

Task #6

Wiring System HWG Status Report #5 July 9, 2002 Rev 1

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

WS-11

DATE: July 9, 2002

WORKING GROUP / TASK 6:	CO-CHAIRS: Jean-Luc BALLENGHIEN AIRBUS Vidmantas VARIAKOJIS BOEING		
MEMBERS:			
FAA	Steve Slotte	British Airways	David Harrison
JAA/CAA	Dave Tudor	Cessna	Michael Richardson
JAA/LBA	Peter Teichert	Dassault	Aldo Pezzetta
JAA/DGAC	Jerome Bruel	Delta	Rob Lyon
Airbus	Christian Garros	Kelowna Flightcraft	Tony Fishlock
Airbus	Dominique Chevant	SAE	Dave Allen
ALPA	Ken Elias	Thales Avionics	Patrick Ryan
Boeing	Ashok Bhattacharya	Transport Canada	Jean Cartier
Boeing	Issa Ghoreishi	Tyco Electronics	Walter Cinibulk
Bombardier	Petar Glamoclija		
	<u>DATE</u>	<u>LOCATION</u>	
PAST MEETINGS:	March 28, 2001	Seattle (ATSRAC)	
	May 16-17, 2001	BAE Filton Bristol (ARAC ESHWG)	
	June 12-14, 2001	Boeing, Long Beach (WSHWG)	
	August 21-24, 2001	Airbus, Toulouse (ESHWG/WSHWG)	
	November 6-9, 2001	Boeing, Seattle (ESHWG/WSHWG)	
	December 18/20 & January 15/17	Boeing LB/AI Toulouse ('Editors' Only)	
	January 28-Feb.1, 2002	Dassault, Paris (ESHWG/WSHWG)	
	February 20-21	Gatwick ('Editors' Only)	
	March 18-22, 2002	Bombardier, Montreal (ESHWG/WSHWG)	
	May 20-24, 2002	BA, Gatwick (ESHWG/WSHWG)	
	June 10-14, 2002	Airbus, Toulouse (ESHWG/WSHWG)	
	June 24-28, 2002	Boeing, Long Beach...('Editors' Only)	
FUTURE MEETINGS:	July 22-26, 2002	Boeing, Seattle (ESHWG/WSHWG)	

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

OVERVIEW:			
<u>SUB-TASK#</u>	<u>DESCRIPTION</u>	<u>ESTIMATED COMPLETION DATE</u>	Green <u>STATUS (RED/GREEN/YELLOW)</u>
TASK 6.1	Establish a Harmonization Working Group (HWG)	June 2001	Green/Done
TASK 6.2	Develop Coordination Process with ARAC	June 2001	Green/Done
TASK 6.3	Develop Coordination with other ATSRAC WG's	July 2001	Green/Done
TASK 6.4	Combine current FAR/JAR's		
	Start	June 2001	Green
	Technical agreement	January 2002	Yellow
	Final agreement	June 2002	Green/Done
TASK 6.5	Address aging characteristics in new wire systems rule		
	Start	June 2001	Green
	Technical agreement	January 2002	Yellow → Green.
	Final agreement	June 2002	Green/Done.
TASK 6.6	Wire System Safety Assessment Requirements		
	Start	June 2001	Green
	Technical agreement	June 2002	Yellow → Green
	Final agreement	July 22, 2002	
TASK 6.7	Wire Separation Requirements		
	Start	June 2001	Green
	Technical agreement	June 2002	Yellow → Green
	Final agreement	June 2002	Green/Done
TASK 6.8	Wire Identification Requirements		
	Start	June 2001	Green
	Technical agreement	January 2002	Yellow → Green
	Final agreement	June 2002	Green/Done

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

TASK 6.9 Advisory Material for the new Wire Systems Rule

Start	August 2001	Green	Green
Technical agreement	June 2002		Green
Final agreement	July 22, 2002		

Final ATSRAC Report **August, 2002** **Green**

Assumption: If there is an applicable existing JAR/ACJ and there is **NOT** a FAR/AC, then we will adopt the JAR/ACJ.

