

# Design Delegation Seminar 2019

Product Certification update

.....  
Greg Baum - CAA



# Product Certification update

..... →

- Team updates
- Looking back
- Looking forward
- Hot topics

Deputy Director Air Transport and Airworthiness

Mark Hughes



Manager Airworthiness Unit

Shaun Johnson



Snr Administrator

Thomas Crawford



Team Leader Product Certification

Greg Baum (A)



Technical Project Lead

Jason Ashworth (A)



Team Leader Continuing Airworthiness

Warren Hadfield



Team Leader Registration & Airworthiness

David Gill



Team Leader Product Certification

Greg Baum (A)



Airworthiness Engineer

Gaetano Settineri



Airworthiness Engineer (Av)

Lino Miguel



Airworthiness Engineer

Kavita Vanmari



Airworthiness Engineer (Av)

Phillip Scanlan



Airworthiness Engineer (Av)

Rens Molenaar



Technical Project Lead

Jason Ashworth (A)



Flight Test Engineer

Tim Dutton



Airworthiness Engineer

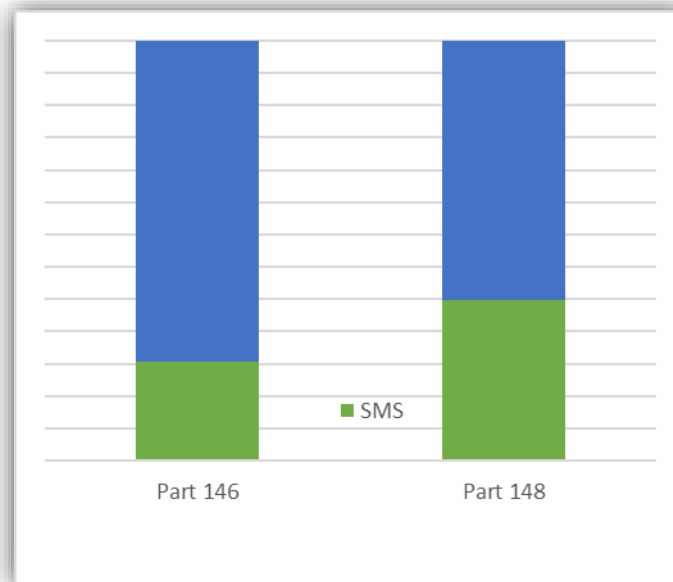
Charlie Morris



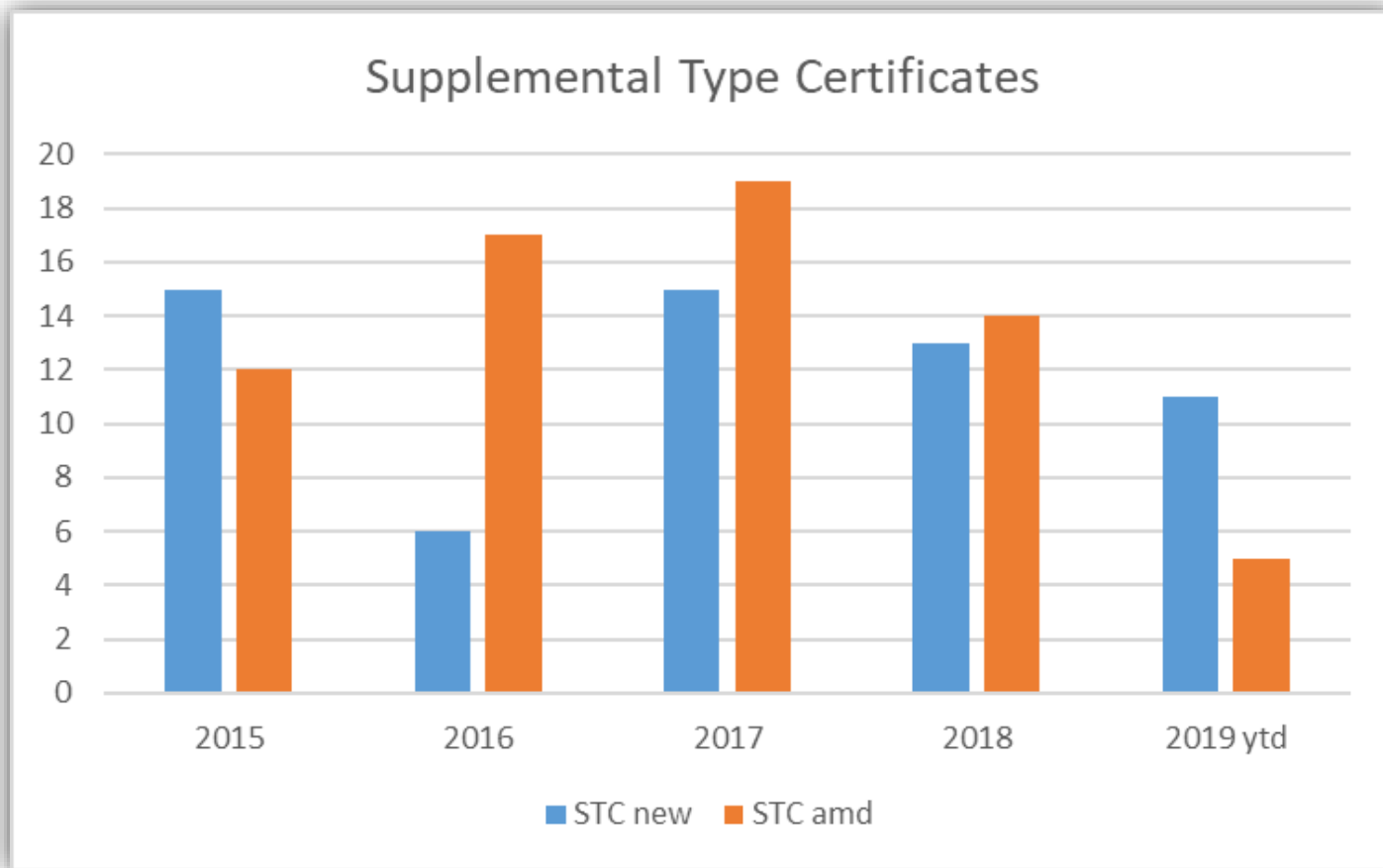
# Looking back

## Organisation Certification:

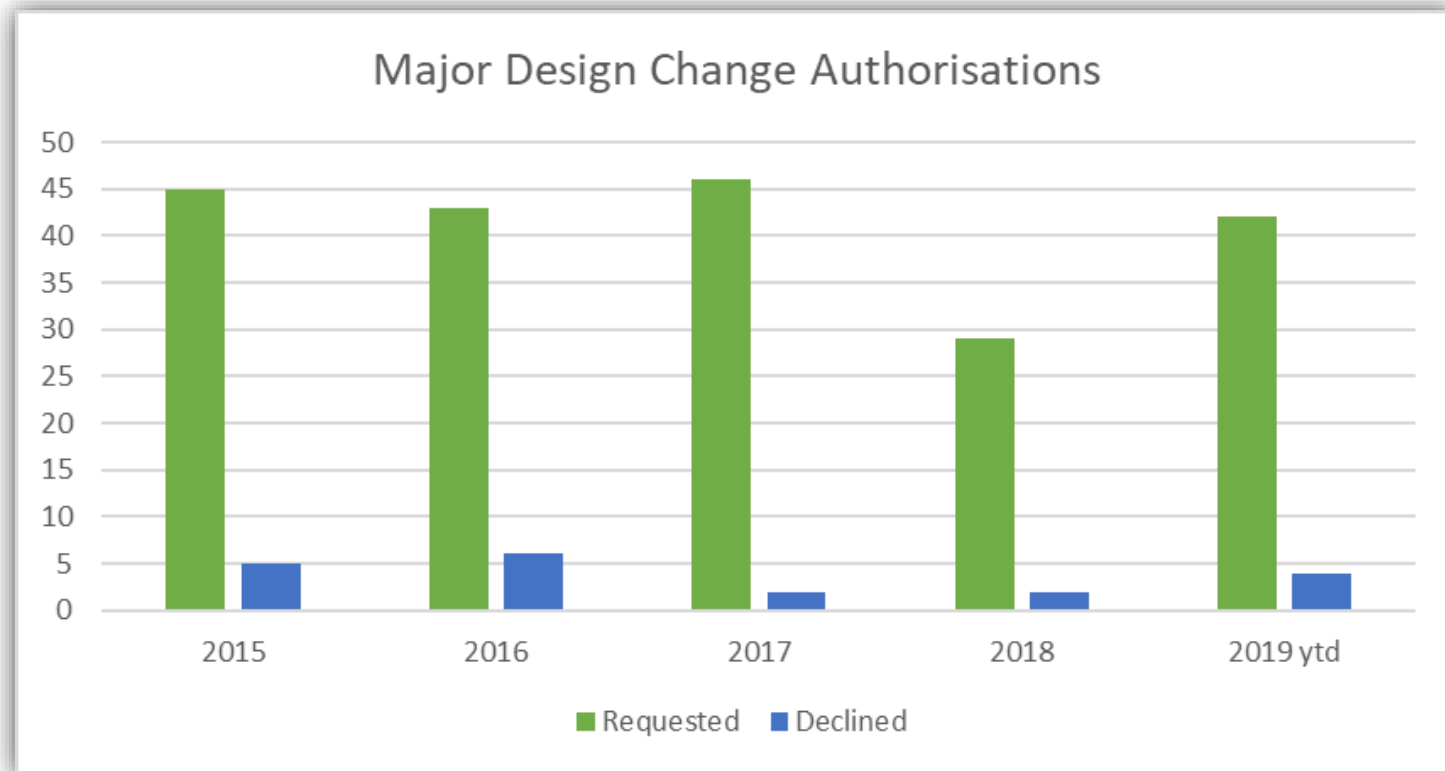
- 13 - Part 146 Design Organisation (4 SMS certified)
- 13 - Part 148 Manufacturing Organisation (8 SMS certified)
- 35 - Design Delegation Holders



