



EASA
European Aviation Safety Agency

Engine-Aircraft Certification Working Group

Report & Recommendations

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Agenda

- Overview
- Background
- Activities
- Findings
- Recommendations
- Implementation



Overview

- The WG was formed in April 2016 after exchange of letters between EASA/FAA leadership
- Co-chaired by EASA (L. Gruz) and FAA (R. Ganley)
- Authority members
 - EASA/FAA representatives from aircraft and engine side
- Industry members
 - GE, PW, RR, SAFRAN, Boeing, and Airbus
- For details of membership see backup slides



Overview

- EASA/FAA management draft report review complete
 - FAA AIR-1 on May 19
 - Added language to address accountability framework
 - EASA ESC on May 15
- Submit final report June 9
- Present conclusions at the June 14-16 Safety Conference
 - Panel 2: Challenges and Opportunities: Aircraft and Engine Certification and Oversight



Background

- The WG was setup to address perceived issues, including:
 - Lack of maturity of certified engines as seen during aircraft certification or initial EIS
 - Specific technical issues
 - Burdensome processes, including regulatory inconsistencies
- The WG was tasked to conduct an in-depth review of current certification practices/processes, and develop recommendations on changes to streamline/improve



Background

- The scope of the WG focused on turbine engines installed in transport category aircraft
- All options were considered, up to merging engine and aircraft certifications



Activities

- 4 face-to-face meetings and 12 telecons
- Brainstorming
- Survey (19 replies) from NAAs and industry
- Regulatory review:
 - 4 airworthiness requirements
 - Part 33 / CS-E and Part 25 / CS-25
 - Gaps, overlaps, redundancies between them



Findings

- Current process delivers safe products
- Consensus to maintain the 'two type certificate' concept
- Room for coordination improvements, which will allow efficiency gains
- Specific issues should be addressed
 - Fire prevention, icing, EWIS, application of ARP 4754A to engine controls, inhibition of engine auto-shutdown modes, etc.
- Need to improve coordination between engine and aircraft parties
 - During certification projects
 - During policy establishment and rulemaking



Recommendations

- WG proposes 29 prioritized recommendations including training, procedures, and policy/rulemaking in the following five categories:
 - Conducting certification programs (4)
 - Understanding and developing regulatory requirements (8)
 - Understanding if the engine/aircraft interface is working properly (1)
 - Addressing specific rule and policy gaps (13)
 - Recommendations outside the WG scope (3)

