Detailed Agenda

2011 FAA/EASA/Industry Composite Transport Fatigue, Damage Tolerance, Maintenance & Crashworthiness Workshop

Tuesday (May 17th, 2011)

Composite Safety & Certification Initiatives (FAA and EASA)	
8:00-8:15	***"Welcome/Introduction/Workshop Objectives"*** - Larry Ilcewicz and Curtis Davies (FAA)
8:15-9:00	***"FAA Composite Safety & Certification Initiatives and Recent AC Developments"*** - Lester Cheng, Rusty Jones and Larry Ilcewicz (FAA)
9:00-9:30	***"EASA Composite Initiatives and the Process Used for AMC 20-29 Development"*** - Simon Waite (EASA)
9:30-10:15	***"2011 FAA Interface with Industry & Other Regulatory Org. to Support Active Composite Educational and Guidance Initiatives"*** - Larry Ilcewicz (FAA)
10:15-10:30	*Break*
Composite Structural Engineering Course: Proof of Structure Module (with emphasis on the Fatigue and Damage Tolerance Section)	
10:30-11:00	***"Course Outline and Objectives for the Proof of Structure Module"*** - Tom Walker & D.M. Hoyt (NSE Composites) & Steve Ward (SW Composites)
11:00-Noon	***"Detailed Review and Discussion of Fatigue and Damage Tolerance Content"*** - Tom Walker and D.M. Hoyt (NSE Composites)
Noon- 12:30	***Open Forum with Workshop Participants***
12:30-1:30	*Lunch*
Composite Structural Engineering Course: Maintenance Interface Modules	
1:30-2:15	***"Progress with Maintenance Interface Modules"*** - Mike Borgman (Spirit AeroSystems)
Open Industry Forum	
2:15-3:15	***Safety Awareness Education Needs and Composite Industry Designee Qualifications for Composite Transport Applications***
3:15-3:30	*Break*
Industry Perspectives on Composite and Metal Interface Issues	
3:30-4:00	***"Fatigue and Damage Tolerance Reliability and Large Scale Testing"*** - Allen Fawcett, David Polland and Kevin Davis (Boeing)
4:00-4:30	***"Methodology for Large Scale Testing Protocol for Structures that Contain Both Metal and Composite Structures"*** - Chantal Fualdes (Airbus)
Airline Field Experiences	
4:30-5:30	***"Airline Field Experiences of Relevance to May 18 Sessions 2, 3 and 4"*** - Ray Kaiser & Todd Herrington (Delta Airlines) & Eric Chesmar (United Airlines)

Wednesday (May 18th, 2011)

Session 1: Composite and Metal Interface Issues	
8:00-8:45	***"Benchmarking the Composite Fatigue Test"*** - John Halpin (JCH Consultants)
8:45-9:30	***"Fatigue Test Data for Composite Design Variables, With and Without Damage "*** - Waruna Seneviratne and John Tomblin (WSU)
9:30-10:00	***Open Forum with Workshop Participants***
10:00-10:15	*Break*
Session 2: High Energy, Wide Area, Blunt Impact	
10:15-10:40	***"FAA Perspectives on Awareness and Reporting of Significant Impact Incidents Involving Composite Airframe Structures"*** - Larry Ilcewicz (FAA)
10:40-11:10	***"Impact Threat Analysis and Testing Methodology"*** - Chantal Fualdes (Airbus)
11:10-11:40	***"Impact Damage Criteria for Transport Aircraft Structure"*** - Kevin Davis and David Polland (Boeing)
11:40-12:00	***"Blunt Impact on Composite-Metallic Aircraft Structure: Overview of the EASA / Bishop GmbH Research Project"*** - Zoltan Mikulik (Bishop GmbH)
12:00-12:30	***"High Energy Blunt Impact Damage on Composite Aircraft Structure"*** - Hyonny Kim (UCSD))
12:30-1:15	*Lunch (FAA Perspectives on JAMS Research)*
Session 3: Damage in Sandwich Construction	
1:15-1:45	***"CACRC Design Guidelines (Problems with Sandwich Damage)"*** - Eric Chesmar (United Airlines)
1:45-2:30	***"Proposed Strategy for Compliance Validation with 25.571 at Amendment 132 for Honeycomb Fuselage Structure"*** - Don Wernert (Hawker Beechcraft)
2:30-3:15	***"Damage in Sandwich Construction: Best Practices for Prevention/Detection"*** - Roland Thevenin (Airbus)
3:15-3:30	*Break*
Session 4: Bonded Repair Size Limits	
3:30-4:00	***"Airline Perspectives on the Constraints of Bonded Repair Size Limits"*** - Todd Herrington (Delta Airlines)
4:00-4:30	***"Bonded Repair Reliability and Failsafety"*** - Allen Fawcett, David Polland and Kevin Davis (Boeing)
4:30-5:30	***"Experience with Large Bonded Repairs: Observations on Classification, Substantiation, Approvals, and Fleet Performance"*** - Mike Borgman and John Welch (Spirit AeroSystems)

Thursday (May 19th, 2011)

Composite Structural Engineering Course: Crashworthiness Module	
8:00-9:00	***Crashworthiness Module: Overall Outline, Objectives and Content Developments*** - Paolo Feraboli (University of Washington)
9:00-9:30	***"Course Contribution in Selected Areas: 1) Seat Crash Analysis and Certification and 2) Rotocraft Experience in Crash Certification"*** - Joseph Pellettiere (FAA)
9:30-10:00	***"Course Contribution in Selected Areas: Aircraft Certification Considerations"*** - Allan Abramowitz (FAA)
10:00-10:15	*Break*
Open Industry Forum	
10:15-10:45	***Perspectives on Rules, Guidance and Standards Needs***
10:45-11:15	***Composite Transport Structure Crashworthiness Considerations***
Session 5a: Crashworthiness Certification Protocol	
11:15-11:45	***"Crash Dynamics Summary"*** - Joseph Pellettiere (FAA)
11:45-12:15	***"Building Block Methodology to Support the Crashworthiness Evaluation of Composite Aircraft Structures"*** - Gerardo Olivares (WSU) & Allan Abramowitz (FAA)
12:15 - 1:15	*Lunch*
Session 5b: Crashworthiness Certification Protocol	
1:15-1:45	***"Crashworthiness Evaluation of Aircraft Structures - Analytical and Computational Methods"*** - Gerardo Olivares (WSU) and Allan Abramowitz (FAA)
1:45-2:15	***"Analysis Calibration and Validation of Analytical Models for Composite Structures Subjected to Dynamic Loading"*** - Mostafa Rassaian (Boeing)
Industry Perspectives on Transport Composite Fuselage Crashworthiness	
2:15-2:45	***"Analysis and Test Protocol for Dynamic Impact Phenomena"*** - Michel Mahe (Airbus)
2:45-3:15	***"Crashworthiness of Transport Structure"*** - Kevin Davis (Boeing)
3:15-3:30	***Recap/Actions/Closure*** - Larry Ilcewicz (FAA) and Curtis Davies (FAA)