Air Force Test Center

AFTC Contractor-Owned Contractor-Operated Airworthiness Process

OR

Who's Liable Anyway?

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This Briefing is:
UNCLASSIFIED

Outline and BLUF

- **Outline**
  - **Background**
  - **Why Change?**
  - **New Process**
  - **Examples**
  - **Summary**

Alpha Jet

- **BLUF**
  - **The Air Force Materiel Command (AFMC) airworthiness process for Contractor-Owned Contractor-Operated aircraft has changed**

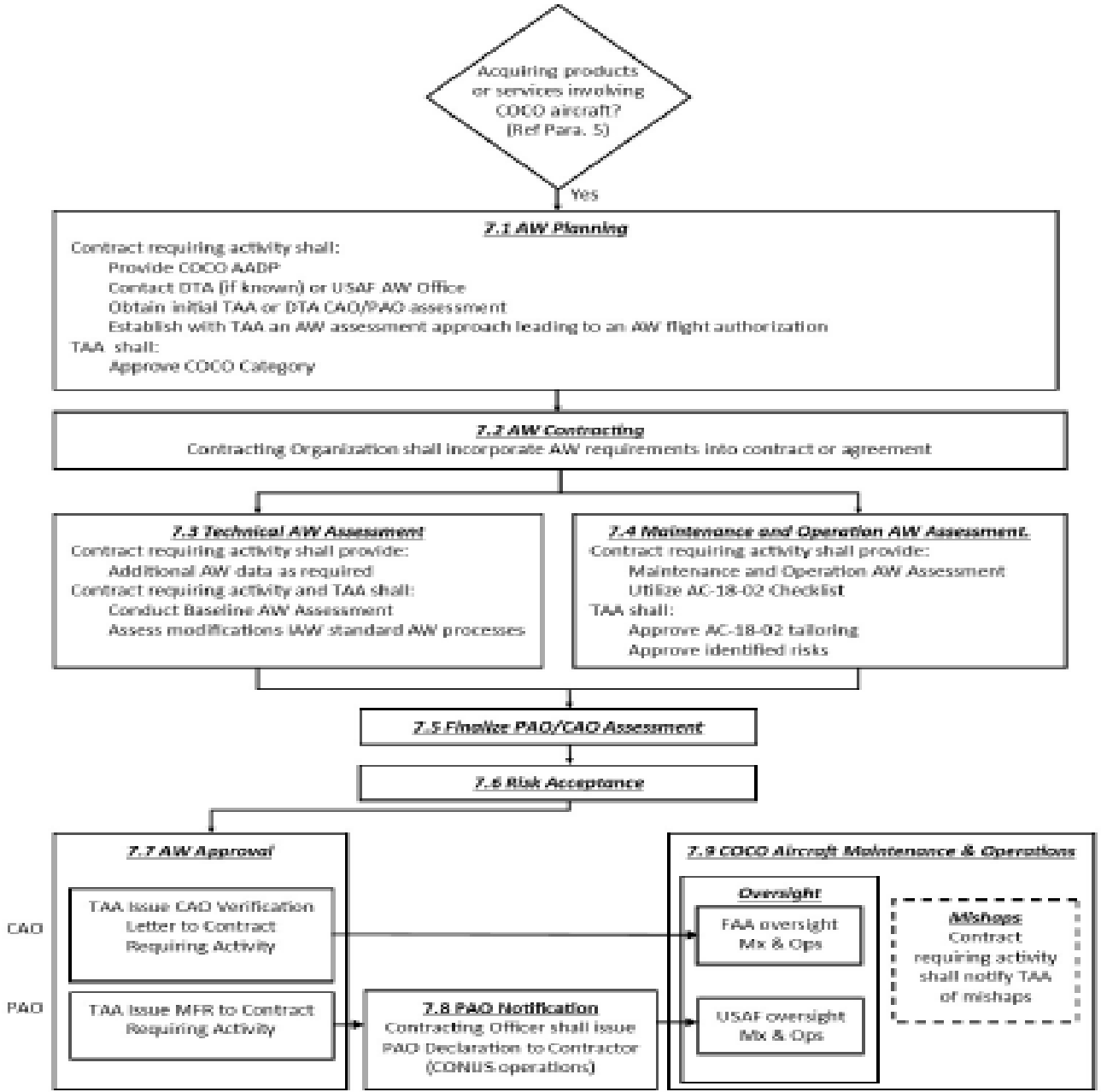
Background

- **In 2014, AFTC developed a process, based on AFMC guidance, to do airworthiness assessments for COCO aircraft used for test support**
- **Governing documents include:**
  - **DoDD 5030.61**, *DoD Airworthiness Policy*, May 24, 2013
  - **Air Force Policy Directive (AFPD) 62-6**, *USAF Airworthiness*, 11 June 2010
  - **AFI 62-601**, *USAF Airworthiness*, 11 June 2010
  - **Airworthiness Bulletin** AWB–340, 26 Oct 2018
- **Purpose of COCO Airworthiness Process –** assessing airworthiness of, and providing the appropriate AW approval for, COCO Air Systems
- AFMC is Air Force Airworthiness Authority, AFLCMC/EN is Technical Airworthiness Authority and can delegate authority to other AFMC organizations

Why Change?