Assistance Needed: Request ATSRAC to approve:

- **Draft of Final Report**
- **Appendix A -- FAR/JAR**
- **Appendix B -- AC/ACJ except 25H1705 and 25H1755**
- **Appendix C -- Revisions to Existing FAR**
- **Appendix D – Task 6.5 Table**

- Comments:**
1. 20 persons did attend the meeting on 6/10/2002
 2. Significant changes and/or accomplishments are “highlighted”
 3. Additional meeting scheduled for July 22-26, 2002
 4. **Economic** data is not available in July 9, 2002 Report.
 5. **A Draft Final Report** is presently submitted, **Final Report** will be submitted in August, 2002

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Working Group/Task: WSHWG #6

Co-Chairs: Jean-Luc Ballenghien
Vid Variakojis

DATE: July 9, 2002

Sub-Task # 6.4	Description: Combine current wire system regulations into one sub-part
Concept: Review the existing FAR/JAR paragraphs, ATSRAC and ARAC recommendations related to wire systems. Combine the paragraphs as required. Make recommendations to the ATSRAC.	
Work Plan: The WSHWG will form a Task Group for this task. The Task Group will work (via e-mail, telecons, faxes, etc) on their assigned task) and bring the material to the WSHWG plenary meetings for discussion and acceptance. Coordinate the effort with the ARAC ESHWG by enlisting their members to participate in the task during the concurrently held meetings. Coordinate with the ATSRAC Task Groups 7, 8, and 9 by providing group meeting minutes and reports as required.	
Deliverables: Proposed changes and combined regulations to FAR/JAR will be recommended. The output will be a document in the ATSRAC Report format. A preliminary version suitable for preliminary legal and economic review will be delivered in December, 2001. The Final Report will be delivered in June 2002.	
Status: Task Group was established and Task Leader identified (Steve Slotte). The work was continued during the ESHWG/WSHWG concurrent meeting of November, 2001. Less progress accomplished than it was planned and expected. It was hoped to come to a final agreement in November. This was not achieved. Only three members of ESHWG were able to attend. Ad Hoc "Editors" meeting was held in December 18/20, '01. FAR/JAR "Subpart H - Electrical Wiring Interconnect System" requirements were partially drafted and distributed to the combined ESHWG/WSHWG membership for comments. This document was discussed during the January 28-31 and March 18-22 meetings and agreed upon. The combining the existing regulations task is finished. Final agreement reached June '02. A copy is attached as "Appendix A" to Draft Final Report.	
Status: This task is completed.	
Roadblocks: None known at present time.	
Assistance Needed: None required at this time	

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Working Group/Task: WSHWG #6

Co-Chairs: Jean-Luc Ballenghien
Vid Variakojis

DATE: July 9, 2002

Sub-Task #6.5	Description: Identify design requirements to mitigate problems of aging in wire systems
Concept: The WSHWG will identify requirements for the FAR 25/JAR 25 new wire system rule taking into account known mitigation procedures that will decrease problems due to aging. These requirements will be based on the ATSRAC recommendations contained in the Intrusive Inspection Report, Chapter 7, dated January 2001.	
Work Plan: The WSHWG will form a Task Group for this task. The Task Group will work (via e-mail, telecons, faxes, etc.) on their assigned task and bring the material to the WSHWG plenary meetings for discussion and acceptance. Coordinate with the ATSRAC Task Groups 7 and 9 by providing group meeting minutes and reports as required.	
Deliverables: New FAR/JAR regulations will be recommended. The output will be a document in the ATSRAC Report format. A preliminary version suitable for preliminary legal and economic review will be delivered in February, 2002. The Final Report will be delivered in June 2002.	
Status: Task Group was established and task leader was identified (Ashok Bhattacharya). Preliminary review of ATSRAC Intrusive Inspection Report Chapter 7 recommendations was accomplished. The relevant recommendations were identified and assigned to respective sections, other tasks, other ATSRAC working groups or deemed not applicable (e.g. R&D effort). To date, we did not receive any comments from other working groups; however, other WG's are being asked to give their inputs through integration effort of Mike Nancarrow. We have completed our inputs into the integrated "Chapter 7" matrix. Ad Hoc "editors" meeting was held on January 15-17/02. We did miss our commitment for a preliminary version delivery in February; however, we came to a technical agreement in the January '02 meeting and the final agreement during the March '02 meeting. The document is finished and is attached as "Appendix D" to the Draft Final Report. Status: This task is completed	
Roadblocks: None known at present time.	
Assistance Needed: None required at this time	

