REGULATORY DEVELOPMENTS IN DER REPAIRS

Dominick DaCosta – DER/RS-DER ~ San Diego CA March 23, 2012

NEW FAA CHANGES TO DER REPAIRS

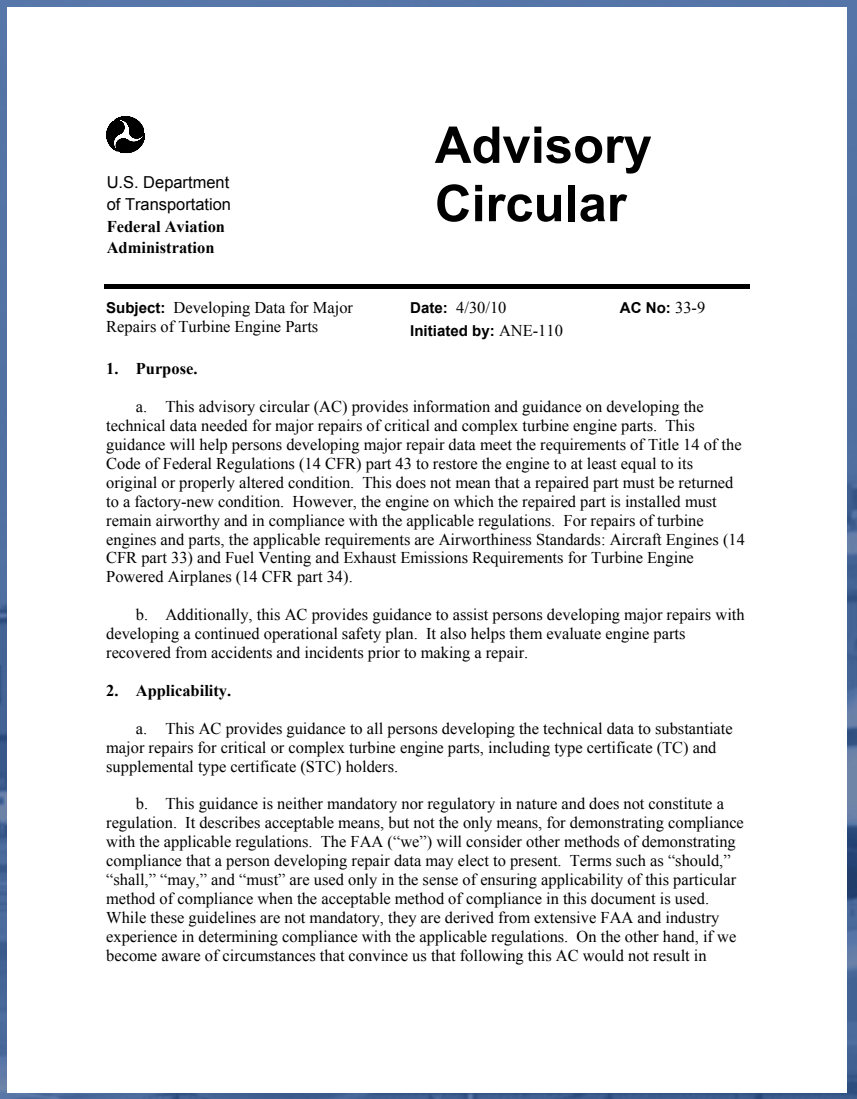
- FAA National policies issued that affect DER Major Repair Processes.
  - FAA Engine Polices AC 33-9
  - FAA DER Order 8110.37E
  - Extension of N8110.111
  - FAA new agreements with EASA on DER repair acceptance. [May 1, 2011]

FAA AC 33-9

The FAA "Purpose" is stated as:

Provide guidance on developing the "Technical data" needed for Major Repairs of "CRITICAL" and "Complex" parts.

This guidance will help persons developing major repair data meet the requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 43 to restore the engine to at least equal to its original or properly altered condition.



U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Developing Data for Major Repairs of Turbine Engine Parts

Date: 4/30/10 **AC No:** 33-9
Initiated by: ANE-110

1. Purpose.

a. This advisory circular (AC) provides information and guidance on developing the technical data needed for major repairs of critical and complex turbine engine parts. This guidance will help persons developing major repair data meet the requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 43 to restore the engine to at least equal to its original or properly altered condition. This does not mean that a repaired part must be returned to a factory-new condition. However, the engine on which the repaired part is installed must remain airworthy and in compliance with the applicable regulations. For repairs of turbine engines and parts, the applicable requirements are Airworthiness Standards: Aircraft Engines (14 CFR part 33) and Fuel Venting and Exhaust Emissions Requirements for Turbine Engine Powered Airplanes (14 CFR part 34).

b. Additionally, this AC provides guidance to assist persons developing major repairs with developing a continued operational safety plan. It also helps them evaluate engine parts recovered from accidents and incidents prior to making a repair.

