Safety Management within an EASA Part 21 G Organisation

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Introduction (GM1 21.A.139(c))

Safety management seeks to proactively identify hazards and mitigate the related safety risks before they result in aviation accidents and incidents.

- Safety should not be considered the responsibility of a single person or a limited group of people in the organisation.
- A safety culture should be developed throughout the organisation that involves all the personnel as active contributors to the safety of the final product, part or appliance in accordance with AMC1.21.A.139(c)(1).
- The requirements established in points 21.A.3A, 21.A.5, 21.A.139, 21.A.145 and 21.A.147 and the related AMC constitute the EU production management system framework for aviation safety management.
  o The EU approach aims at the introduction of SMS into production organisations by embedding safety management and risk-based decision-making into all their activities.

Note - An integrated management system may also cover other business management systems such as

- Quality,
- Security,
- Occupational health and
- Environmental management systems.

Safety Management System Considerations

- Scalability should be a function of the inherent safety risk capability of the organisation.
- The safety management capability should be commensurate with the safety risks to be managed, which can be at the products, parts and appliances level or at the organisational level:
- Limited effect on safety, means it may limit the scope of its SMS
- Risks that are inherent in a complex structure require a robust safety risk management process (more efficient safety barriers).

Safety Policy & Objectives - AMC1 21.A.139(c)

The safety policy should:

- Reflect organisational commitments regarding safety, and its proactive and systematic management, including the promotion of a positive safety culture;
- Include internal reporting principles, and encourage personnel to report production-related errors, incidents and hazards;
- Be endorsed by the accountable manager;
- Be communicated, with visible endorsement, throughout the organisation; and
- Be periodically reviewed to ensure that it remains relevant and appropriate to the organisation.

The safety policy should include commitments to:

- Comply with all the applicable legislation,
- Meet all the applicable requirements,
- Adopt practices that work towards improving safety standards;
- Provide the necessary resources for its implementation;
- Apply human factors principles;
- Enforce safety as a primary responsibility of all managers; and
- Apply 'just culture' principles, (Protect Personal Information)

  - not attribute blame or liability for actions, omissions or decisions taken by personnel that are commensurate with their experience and training;
  - Use for purpose of improvement of aviation safety.
- Senior management should continuously promote the safety policy to all personnel, and demonstrate their commitment to it and provide the necessary human and financial resources for its implementation.
- Taking due account of its safety policy, the organisation should define safety objectives. The safety objectives should:

  - Form the basis for safety performance monitoring and measurement;
  - Reflect the organisation's commitment to maintain or continuously improve the overall effectiveness of the management system;
  - Be communicated throughout the organisation; and
  - Be periodically reviewed to ensure that they remain relevant and appropriate to the organisation.

Production Management System (21.A.139 Production Management System) - AMC1 21.A.139(c)(2)

The management system should encompass safety by defining a structure that is able to administrate and maintain the processes and functions of the safety management system as described in point 21.A.139(c).

- The accountable manager should establish and maintain functions which act as:
    - The safety manager; and
    - A high-level committee that considers matters of strategic safety, 'safety review board' The safety review board function should monitor:
        - The safety performance against the safety policy and objectives;
        - Whether any safety action is taken in a timely manner;
        - The effectiveness of the organisation's management system processes.
- The accountable manager may also establish and maintain a function, referred to as the 'safety action group' (scalable)

- Safety Manager Roles & Responsibility
    - Support of the accountable manager
    - Advice to the accountable manager on safety matters;
    - Provision of periodic reports on safety performance to the accountable manager and to the safety review board.
    - Focal point for the development, administration, and maintenance of the organisation's safety management system.

- Safety Review Board shall
    - Ensure that appropriate resources are allocated to achieve the established safety objectives;
    - Review the results of compliance monitoring;
    - Monitor the implementation of the related corrective and preventive actions.
        - Composed of heads of functional areas, and it is chaired by the accountable manager.

- Safety Action Group (if required)
    - Analyse specific events;
    - Assess mitigation measures;
    - Monitor the safety performance of the organisation;
    - Define actions to control risks to an acceptable level;
    - Assess the impact of organisational changes on safety;

- o Ensure that safety actions are implemented within the agreed timescales;
- o Review the effectiveness of previous safety actions and safety promotion.

