

Sofema Aviation Services` Considerations related to EASA Part 145

Title: Comprehensive Guide to EASA Part 145: Insights and Best Practices from Sofema Aviation Services

Sofema Aviation Services (SAS) www.sassofia.com is please to present a consolidated review of multiple elements related to EASA Part 145.

This guide aims to provide a consolidated review of multiple elements related to EASA Part 145, encompassing work scope, certification obligations, change management, safety policy, trust development within maintenance organizations, disciplinary policy, and the role of compliance functions.

Section 1: EASA Part 145 Considerations Related to Workscope and Certification Obligations

- Introduction to Workscope and Certification
- Overview of Aircraft Maintenance Organisation (AMO) responsibilities under EASA Part 145.
- Importance of adhering to approved documentation and material use.
- Component Service Bulletins
- Analysis of the non-mandatory nature of Service Bulletins and best practice considerations.
- Findings During Initial Assessment
- Strategies for dealing with components beyond economical repair (BER).
- Communication protocols with customers for effective decision-making.
- Activities Outside of Approved Facilities
- Criteria for conducting work outside approved facilities, including customer work orders, use of approved technical data, and environmental conditions.
- Role of the Quality Assurance (QA) Manager in approving off-site work.

Section 2: Considerations Related to Change Management within an EASA Part 145 Organization

- Introduction to Change Management
- The impact of organizational changes on safety risks.
- The necessity of hazard identification and risk management processes.
- Examples of Organizational Changes
- Inclusion of new aircraft types, changes in personnel, and amendments to regulations.
- Change Management Process
- Steps for identifying, assessing, and implementing changes.
- Importance of monitoring the effectiveness of changes.

Section 3: Considerations Related to the Organization's Safety Policy within an EASA Part 145 Organization

- Safety Policy and Objectives

- Commitment to preventing aviation accidents and incidents.
- Strategies for achieving high safety performance and regulatory compliance.
- Building a Safety Culture
- Importance of training, resource allocation, and safety performance measurement.
- Encouragement of safety hazard reporting and application of 'just culture' principles.

Section 4: Building Trust Within an EASA Part 145 Maintenance Organisation

- Development of Trust
- The role of senior management in fostering a positive safety culture.
- Strategies for promoting trust and respect between personnel and management.
- What is an Aviation Maintenance Safety Culture?
- Definition and significance of safety culture in aviation maintenance.
- Promoting a Culture of Trust
- Five ways to enhance trust within an EASA Part 145 organization.

Section 5: Considering Disciplinary Policy (Just Culture) within an EASA Part 145 Organisation

- Introduction to Just Culture
- The balance between organizational and individual responsibilities.
- Differentiation between errors and violations.
- Addressing Non-Compliance
- Criteria for determining appropriate responses to non-compliance.
- Strategies for error reduction and management.

Section 6: Recognizing the Role of an EASA Part 145 Compliance Function in Support of the Organization's Safety Objectives

- Introduction to Compliance Function
- Evolution from a compliance verification system to a comprehensive management safety system.
- Integration of compliance monitoring with safety management processes.
- Compliance Monitoring Function
- Role in ensuring daily operational compliance and supporting safety risk mitigation.

1/ EASA Part 145 Considerations Related to Workscope and Certification Obligations

Introduction

In accordance with EASA Part 145 the Aircraft Maintenance Organisation (AMO) is responsible to perform the "work" in accordance with approved documentation using approved material and to release on completion In Accordance with the requirements of EASA Part 145.A.50 Certificate of Release to Service (CRS).

Workscope Considerations:

Component Service Bulletins

o Service Bulletins are not mandatory – however, for multiple reasons is sensible – even best practice to consider performing SB's when the opportunity presents. But note the “owner” should concur with the requirement often after a combination risk assessment / return on expenditure analysis.