2. Applicability.

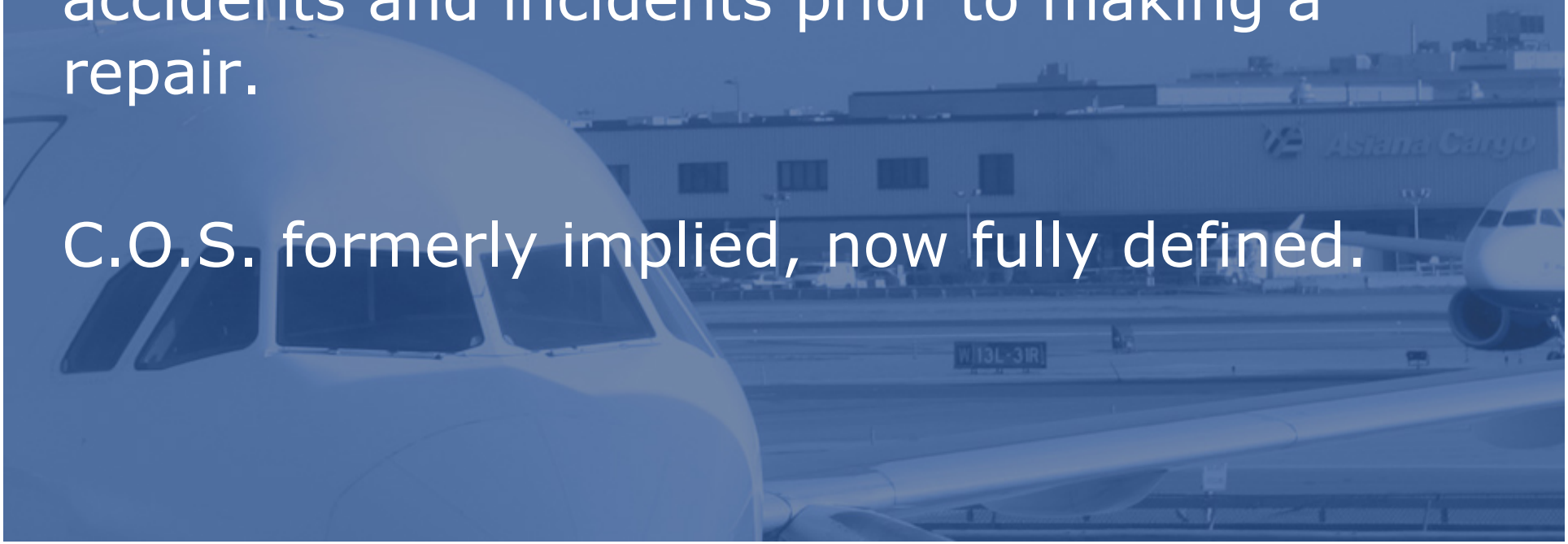
a. This AC provides guidance to all persons developing the technical data to substantiate major repairs for critical or complex turbine engine parts, including type certificate (TC) and supplemental type certificate (STC) holders.

b. This guidance is neither mandatory nor regulatory in nature and does not constitute a regulation. It describes acceptable means, but not the only means, for demonstrating compliance with the applicable regulations. The FAA ("we") will consider other methods of demonstrating compliance that a person developing repair data may elect to present. Terms such as "should," "shall," "may," and "must" are used only in the sense of ensuring applicability of this particular method of compliance when the acceptable method of compliance in this document is used. While these guidelines are not mandatory, they are derived from extensive FAA and industry experience in determining compliance with the applicable regulations. On the other hand, if we become aware of circumstances that convince us that following this AC would not result in

AC 33-9 Major Repair Guidance

AC 33-9 provides guidance to assist persons developing major repairs with developing a continued operational safety plan. It also helps them evaluate engine parts recovered from accidents and incidents prior to making a repair.

C.O.S. formerly implied, now fully defined.



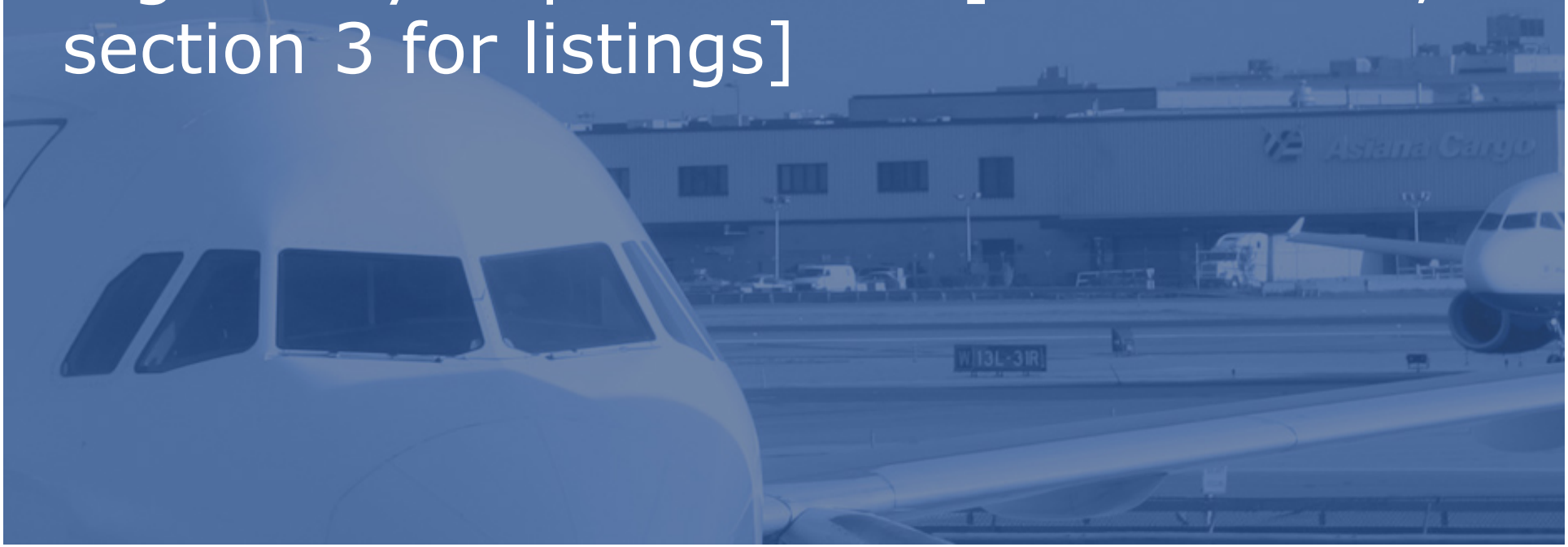
AC 33-9 Cont

This guidance is neither mandatory nor regulatory in nature and does not constitute a regulation. It describes acceptable means, but not the only means, for demonstrating compliance with the applicable regulations.

While these guidelines are not mandatory, they are derived from extensive FAA and industry experience in determining compliance with the applicable regulations.

