GAMA

General Aviation Manufacturers Association

19.JAN.18
WHAT ARE THE U.S. REGULATORY OPPORTUNITIES?

Type Certified Vehicle

Operator License (Pilot)

Continued Airworthiness

Operational Approval
ELECTRIC PROPULSION REGULATORY ENVIRONMENT
Q1-2016

ANAC

CAAC

EASA

FAA

Transport
Canada

Transport
Canada

Sport Aero

Sm. Aero

Lg. Aero

Rotorcraft

Engine

Prop
ELECTRIC PROPULSION REGULATORY ENVIRONMENT
Q1-2017

Sport Aero
Sm. Aero
Lg. Aero
Rotorcraft
Engine
Prop
PATH TO TYPE CERTIFICATION

Idea for eAircraft

Experimental Prototype

Compliant Design

Production Certificate

§21.17(b) – Special Class
§23 – Normal Category Airplane
§25 – Transport Category Airplane
§27 – Normal Category Rotorcraft
§29 – Transport Category Rotorcraft

If §23/25 Then…
§33 – Engine
§35 - Propeller
14 CFR § 23 + 14 CFR § 33 & 14 CFR § 35
14 CFR § 29 + 14 CFR § 33
14 CFR § 23 +
14 CFR § 33 &
14 CFR § 35

14 CFR § 21.17(b)

14 CFR § 27 +
14 CFR § 33
14 CFR § 23 + 14 CFR § 33 & 14 CFR § 35
PART 23 – A BIG OPPORTUNITY

Part 23-63 (377 Regulations)

Part 23-64 (71 Regulations)

Consensus Stds.
SEPARATING SAFETY REQUIREMENTS FROM METHODS OF COMPLIANCE

Authority

Historic Part-23

New Part-23

Auth. Acceptance

High-level requirements.
(safety driven)
NO technical solutions prescribed
No tiers or categories

International Aviation Community

Systems & Powerplant:

- Technical Solutions that meet standards
- Test specifications
- Specific compliance methods

Structures: Design Loads & Conditions

- Technical Solutions that meet standards
- Test specifications
- Specific compliance methods

Structures General

- Technical Solutions that meet standards
- Test specifications
- Specific compliance methods

Detailed Design Standards
- Tiered where it makes sense
- Contains detailed compliance requirements
- Current P23 used as a starting basis

International Aviation Community

High-level requirements.
(safety driven)
NO technical solutions prescribed
No tiers or categories
U.S. POPULATION ≈ 3.2 MILLION

= 2,000 People
U.S. PILOT POPULATION ≈ 590,000

= 2,000 People  = 2,000 Pilots
HOW DO YOU MAKE A PILOT?

Person + Desire + Studying + Flying Experience + Medical = Pilot
DECONSTRUCTED PILOT

- Boxes Represent FAA Pilot Training Areas
- Green Represents Current State of Technology (Average Pilot Capabilities is Half Full)
Note: Includes Class B, C, D, Restricted, Prohibited, NSA, Warning areas.
5G Mobile Network
Voluntary Air-Net:
- Location
- 4D Traj
- WX
- Flt. Data
- Landing Info
- MX Info
- Etc.
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