Findings during the initial assessment

o It is possible that findings may result in the component being beyond economical repair (BER) so it is important to have established communication protocols with the customer to ensure effective and documented decision making takes place.

o To release a component with a CRS means that the component is fully compliant with assessment / test / inspection criteria – therefore any defect which impacts this will prevent a CRS from being issued. (again appropriate communications)

o How to establish customer acceptance?

– Multiple ways including a signature of acceptance.

– Issue an Engineering Order (Controlled Document) or similar to reference the task.

Activities Outside of Approved Facilities

Work will be conducted in accordance with this procedure and within the terms of the company exposition and approval under Part-145. The following criteria must be observed:

1. A clear Work Order from a customer or at least a written request,
2. Up to date approved technical data is used,
3. Job is performed by the authorized personnel,
4. Required tools, equipment, and material is ready on-site,

Any specialised tooling and parts will be sourced and transported to the work location. Tooling will be inspected prior to the commencement of work to ensure serviceability and suitability of application and content against inventory.

5. The required facility and environmental conditions are met,
6. A clear QA Manager approval on work away for the specific case. QA Manager will confirm in writing after analysis of the above details.

CAA will be informed of such maintenance activities outside of the approved location within 7 days by Quality Department using form Notification to CAA for Work Outside the Approved Location (Form XXXX).

The work requirement will be negotiated and agreed upon with the contracted operator. Work may only be carried out that is within the terms of this (MOE) Scope of Work.

A scope of work will be determined based on at least the following information:

- Aircraft type, serial number, and registration.
- Aircraft location.
- Reason for AOG, nature of work to be carried out.
- Supply of parts. The requirements of this MOE must be adhered to.

Customer/ Operator will provide a work package which will include at least:

- Work Order.
- Task cards.
- Current issues of relevant approved maintenance data or authority for access to such data on-site including use of CDs or other means.

The certifying engineer in charge will be responsible for the correct performance of the total task and the completion of related documentation. He will check all equipment for serviceability and content against inventory prior to its dispatch for return.

The certifying engineer will retain copies of all documentation and will bring/ send them to base.

What Constitutes Approved Data

Approved data is data that the FAA / EASA has approved and is usually identified as such.

Approved data includes:

- Type certificate data and specification sheets,
- Supplemental type certificates (STC),
- Airworthiness Directives (AD),
- Manufacturer's approved data under a DOA, (AMM / SRM / CMM, etc)
- FAA Designated Engineering Representative (DER) data (Note & Consider Several differences between FAA & EASA – PMA / TSO.

2/ Considerations Related to Change Management within an EASA Part 145 Organization

Introduction – 3.5 Change management. (145.A.202(a); GM2 145.A.200(a)(3),)

Changes in organizational structure, facilities, scope of work, personnel, documentation, policies and procedures, can result in unintended consequences and the inadvertent introduction of new hazards, exposing the organization to new or increased safety risk(s).

The introduction of a change is the trigger for the organization to perform its hazard identification and risk management process.

Some examples of change include, but are not limited to:

- Changes to the organizational structure;
- The inclusion of a new aircraft type in the terms of approval;
- The addition of aircraft of the same or a similar type;
- Significant changes in personnel (affecting key personnel and/or large numbers of personnel, high turn-over);
- New or amended regulations;
- Changes in the security arrangements;
- Changes in the economic situation of an organization (e.g. commercial or financial pressure);
- New schedule(s), location(s), equipment, and/or operational procedures; and
- The addition of new subcontractors

The change management process should consider:

- Identification and description of the change
- Assessment of the criticality and impact
- Existing controls and implementation of new controls
- Change implementation and transition period
- Monitoring the effectiveness of the change implementation

The Organization shall develop and maintain a process to identify and assess changes which may affect the level of safety risk associated with its services and to identify and manage the safety risks that may arise from those changes. The change management should be a documented process to identify external and internal changes that may have an adverse effect on the safety and compliance of its continuing airworthiness management activities. The introduction of a change is a trigger for the organization to perform its hazard identification and risk management process.

