

# NDT an FAA Perspective

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By: Rusty Jones, AFS-309

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Federal Aviation  
Administration



# *Where in the World?*

- ◆ Hamburg
- ◆ Brussels
- ◆ Amsterdam
- ◆ Long Beach, CA.
- ◆ Seattle, WA
- ◆ Kansas City, MO
- ◆ Miami, FL
- ◆ Cologne
- ◆ Washington, DC (sometimes)

# Aging Aircraft

- **Damage Tolerance** (transport category aircraft)
- **Wide Spread Fatigue Damage** (transport)
- **Fatigue Management Programs for Airplanes with Demonstrated Risk of Catastrophic Failure due to Fatigue** (AC 91-XX)
- **Enhanced Airworthiness Program for Airplane Systems/Fuel Tank Safety** (EAPAS/FTS)

# Other issues:

- **Composite Aircraft (Parts 23 & 25)**
- **NTSB Recommendations**
- **Inspections and Records Reviews**
- **Repair Station Training Programs**



# Damage Tolerance (transport category aircraft)

- **Parts 121/129 by 12/2010, must incorporate into their maintenance programs a “means” for addressing the adverse effects repairs alterations, and modifications may have on fatigue critical structure.**
- **Damage tolerance based inspections for all repairs, modifications, and alterations as well as all baseline structure.**
  - More NDT Inspections
  - More Generic NDT Inspections

# Wide Spread Fatigue Damage

- **Proposed rule requiring operators to incorporate a Limit of Validity (LOV) of the engineering data into the maintenance program.**
- **Multiple Site Damage (MSD)**
- **Multiple Element Damage (MED)**
  - Not easily detected using normal inspection methods and intervals

# **Fatigue Management Programs for Airplanes with Demonstrated Risk of Catastrophic Failure due to Fatigue (AC 91-XX)**

- **Small airplanes certificated to 14 CFR part 23 and predecessor regulations**
- **Transport category airplanes certificated to 14 CFR part 25 and predecessor regulations**
- **Development of a fatigue management program (when none exists) after the FAA has determined that an unsafe condition exists.**
- **Incorporates damage tolerance-based inspections for older airplanes at certain locations.**

# Enhanced Airworthiness Program for Airplane Systems/Fuel Tank Safety (EAPAS/FTS)

- **Incorporate new “approved” instructions for continued airworthiness (ICA) into the maintenance program**
- **Final rule expected 10/01/2007**
- **No effect on NDI personnel, YET!**



# Composite Aircraft (Parts 23 & 25)

- **Boeing 787**
- **Airbus A-380, A-350 WXB**
- **Adams**

**! CACRC participation**

**Need for new wide area inspection techniques and increased field inspections for ramp rash?**

# NTSB Recommendations

- **Increase scope of “Aging Airplane Rules” to include all airplanes, transport and non-transport. (heavy emphasis on aging GA fleet)**
- **Increased training requirements**
  - Parts 121,145 and 147
- **More emphasis on “Qualifications”**

# Repair Station Training

- **New Part 145 rules require “approved” training programs.**
  - First time in the US that maintenance training programs have been FAA approved
  - Training and Qualification programs under greater scrutiny
  - Curriculums such as those recommended in NAS-410 and ATA Spec 105 need review and updates

# Challenges

- **More emphasis on complex NDI methods with fewer dedicated personnel.**
- **Increased use of NDI in the GA world.**
- **Staffing at line stations.**
- **Increased need for task qualification.**
- **Increased training for new methods.**
- **Qualifications**