- **Guidance from AFMC/JAG**
  - **Airworthiness and Liability Responsibilities**
    - DODI 5030.61 paragraph 3.a requires an airworthiness assessment for all aircraft “used” by DoD agencies.
      - » The term “used” by a Military Department normally means through a contract.
    - Policy doesn’t distinguish between CAO or PAO.
    - Liability will be determine by a factual determination of negligence regardless of PAO or CAO.
    - There are no FAR clauses to indemnify the USAF from any liability associated with contracting services operating in civil status.
- **“Bad Actors” discovered during contractor inspections**
  - **If one bad actor found, who’s to say there aren’t others?**
  - **It is our duty to identify risk – can’t turn a blind eye to it**

New Process (Chart 1 of 5)



New Process (Chart 2 of 5)

- **New Air System Categories to determine depth of airworthiness assessment**
  - **Category 1**
    - Type design certification pedigree and modification design approvals
    - Configuration, usage, and environment consistent with pedigree
  - **Category 2**
    - Do not meet the criteria for Category 1 and,
    - Have a configuration representative operational w/over 10,000 Flight Hours (FHs) and;
    - The fleet has Probability of Mishap less than 1x10-4 per FH or sortie considering historical fleet FHs and Class A mishaps. Using:

$$Probability\ of\ Mishap\ per\ FH\ or\ Sortie = (Class\ A\ Mishaps + 1)\ /FH$$

  - **Category 3**
    - Do not meet criteria for Categories 1 or 2

FH = Flight Hour

New Process (Chart 3 of 5)

- **COCO Aircraft Airworthiness Data Package:**

1. **GENERAL INFORMATION**:

   a. ***Make and Model Number***

   b. ***Serial Number*** – identify the serial number(s) of the aircraft.

   c. ***Registration Number*** – identify the registration number(s) of the aircraft.

   d. ***Type Certificate Data Sheet (TCDS)*** – provide the aircraft's TCDS number on which the aircraft's serial number appears. If no TCDS number exists, describe the basis of certification recognized by the FAA.

   e. ***Airworthiness Certificate*** – provide a copy of the aircraft's Airworthiness Certificate (e.g., FAA Form 8100-2, 8130-7, etc.).

   f. ***FAA Program Letter –*** Provide a copy of the FAA program letter, if applicable.

   g. ***Representative Fleet Hours*** –

   And so on…. (2 pages worth)

New Process (Chart 4 of 5)

- **Maintenance and Operations Assessment**

Attachment 2
Airworthiness Technical Evaluator Checklist for Operator Inspection for Continued Airworthiness

Operator Inspection for Continued Airworthiness **Version**: 22 AUGUST 2018

Contractor/Offeror:
Evaluator:
Location:
Date:

ID	Checklist Item Description	Background/Notes for Evaluator (Informational)	Applicability	Satisfactory	Unsatisfactory	Method (D=Discuss, R= Review, I= Inspect)	Artifact	Notes
1.0	**Aircraft Inspection, Maintenance, and Modication Records**							
1.1	**Determine type of inspection program under 14 CFR part 91.409** -Small aircraft (CE-172, PA-28) will be under an: (a)(1)Annual Inspection "or" (b) 100 hour "or" (d) Progressive Inspection -Large airplanes (turbojet multiengine airplane, turbo propeller-powered or turbine-powered rotorcraft) (Lear 35, CL-604, King Air, Cessna 208) will be under an: (f)(2) Continuous Airworthiness inspection program (CAMP) part 121/135 certificate holders only. (f)(3) inspection program recommended by the manufacture (this is the most common) (f)(4) Inspection program established by the owner/operator approved by the FAA under 91.409(g) Note turbine-powered rotorcraft can elected to use the inspection provisions of 91.409(a), (b), (c) or (d) in lieu of an inspection option of 91.409(f).	Review maintenance logs to determine how aircraft is maintained in accordance with an inspection program meeting the scope and content described in § 91.409(f). The owner/operator must select and identify in the aircraft maintenance records one of the following programs for the inspection of the aircraft: (a) For type-certificated aircraft, a current inspection program recommended by the manufacturer; or (b) For former military aircraft, an inspection program recommended turbine engine by the manufacturer or North Atlantic Treaty Organization (NATO) airplanes, military service; or (c) An FAA-approved inspection program. Note: To extend an inspection interval, the owner/operator must submit a request for that extension with supporting documentation and data to the local FSDO and obtain concurrence from that FSDO. Inspections must be recorded in the aircraft maintenance records showing the following,						
1.2	Obtain copy of current inspection status of the aircraft, including the time since last inspection required by the inspection program under which the aircraft and its appliances are maintained.							