Regardless of the magnitude of the change, large or small, its safety implications should always be proactively considered. This is primarily the responsibility of the team that proposes and/or implements the change.

The magnitude of a change, its safety criticality, and its potential impact on human performance should be assessed in any change management process. A change may have the potential to introduce new, or to exacerbate pre-existing, human factors issues. The purpose of integrating human factors into the change management is to minimize potential risks by specifically considering the impact of the change on the people within a system.

The process should also consider business related changes (organizational restructuring, resources, IT projects, etc.) and interfaces with other organizations/departments. Responsibilities and timelines should be defined.

3/ Considerations Related to the Organizations Safety Policy within an EASA Part 145 Organization

1.2 Safety Policy and Objectives.

145.A.30(a)2, 145.A.200(a)(2), AMC1 145.A.200(a)(2), 145.A.70(a)2

Safety Policy

To prevent aviation accidents and incidents our organization will maintain an active Safety Management System. Safety is a corporate value of HAS, and we believe in providing our employees and customers with a safe environment.

Safety is one of our core business functions. We are committed to developing, implementing, maintaining, and constantly improving strategies and processes to ensure that all our aviation activities take place under the appropriate allocation of organizational resources (human and financial), aimed at achieving the highest level of safety performance and meeting regulatory requirements, and wherever possible, exceeding requirements while delivering our services.

Our overall safety objective is the proactive management of identifiable hazards and their associated risks with the intent to eliminate their potential for affecting aviation safety and for injury to people and damage to equipment or the environment. To that end, we will continuously examine our operation for these hazards and find ways to minimize their consequences. We train staff on safety management, document our corrective and mitigation actions, and strive for continuous improvement.

Our commitment is also to ensure that sufficient skilled and trained human resources are available to implement safety strategies and processes, all staff are provided with adequate and appropriate aviation safety information and training, are competent in safety matters, and are allocated only tasks commensurate with their skills.

We establish and measure our safety performance against realistic safety performance indicators and safety performance targets, and we have to ensure that externally supplied systems and services to support our operations are delivered meeting our safety performance standards.

I encourage all employees to report significant errors, safety hazards, deficiencies, incidents, or concerns, through the safety reporting system.

I pledge that no staff member will be asked to compromise our safety standards to “get the job done” and that no action will be taken against any employee who discloses a safety concern through the hazard reporting system, unless such disclosure indicates, beyond any reasonable doubt, gross negligence, or a deliberate, or willful disregard of regulations or procedures.

Ultimate accountability for aviation safety in the company rests with me as the Accountable Manager. Responsibility for making our operations safer for everyone, lies with each one of us – from managers to front-line employees. Each manager is responsible for implementing the Safety Management System in his or her area of responsibility and will be held accountable to ensure that all reasonable steps are taken. All employees must comply with this policy.

- To comply with all the applicable legislation, to meet all the applicable requirements, and adopt practices to improve safety standards
- To Provide the necessary resources for the implementation of the safety policy
- To Apply human factors principles, including giving due consideration to the aspects of fatigue
- To Enforce safety as a primary responsibility of all managers
- To always encourage personnel to report maintenance-related errors, incidents and hazards
- To apply 'just culture' principles to internal safety reporting and the investigation of occurrences and, in particular, not to make available or use the information on occurrences:
- To attribute blame or liability to front-line personnel or other persons for actions, omissions or decisions taken by them that are commensurate with their experience and training; or
- for any purpose other than the maintenance or improvement of aviation safety
- Within our Organization the commitment to apply 'just culture' principles forms the basis for the organization's internal rules describing how 'just culture' principles are guaranteed and implemented
- To Ensure Senior Management continually promote the safety policy to all personnel, demonstrate its commitment to it, and provide necessary human and financial resources for its implementation
- To promote proactive and systematic safety management and positive safety culture
- We define safety objectives, which:
- Form the basis for safety performance monitoring and measurement;
- Reflect the organization's commitment to maintain or continuously improve the overall effectiveness of the management system;
- Are communicated throughout the organization; and
- Are periodically reviewed to ensure they remain relevant and appropriate for the organization.
- Ensure that safety standards are not reduced by commercial imperatives
- Recognize the need for all personnel to cooperate with the compliance monitoring and internal investigations

4/ How to Build Trust Within an EASA Part 145 Maintenance Organisation?

