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
  o 26.11 vs. 25.1729
  o 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.

Netherlands Defence Academy Discount
This course is available to Netherlands Defence Academy employees at a discounted registration fee. Please contact the NDA Procurement and Contracting department for details. Please note that you cannot register using our online system when requesting this discount.

Instructor Bios
C. Bruce Stephens is an HIRF/Lightning/EWIS ODA UM/AR at the Boeing Company and a consultant DER at his company, Stephens Aviation, with a wealth of experience in High Intensity Radiated Fields (HIRF) and Lightning protection of Aircraft. Stephens retired from Hawker Beechcraft after 28 years of service. He has HIRF/Lightning experience on both Part 23 and Part 25 including composite aircraft. Stephens is working with the Boeing Team to develop EWIS requirements and means of compliance on several aircraft projects. Stephens is a Six-Sigma/Lean Master Black Belt consultant, developing implementation and training materials, and teaches at a number of universities, including Webster University and Southwestern College. 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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