AC 33-9 Cont

This document does not change, create any additional, authorize changes in, or permit deviations from, existing regulatory requirements. [Ref AC 33-9, section 3 for listings]



AC 33-9 Cont

3. **Related References.** Please check the FAA's website at http://www.faa.gov/regulations_policies/ for the latest revision of the following documents.

a. AC 20-62D, Eligibility, Quality, and Identification of Aeronautical Replacement Parts; May 24, 1996.

b. AC 33.75-1A, Guidance Material for 14 CFR 33.75, Safety Analysis; September 26, 2007.

c. AC 39-8, Continued Airworthiness Assessments of Powerplant and Auxiliary Power Unit Installations of Transport Category Airplanes; September 8, 2003.

d. AC 43-18, Fabrication of Aircraft Parts by Maintenance Personnel; March 24, 2006.

e. AC 120-77, Maintenance and Alteration Data; October 7, 2002.

f. Order 8110.37D, Designated Engineering Representative (DER) Handbook; August 10, 2006.

g. Order 8110.4C, Type Certification; August 14, 2008.

h. Order 8110.54, Instructions for Continued Airworthiness Responsibilities, Requirements, and Contents; July 1, 2005.

i. Order 8120.2F, Production Approval and Certificate Management Procedures; January 30, 2009.

j. FAA Order 8120.11, Disposition of Scrap or Salvageable Aircraft Parts and Materials; February 12, 1996.

AC 33-9 Cont

5. Part Categorization. This AC categorizes parts based on their most severe potential failure effect using various methods for assessing malfunctions and failure modes. To assess malfunctions and failure modes, repair developers may use the failure modes and effects assessment described in Appendix 1 of this AC or other acceptable analytic techniques. Refer to AC 33.75-1A for examples of other acceptable techniques.

a. Part Categories. The categories used in this AC are consistent with categories found in Order 8120.2 and AC 39-8, and used in AC 43-18. The part categories are:

(1) Category 1. A product, i.e. engine, or part(s) thereof, whose failure could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations. A Category 1 part, for the purpose of this AC and Orders 8110.37 and 8110.4, is a critical part.

(2) Category 2. An engine or part(s) thereof whose failure would not prevent continued safe flight and landing; resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures. For the purpose of this AC and Order 8110.4, a Category 2 part is typically a complex part that may affect a critical part.

(3) Category 3. An engine or part(s) thereof whose failure would have no effect on continued safe flight and landing of the aircraft. The only consequence would be partial or complete loss of engine thrust or power (and associated engine services). For single engine applications, consider changing part categorization to Category 1 or 2 if complete loss of thrust could prevent continued safe flight and landing or reduce the ability of the crew to cope with adverse operating conditions or subsequent failures.

AC 33-9 Table of Category Parts

CAT 1 Engine Parts

Table 1. Category 1 Engine Parts

Potential Failure Effects	Part Examples
(1) Non-containment of high-energy debris.	Life-limited parts
(2) Concentration of toxic products in the engine bleed air intended for the cabin, and sufficient to incapacitate crew or passengers.	Main engine mounts, with no redundant load carrying features
(3) Significant thrust in the opposite direction to that commanded by the pilot.	High pressure vessels (for example, casings subject to compressor discharge pressure and combustor pressure)
(4) Uncontrolled fire.	Containment structures
(5) Failure of the engine mount system leading to inadvertent engine separation.	Fan blades
(6) Release of the propeller by the engine, if applicable.	Fuel system shut-off
(7) Complete inability to shut the engine down.	Primary structures (for example, structures that provide support and rigidity of the main engine backbone and for attachment of engine to airframe)
	Thrust reverser control component if thrust reverser control component is part of the engine type certificate.

AC 33-9 Category 2 Parts

Table 2. Category 2 Engine Parts

Potential Failure Effects	Part Examples
(1) Controlled fires (that is, those brought under control by shutting down the engine or by onboard extinguishing systems).	Rotating parts that are not life-limited (for example, compressor and turbine airfoils)
(2) Case burn-through where it can be shown there is no propagation to hazardous engine effects.	Accessory gearbox and internal components
(3) Release of low-energy parts where it can be shown there is no propagation to hazardous engine effects.	Engine bearings
(4) Vibration levels that result in crew discomfort.	Spinners
(5) Concentration of toxic products in the engine bleed air for the cabin sufficient to degrade crew performance.	Main engine mounts with redundant load carrying features
(6) Thrust in the opposite direction to that commanded by the pilot, below the level defined as hazardous.	Static gas path parts (for example, vanes and seals)
(7) Loss of integrity of the load path of the engine supporting system without actual engine separation.	Control system actuators
(8) Generation of thrust greater than maximum rated thrust.	Combustion liners
(9) Significant uncontrollable thrust oscillation.	Fuel nozzles
(10) Loss of protection such as loss of overspeed protection or loss of containment case capability.	
(11) Effect or influence on a Category 1 part.	

AC 33-9 C.O.S. and Part ID

7. Developing a Continued Operational Safety (COS) Plan.

a. COS Management Plan. Repair approval holders and persons making a major repair must perform their work in accordance with approved technical data and applicable performance regulations. If service experience or FAA oversight audits show the repair data was inadequate, in error, or the work was performed improperly, the FAA will evaluate the safety impact and take appropriate action. That action may be to issue an AD, Special Airworthiness Information Bulletin (SAIB), or other appropriate document. In such a case, the repair approval holder or the person who performed the work, or both, may be requested to develop a corrective action program or a design change to restore safety to an acceptable level. Therefore, the FAA recommends that repair approval holders who develop data for major repairs and persons who use that data to perform maintenance develop a COS management plan.

b. Part Identification. To facilitate part tracking as part of a COS management plan, we recommend that persons proposing a repair provide supplementary part identification procedures.

(1) Any original part markings, such as the part number and serial number, should be maintained. Supplementary identification should be permanent and legible. It should include a name, trademark, or other symbol of the person performing the repair. Supplementary identification combined with adequate maintenance records ensures that if a problem occurs the affected parts can be identified, tracked, and, if necessary, removed from service.

