



The AW609 Tiltrotor vs the Operational Rules Environment

6-7 December 2016



AgustaWestland Products

Summary

- AW 609 Program Milestone;
- Leonardo HD initiatives to support regulation readiness for Power Lift /Tilt-rotor (PL/TR) entry into service;
- Leonardo HD / AA / Operators Working Groups;
- EASA - LHD Working Group;
- ICAO: Tiltrotor work flow;
- LHD Activity Support Structure Overview.

AW609 Program Milestones

- AW Program Takeover Nov 2011
- Basic Envelope Expansion Complete 2013
- Autorotation Testing Completed Apr 2014
- Cat A Performance Testing Oct 14 - Feb 15
- Certification Flight Testing Commence Apr 2015
- Production Launch in AWPC end 2015
- HISS Testing winter 2016/2017
- FAA Baseline Certification mid 2018**
- First Production Delivery 2018

Leonardo HD initiatives to support regulation readiness for Power Lift /Tilt-rotor (PL/TR) entry into service

Regulations to be reviewed:

EASA: part 66, part 147, part M, part 145, CS-MCSD (OSD), Aircrew 1178/2011 (including Part FCL/ARA/ORA (ATO) , CS FSTD (A)(H) , CS- FCD (flight Crew Data- OSD), CS-SIMD (OSD) Air Operations 965/2012 (including Part ARO/ORO/CAT/SPA (Special Approval, Low visibility), NCC (non commercial operations), SPO (specialized operations), CS-FTL1 (CAT Scheduled and Charter Operations)

FAA: part 61, part 142, part 91,91K,93,97,119, 135,121,133, part 145 (Part 60 has been already rewritten by a specific working group and an application for direct rule change submitted to FAA)

The roadmap :

Working group members will analyze one or more regulation code (EASA and FAA in parallel)

Once reviewed a regulation code , or a section of it , will contact EASA and FAA in order to agree upon proposed changes and best way to have them approved by the Authorities

LEONARDO HD / AA / OPERATORS WORKING GROUPS

Working group:

depending on the regulation:

- Test pilots
- Training pilots
- Training Quality
- Maintenance Quality
- Customer representative (Bristow, ERA)
- Airworthiness representative
- Engineering representative
- Subject matter expert (Training and Helicopter Support Systems/CAE)



FAA/EASA

Contact EASA and FAA that in turn will identify the relevant point of contact and experts.

LEONARDO HD / AA / OPERATORS WORKING GROUPS

WORKING GROUP	Regulations	Members	Focal Point
WG 1 (first wave)	FAA Part 61, 91, 135,119	S.Biagini	P.Alexander
		P. Alexander	
		P. Edwards	
		Quality System (A.Cella)	
		Bristow Rep	
WG 1 (second wave)	FAA Part 93,97,121	As above	
WG 2	EASA Part 66, 147, EASA CS- MCSD (cerifying staff)	Di Silvestro	Di Silvestro
		A.Cella	
		S.Biagini	
		R.Durr	
		Bristow Rep	

LEONARDO HD/ AA / OPERATORS WORKING GROUPS

WORKING GROUP	Regulations	Members	Focal Point
WG 3	EASA CS FSTD , CS SIMD (OSD)	A.Doglio	A.Cella
		A. Cella	
		E Rossini/D.De Liguoro	
		G.Cito	
		P.Alexander	
WG 4	EASA Aircrew 1178/2011 FCL, ARA,ORA	G.Cito	G.Cito
		P.Alexander	
	EASA Air operations 965/2012, ARA, ORO, CAT, SPA,NCC,SPO,	S.Biagini	
		CS FTL1	
	CS - FCD (OSD)	Airworthiness/Engineering	
		Quality System representative	
		Bristow Rep.	

LEONARDO HD / AA / OPERATORS WORKING GROUPS

WORKING GROUP	Regulations	Members	Focal Point
WG 5	FAA part 142	S.Biagini	P.Alexander
		P.Alexander	
		E.Rossini/D.De Liguoro	
		A.Cella	
		G Maus	
WG 6	EASA part M/Part 145	TBD	

Leonardo HD initiatives to support regulation readiness for Power Lift /Tilt-rotor (PL/TR) entry into service

The 1st of July 2016 in Cologne, organised by the Flight standards Directorate – FS.5, there was a meeting «LHD – EASA: Introduction of Tilt-Rotor into EASA Regulations»

- **Current vision of the industry for the regulatory changes:**

1. **Basic Regulation and Initial Airworthiness:** Introducing PL/TR in **Regulation 216/2008** and in **Regulation 748/2012**
2. **Aircrew Regulation: Regulation 1078/2011:** Training Needs, Analysis results, Training and Instructors/Examiners experience; Introduction of PL/TR in **CS-FCD**
3. **Air Operation Regulation: Regulation 965/2012:** suitability and applicability of (H) category for the Tilt Rotor
4. **Synthetic Training Devices: CS-FSTD (CS-FSTD(A), CS-FSTD(H)); CS-SIMD**
5. **Continuing Airworthiness: Part 145, 66, 147, CS MCSD**