New Process (Chart 5 of 5)

- **PAO/CAO Assessment**
  - **CAO** – the FAA remains the AW authority for the flight(s
  - **PAO** – the public entity (e.g., USAF) becomes the AW authority for the subject flight(s)
  - conflicts with civil aviation regulations (CFR 14, Special Airworthiness Certificates Operating Limitations, etc…) precluding CAO and determine when flights need to be PAO
- **Technical Assessment – Risk**
  - **Depth depends on Category from FAA Type Cert sufficient to Independent Review Team needed**
  - **Risk assigned according to MIL STD-882E (Back-up Charts)**
- **Risk Acceptance – AFTCI 91-202**
  - **Depending on Risk Level, correct Commander must accept the risk for the Air Force**
- **Issuance of CAO Verification Letter or Military Flight Release**

Examples

- Last 8 months
  - T-6
  - L-39
  - Gyrocopter
  - Sabreliner
  - T-33
  - F-104
  - And more…

Summary

- AFTC Airworthiness Process created in 2014
- Significant changes enacted in 2018 driven by AFMC
  - AFMC/JAG Liability Assessment
  - “Bad Actors” drove need for more in depth inspections
- Changes include
  - Aircraft Airworthiness Data Package
  - Air Systems Categories driving Technical Assessment depth
  - Maintenance and Operations Assessment
- Process has worked well for multitude aircraft to date

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P-51

Questions??

Back-up Charts

MIL-STD-882E

USAF Airworthiness Risk Assessment Matrix			Severity Category			
Probability Level	Probability per FH or Sortie	Freq per 100K FH or 100K Sorties	Catastrophic (1)	Critical (2)	Marginal (3)	Negligible (4)
Frequent (A)	$10^{-3} \leq$ Prob	100 ≤ Freq	1	3	7	13
Probable (B)	$10^{-4} \leq$ Prob $< 10^{-3}$	10 ≤ Freq < 100	2	5	9	16
Occasional (C)	$10^{-5} \leq$ Prob $< 10^{-4}$	1 ≤ Freq < 10	4	6	11	18
Remote (D)	$10^{-6} \leq$ Prob $< 10^{-5}$	0.1 ≤ Freq < 1	8	10	14	19
Improbable (E)	$0 <$ Prob $< 10^{-6}$	0 < Freq < 0.1	12	15	17	20
Eliminated (F)	Prob = 0	Freq = 0	Eliminated			

High	CAE Risk Acceptance RAC = 1 - 5	**Medium**	PM Risk Acceptance RAC = 10 - 17
Serious	PEO Risk Acceptance RAC = 6 - 9	**Low**	Risk Acceptance as Directed RAC = 18 - 20

MIL-STD-882E Definitions

SEVERITY CATEGORIES		
Description	**Severity Category**	**Mishap Result Criteria**
Catastrophic	1	Could result in one or more of the following: death, permanent total disability, irreversible significant environmental impact, or monetary loss equal to or exceeding $10M.
Critical	2	Could result in one or more of the following: permanent partial disability,injuries or occupational illness that may result in hospitalization of at least three personnel, reversible significant environmental impact, or monetary loss equal to or exceeding $1M but less than $10M.
Marginal	3	Could result in one or more of the following: injury or occupational illness resulting in one or more lost work day(s), reversible moderate environmental impact, or monetary loss equal to or exceeding $100K but less than $1M.
Negligible	4	Could result in one or more of the following: injury or occupational illness not resulting in a lost work day, minimal environmental impact, or monetary loss less than $100K.

PROBABILITY LEVELS			
Description	**Level**	**Specific Individual Item**	**Fleet or Inventory**
Frequent	A	Likely to occur often in the life of an item.	Continuously experienced.
Probable	B	Will occur several times in the life of an item.	Will occur frequently.
Occasional	C	Likely to occur sometime in the life of an item.	Will occur several times.
Remote	D	Unlikely, but possible to occur in the life of an item.	Unlikely, but can reasonably be expected to occur.
Improbable	E	So unlikely, it can be assumed occurrence may not be experienced in the life of an item.	Unlikely to occur, but possible.
Eliminated	F	Incapable of occurence. This level is used when potential hazards are identified and later eliminated.	Incapable of occurence. This level is used when potential hazards are identified and later eliminated.

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The briefing provides the background, reasons, and brief overview of the changes to the AFTC Airworthiness process for Contractor-Owned Contractor-Operated Aircraft used for test support.

15. SUBJECT TERMS
Air Force Test Center (AFTC), Air Force Materiel Command (AFMC), Airworthiness, Contractor-Owned Contractor Operated (COCO)

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