

# QUALITY MANAGEMENT OF HEALTH AND SAFETY AT WORK IN AIRPORT OPERATIONAL PROCEDURES

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The contents of the article is to highlight the legislative standards in OSH and methodical approach to building a quality management system, safety and health at work in the airport operational processes.

**K e y w o r d s:** OSH, quality management, risk management, Deming management model, airport, airport processes.

## 1 INTRODUCTION

The main policy objective of health and safety at work in the airport operating activities, as well as other logistic processes is to provide a permanent state of good working conditions, safe work of its employees, reduce or eliminate the risks and harmful factors, which may result in industrial accidents, illnesses or other harm.

Improving safety and health at work at the airports have a significant impact on creation of favorable working conditions, good working relationships, increasing productivity, efficiency and quality of work. Caring for the health and safety at work is also an important human aspect that presents the cultural and social level of the airport and the state. The current view of the safety management system and compliance with health and safety and health policies based on knowledge of the occupational accidents, occupational diseases and inadequate working conditions are essentially the result of improper organization of labour.

## 2 LEGISLATIVE STANDARDS FOR MANAGEMENT OF OSH

The current European strategy for implementing OSH management policy is implemented through the introduction of Integrated Quality Management Systems OHS. The key documents in this area are the European Community Directive (mainly Directive 89/392/EEC and Council Directive 89/391/EEC) and standardized quality management systems ISO 9000 and environment management systems according to the ISO 14000 (Environmental

Management System according to EN ISO 14001:2005 and EN ISO 14004:2005).

In Slovakia, the OSH management system used by the end of the 90's, especially the British Standard BS 8800:2004 standards and certification bodies Association of OHSAS 18000 (Safety Management System and Occupational Health BS OHSAS 18001/1999 and OHSAS 180001/2008 ). Efforts to create a single model of health and safety management system within the International Organisation for Standardization (ISO) and failed integration activities took over the ILO (International Labour Organization). The work of this organization is the international guidelines for health and safety management system, which was released in May 2001. The Directive is based on similar principles as other known quality management systems. OSH management methodology is based on the steps and elements that emphasize high participation of all interested employees (airport business) in the management of OHS.

In Slovakia, the Act on Occupational Safety and Health č.124/2006, laying down basic principles of prevention and defines the basic requirements for ensuring health and safety. Its object consists in the exclusion of risks and factors underlying the occurrence of occupational accidents, occupational diseases and other health damage from work. Important in it is Law 355/2007 on Protection, Promotion and Development of Public Health, which took over certain provisions of Council Framework č.89/391/EHS. The Act defines the organization and execution of public health, implementation of disease prevention, exercise health supervision and defines the requirements for a healthy life and healthy working conditions.