AC 33-9 FM&EA

APPENDIX 1. FAILURE MODES AND EFFECTS ASSESSMENT

1. A failure modes and effects assessment is a qualitative process, independent of failure rates and probabilities, by which each failure mode of a part in the engine system is analyzed. Some top-level functions typically considered in an engine failure modes and effects assessment are:

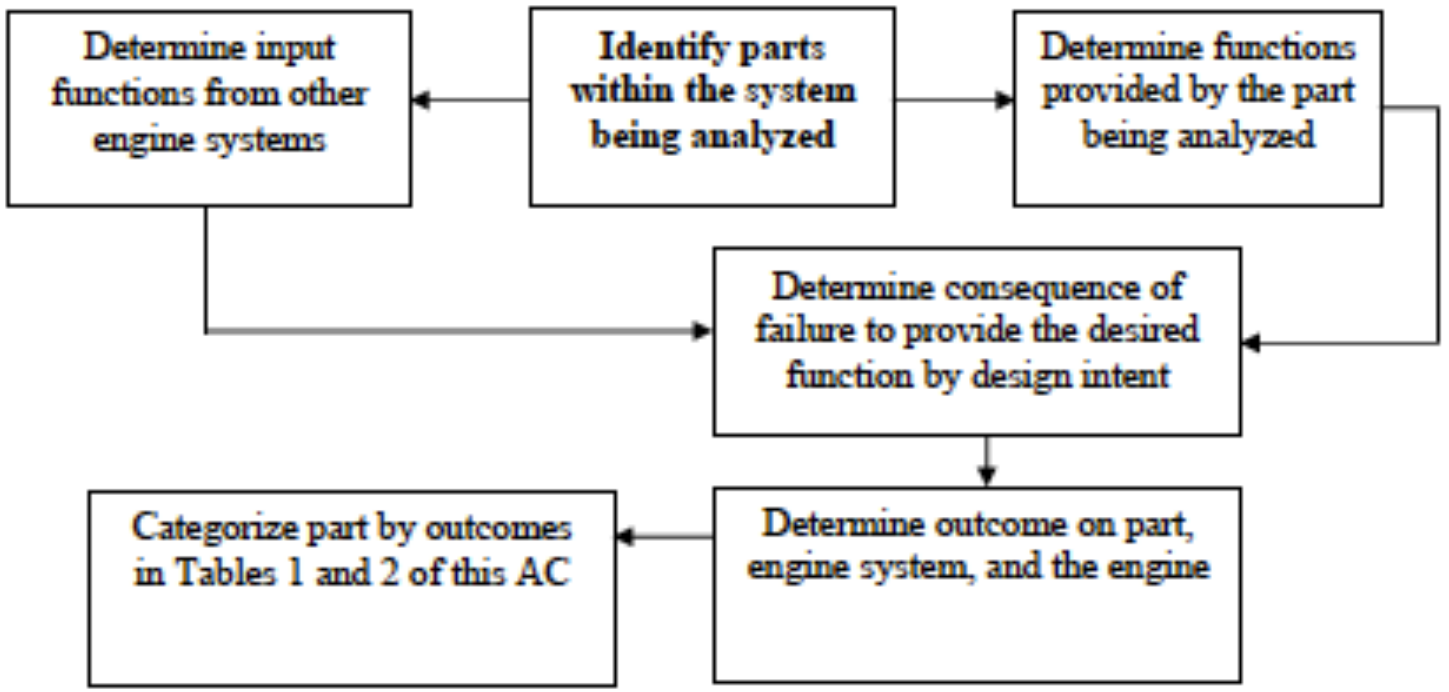
- Maintaining structural integrity, including allowed overspeed and overtemperature exceedances;
- Providing thrust or power;
- Operating in inclement weather;
- Providing customer bleed, power extraction, or both; and
- Meeting fuel consumption, exhaust gas temperature, vibration, emission or noise limits.

2. Each system and subsystem of the engine is broken down into its basic functions using a functional block diagram consistent with the Air Transport Association policy for identification and definition of systems.

3. The functional block diagram defines each system and subsystem, and all their functions, in the turbine engine. The experienced safety engineer performing the analysis determines the part-to-part and part-to-system influences in both directions (input and output). The process flow is shown in figure A1.1 below:

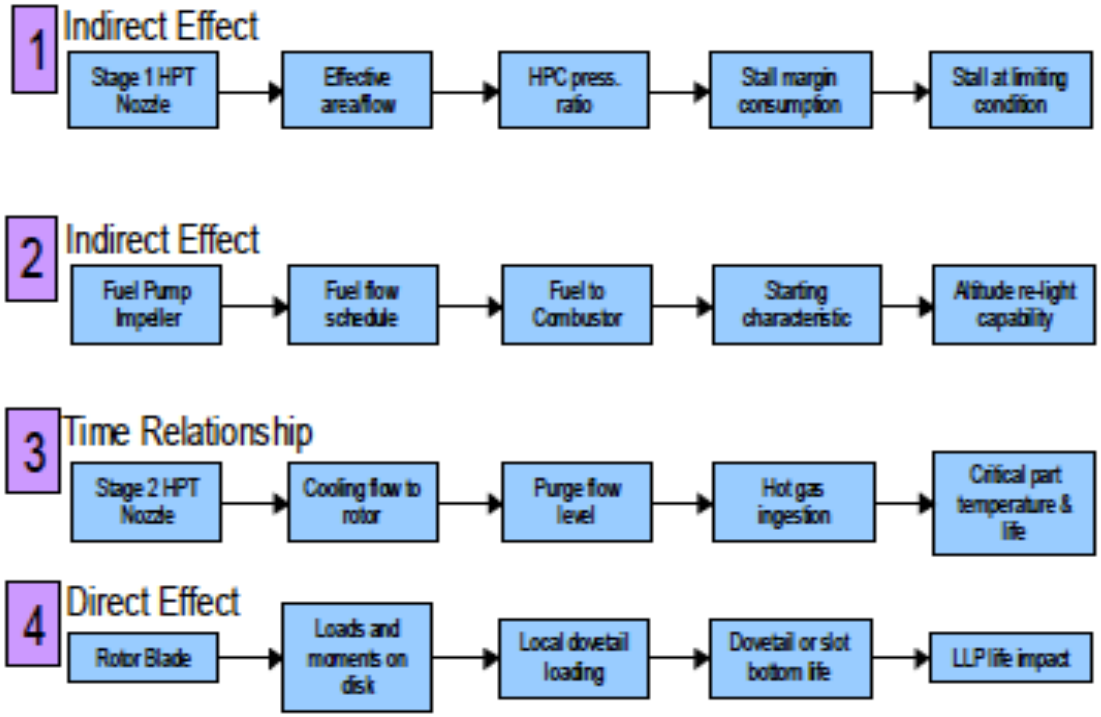
AC 33-9 FMEA Flow Chart

Figure A1.1. Process Flow Diagram



AC 33-9 Part Interactions

Figure A1.2. Part Interaction Considerations



Part Interaction Considerations

- Fluid interactions
  - Air, fuel, oil
- Direct interactions
  - Mechanical loading
  - Aero loading
  - Contact/wear
  - Chemical
- Indirect interactions
  - Vibration
  - Acoustical
  - Primary air
  - Secondary air
  - Control system
  - Structural dynamics
  - Sensor systems

AC 33-9 Repair Data Templates

Table A2-1. Sample Templates.