Development of Trust – Introduction

A positive safety culture relies on a high degree of trust and respect between the personnel and the management, and it must, therefore, be created and supported at the senior management level.

- If the management does not treat individuals who identify hazards and report adverse events in a consistently fair and just way, those individuals are unlikely to be willing to communicate safety issues or to work with the management to effectively address the safety risks.
- As with trust, a positive safety culture takes time and effort to establish, and it can be easily lost.
- It is further recognised that the introduction of processes for hazard identification and risk assessment, mitigation and verification of the effectiveness of such mitigation actions will create immediate and direct costs, while related benefits are sometimes intangible, and may take time to materialize.
- Over time, an effective management system will not only address the risks of major occurrences, but also identify and address production inefficiencies, improve communication, foster a better organisational culture, and lead to more effective control of contractors and suppliers.

What is an Aviation Maintenance Safety Culture?

- Safety Culture is how the concept of safety is perceived, valued, and prioritized within an organisation.
- Safety Culture reflects the real commitment to safety at all levels in the organisation.
- Safety Culture refers to the “embedded practice” of Safety Behaviour by the individual within the organisation regardless of any oversight.
- Safety Culture is built on a framework of individual and organisational belief regarding the importance of safety, including any perception of peer and management “buy-in” to the concept of safety as a priority.

How Important is Safety Culture?

- Safety Culture directly impacts Safety Performance.
- Any willingness to engage with “unsafe” decisions (even when the imagined risk is believed to be small) can lead to negative outcomes, often in ways which were not envisioned.
- An effective Safety Management System (SMS) is a “Top Down” approach which requires a fully engaged leadership team.
- Whilst the SMS exists separately from the concept of Safety Culture behaviour, SMS and Safety Culture should go hand in hand.

Ways to Promote a Culture of Trust within the EASA Part 145 Organisation

- “Top down” leadership to show the way – build trust by leading by example.
- Always communicate expectations to each person in a clear and consistent way.
- Show that you are genuine and you care (must be real!)

- Deliver what you promise – If you say you will do it – then do it!
- Be Authentic – Be Real (anything less will be seen for what it is.)

5/ Considering Disciplinary Policy (Just Culture) within an EASA Part 145 Organisation

Introduction – Just Culture

Organisations should endeavour to implement a Just Culture Policy whereby the role of the organisation, as well as the individual, is considered.

In the vast majority of circumstances the employee did not intend a “bad” outcome, therefore all necessary steps should be taken to understand the reasons behind the issue and to take the most appropriate course of action (mitigation).

Effective SMS implementation is dependent upon a clear, mutual understanding of errors and violations and the differentiation between the two – The understanding of Intent!

While an error is unintentional, a violation is a deliberate act or omission to deviate from established procedures, protocols, norms, or practices.

Now Consider the Difference between the following Violations:

- Personally, Optimizing Violations
- Organizationally Optimizing Violations

Note: Errors or violations may result in non-compliance with regulations or approved operating procedures.

The Problem – Punitive measures taken in response to acts of non-compliance may lead to a reduction in the reporting of errors in the absence of other processes.

The Challenge – To consider whether acts of non-compliance are the result of a violation or inadvertent error when determining what action is appropriate.

Normal Criteria to Consider the appropriate degree of “Punishment”

The criteria normally are whether non-compliance is the result of an Error, Willful Misconduct, or Gross Negligence.

