

Type Certification System Safety Assessment – 5 Days

Introduction

Technical Familiarization and Certification Basis

The set of rules that will apply for the certification of this specific aircraft type is being established (Certification Basis).

Establishment of the Certification Programme

EASA and the manufacturer need to define and agree on the means to demonstrate compliance of the aircraft type with each requirement of the Certification Basis. Consistent with EASA's "level of involvement" during the certification process.

Compliance Demonstration

The aircraft manufacturer must demonstrate compliance of its product with regulatory requirements: the structure, engines, control systems, electrical systems and flight performance are analysed against the Certification Basis. This compliance demonstration is done by analysis during ground testing (such as tests on the structure to withstand bird strikes, fatigue tests and tests in simulators) but also by means of tests during flight.

Welcome to our comprehensive course on EASA Aircraft Certification and Safety Assessment. This course provides an exhaustive insight into various aspects related to the certification process, design considerations, safety assessments, and the necessary regulations that govern them under the European Union Aviation Safety Agency (EASA).

The course places emphasis on understanding the principles of safety assessment, and considerations for compliance with EASA CS 25.1309 as integral parts of the certification process. We'll illuminate the EASA Part 21 certification process and guide you on matters of compliance showing, configuration control, and the design aspects of airworthiness.

The course will introduce you to Operational Suitability Data (OSD) and the regulatory drivers behind it. We'll explore how products, parts, and appliances are certified and the proportionality and level of involvement in EASA Part 21 design certification.

To review Zonal Safety Analysis (ZSA), Particular Risk Analysis (PRA), Failure Mode and Effect Analysis (FMEA), Operating and Support Hazard Analysis (O&SHA), and the role of Functional Hazard Assessment (FHA).

The course addresses considerations related to Common Cause Analysis as part of FAA & EASA aircraft certification, and the use of Fault Tree Analysis in support of aircraft certification. A practical introduction to FMEA will provide hands-on understanding.

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Date	On Demand
Category	Personal Development
Venue	On Demand
Level	Basic
Price	On Demand

What is the Benefit of this Training – What will I learn?

- a) Demonstrate an understanding of the regulatory background behind the Safety Assessment of Aircraft Systems
- b) Be able to appropriate analysis techniques for the system under consideration
- c) Be able to consider in practical terms each technique, including the different strengths and weaknesses
- d) Be able to consider the role of safety assessment in the overall context of aircraft certification
- e) Fully appreciate the issues to be faced for the certification of new systems and aircraft.

Who is the course for?

This course develops the skills necessary to write and review system safety assessments for regulatory compliance to CS 25. Delegates are introduced to the evolution of the safety rule and specific techniques for compliance.

The course is delivered over five days and is relevant for anyone involved in the regulatory compliance aspects of system safety. It is specifically designed for CS 25 system certification engineers, system designers, as well as other key stakeholders.

Detailed Content / Topics - The following Subjects will be addressed

- Definitions & Abbreviations
- EASA Failure Condition Classifications and Probability Terms
- Common AMC Material and Other Related Certification Guides
- EASA Part 21 Introduction
- The EASA Certification Process
- Introduction to Aircraft Certification Specification CS 25
- Consider the Principles of Safety Assessment as Part of the EASA Certification Process
- Considerations Concerning Compliance with EASA CS 25.1309
- EASA Part 21 Certification Process, Compliance Showing, Configuration Control
- Design Aspects of Airworthiness
- Declaration of Design and Performance and other Report Considerations
- Introduction & Regulatory Drivers for OSD
- Certification of Products, Parts & Appliances
- EASA Part 21 Design Certification - Proportionality & Level of Involvement
- Certification Maintenance Requirements
- Master Minimum Equipment Lists (MMELs) Considerations
- Considerations Related to the Application of Aerospace Recommended Practice ARP 4761 and ARP 4754A

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Detailed Content / Topics - The following Subjects will be addressed

- Introduction to System Safety Aspects of Compliance for New Designs and Modifications
- Aircraft Certification - Introduction to Hazard Analysis
- Aircraft Certification - Qualitative and Quantitative Analysis
- The Development of Requirements for Safety Assessment, EASA CS25.1309.
- CS 25 Introduction to Airworthiness – Safety Assessment
- General Introduction to Probability Determination Methods
- Introduction to Zonal Safety Analysis (ZSA), Particular Risk Analysis (PRA) and Failure Mode and Effect Analysis (FMEA)
- Operating and Support Hazard Analysis (O&SHA)
- Considerations Related to Common Cause Analysis as Part of FAA & EASA Aircraft Certification
- Introducing Fault Tree Analysis and its Function in Support of Aircraft Certification
- Carry out Group Review - Fault tree analysis and alternative configurations of angle of attack (AOA Sensor) -(MCAS)
- EASA Aircraft Certification CS-25 - Considerations Related to the Role of a Functional Hazard Assessment (FHA)
- FMEA Practical Introduction
- Certification of Digital Systems and Safety Critical Software within an EASA Environment.
- Evolution of Flight Deck Ergonomics and Impact on Aircraft Certification
- How to Approach Contributory Factors, Risk and Severity

Target Groups

The training is relevant for anyone involved in the regulatory compliance aspects of system safety. It is specifically designed for CS 25 system certification engineers, system designers, as well as other key stakeholders.

Pre-requisites

The delegate should be very familiar with PART 21 / FAR 21 Initial Certification Requirements

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Learning Objectives

To gain the ability to fully understand system safety requirements as well as to be familiar with design safety-compliant systems and equipment, and to be able to work with and develop system safety compliance documentation.

What do People Say about Sofema Aviation Services Training?

"I found satisfying answers to all my questions."
"The instructor demonstrated a very deep knowledge of the subject."
"The length of the course fits my needs and expectations."
"The content was really effective, I gained a lot of new knowledge."
"The practical examples were perfectly delivered."

Duration

5 days – Start at 09.00 and finish at 17.00, with appropriate refreshment breaks.
To register for this training, please email team@sassofia.com or Call +359 28210806

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