# Looking back



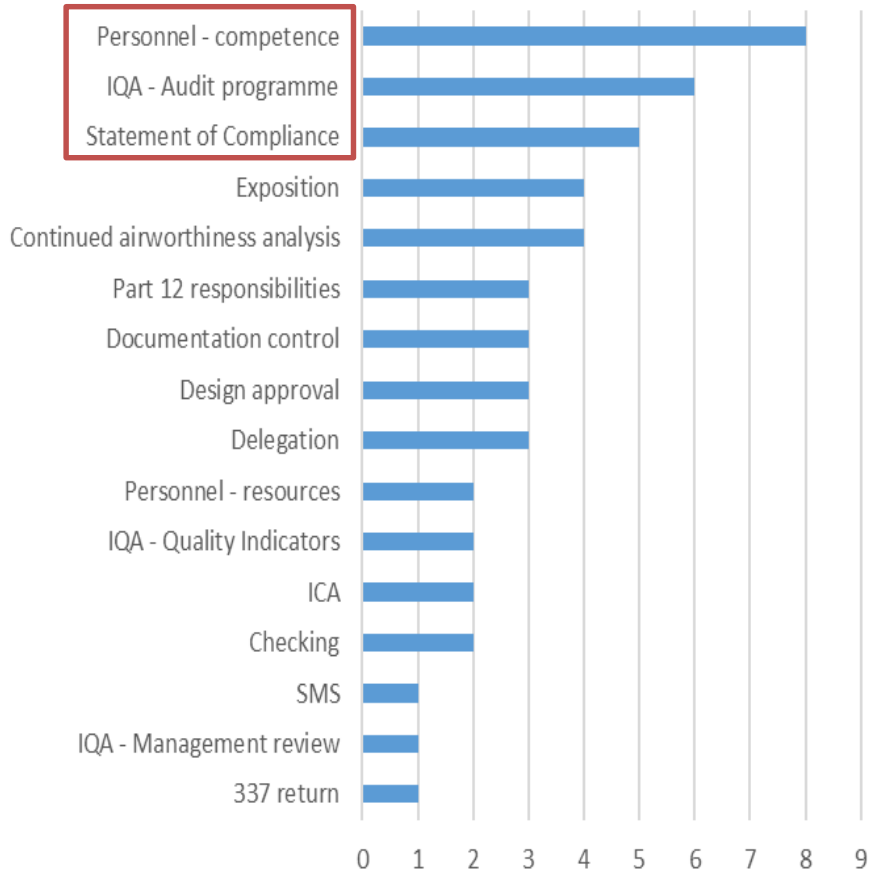
# Looking back



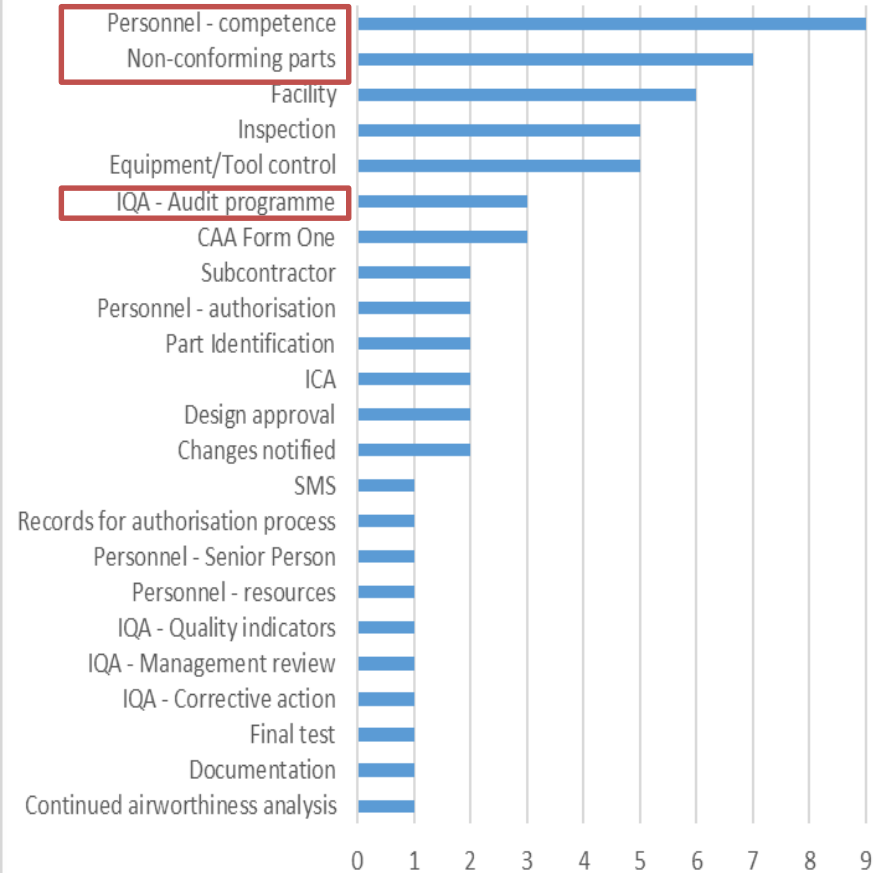
Reasons for decline: Unusual feature x1, reclassified to minor x 2, capability x 2

# Looking back

## Part 146 findings (last 2 years)



## Part 148 findings (last 2 years)





# Looking back

## Updated Rules/Procedures/ACs:

- AC43-14 Standard Design Changes - Acceptable Technical Data:
  - Appendix 2: Installation of FAA TSO-C126 () ELTs
  - Appendix 13: Installation of Stand-alone ADS-B Systems
  - Appendix 14: Temporary Mounting of Lightweight Cameras
- AC00-1 Acceptability of Parts:
  - Guidance on PMA parts acceptability
- AC19-1 Test Pilot Approvals
  - Revised categories & guidance
- AC43-9 Modifications, repairs and the Form CAA 337
  - Guidance on AML STCs
- AC91-24 ADS-B Systems
  - Guidance on rule changes

# Looking forward

## Planned updates:

- AC21-X Flight Test Guidance
  - Detailed guidance on process and expectations
- AC91-23 Electrical Load Analysis:
  - Clarity & content improvements
  - Industry comment stage
- AC91-21 RNAV, RNP & BARO VNAV Operational Approvals
  - Redraft to simplify approval process for operators
  - Airworthiness requirements may move to different AC
- AC91-13 Night Vision Imaging Systems - Helicopter
  - NVIS – changes to existing systems

## Training

- Category 3 Flight Test workshop
  - Primarily aimed at Pilots but of benefit to Engineers

# Looking forward

2019

|     | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SMS |     |     |     |     |     |     |     |     |     |     |     |     |
| 146 |     |     |     |     |     |     |     |     |     | 1   | 1   |     |
| 148 |     |     |     |     |     |     |     |     |     |     | 2   |     |
| DDH |     |     |     |     | 6   | 2   |     |     |     |     | 2   | 2   |

2020

|     | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| SMS | 2   | 1   | 2   | 1   |     | 1   | 1   | 1   |     | 1   |     |     |
| 146 | 1   | 1   |     |     | 1   |     | 1   |     | 1   |     |     |     |
| 148 | 1   |     | 1   |     | 1   |     |     |     |     |     |     |     |
| DDH |     | 1   | 1   |     | 1   |     |     | 1   |     |     |     | 1   |

