

# CERTIFICATION SERVICES, INC.

## About Us

Certification Services, Inc. was formed in 2009 to serve the aerospace community. Our expertise is in the areas of FAA certification and aircraft electrical engineering.



## Certification Capabilities

- ◆ Our staff include FAA Electrical Systems and Equipment DERs delegated in all areas of 14 CFR Part 23, 25, 27, and 29 – including System Safety, HIRF, Lightning, and EWIS.
- ◆ Coverage for Software and Complex Electronic Hardware can be provided through partnership arrangements with other DERs.
- ◆ FAA Certification Project Management - Our DERs have years of experience in managing FAA STC and Major Alteration Projects. We can develop Project Specific Certification Plans and Issue Papers.
- ◆ Special Areas:
  - ◇ Approval of Ground Functional and EMI Test Plans for Major Alterations
  - ◇ Approval of AFM Supplements for Major Alterations (Provided through partnerships with Flight Test DERs)

## Engineering Capabilities

### Development of Engineering Design Data

- Harness Fabrication Drawings
- Wiring Diagrams
- Wire Routing Installation Drawings
- Electrical Detail and Assembly drawings
  - ◇ Control Panels
  - ◇ Junction Boxes
  - ◇ Auxiliary Circuit Breaker Panels

### Development of Substantiation Data

- Electrical Load Analysis
- Functional Hazard Assessments
- System Safety Assessments
  - ◇ Fault Tree Analysis
  - ◇ Failure Mode & Effects Analysis
  - ◇ Common Cause Analysis
- HIRF and Lightning Assessments
- Equipment Qualification Analysis
- Emergency Lighting – Transverse Vertical Separation Analysis
- Navigation and Anticollision Light Photometric and Chromaticity Analysis
- Compliance Reports
- Fuel Tank Ignition Analysis (14 CFR 25.981 electrical aspects related to FQIS wiring)

## Engineering Capabilities

### Inspection Procedures and Test Plans / Reports

- DO-160 Test (Plans, Witnessing and Approval of Reports)
- Ground Functional Test (Plans, Witnessing, and Reports)
- Ground EMI Test (Plans, Witnessing, and Reports)
- EWIS Compliance Inspection Plans / Reports
- Zonal Safety Inspection Plans / Reports
- T-PED Test (Plans, Witnessing, and Reports)
- Temp Survey

### Operational and Continued Airworthiness Documents

- AFM/RFM Supplements
- EWIS ICA Source Document & Impact Assessments
- Instructions for Continued Airworthiness
  - ◇ Wiring Diagram Supplement
  - ◇ Aircraft Maintenance Manual Supplement
  - ◇ Illustrated Parts Catalog Supplement

## Projects Supported

- Special Mission Aircraft Modifications
- VIP Aircraft Completions
- Passenger to Freighter Conversions
- Passenger to Combi Conversions
- Complete Avionics Upgrades including Autopilot
- SATCOM, Wi-Fi and IFE Installations
- Interior and Exterior Lighting, including LED technology



## Aircraft Experience

- Military Commercial Derivative Aircraft
- Public Use Aircraft (NASA, CBP, etc.)
- Commercial Aviation
- General Aviation
- Rotorcraft