Template Number	Title	Page
1	Bearing Compartment and Carbon Seal Parts Family	15
2	High Pressure Turbine (HPT) Blade Part Family	25
3	Low Pressure Compressor (LPC) – High Pressure Compressor (HPC) Blade Part Family	36
4	Blades – Low Pressure Turbine (LPT)	46
5	Combustor Part Family	55
6	Externals Part Family (Tubes, Manifolds, Ducts, Brackets)	66
7	Fuel Nozzle Part Family	75
8	Gearbox Housing Assembly Part Family (Shafts, Gears, Housings)	84
9	Low Pressure Compressor (LPC) – High Pressure Compressor (HPC) Stator Part Family – Vane Sector (And Full Ring) Type Stators	94
10	Low Pressure Compressor (LPC) – High Presser Compressor (HPC) Stator Part Family – Fixed Vane Type Stators	103
11	Major Engine Cases	112
12	Major Rotating (Non-Life Limited) Part Family (Excluding Turbine Shaft Coupling Part Family)	121
13	High Pressure Compressor (HPC)/High Pressure Turbine (HPT)/Low Pressure Turbine (LPT) Airseals (Non-Rotating) And Shrouds (Stationary) Part Family	130
14	Static Structure Part Family (ducts, bearing housings, etc.)	138
15	Low Pressure Compressor (LPC) – High Pressure Compressor (HPC) Stator Part Family – Variable Vane Type Stators	148
16	HPT Vane Part Family	157
17	Low Pressure Turbine (LPT) Vane Part Family	166

AC 33-9 Template 1 Example

Template 1

REPAIR SUBSTANTIATION CHECKLIST - BEARING COMPARTMENT AND CARBON SEAL PART FAMILIES

Categories of Bearing Compartment & Carbon Seal Part Family Repair. Determine which repair description best fits the repair proposal. If no repair description is appropriate, contact the FAA Advisor for guidance.

CATEGORIES OF REPAIRS	REPAIR DESCRIPTION
1.	Restoration of Protective Coating • This repair includes touch-up coating
2.	Weld or Braze Repair • This repair excludes detail part replacement
3.	Weld or Braze Repair • This repair includes detail part replacement
4.	Assembly and/or Disassembly • This repair assembles, disassembles, removes and replaces detail parts, or sub-assemblies without use of permanent attachment techniques (i.e.; welding or brazing). Assembly is either bolted or riveted.
5.	Blend Repair
6.	Dimensional Restoration by Coating or Plating
7.	Bushing/Helicoil Repair
8.	Straightening, Re-twist, or Reforming Repair • This repair includes straightening of bent knife edges
9.	Surface Treatment Repair • This repair includes peening, vibratory tumble (e.g.; restoration of surface finish/texture)
10.	Machining Repair • This repair includes lapping, skim cut, non-conventional machining
11.	Restoration of Adhesives, Bonding Agents, Potting Compound

When the cell under a category of repair is not shaded, the items listed under that requirement should be reviewed for applicability, based on the repair design, and only the items pertinent to this category of repair should be selected and addressed appropriately. Items not selected need not be addressed.

An FAA-approved configuration means a new part (produced under a PC, TSO, or PMA) or a previously approved repaired part.

AC 33-9 Template 1

Req No.	Repair Design Requirements to be Identified and Substantiated.	CATEGORIES OF REPAIR										
		1	2	3	4	5	6	7	8	9	10	11
1.	**Applicable Degradation Modes**: Select all that apply based on the function of the part and its operating environment in the engine. This section provides the background for establishing the substantiation requirements. a. Thermo-Mechanical Fatigue b. Oxidation c. Corrosion d. Elevated Temperature-Induced Changes (Creep, Diffusion, Ageing, Temperature Gradients) e. Wear due to: Adhesion, Abrasion, Corrosion, Erosion, Cavitation, Fretting, Oxidation f. High Cycle Fatigue g. Rubbing, foreign object impact damage, O_3 chemical attack, etc.											

AC 33-9 Template 1 cont

Req No.	Repair Design Requirements to be Identified and Substantiated.	CATEGORIES OF REPAIR										
		1	2	3	4	5	6	7	8	9	10	11
2.	Select all **mechanical, metallurgical, and physical properties of the part affected by the repair design**, and assess their impact on the part's airworthiness:											
	Mechanical Properties:											
	a. Stress-Strain											
	b. Fracture Toughness											
	c. Fatigue Strength (S-N, Goodman, Dwell Time)											
	d. Creep											
	e. Tensile Properties (Yield, Strength, Elongation)											
	f. Hardness											
	g. Young's Modulus											
	h. Natural Frequencies											
	Metallurgical Properties:											
	i. Chemical Composition (Alloy constituents)											
	j. Microstructure (grain size – shape - boundary precipitates, gamma prime size and volume fraction, etc.)											
	k. Melting Point											
	l. Corrosion Resistance											
	m. Oxidation Resistance											
	n. Wear Resistance (Consider wear types in (1)(e))											
	o. Crack Propagation Rate											
	Physical Properties:											
	p. Density (weight)											
	q. Coefficient of Thermal Expansion											
	r. Refractive Index (X-Rays)											
	s. Center of Gravity											
	t. Polar Moment of Inertia											

AC 33-9 Template 1 cont

Req No.	Repair Design Requirements to be Identified and Substantiated.	CATEGORIES OF REPAIR										
		1	2	3	4	5	6	7	8	9	10	11
3.	Select all **Material Properties/Characteristics for weldments or brazed joints** that apply and evaluate them and their interface with the parent metal. The effect of any changes to the part's metallurgy, as a result of welds or braze, should be evaluated for airworthiness. a. Microstructure (grain size, grain shape, grain boundary precipitates, gamma prime size, and volume fraction, etc.) b. Porosity (weldment) c. Diffusion Zone (brazing) d. Heat Affected Zone (welding)											