2021

|     | Jan | Feb   |
|-----|-----|-------|
| SMS |     | 1 Feb |
| 146 |     |       |
| 148 |     |       |
| DDH |     |       |

# Hot topics



# 146 & 148 working together



- Project Manager: Applicant + CAA + Pt146
- Communication
- Document control (multiple sources, MDL)
  - Including Prototype drawing & test plan revision control
  - Draft documents not acceptable
- Use of Dropbox/FTP sites

# STC: PSCP's

## Design change description:

- Sufficient for CAA to gain a reasonable understanding of the project
- Sufficient to determine certification requirements, MoC, CAA resources
- Clear configuration change (what is pre-requisite v's what is changing)

## Schedule: Realistic & achievable & up-to-date

## Certification basis

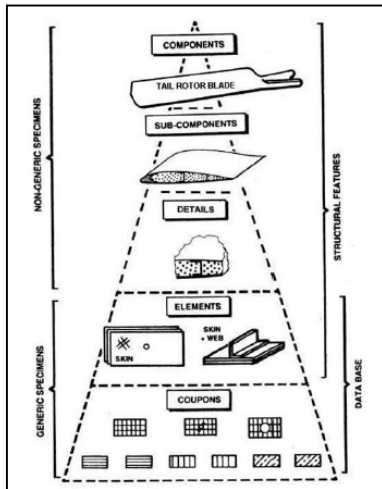
- Aircraft Cert basis + Changed Product assessment = STC cert basis
- Highlight ELOS/Exemptions/SC (existing & required)
- Assessment of ADs (AMOC may be required)

## “Similarity” as MoC

- Do you formally have access to the previously approved data?

# Drawing standards

- Dimensioning: complete + measurable, critical dimensions
- AC146-1: “NZS 5901, BS 5070, Mil-STD 100, or a suitable aviation specific drawing standard”
- Training, checking (by 146, by 148)
- Use of applicant drawings
- Drg notes: “...in accordance with FAA AC43.13-1b” – inspection & repair? Which bit? What is critical? Is it repeatable?



## Composite Parts

- Detailed Process & Material specifications:
  - AC20-107B Composite Aircraft Structure (23,25,27,29)
  - QA system: AC21-26A
  - Material Specs for Prepregs DOT/FAA/AR-06/10
  - Process Specs for Fibre Reinforced Composites DOT/FAA/AR-02/110
  - Material & Process specs for Liquid resin composites DOT/FAA/AR-06/25
  - Material Specs for Unidirectional CF Prepregs DOT/FAA/AR-07/3

# Capability of Pt148 v's LAME



## 21.303 Replacement and modification materials, parts, and appliances

A replacement or modification material, part, or appliance to be installed into a type certificated product must—

- (1) be authorised by the holder of the type certificate for the product as complying with the type design; or
- (2) be manufactured by a person performing maintenance on the product and the replacement or modification material, part, or appliance must be —
  - (i) certified by the person to conform to an approved type design including any embodied design change; and
  - (ii) identified in accordance with Subpart Q, or
- (3) be issued with a *CAA Form One – authorised release certificate* issued by the holder of a maintenance organisation certificate issued in accordance with Part 145 who established the conformity and traceability of, and performed maintenance on, the part or appliance; or
- (4) be issued with a *CAA Form One – authorised release certificate* issued by the holder of a manufacturing organisation certificate issued in accordance with Part 148 who manufactured the part or appliance in accordance with a—
  - (i) NZTSO authorisation; or
  - (ii) NZPMA authorisation; or
  - (iii) supplemental type certificate issued under Subpart E; or
  - (iv) certificate of type approval issued under regulation 163 of the Civil Aviation Regulations 1953; or
- (5) be issued with a release note, by the holder of a supply organisation certificate issued in accordance with Part 19, who established the conformity of the material, part, or appliance; or



Working together to solve and prevent common issues



# CAA website



Aviation Security Service  
Kaitiaki Takekōwhiri

[About us](#) [A to Z](#) [Contact us](#) [What's new](#)

[Aircraft](#) [Airspace & Aerodromes](#) [Drones](#) [Licensing & Certification](#) [Passenger information](#) [Rules](#) [Safety](#)



## Keeping New Zealand skies safe and secure

- Feedback to [info@caa.govt.nz](mailto:info@caa.govt.nz)
- Useful info for 146/148 on Airworthiness page?

