is still employed by Bombardier and desires to continue working with the T9HWG. The above report of his departure from the T9HWG was in error.)

- T9HWG intends to continue with existing schedule with hope that the industry will stabilize and members can resume attendance at the WG meetings.
- Will work with ATSRAC Chair to select a new Co-Chair.

# Northwest Airlines DC9 EZAP Prototype Project

October 25, 2001

## Objectives

- 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**

### Northwest Airlines

**Ken McCraley  
Lon Wojtowicz  
James Barnett  
David Perry**

**Joe Gerbert  
Larry Stevick  
Richard Fizzaroti  
Chuck Rasch**

### FAA

**Roy Patzke**

### Boeing

**Curt Curtis**

## **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**

**Work completed by NWA since first EZAP meeting**

- **Refined EZAP Q&A logic into a user friendly format (agreed to at first meeting)**
- **Completed an initial review of all zones using EZAP logic. Inspection levels, intervals, and significant wiring concerns identified in each zone. Results forwarded to committee members for review.**

**September meeting cancelled.**

**Next meeting scheduled for November 15-16, 2001 in Atlanta, adjoining Task 9 HWG meeting on November 13-14.**