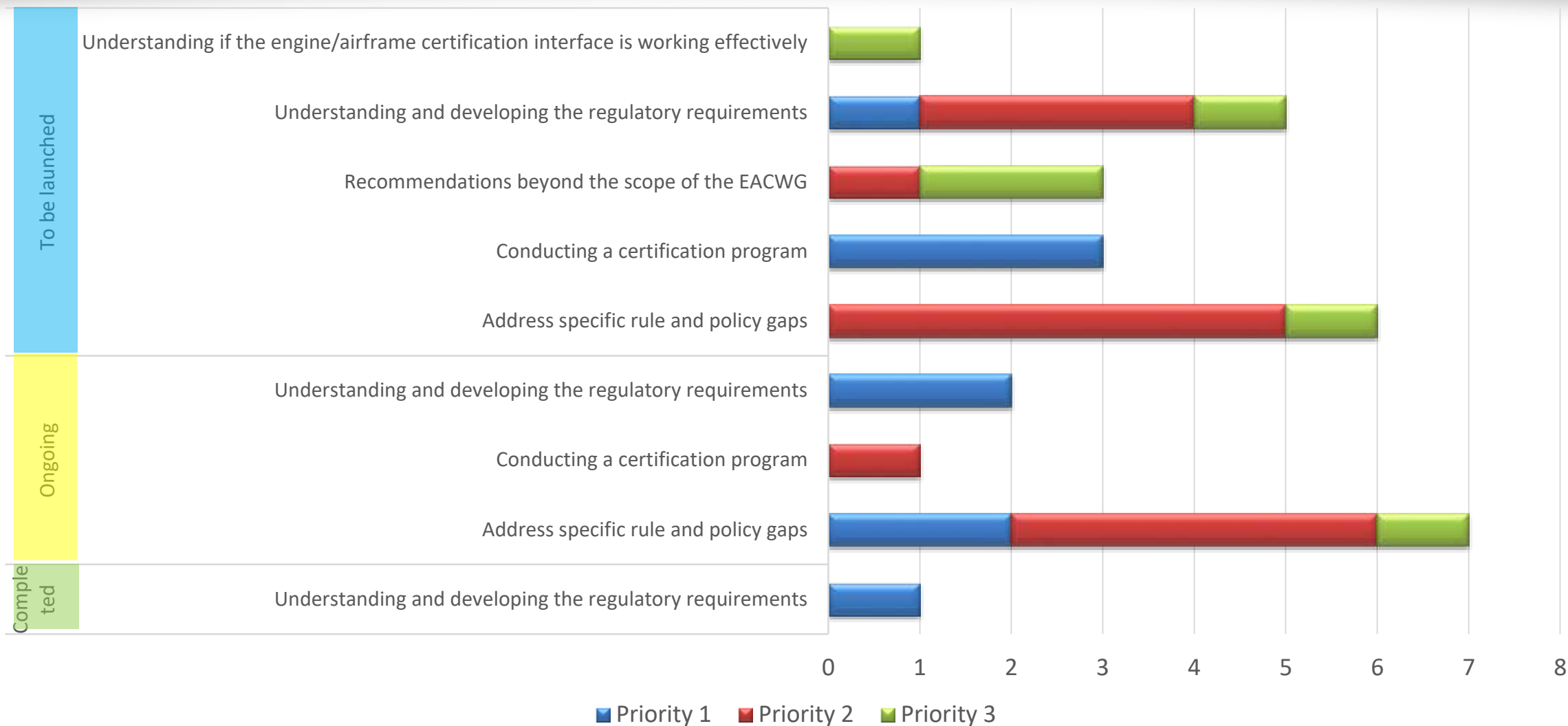


Recommendations

- Status of recommendations
 - 1 recommendation already completed
 - 10 ongoing
 - 18 to be launched
- Includes setting up Engine and Aircraft Certification Tracking Board (EACTB)
 - Monitor progress on addressing engine/aircraft certification issues
 - Identify, discuss and resolve issues outside of projects



Recommendations





Recommendations

- Conducting certification programs (4)
 - Multi-party project reviews (R1.1)
 - Process to communicate & resolve integration issues (R1.2)
 - Process to communicate conflicting requirements (R1.3)
 - EACTB
 - Revise training (e.g., propulsion course) (R1.4)

Notes:

- GREEN indicates highest priority recommendations
- (Rx.x) corresponds to report recommendation number
- See backup slides for detailed recommendations



Recommendations

- Understanding and developing regulatory requirements (8)
 - Ground rules for developing regulations/guidance (R2.1)
 - Part 33/25 and CS-E/25 rule gap analysis (R2.2) (complete)
 - Part 33/25 and CS-E/25 policy/guidance gap analysis (R2.3)
 - Maintain/post regulatory/policy/guidance gap analysis (R2.4)
 - EACTB
 - Maintain/post list how aircraft requirements met at engine-level (R2.5)
 - Revise relevant safety analysis policy (R2.6)
 - Establish forum to review and resolve rule conflicts/gaps (R2.7)
 - EACTB
 - Convert generic issue papers to policy/guidance (R2.8)



Recommendations

- Understanding if the engine/aircraft interface works properly (1)
 - Monitor effectiveness (R3.1)
 - EACTB
- Addressing specific rule and policy gaps (13)
 - F&R testing (R4.1)
 - Engine restart/relight (R4.2)
 - Rotor fragments at aircraft level (R4.3)
 - ETOPS (R4.4)
 - Inhibition of engine protection systems (e.g., over speed) (R4.5)
 - Fire prevention (R4.6)
 - EWIS (R4.7)



Recommendations

- Addressing specific rule and policy gaps (13) (continued)
 - Thrust reverser (R4.8 & R4.9)
 - Engine controls (R4.10)
 - Icing (R4.11)
 - Snow (R4.12)
 - Flight deck indications/instrumentation (R4.13)
- Recommendations outside the WG scope (3)
 - Certification & operational (e.g., part 121) gap analysis (R5.1)
 - Similar activity other product types (R5.2)
 - Fuel venting (EPA/ICAO) (R5.3)



Implementation

- Report includes implementation plan
- Provides proposed completion dates
 - Dates vary from 3 months to 3 years
 - Completion dates based on FAA/EASA management report approval date
- High-level FAA/EASA workload
- May need to revisit priorities
- Engage industry (AIA and ASD) as needed



Questions?



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End slide

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