Organisational Interfaces (AMC1 21.A.139(c)(3))

- Safety risk management processes should specifically address the planned implementation of, or participation of the organisation in, any complex arrangements (such as when the PO subcontracts work to multiple organisations).
- Hazard identification and risk assessment should start with the identification of all the parties involved in the arrangement, including independent experts and non-approved organisations. This extends to the overall control structure, assessing in particular the following elements across all subcontract levels and all parties within these arrangements:
  - o Coordination and interfaces between the different parties;
  - o Applicable procedures;
  - o Communication between all the parties involved, including the reporting and feedback channels;
  - o Task allocation, responsibilities and authorities; and
  - o The qualifications and competency of key personnel with reference to point 21.A.145.

- Safety risk management should focus on the following aspects:
  - o Clear assignment of accountability and allocation of responsibilities;
  - o Only one party should be responsible for a specific aspect of the arrangement, with no overlapping or conflicting responsibilities, in order to eliminate coordination errors;
  - o The existence of clear reporting lines, both for occurrence reporting and progress reporting; and
  - o The possibility for staff to directly notify the organisation of any hazard that suggests that there is an obviously unacceptable safety risk as a result of the potential consequences of this hazard.
  - o Regular communication should be ensured between all the parties to discuss work progress, risk mitigation actions, changes to the arrangements, as well as any other significant issues.
  - o For subcontracted activities, interfaces and communication channels are also needed for the purposes of the internal safety reporting scheme (point 21.A.3A).

Safety Management System Key Processes - AMC1 21.A.139(c)(3) and (4)

Hazard identification processes

- Hazard identification should be based on a combination of reactive and proactive methods.
  - The organisation should in particular focus on the hazards that may generate a non-conformity of the product, part or appliance that is produced.

Safety risk management processes

- A safety risk management process should be developed and maintained that ensures that the safety risks are:
  - Analyzed (in terms of their probability and the severity of the consequences of hazards and occurrences);
  - Assessed (in terms of their tolerability); and
  - Controlled (in terms of the mitigation of risks to an acceptable level).
  - Within the safety risk management process, the organisation should specify who has the authority to make decisions regarding the tolerability of safety risks.
  - Regardless of the approval status of the subcontracted organisations, the production organisation is responsible for ensuring that all subcontracted activities are subject to hazard identification and safety risk management, as required by point 21.A.139(c)(3), and for monitoring of their compliance and adequacy, as required by point 21.A.139(f).

Internal investigation

- In line with its just culture policy, the organisation should define how to investigate incidents such as errors or near misses, in order to understand not only what happened, but also how it happened, to prevent or reduce the probability and/or consequences of any future recurrences.
- The scope of internal investigations should extend beyond the scope of the occurrences that are required to be reported to the competent authority in accordance with point 21.A.3A.

Safety performance monitoring and measurement

- The organisation should establish, implement and maintain a process by which the safety performance of the organisation is continuously verified against the safety policy and safety objectives.

- This process may include, as appropriate to the size, nature and complexity of the organisation:
  - o Safety reporting that also addresses the status of compliance with the applicable requirements;
  - o Safety reviews, including trend reviews, which would be conducted during introduction and deployment of new products and their components, new equipment/technologies, the implementation of new or changed procedures, or in situations of organisational changes that may have an impact on safety;
  - o safety audits that focus on the integrity of the organisation's management system, and periodically assess the status of safety risk controls; and
  - o Safety surveys that examine particular elements or procedures of a specific area, such as the problem areas identified, or any bottlenecks in daily production management activities, the perceptions and opinions of the production management personnel, and any areas of dissent or confusion.

Management of change

- The organisation should manage any safety risks that are related to a change.
- The management of change should be a documented process to identify any external or internal change that may have an adverse effect on safety. It should make use of the organisation's existing hazard identification, risk assessment and risk mitigation processes.

Continuous improvement

- The organisation should continuously seek to improve its safety performance and the effectiveness of its management system.
- Continuous improvement may be achieved through:
  - o Compliance monitoring and audits carried out by external organisations;
  - o Assessments, including assessments of the effectiveness of the safety culture and management system, in particular to assess the effectiveness of the safety risk management processes;
  - o Staff surveys, including cultural surveys, that can provide useful feedback on how engaged personnel are with the management system;
  - o Monitoring incidents and their recurrences;
  - o Evaluating safety performance indicators and reviewing all the available safety performance information; and
  - o Identifying the lessons learned.