Leonardo HD initiatives to support regulation readiness for Power Lift /Tilt-rotor (PL/TR) entry into service

EASA intend to bring forward in the **Rule Making Task** 2017-2021 the foreseen RMT for **Operations** and **Licensing** requirements, formally initiating in **2017**

LHD will support **EASA** providing all the supporting material to expedite formally writing of **ToR** (Term of Reference) and **RIA** (Regulatory Impact Assessment) ready and endorsed by the **EASA Safety Committee** to expedite the development of **NPA** (Notice of Proposed Amendment), **CRD** (Comment Response Documents), **Opinion** and **Decision**

EASA intend to set-up «operational connection» with **FAA**

EASA-ICAO connection will be linked by LHD contribution to the ICAO development process

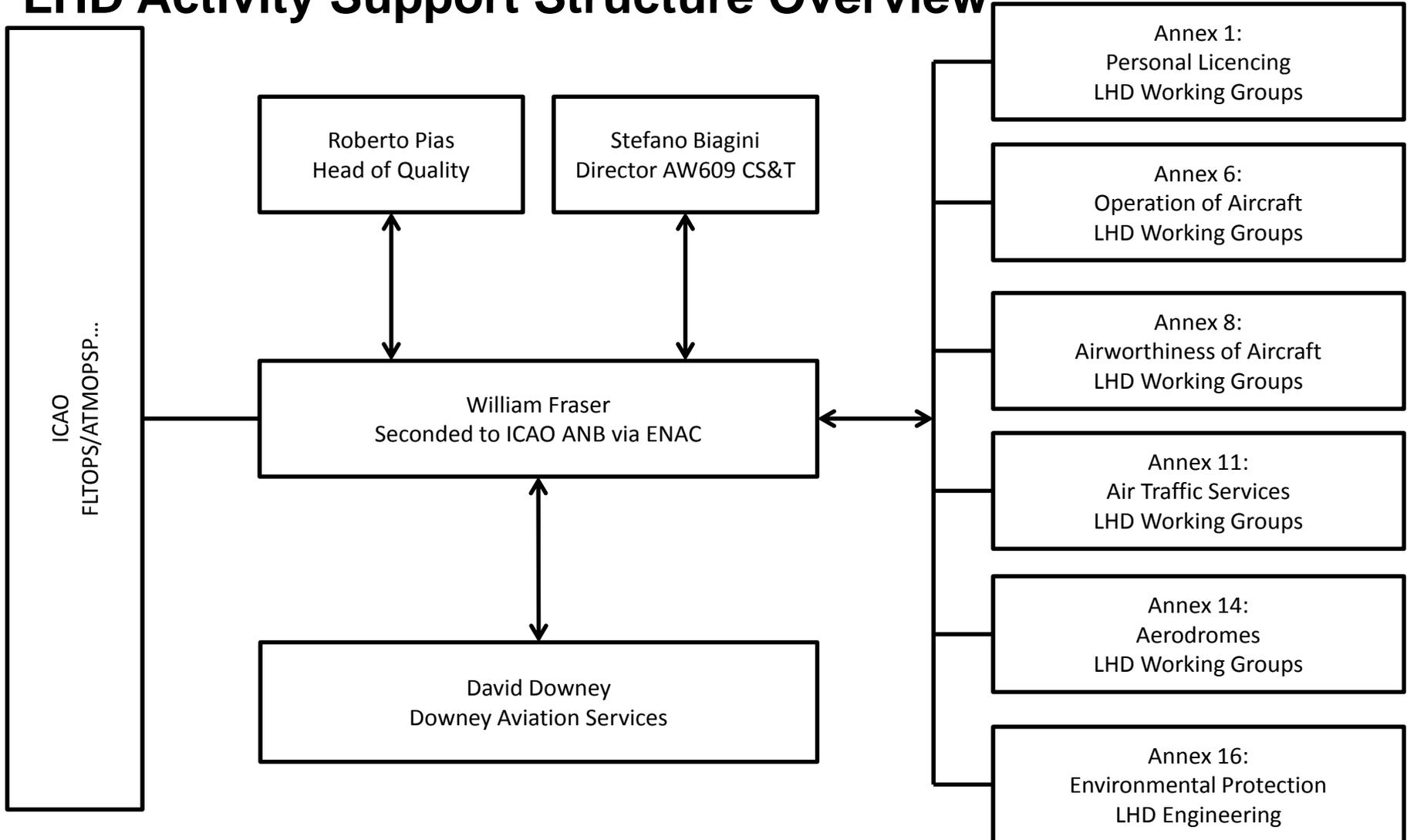
EASA - LHD Working Group

Contact In EASA			Contact In Leonardo Helicopters			
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ICAO: Tiltrotor work flow