Humans will commit errors regardless of the level of technology used, the level of training, or the existence of regulations, processes, and procedures.

An important goal then is to set and maintain defenses to reduce the likelihood of errors and, just as importantly, reduce the consequences of errors when they do occur.

To effectively accomplish this task errors must be identified and reported and analyzed so that appropriate remedial action can be taken.

The strategies to control errors leverage the basic defences within the aviation system. These include:

Reduction Strategies provide direct intervention to reduce or eliminate the factors contributing to the error. Examples of reduction strategies include the improvement of ergonomic factors and the reduction of environmental distractions.

Capturing Strategies assume the error will be made. The intent is to capture the error before any adverse consequences of the error are felt.

Note: Capturing strategies are different from reduction strategies in that they utilize checklists and other procedural interventions rather than directly eliminating the error.

Tolerance strategies refer to the ability of a system to accept that an error will be made but without experiencing serious consequences.

The incorporation of redundant systems or multiple inspection processes are examples of measures that increase system tolerance to errors.

6/ Recognizing the Role of an EASA Part 145 Compliance Function in Support of the Organizations Safety Objectives

Introduction

Historically we had our primary focus on the Compliance Verification System which we called QA and now we call it Compliance Monitoring. We had a rudimentary safety function, but this was essentially a reactive approach – all this changed with the introduction of Reg 2021/1963

- With the introduction of the management system approach the organization should recognize that EASA Part 145 Compliance monitoring is one part of the overall Management Safety System and Act accordingly
- Please see the regulatory detail following – however note that every Compliance finding – becomes a source of data for the safety system – to analyze, evaluate and develop appropriate mitigations.

145.A.200 introduces the following as key safety management processes; these are further specified in the related AMC and GM:

- Hazard identification
- Safety risk management
- Internal investigation
- Safety performance monitoring and measurement
- Management of change

- Continuous improvement
- Immediate safety action and coordination with the aircraft operator's Emergency Response Plan (ERP)

Note: It is important to recognize that safety management will be a continuous activity, as hazards, risks and the effectiveness of safety risk mitigations will change over time.

These key safety management processes are supported by a compliance monitoring function as an integral part of the management system.

Note that SMS is supported by EASA Part 145 Compliance Function and not the other way around – how is this evidenced within the 145 Organization

Important note: SMS Process are supported by EASA Part 145 Compliance Monitoring and not the other way around – This is an industry challenge for some Compliance Managers not fully recognizing the role the Management System)

Compliance Monitoring Function

- Ensuring effective compliance with the regulations during daily operations and independent monitoring of compliance are fundamental to any management system for safety.
- The compliance monitoring function may, in addition, support the follow-up of safety risk mitigation actions. (Moreover, where non-compliances are identified through internal audits, the causes should be thoroughly assessed and analyzed.)
- Such an analysis in return supports the risk management process by providing insights into causal and contributing factors, including human factors, organizational factors and the environment in which the organization operates.

Note SMS processes are used to analyze Audit Non Compliances (How is this evidenced in your organization)

- In this way, the outputs of compliance monitoring become some of the various inputs to the safety risk management functions.
 - Conversely, the output of the safety risk management processes may be used to determine focus areas for compliance monitoring.
 - In this way, internal audits will inform the organization's management of the level of compliance within the organization, whether safety risk mitigation actions have been implemented, and where corrective or preventive action is required.

Final Consideration

The combination of safety risk management and compliance monitoring should lead to an enhanced understanding of the end-to-end process and the process interfaces, exposing opportunities for increased efficiencies, which are not limited to safety aspects

This comprehensive guide has explored the multifaceted aspects of EASA Part 145 as they relate to Sofema Aviation Services. For further information, resources, and training opportunities, visit Sofema Aviation Services at www.sassofia.com and Sofema Online at www.sofemaonline.com. For additional queries or information, feel free to email the team at team@sassofia.com

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