

Safety and Security on an Airplane – Safety and Security Policy in Airlines

František Martinec

VŠB – Technical University of Ostrava, Czech Republic

The paper deals with aviation Safety and Security Management. Requirements for Aviation Organization. Management System Aviation Organization Safety Management System and Quality management system Aviation Organizations.

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1. INTRODUCTION

Safety in aviation is an essential part on which functioning and operation of existing organizations approved for commercial air (AOC) activities and also for providing flight training organization (ATO) operate.

2. UNDERSTANDING OF SAFETY IN AVIATION

Objective of the safety [1], [3].

Safety of airport operations is understood as a set of measures (legal, organizational) and ways of integrating human resources (personnel selection and processes) and material resources (technology) designed to minimize loss of property and health of people working at the airport because of its own operation.

The basic objective of civil aviation is safety of the crew, airline ground personnel and the general public.

Basic documents and provisions governing the safety of the aviation security legislation (1):

- National documents
- National security programs
- Documents issued by international organizations.

Aviation Safety

Safety in aviation also seen as the integration of safety and security protection:

$$\textit{Aviation Safety} = \textit{Safety} + \textit{Security} = 2S$$

Understanding 2S:

Safety understood as a set:

- Preventing accidents and incidents (technical and human factors)
- Improving the working environment
- Reducing the impact on health.

Security is understood as a set:

- Prevention of abuse
- Prevention of terrorism
- Protection of the population.

3. AVIATION ORGANIZATION

The term Aviation organization [8] includes:

- Airports - preparation and entry of persons into the air transportation - airport security protection and control persons (AOC).
- Air operators (passenger, freight - realize flight - flight safety and passenger safety during flight (AOC).
- Flight training organization (ATO).
- Service Departments - inspection and repair of aviation equipment (AOC).

All organizations requesting approval for the operation have achieved compliance with EU regulations and requirements. It is necessary to develop operational documentation, which performs Regulation (EU) 965/2012 (EU) 1178/2011 and in the case of organizations providing management and preservation of Airworthiness (EC) 2042/2003 [3], [9], [10].

Operating documentation of the organization applying for approval must consist of the Operations Manual, which is prepared in accordance with the requirements of Commission Regulation (EU) No 1178/2012 and is organized in accordance with the requirements of AMC ORA.ATO.230 1 (b). For organizations AOC Operating Manual must be prepared in accordance with the requirements of Commission Regulation (EU) No 965/2012 and the applicable licenses (AMC - Acceptable Means of Compliance).

The operating manuals, the new version of the abovementioned provisions, must have a monitoring program compliance and safety management program. This schema can be broken down into separate manuals (in case of complex organizations of course).

This consultative document is folded to provide general advice and principles for the implementation of a safety management system (SMS), which is coupled with the requirement to implement compliance monitoring system (CMS) and is part of the requirement ORO.GEN.200 management system (MS) Annex III (Part- ORO) to Commission Regulation (EU) No 965/2012.

4. AVIATION ORGANIZATION MANAGEMENT SYSTEM - CONTENT

Management System Aviation Organization 2003 [8], [15], [16].

An operator shall establish, implement and maintain a management system that includes:

1. Clearly defined sequence of duties and responsibilities across the organization operator, including a direct executive responsible for security.
2. Description of the overall philosophies and principles operators in regard to safety, the safety policy.
3. Detection / identification of hazards which have an adverse impact on aviation safety, and which carry the operation, evaluation and

management of the associated risks, including the implementation of measures to mitigate those risks, and verify their effectiveness.

4. Maintenance of trained and qualified personnel to perform their duties.
5. Documentation of all key management system processes, including processes to ensure that staff is aware of its responsibilities and procedures for making changes to the documentation.
6. The compliance monitoring to ensure compliance with the relevant requirements of the operator. Compliance monitoring shall include a feedback system to the accountable manager for ensuring that, where necessary, the findings of effective implementation of corrective measures.
7. Any additional requirements set out in the minds of this part or other applicable parts.

The basic idea of driving safety airlines [8], [10], [11], [14].