AC 33-9 Airworthiness Check List

Req No.	Repair Design Requirements to be Identified and Substantiated.	CATEGORIES OF REPAIR 1	2	3	4	5	6	7	8	9	10	11
11.	Manufacturing requirements for fabrication of repair details or replacement sections used to accomplish repair: • Drawings/Specs • Quality Requirements • Critical Process Validation needs											
	Applicable 14 CFR Part 33 Requirements											
	Subpart A – General											
12.	33.4 Instructions for Continuous Airworthiness (ICA's)											
13.	33.5 Instruction manual for installing and operating the engine											
14.	33.7 Engine ratings and operating limitations											
15.	33.8 Selection of engine power and thrust ratings											
	Subpart B – Design and Construction; General											
16.	33.14 Start-stop cyclic stress (low cycle fatigue)											
17.	33.15 Materials											
18.	33.17 Fire prevention											
19.	33.19 Durability (Note that 33.19 is associated with 33.27; 33.63; 33.83; 33.87; 33.88; and 33.90)											

FAA National Policy Updates

- N8110-111 expiration extended*
- 8110.37E [Mar 2011]

* N8110-111 Extended because 8110.37E did not carry over important details defined in N8110-111, next issue of 8110.37 should capture these items and then incorporated

FAA National Policies DER repairs

- 8110.37E has defined a separation of delegated responsibilities between a
- DER with single use Major repair authority, and Multiple Use Major Repair authority.
- RS-DER delegation has been created which separates this task from M/U DER review and approval of the “Technical Aspects” of the repair.

FAA National Policies DER RS-DER

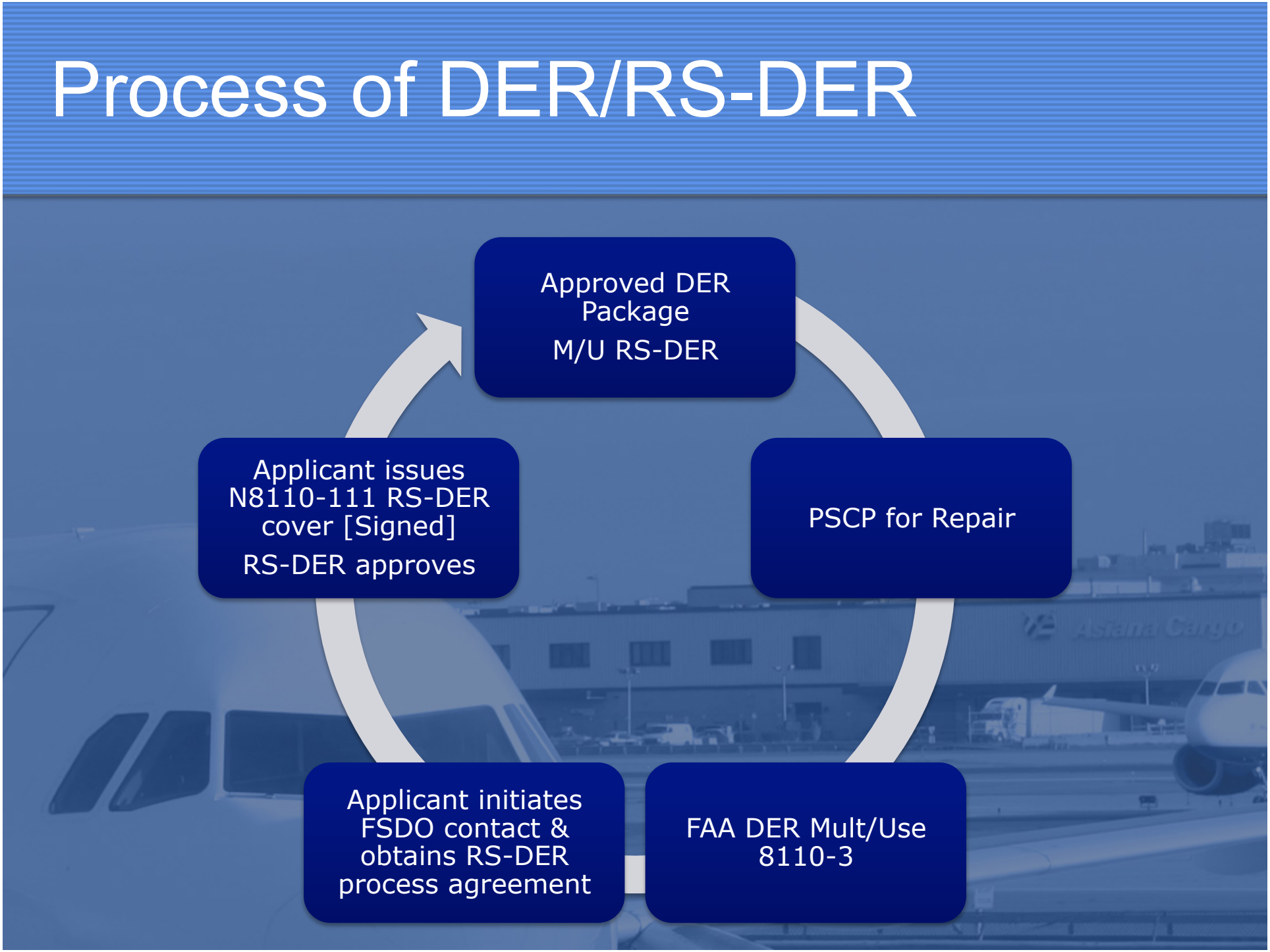
- RS-DER is tasked with reviewing the applicants "Repair Process Procedure" How the repair will be carried out!

Meaning the step by step processes applied to meet the technical design aspects of the repair.

Unfortunately there are less than 50 of these delegations presently available!

There are approximately 300 M/R M/U.