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Working Group/Task WSHWG #6

Co-Chairs: Jean-Luc Ballenghien
Vid Variakojis

DATE: July 9, 2002

Sub-Task #6.6	Description: Identify requirements for wire systems safety assessments
Concept: The WSHWG will review FAR 25.1309, AC 25.1309-1A/B, and corresponding JAR-25 material and submit a recommendation on whether particular means of compliance with FAR 25.1309 should be included in the new wire systems rule.	
Work Plan: The WSHWG will form a Task Group for this task. The Task Group will work (via e-mail, telecons, faxes, etc) on their assigned task) and bring the material to the WSHWG plenary meetings for discussion and acceptance. Coordinate the effort with the ARAC ESHWG by enlisting their members to participate in the task during the concurrently held meetings. Coordinate with the ATSRAC Task Groups 7 and 9 by providing group meeting minutes and reports as required.	
Deliverables: Proposed changes and new FAR/JAR regulations will be recommended. The output will be a document in the ATSRAC Report format. A preliminary version suitable for preliminary legal and economic review will be delivered in February 2002. The Final Report will be delivered in June 2002.	
<p>Status: Task Group was established and task leader was identified (Steve Slotte). The work was not discussed during the ESHWG/WSHWG concurrent meeting of August, 2001. Just ran out of time in a three and a half day meeting! Ad Hoc “Editors” meetings were held in December 18/20, ‘01. Preliminary version, consisting of FAR/JAR requirements and AC/ACJ guidance material, was drafted and distributed to the combined ESHWG/WSHWG members. We did miss our commitment for a preliminary version delivery in February; however, we came to a somewhat technical agreement in the January ‘02 meeting. The hopes for a final agreement during the March ‘02 meeting on the FAR/JAR requirements and the AC/ACJ material did not materialize. While there is a consensus on the rule, the group is in complete disagreement on the AC/ACJ guidance material on how to analyze the EWIS. WG came to some agreement on the basic approach to the analysis during June ‘02 meeting. AC/ACJ attached as “Appendix B” to the Draft Final Report contains words in paragraph 25H1705 describing the basic approach to the analysis. Members wanted to present that to their companies for comments. Additional meeting (July 22-26) is scheduled to finish this task. The final words will be submitted to ATSRAC in August ‘02.</p> <p style="text-align: center;">Status: Yellow → Green</p>	
Roadblocks: None known at this time except time.	
Assistance Needed: None required at this time.	

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Working Group/Task: WSHWG #6

Co-Chairs: Jean-Luc Ballenghien
Vid Variakojis

DATE: July 9, 2002

Sub-Task #6.7	Description: Identify requirements for wire separation
Concept: The WSHWG will review existing FAR 25/JAR 25 requirements for wire separation and determine if a new comprehensive wire separation regulation (in addition to the existing 25.1353 requirement) should be included in the new wire system rule sub-part.	
Work Plan: The WSHWG will form a Task Group for this task. The Task Group will work (via e-mail, telecons, faxes, etc) on their assigned task) and bring the material to the WSHWG plenary meetings for discussion and acceptance. Coordinate the effort with the ARAC ESHWG by enlisting their members to participate in the task during the concurrently held meetings. Coordinate with the ATSRAC Task Groups 7 and 9 by providing group meeting minutes and reports as required.	
Deliverables: Proposed changes and new FAR/JAR regulations will be recommended. The output will be a document in the ATSRAC Report format. A preliminary version suitable for preliminary legal and economic review will be delivered in February, 2002. The Final Report will be delivered in June 2002.	
Status: Task Group was established and task leader was identified (Issa Ghoreishi). Preliminary review of FAR/JAR paragraphs was accomplished. The relevant paragraphs were identified. The work was continued during the ESHWG/WSHWG concurrent meeting of November, 2001. Less progress than anticipated. Ad Hoc "Editors" meeting held in January 15/17 to mitigate the schedule. Work continued via e-mail. Preliminary version was not ready in February '02; however, we came to a technical agreement in the January '02 meeting and the final agreement of the FAR/JAR requirements during the March '02 meeting. FAR/JAR Subpart H paragraph 25.1709, attached as "Appendix A" to the Draft Final Report, defines the requirements for separation.	
Status: This task is completed	
Roadblocks: None known at present time.	
Assistance Needed: None required at this time.	

