

# AEROSPACE

## SHORT COURSES

### Instructions for Continued Airworthiness Using Enhanced Zonal Analysis Procedure (AERO0340)

**Instructor: C. Bruce Stephens, Thomas N. Taylor** (*This course may be taught by either instructor.*)

#### Course Description

This course will discuss the *Enhanced Airworthiness Program for Airplane Systems/Fuel Tank Safety (EAPAS/FTS)* rule. This rule requires design approval holders (DAH) and applicants to develop instructions for continued airworthiness (ICA) consisting of maintenance and inspection tasks, intervals, and procedures for the representative airplane's electrical wiring interconnection systems (EWIS) for each affected type design.

Students will work in teams to gain hands-on experience building a project incorporating the information they learn as they progress through the course.

#### Course Highlights

- EZAP best practices
- DER/UM EZAP requirements
- EZAP examples and practical applications
- Review of Advisory Circulars

#### Who Should Attend?

The course is designed for all aircraft design areas including Electrical, Avionics, EWIS and HIRF/Lightning Engineers and aircraft technicians. Maintenance and Inspection Managers and Operators Aircraft Managers should also attend.

#### Learning Objectives

- An understanding of the guidance material used for developing the maintenance and inspection instructions for EWIS using an enhanced zonal analysis procedure (EZAP)
- An understanding of how the information developed using EZAP can be used by operators to improve EWIS maintenance practices
- An overview of Certification of Electrical Wiring Interconnection Systems on Transport Category Airplanes
- Use of the EZAP flowchart to determine EWIS change requirements
- Requirements to develop EWIS ICA

- Design requirements related to EZAP
- How EZAP impacts engineering requirements

## **Course Outline**

### **Day 1:**

- Class Overview
- Class Introductions
- Introduction to EZAP
- Introduction to EWIS
- FAA EWIS Aircraft EWIS/EZAP Best Practices Job Aid—Background and Examples
- EWIS Wire & Component Degradation

### **Day 2:**

- 14 CFR 25.1729 Overview
  - 26.11 vs. 25.1729
  - Part 25, Appendix H Requirements
- EZAP/FAA AC 25-27 Process Overview
- Enhanced Zonal Analysis Process (EZAP) – AC 25-27 Flowchart
- EZAP Work Sheet Overview/Examples AC 25-27A Appendix A
- Check out AC-120-94

### **Day 3:**

- EWIS ICA Developed by STC Applicant/Holder
- Development of EWIS ICA for Design Changes
- Approval of EWIS ICA Source Document
- ICA Checklist – EWIS/EZAP
- EZAP Final Exam and Team Project Presentations
- Class Evaluations

## **Classroom hours / CEUs**

21.00 classroom hours

2.1 CEUs

## **Certificate Track**

Electrical Wiring Interconnection System (EWIS)

## **Course Fees**

Early registration course fee: \$1,995 if you register and pay by the early registration deadline (45 days out).

Regular registration course fee: \$2,095 if you register and pay after the early registration deadline.

### **U.S. Federal Employee Discount**

This course is available to U.S. federal employees at 10% off the registration fee. To receive the federal employee discount, you must enter the code **FGVT116** during the checkout process. Please note that you must validate your eligibility to receive this discount by entering your U.S. government email address (ending in .gov or .mil) when creating your online registration profile. This discount is available for both the early registration and regular registration fees.

### **Canada Department of National Defence Discount**

This course is available to Canada DND employees at 10% off the registration fee. Please contact the DND Procurement Authority (DAP 2-3) for details. Please note that you cannot register using our online system when requesting this discount. This discount is available for both the early registration and regular registration fees.

### **Instructor Bios**

**C. Bruce Stephens** is an FAA DER/EUM in the areas of EME, HIRF, Lightning, Fuel Systems, Structures and EWIS. His aircraft certification experience includes Beechcraft Starship, King Air, Bonanza, Baron, Hawker 4000, Hawker 800XP, Premier 1, JPATS, Learjet Model 45/75, Cessna Citation Latitude, and military projects related to Boeing 707, 737, 747, 767 KC-46A Tanker, and 777. Stephens continues to work on Part 27 and 29 rotorcrafts (MH139 Grey Wolf), and space vehicle certification projects. He has assisted several smaller companies with FAA EME certification projects and is interested in the certification requirements related to new EVOL Aircraft. Stephens enjoys mentoring new FAA delegates and instructing several courses he has developed for The University of Kansas Aerospace Short Course program. These courses include HIRF, Lightning, EWIS, EZAP, DO-160, Fuel Systems, Introduction to EME, and EME Aircraft Testing/Certification. Stephens has been a Six-Sigma/Lean Master Black Belt consultant with experience in both aircraft and copper mining process improvement. He has instructed over 25 college courses, most being MBA level, including MBA Statistics, MBA Business Management, MBA Operations Management, MBA Six Sigma/Lean Production Management, Supply Chain Management, Six Sigma/Lean Black Belt and Green Belt. Universities Stephens has instructed at include Webster University, Friends University, Embry Riddle University, Southwestern College, Newman University and The University of Phoenix. He has an executive M.B.A. and M.S. in Management from Friends University and a B.S. in Industrial Technology from Wichita State University.

**Thomas (Tom) Taylor** is an FAA Consultant DER, ODA Authorized Representative/AR Advisor and Associate Technical Fellow (ATF) at The Boeing Company, with 29 years in commercial and military aircraft electrical design and certification experience. Tom was the technical focal and DER/AR during the development of the 787-8 and was responsible for the certification of the 787-9, which was the first commercial airplane fully certified to the EWIS regulations. Tom also provides engineering consultation, training, and aircraft certification services through his

company, Taylor Aerospace Consultants. He has a Bachelor of Science in Mechanical Engineering from Washington State University.

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