The ingredients in aviation organizations involved in the operation and therefore safety are presented in Figure 1:

- Air Traffic Control – ATC
- Pilots
- Cabin crew
- Passengers
- Operator
- Civil Aviation Authority – CAA
- Aerospace manufacturer
- Maintenance
- Airport

All components are bound by their missions. All problem we can also be divided by location:

- security solutions on the Ground Safety – GM
- security solutions for flight 3CRM

Optimization activities

- Flight crew (Cockpit Resource Management)
- Air Crew (Crew Resource Management)
- Companies (Company Resource Management)

"The effective use of all available resources crew - hardware, software and LiveWare - to achieve safe and efficient service"

John Lauber, 1984

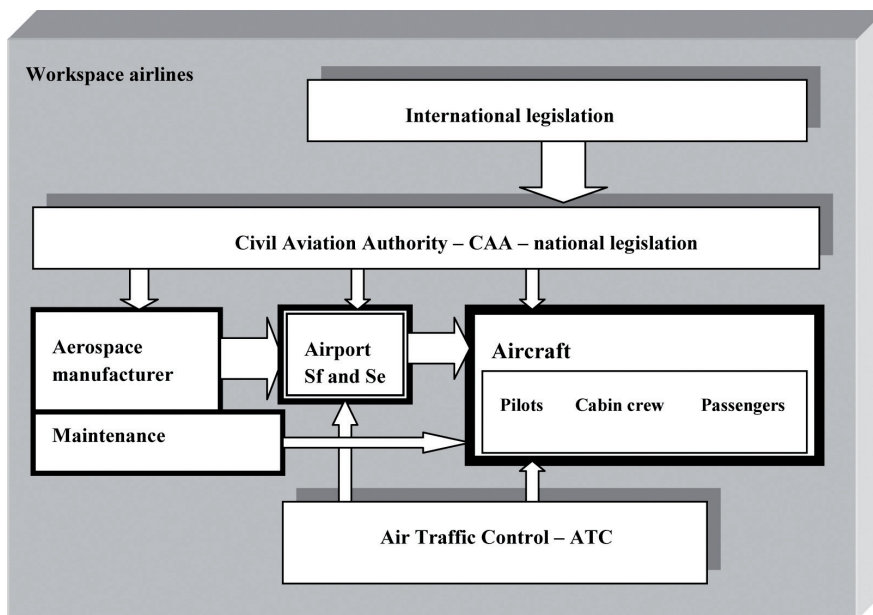


Fig. 1. Workspace airlines and Safety Management System.

Subject CRM

- Creation and adoption
- Delegation of duties
- Communication
- Cooperation

Management Systems Aviation Organization:

1. Sets of activities, processes and procedures to ensure the organization's ability to fulfil goals:
 - Quality management
 - Security Management
 - Management of environmental impact
2. Integrated Management System - IMS

Management System – Requirements [3], [9], [11].

Changing legislation - ORO.GEN.200 requirement replaces the requirement EU-OPS/JAR-OPS 1/3.035, which covers the quality system and the requirement EU-OPS/JAR-OPS 1/3.037, which relates to the accident prevention and flight safety.

The current program of accident prevention and flight safety of the operator, which focuses on the re-active safety management, and only in the area of air traffic is replaced by a requirement to implement a safety management system (SMS), which is in contrast to the prevention of accidents and safety flights aimed, in addition to re-active safety management, particularly pro-active safety management. In accordance with ICAO SMS should be implemented across the entire

organization service in the fields of flight operations, ground operations, crew training and continuing airworthiness of aircraft, including maintenance.

As mentioned above, SMS should be logically implemented (realized) and maintained throughout the organization of a commercial air transport, including the Organization for the continuing airworthiness management.

For an organization to achieve maximum production (yield) requires each of the operator's commercial air traffic control many processes within their business / business aviation. One of the main management processes is the function of security management and compliance monitoring.

The responsible manager (director, president, gen. director, etc.) and senior management of the operator should bear in mind that security management and compliance monitoring takes an equally important function in the operation of a business, such as financial management, business and other matters that relating to maximize the production and profit organization. Organizational structure of the department of safety management and monitoring of compliance at the corresponding operators, including the allocation of sufficient, especially human resources, depending on the size of the operator, the nature, scale and complexity of its operations.

5. MANAGEMENT SYSTEM AVIATION ORGANIZATION TYPES

Safety management system in the aircraft divided by the activities (8), (9), (10), (13).

The safety management system are:

- System
- Pro-active
- Explicit.

System (methodical and planned) - the activities of the safety management system is carried out according to a predetermined plan and are applied in a consistent and principled manner across the organization.