- June 2014: FLTOPSP agree with action that the Government of Italy sponsor a seconded expert to work at ICAO Secretariat to write guidance material in order to address regulatory gaps prior to the introduction of civilian tiltrotor operation;
- February 2015: Mr. Alex Valderrey was appointed as the expert seconded by Italy;
- FLTOPSP/1 proposed a job card to “Develop the guidance material for the introduction of Tiltrotor operations with focus on Annexes 6 - *Operation of Aircraft*, 8 - *Airworthiness of Aircraft*, 1 - *Personnel Licensing*, 11 - *Air Traffic Services*, 14 - *Aerodromes*, 16 - *Environmental Protection*. (FLTOPSP job card approved by the ANC in March 2015);
- Maj 2015: Mr. Valderrey presented a paper highlighting the importance of early issue identification by subject matter experts, coordination with other panels and proposed a philosophy of minimal higher level documentation revision by utilizing existing Standards and Recommended Practices (SARPs) whenever and wherever possible;
- March 2016: Valderrey departed the activity;
- May 2016: FLTOPSP has identified Mr. Daniele Carrabba (Italy) as rapporteur of the Tiltrotor sub-group;
- September 2016: LH presented to the ANC a Programme update on the AW609 and defined a new support structure within the company to support ICAO’s activity. In addition Mr. William Fraser was presented as the chosen replacement for Mr. Valderrey with formal secondment to the ANB by the Government of Italy due 1st november 2016;
- M. Fraser shall generate the guidance material as requested in FLTOPSP job card and submit it first to the tiltrotor SG and then the FLTOPSP for comment, any additional input and ratification.

LHD Activity Support Structure Overview



ANWP Job-card

Title	Powerlift/Tiltrotor Operations	Reference:	FLTOSP.028.01			
Source	FLTOSP/1					
Problem Statement	Provide amendments to the existing ICAO annexes in order to facilitate the enter into commercial service of Powerlift/tiltrotor aircraft					
Specific Details (including impact statements)	A preliminary gap analysis (risk based compliance review) of the ICAO Annexes and their supporting documentation has identified areas which may require review and, or, amendment. The gap analysis examined both changes needed to achieve certification and, more importantly, the far reaching issue of the amendments required for entry into operational service forecasted in late 2017. Recommended focus will be on several Annexes including Annex 16 — Environmental Protection					
Expected Benefit	Provide guidance to State regulators on the introduction of powerlift/tiltrotor operations.					
Reference Documents					Attachments	
Primary Expert Group:	FLTOSP					
WPE No	Document affected	Description of Amendment proposal or Action	Supporting Expert Group	Expected dates:		
				Expert Group	Effective	Applicability
		Conduct a gap analysis on Annexes 1, 6, 8,11, 14 and 16 identifying areas of improvement and rulemaking		Nov 2015		
	Doc XX Powerlift/Tiltrotor	Develop guidance material, in the form of a manual or circular, for the introduction of Tiltrotor operations		Mar 2017	Nov 2017	
	Annex 16 — Environmental Protection	Amendment addressing environmental considerations of Powerlift/Tiltrotor aircraft	CAEP	Mar 2017	Jun 2018	Nov 2018
Initial Issue Date: 12 March 2015		Date approved by ANC: 12 March 2015		Session/Meeting: 198-9		

ICAO: Tiltrotor work flow

ICAO Tiltrotor Sub-Group:

- FAA member
 - EASA member
 - UAE member
 - Dale South – Australian CAA
 - Olivero Barsanti - President Italian Air Traffic Controllers' Association
 - Geoff Parker - Operations, UK CAA
 - Daniele Carrabba – ENAC Rapporteur of the Tiltrotor sub-group
 - William Fraser – ICAO expert seconded to the ANB by the Government of Italy
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- Robert Towes – Rapporteur Helicopter Sub Group (supporting the group but not part of it)

The group will peer review the material prepared by Mr. Fraser - LHD

ICAO: Tiltrotor work flow

The Tiltrotor sub-group will review the guidance material for the priority annexes by the end of March 2017 in the following order 6-Operation of Aircraft, 8-Airworthiness of Aircraft, 1-Personnel Licensing, 11-Air Traffic Services, 14-Aerodromes, 16-Environmental Protection. (FLTOPS job card approved by the ANC in March 2015);

In the next 6 months will be covered the remaining annexes and reference material for complete submission to the FLTOPS October/November 2017.

Outside FLTOPS a coordination with the following panels will be granted:

- Airworthiness
- Aerodromes
- Air traffic Management
- Environmental advisory Group
- Flight Crew Licencing
- Flight Recorder Specific Working Group
- Instrument Flight Procedure
- Separation and airspace Safety



THANK YOU FOR YOUR ATTENTION



AgustaWestland Products