Process of DER/RS-DER



FAA ~ EASA developments

EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

Federal Aviation Administration

The Aviation Safety Agreement Between The United States and The European Community

EASA/FAA Workshops in the US, September 2011

EASA / FAA Bilateral update

What is a Bilateral Agreement? (Continued)

- Bilateral Agreement
  - **Does not relieve** FAA, EASA and the AA's of their statutory responsibilities to "make findings of compliance" with regulations; however…
  - **Does provide** an alternative means for the Authorities to make their findings," using the system of the other signatory country to the maximum extent practicable

FAA / EASA Bilateral updates

Principles of Bilateral Agreements

- Bilateral Agreement
  - Is between the United States and European Union, not industry
  - Promotes **reciprocal acceptance** of findings and approvals, **not mutual recognition**
  - Is based on systems that produce equivalent results, though processes and procedures may be different
  - Is based on acceptance of a **system.**

FAA / EASA Bilateral update

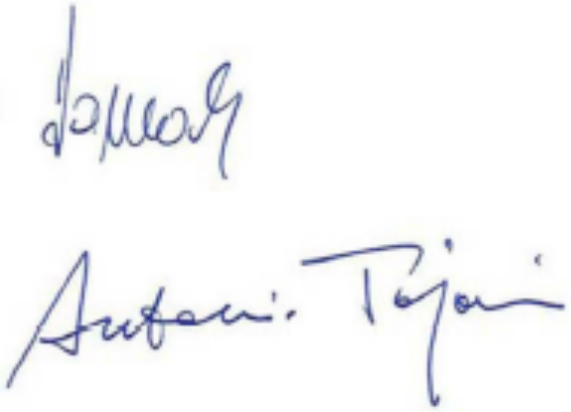
The U.S./EU Aviation Safety Agreement

- The agreement with the European Union is an agreement "On Cooperation in the Regulation of Civil Aviation Safety."
  - The Agreement and it's Annexes may be found at
  - FAA: http://www.faa.gov/aircraft/repair/
  - EASA: http://easa.europa.eu/approvals-and-standardisation/organisation-approvals/CAO-foreign-part-145-organisations-located-in-the-united-states.php
  - The Executive Agreement and its Annexes are **BINDING** in international law

What does the Bilateral Cover?

Introduction to the New U.S./EU Aviation Safety Agreement

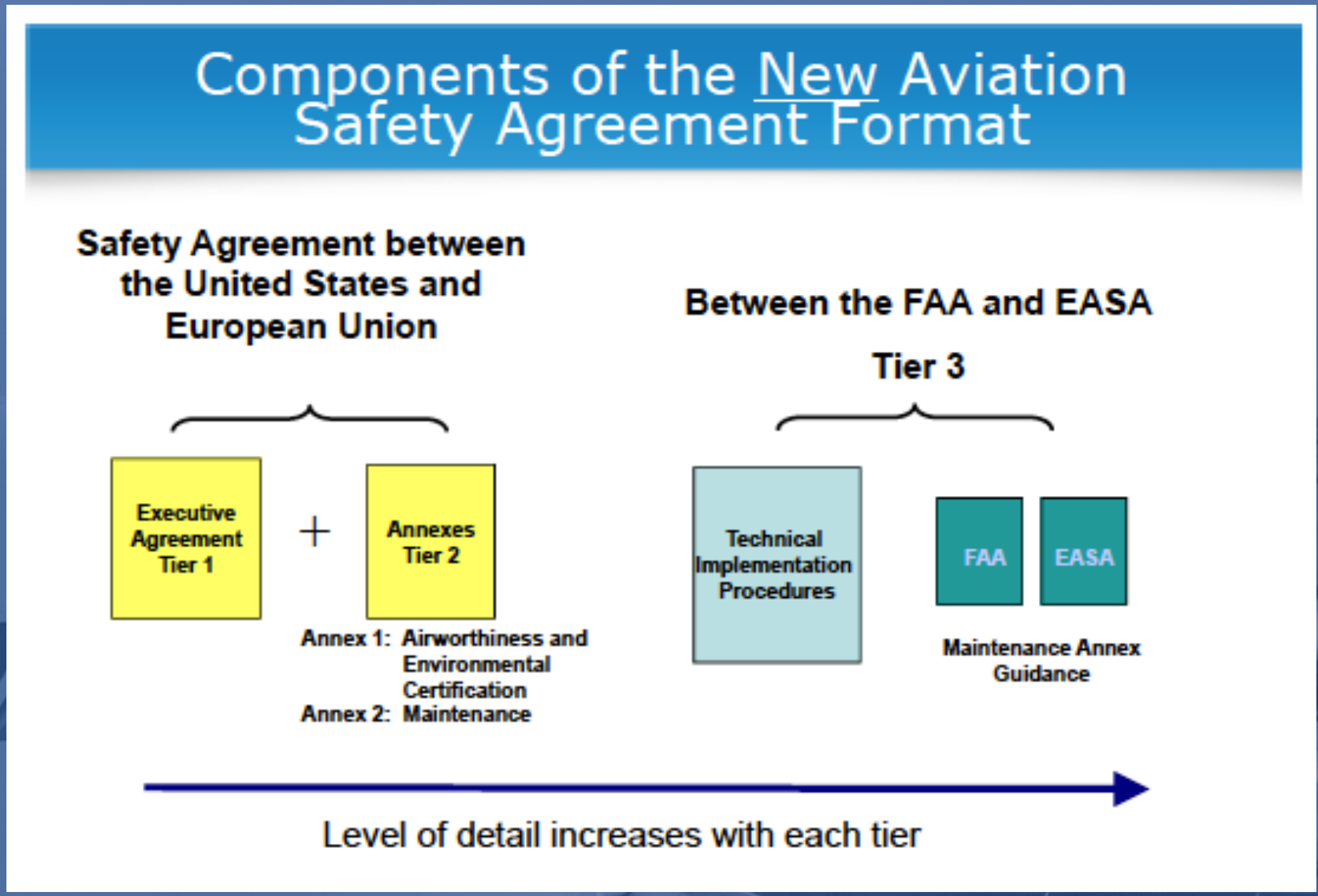
За Европейската общност
Por la Comunidad Europea
Za Evropské společenství
For Det Europæiske Fællesskab
Für die Europäische Gemeinschaft
Euroopa Ühenduse nimel
Για την Ευρωπαϊκή Κοινότητα
For the European Community
Pour la Communauté européenne
Per la Comunità europea
Eiropas Kopienas vārdā
Europos bendrijos vardu
az Európai Közösség részéről
Għall-Komunità Ewropea
Voor de Europese Gemeenschap
W imieniu Wspólnoty Europejskiej
Pela Comunidade Europeia
Pentru Comunitatea Europeană
Za Európske spoločenstvo
za Evropsko skupnost
Euroopan yhteisön puolesta
På Europeiska gemenskapens vägnar