Pro-active - active approach to safety management that emphasizes continuous and constant hazard identification, assessment and mitigation of security risk because of the danger before it became an event that could adversely affect safety. Active approach includes strategic planning, maintaining security risk under constant control operator

Explicit - all activities within the safety management are properly documented, visible and therefore defensible.

6. SAFETY MANAGEMENT SYSTEM – SMS [7]

SMS is a system that ensures the safe operation of aircraft using the effective management of security risks. This system is aimed at continuous improvement of safety survey / hazard identification, collection and analysis of security data (data) and continuous (constant) evaluation of security risks. Safety management system pro-actively control or mitigate risks before they result, or until the cause of the accident or incident. It is a system that is commensurate with the duties of the operator to comply with regulations and commensurate with its objectives to achieve and maintain an acceptable level of safety levels.

SMS is an essential part of every organization in aviation to detect / identify hazards and manage safety risks that are part of any business in providing products or services. SMS must include such key elements that are necessary for the identification / hazard identification and safety risk management and to ensure that:

- Are the necessary and required security information
- Are appropriate tools are available that can make use of the operator
- Tools are appropriate to the tasks and activities of the operator
- Tools are commensurate with the needs and constraints of the organization
- Make decisions are based on careful consideration of safety issues.

Division of safety management system by the identification of the risks (8)

The safety management system can be divided into four groups:

- Identification of the risk analysis process (process control - Process Management - PM)
- Risk assessment of each risk (development risk matrix - matrix risk - MR)
- Determining an acceptable level of safety (ALOS)
- Mitigation measures appropriate to the minimum achievable level (ALARP).

7. QUALITY MANAGEMENT SYSTEM (QMS)

Objective Quality Management System and Safety management system

Like the others, as well as aviation organization in addition to addressing safety (Safety, Security), the problem of quality service at the airport, the quality of the transport of passengers, cargo, aviation engineering service quality, quality of service of the person being transported and the like. Prot and Aviation Organization addresses the problem of quality and quality management.

If an organization decides on the adoption of quality management system, it must be a strategic decision of an organization . Taking the introduction of quality management system in the organization will affect different parts of the needs in the community. Normative system does not impose a uniform structure of quality management systems or uniformity of documentation.

Benefits of Quality Management System [1], [7], [16].

QMS for each airline organization brings many advantages, but also obligations [1].

Advantages of the QMS:

- The establishment of order and system of access to all company activities
- Transparency of the company for customers, shareholders, management and employees
- Substantial increase in the company's credibility and thus easier to penetrate new markets in the EU
- Stabilization level of quality achieved over time and the range of products provided
- Easier incorporation and participation of new employees to meet company objectives
- Control influencing trends in the quality of products
- Provide the basis for further improving the quality and success in the competitive struggle
- Mutually beneficial business relationships
- Overall strengthening of the existing system of management of the organization
- Increase competitiveness
- Meeting customer requirements and increasing customer satisfaction
- Increasing the values of the organization
- Improving the image of the organization
- Reduce organizational costs
- Better success in competitions
- Increasing export opportunities
- More efficient allocation of resources
- Application of the principle of continuous improvement
- Substantial reduction in claims and expenses arising from the identified non-conformities
- Enhanced data protection and information
- Improved internal communication
- Increase employee satisfaction

Disadvantages QMS

- more administration
- more financial costs
- more internal controls
- more external controls

Relationship QMS and SMS

SMS solves the problems of prevention of accidents and incidents (aviation technology and the human factor), improving the working environment and reduce the impact on health, QMS addresses with the airline performance quality of jobs that the company has. In any case, there is no contradiction between SMS and QMS. Complement each other.

8. CONCLUSION

If we look at the concept of security, in terms of historical development, we find that the individual factors alternated depending on the trend in technology, human factors, and currently we are in a time of organizational processes and quality improvement (quality) of body function - in our case - air traffic.

It is therefore necessary to continue increasing the level of safety which is inherently accompanied, even directly dependent, increasing quality levels.

As we know from practice, few staff would like to hear the "accusation" to their address. Just as it is difficult to overcome the fear of self-criticism and report event that I made myself. Probably every fact remains silent question "does not evaluate to leading such a breach of discipline"? It's a matter of trust between workers, as well as between the employer (management company) and individual employees. Only time will tell if this new model and work environment of mutual trust in the organizations are able to grow.

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