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Working Group/Task: WSHWG #6

Co-Chairs: Jean-Luc Ballenghien
Vid Variakojis

DATE: March 28, 2002

Sub-Task #6.8	Description: Identify requirements for wire identification
Concept: The WSHWG will examine the need for wire identification and provide a recommendation on effects due to system failure of any particular system whose wire is contained in a given wire the need for special wire and/or wire bundle identification. This is to be based on airplane level bundle.	
Work Plan: The WSHWG will form a Task Group for this task. The Task Group will work (via e-mail, telecons, faxes, etc.) on their assigned task) and bring the material to the WSHWG plenary meetings for discussion and acceptance. Coordinate with the ATSRAC Task Groups 7 and 9 by providing group meeting minutes and reports as required.	
Deliverables: New FAR/JAR regulations will be recommended. The output will be a document in the ATSRAC Report format. A preliminary version suitable for preliminary legal and economic review will be delivered in February, 2002. The Final Report will be delivered in June 2002.	
Status: Task Group was established and task leader was identified (Jean-Luc Ballenghien). Preliminary document will not be delivered in January '02. The work was continued and discussed during the WSHWG meeting of November, 2001. Progress was achieved to keep the task moving. Much background information is collected and documented. We did miss our commitment for delivery of a preliminary version in February. Started drafting the FAR/JAR and AC/ACJ wording during Ad Hoc "editors" meeting of January 14/17. This document was discussed and progress made during the January 28-31 meeting and generally agreed on the FAR/JAR words with the final agreement reached in the March 18-22, 2002 meeting. FAR/JAR Subpart H paragraph 25.1711, attached as "Appendix A" to the Draft Final Report, defines the requirements for identification.	
Status: This task is completed	
Roadblocks: None known at this time.	
Assistance Needed:	

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE (ATSRAC)

Working Group/Task WSHWG #6

Co-Chairs: Jean-Luc Ballenghien
Vid Variakojis

DATE: July 9, 2002

Sub-Task #6.9	Description: Recommend advisory guidance material for the new wire systems FAR/JAR sub-part
<p>Concept: The WSHWG will provide recommended means of compliance with the requirements established from tasks 6.4 through 6.8. Existing advisory material may already provide acceptable means of compliance. If so, the WSHWG will identify where this guidance exists. This will be accomplished through a review of existing advisory material, guidelines and policies regarding the design and installation of wiring systems, as well as related ARAC recommendations. Based on this review, a recommendation will be made to identify necessary changes considering the aging effects on wiring as noted in the previous recommendations submitted by ATSRAC, and in particular the Intrusive Inspection report</p>	
<p>Work Plan: The WSHWG will form a Task Group for this task. The Task Group will work (via e-mail, telecons, faxes, etc) on their assigned task) and bring the material to the WSHWG plenary meetings for discussion and acceptance. Coordinate the effort with the ARAC ESHWG by enlisting their members to participate in the task during the concurrently held meetings. Coordinate with the ATSRAC Task Groups 7 and 9 by providing group meeting minutes and reports as required.</p>	
<p>Deliverables: New AC/ACJ's will be recommended. The output will be a document in the ATSRAC Report format. A preliminary version suitable for preliminary legal and economic review will be delivered in April, 2002. The Final Report will be delivered in June 2002.</p>	
<p>Status: Task Group was established and Task Leader identified (Dave Tudor). The work was continued via e-mail and during the ESHWG/WSHWG concurrent meeting of November, 2001. A working document of 40 pages was produced. The output of this task depends upon timely completion of tasks 6.4→6.8. "Ad Hoc Editors" meeting was held on February 20-21/02 and a preliminary AC/ACJ material was written and distributed to combined membership. Discussed extensively during the March 18-22 meeting. The WG did agree on some guidance material, but not all. WG came to agreement on most of the guidance material during June '02 meeting. The exceptions are paragraphs 25H1705 and 25H1755. The AC/ACJ, attached as "Appendix B" to the Draft Final Report, contains words in paragraph 25H1705 and 25H1755 describing the basic contents of the material to be finished. Additional meeting (July 22-26) is scheduled to finish this task. The final words will be submitted to ATSRAC in August '02.</p>	
<p>Status: Yellow → Green</p>	
<p>Roadblocks: None known at this time.</p>	
<p>Assistance Needed: None at this time</p>	