Management of Change - GM1 21.A.139(c)(4)(ii)

The magnitude of a change, its safety criticality, and its potential impact on human performance should be assessed in any change management process.

Special consideration, including human factor issues, should be given to the transition period during which the change will become effective. In addition, the activities utilised to manage these issues should be integrated into the change management plan.

The purpose of integrating human factors into the management of change is to minimise the potential risks by specifically considering the impact of the change on the people within a system.

- The process for the management of change typically provides principles and a structured framework for managing all aspects of changes.
- Disciplined application of change management can maximise the effectiveness of the change, engage staff, and minimise the risks inherent in change.
- Effective management of change is supported by the following:
  - Implementation of a process for formal hazard identification/risk analysis and assessment for major operational changes, major organisational changes, changes in key personnel, and changes that may affect the way in which production management is carried out.
  - Identification of changes that are likely to occur in business, which would have a noticeable impact on:
    - Resources — material and human;
    - Management direction — policies, processes, procedures, training; and
    - Management control. — Safety cases/risk assessments that are aviation-safety focused.
    - The involvement of key stakeholders in the change management process as appropriate.

Safety Communication

- The organisation should establish communication with its personnel, as appropriate for their safety responsibilities, about safety matters that:
  - Ensures that all the personnel are aware of the safety management activities;
  - Conveys safety-critical information, especially related to assessed risks and analysed hazards;
  - Explains why particular actions are taken; and

- o Explains why safety procedures are introduced or changed.
- Regular meetings with personnel, as appropriate for their safety responsibilities, during which information, actions, and procedures are discussed, may be used to communicate safety matters.

Safety Promotion

- Safety training, combined with safety communication and information sharing, is a part of safety promotion.
- Safety promotion activities are intended to:
  - o Support the organisation's policies;
  - o Encourage a positive safety culture;
  - o Create an environment that is favourable to the achievement of the organisation's safety objectives;
  - o Support organisational learning;
  - o Support the implementation of an effective safety reporting scheme; and support the development of a just culture.

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Safety Training

Production staff, as described in points 21.A.145(c)(2) and (3), should receive initial and recurring safety training, as appropriate for their responsibilities, to ensure their continued competency, including safety management principles, the associated safety objectives and human factors.

- The organisation should assess the category of staff for which this training should be provided.
- Adequate records of all the safety training provided should be kept in accordance with point 21.A.5.
- Initial training that is compliant with the organisation's training standards should be provided to each member of the personnel within 6 months of joining the organisation, unless their competency assessment justifies that there is no need for such a training.
  - o Personnel who are recruited from another organisation and temporary staff should be assessed for whether they need to receive any additional safety management training.
- Recurrent safety training should be delivered either as a dedicated course, or else integrated within other training.
  - o It should be of an appropriate duration in each 2-year period, in relation to the relevant compliance monitoring audit findings and any other internal /

external sources of information that are available to the organisation on safety, and in production.

Safety Training Contents

The main purpose of the safety training programme is to:

- Support safety management policies and processes, including human factors training;
- Ensure that personnel at all levels of the organisation develop and maintain their competency to fulfil their safety roles.
- Each organisation should adapt the syllabus to its own needs.
- Typically, at least the following items should be included:
  - o The organisational roles and responsibilities related to safety, including the hazard identification and risk management processes,
  - o Fostering a positive safety culture;
  - o Safety objectives and the associated safety performance indicators;
  - o Human factors principles, including human performance and limitations;
  - o Legislation, where applicable;
  - o Safety reporting systems and investigations; and
  - o Safety issues.
- The purpose of the recurrent safety training is:
  - o Primarily to ensure that staff remain current, notably on changes to SMS principles, processes and procedures; and
  - o To share feedback on safety issues that are relevant to the organisation or lessons learned.
  - o The training staff should have sufficient knowledge and experience to teach the topics at the required level, with the skills to influence attitudes and behaviours.

Next Steps

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