

ATSRAC Overview

presented to

EAPAS Workshop for
FAA Inspectors/Engineers

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Who is ATSRAC?

✈ Aging Transport Systems Rulemaking Advisory Committee

- Initially chartered January 19, 1999
- Re-chartered January 25, 2001
- See www.mitrecaasd.org/atstrac/index.html

Background

- ✈ Two major 1996 accidents caused national attention to aviation safety
- ✈ Growing number of flights will create more accidents, even with a lower rate
- ✈ White House Commission on Aviation Safety and Security - August 22, 1996

Gore Commission Report

- ✈ Final Report published February 12, 1997
- ✈ 1.9 In cooperation with airlines and manufacturers, the FAA's Aging Aircraft Program should be expanded to cover non-structural systems

Initial FAA/Industry Efforts

- ✈ March-April 1998 aircraft survey
 - DC-10 (3), MD-11, DC-9, B727
- ✈ Commitment to MSG-3 principles
- ✈ Assisted in FAA formal response to Gore Commission in July 1998

ATA's ASTF

- ✈ Established on July 15, 1998
- ✈ Defined "aging" as aircraft past design life
- ✈ Formed seven Working Groups to develop inspection criteria and survey sample a/c
 - DC-8, DC-9, DC-10, B727, B737, B747, L-1011
- ✈ Created ATA Spec 117 on July 31, 1998

FAA Plan Announced

- ✈ Jane Garvey announced formation of ATSRAC on October 1, 1998
- ✈ Meeting notice appeared in Federal Register on December 22, 1998
- ✈ Order 1110.127 to formally establish ATSRAC issued on January 19, 1999

Initial ATSRAC Members

Chairman: Kent Hollinger

- ✈ FAA
- ✈ DoD
- ✈ ALPA
- ✈ ATA
- ✈ AIA
- ✈ NASA
- ✈ GAMA
- ✈ Flight Safety Foundation
- ✈ JAA
- ✈ Transport Canada
- ✈ AECMA
- ✈ General John Loh
- ✈ Boeing
- ✈ Airbus
- ✈ NEMA
- ✈ SAE

Added ATSRAC Members

- ✈ AirTran Airways
- ✈ Dassault
- ✈ IATA
- ✈ IAM
- ✈ International Federation of Airworthiness
- ✈ NADA/F
- ✈ NBAA
- ✈ Northwest Airlines
- ✈ PEMCO World Air Services

Initial Five Tasks

- ✈ Sampling inspection of the fleet
- ✈ Review of fleet service history
- ✈ Improvement of maintenance criteria
- ✈ Review and update standard practices for wiring
- ✈ Review air carrier and repair station inspection and repair training programs and recommend actions to address aging systems

Status of Initial Tasks

- ✈ All tasks are complete
- ✈ ATSRAC approval of Final Reports during January 2001 meeting
- ✈ Final Reports with recommendations forwarded to FAA

Task 1 Results

- ✈ Non-intrusive Inspections of 81 aircraft
 - Aged up to 82,000 hours and 92,000 cycles
 - 3,372 individual discrepancies
 - Immediate Fleet-wide Safety of Flight Concern - 0
 - Potential Hazard or Frequently Occurring Item - 182
 - ➔ SB's required for 3 and enhanced inspection guidelines for 2
 - Defects noted - 3,190

Task 1 Results (continued)

- ✈ Intrusive Inspections of 6 retired aircraft
 - Aged up to 100,241 hours and 100,017 cycles
 - Targeted specific wire types and aircraft zones
 - On-board visual inspection and NDT
 - Wires removed and 25 laboratory tests applied
 - Recommendations
 - 1 general - education of inspection & maintenance personnel
 - 9 research - degradation, chaffing, contamination, NDT, AFCB
 - 90 specific - splices, heat shields, clamping

Task 2 Results

- ✈ Reviewed 714 Service Documents
 - Boeing - 27 upgraded to Alert status
 - Airbus - 3 upgraded to Alert status
 - Lockheed - no further action required

- ✈ Reviewed 79 ADs with repetitive inspections
 - Recommended 8 for terminating action

Task 5 Results

✈ Developed an extensive training curriculum and associated lesson plans

- Module A - Introduction
- Module B - Chapter 20 Structure
- Module C - Inspection
- Module D - Housekeeping
- Module E - Wire
- Module F - Connective Devices
- Module G - Connective Device Repair
- Module H - Line Replaceable Units

Current Four Tasks

✈ Federal Register May 29, 2001 p. 29203

- Wire system certification requirements
- Standard format and content of SWPM
- Enhanced training program for wire systems
- Enhanced maintenance criteria for systems

Status of Current Tasks

- ✈ All tasks are complete for large airplanes
- ✈ ATSRAC approval of Final Reports during July and October 2002 meetings
- ✈ Final Reports with recommendations forwarded to FAA (Task 6 & 7 in Nov.)
- ✈ Small airplane recommendations to be approved in January 2003

Task 6 Results

- ✈ Created new FAR 25 Subpart H for Electrical Wiring Interconnection Systems
 - Consolidated current wiring regulations
 - Wire system separation
 - Wire system identification
 - Wire system safety assessments

- ✈ Revised current FAR 25 sections and created Advisory Circulars

Task 7 Results

- ✈ Defined minimum content for Electrical Standard Wire Practices Manual (ESWPM)
- ✈ Defined standard format for new ESWPM
- ✈ Created a Master Breakdown Index (MBI) for use with existing ESWPM

Task 8 Results

- ✈ Created an Advisory Circular titled "*Aircraft Electrical Wiring Interconnection Systems Training Program*"
- ✈ Applicable to air carriers, maintenance providers, OEMs and STC holders
- ✈ All parties should immediately adopt EWIS training programs, prior to FAA rulemaking

Task 9 Results

- ✈️ SFAR to require OEMs to implement and communicate an Enhanced Zonal Analysis Program (EZAP) to airlines
- ✈️ Created Special Maintenance Program Requirements for >30 seat airplanes
- ✈️ Created new FARs to require training on electrical systems (see AC from Task 8)

Current Schedule

- ✈ Notices of Proposed Rule Making (NPRM) will be released in Sept. 2003
- ✈ Final Rules and Advisory Circulars are expected by fall 2004
- ✈ Inclusion of airplanes with <30 seats is still under investigation

Future Public Meetings

✈ Bessie Coleman Conf. Room @ FAA HQ

- 22-23 January 2003 (Savannah, GA)
- 23-24 April 2003
- 9-10 July 2003
- 22-23 October 2003

Are There Any

Questions?