Aviation Safety Agreement covers:

- Airworthiness and environmental certification, and
- Maintenance

EASA / FAA Bilateral Excerpts



FAA / EASA Bilateral Excerpts

Executive Agreement

- **The Executive Agreement is an umbrella agreement defining U.S./EU cooperation in aviation safety.**
- **It is unique in that the agreement is with the EU, not with an individual country**
  - Applicable to the United States and EU Member States contained in Annex 2, Appendix 2
- **In other words, this agreement is the,**
  - first aviation safety bilateral that is multilateral in its scope

FAA / EASA Bilateral Excerpts

Executive Agreement

- The Executive Agreement contains 19 articles and two annexes.
  - Annex 1 : Airworthiness and Environmental Certification
  - Annex 2 : Maintenance

Annex 2 of the Agreement mandates the JMCB to develop Guidance Material

This guidance is known as the Maintenance Annex Guidance (MAG)

FAA / EASA Bilateral Excerpts

Agreement/Annex 2/Maintenance

Annex 2 (Key Points)

- Outlines the procedures for implementing the provisions of the agreement that apply to maintenance
- BASA/MIP's will remain in place in France, Germany & Ireland until they are transitioned to the new Agreement

FAA / EASA Bilateral Excerpts

Agreement/Annex 2/Maintenance

- The FAA and EASA have determined the requirements in CFR Parts 43 and 145 that are not covered in the EASA rules and are contained in the **FAA Special Conditions** of the Maintenance Annex 2

- As a result, an AMO complying with EASA requirements and the **FAA Special Conditions** in the Maintenance Annex 2 complies with CFR Parts 43 and 145

FAA / EASA Bilateral Excerpts

Agreement/Annex 2/Maintenance

- The FAA and EASA have determined the requirements in EASA Part 145 that are not covered in the FAA rules and are contained in the **EASA Special Conditions** of the Maintenance Annex 2
- As a result, a Repair Station complying with CFR Parts 43 and 145 and the **EASA Special Conditions** in the Maintenance Annex 2 complies with EASA Part 145

EASA /FAA Reciprocal Acceptance

FAA and EASA Reciprocal Acceptance of Repair Data within the United States and European Union

Presented to: Workshop on the Implementation of Annex 2 (Maintenance) to the Agreement between USA and EU

EASA /FAA Reciprocal Acceptance

Briefing Points

- The FAA and EASA have agreed to reciprocal acceptance of repair data.
  - Implemented through the new US/EU Aviation Safety Agreement, effective May 1, 2011
    - Annex 1, paragraph 3.2.7
    - Technical Implementation Procedures, paragraph 3.3
  - Implemented prior to May 2011 through Bilateral Aviation Safety Agreements Implementation Procedures for Airworthiness with 6 EU member states.

EASA /FAA Reciprocal Acceptance

Briefing Points

- **FAA and EASA will accept each others approved repair design data regardless of State of Design of the component/product.**

Two processes established:

  - Streamlined Reciprocal Acceptance of repair data for non-critical components and critical components developed by the TC/STC holder
  - Formal approval of critical component repair data developed by a third party

EASA /FAA Reciprocal Acceptance

US to Europe --->

Process 1: Streamlined acceptance of repair data

US to EUROPE:

- **EASA has certificated/validated the product or appliance, i.e. the product has an EASA TC/STC or ETSO approval.**
- **FAA is the authority of the State of Design for the repair design data.**
- **Data approved using the FAA system, major repair data approval via an FAA letter, FAA Form 8110-3, 8100-9 or 337**

EASA /FAA Reciprocal Acceptance

EUROPE to USA ------→

Process 1: Streamlined acceptance of repair data (continued)

EUROPE to US:

- **FAA has certificated/validated the product, part, appliance or component (i.e. the product has an FAA TC/STC or TSO approval).**
- **EASA is acting on behalf of the State of Design for the repair design data.**

EASA /FAA Reciprocal Acceptance

Process 1: Streamlined acceptance of repair data (continued)

EUROPE to US continued:

- **EASA repair design data approval is substantiated via an EASA repair design approval letter or a repair design approval issued under a Design Organisation Approval (DOA), and**
- **The repair is not in an area that is subject to an FAA AD, unless the AD allows for acceptance of an EASA repair design approval**

EASA /FAA Reciprocal Acceptance

Acceptance of repair data

FAA and EASA have agreed to accept each other's systems for the classification and approval of repair data.

- **Data must have a local approval.**
  - **FAA approval for repairs designed in the US system;**
  - **EASA approval for repairs designed in the EU system**

Remember, FAA or EASA must approve/accept the repair design data under its own system before the other bilateral partner can accept it.

EASA /FAA Reciprocal Acceptance

Process 2: CRITICAL COMPONENTS

Formal Approval of Critical Component Repair Data (by other than the TC/STC holder)

- **Make application through FAA/EASA:**
  - **Fast track process when the FAA or EASA can confirm that the applicant has entered into an arrangement with the TC/STC holder for this data.**
  - **Validation process is required when there is no arrangement with the TC/STC holder.**
  - **FAA or EASA will issue its own approval of the critical component repair.**

FAA / EASA repair acceptance summary

SUMMARY

- FAA and EASA will accept each others approved repair design data regardless of State of Design of the component/product.
- Critical components will require additional review.

SUMMARY

- GLOBALIZATION IN COMMERCIAL AEROSPACE IS IMPACTING REPAIR ACCEPTANCE.
- THIS GLOBALIZATION IS INITIATING REGULATORY CHANGES WHICH HAVE AND WILL CHANGE THE LANDSCAPE OF REPAIR APPROVAL PROCESSES.
- STAY FULLY INFORMED TO STAY COMPLIANT< AND COMPETATIVE!

QUESTIONS

- DERS GROUP SVC LLC
- Contact Info:

- www.ders-group.com
- Main Office: 1-812-645-4067
- Email: Admin@ders-group.com