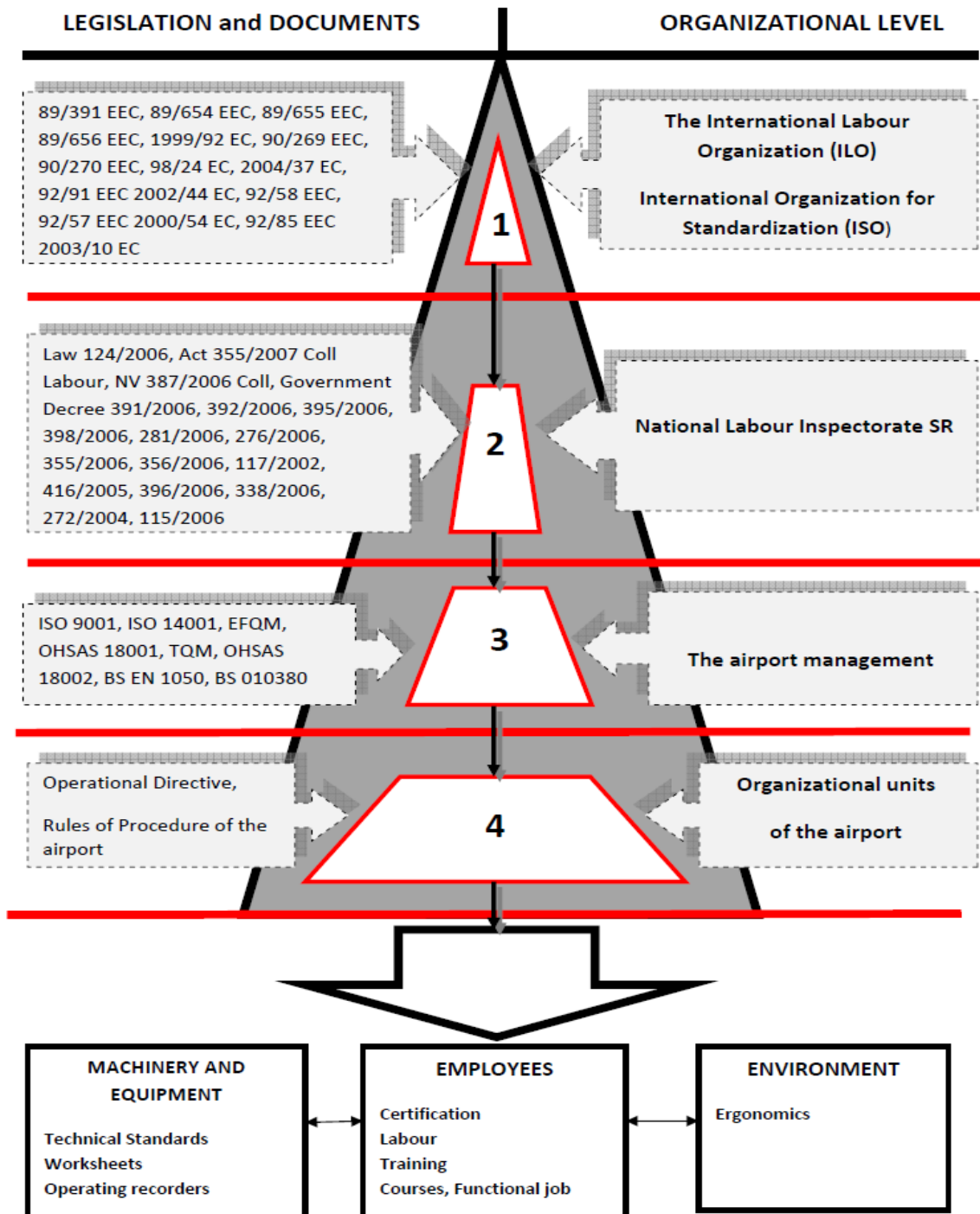


Fig. 1 The influence of the international framework for OSH management system in business

The International Labour Organization (ILO) calls on Member States, in accordance with international guidelines č.89/391/EHS to develop national guidelines for health and safety management system that takes into account national legislation and traditions. The guidelines should form the basis for the development of "sectoral" Directives for OSH management system in manufacturing companies, logistics sector, technical operations, the construction and operation of machinery and equipment, ergonomics, maintenance, environmental protection and other areas to ensure good conditions for work safely. Airport operation as a whole is no exception in this respect.

The International Labour Organization also calls on Member States to establish at national level to promote the responsible institutions, the promotion and implementation of OSH management systems. Such an institution will be authorized to approve the sectoral directives. In Slovakia, this institution is the National Labour Inspectorate (NLI).

The introduction of a good airport system of quality management and health and safety improvements in the existing level of services in an environment of civil airport is provided on condition of certification to EN ISO 9001:2000.

Airport management is required to ensure good conditions for safe work of its employees. These duties and responsibilities are transferred right in the organizational structure of departments, divisions and operating units in the form of internal regulations and operating rules. Health and safety measures in airports should be built on "secure enterprise" whose principles must follow the main objective, namely the right to safe and healthy working environment. These principles should be applied at all levels of organizations by size of airport slots, airport infrastructure and in all operational activities.

### 3 SYSTEM OF ORGANIZATION AND OSH MANAGEMENT

Airport, it is not just an engineering construction with operational land areas designated for aircraft movements. The airport is a living system as a whole, because it is a complex

technical - operational, economic and social unit, which has a direct impact on the environment. The primary mission is to provide airport-service logistics services to air carriers and airline passengers. The functional classification of employees in the performance of airport service activities in the direct or indirect threats to safety and health at work. This covers the activities of technical and operational support of the airport, such as the handling of aviation fuel, aircraft servicing, loading and unloading cargo, ground handling, maintenance of airfields, secure airport electricity, fire security and many other activities in which can compromise the safety and health of employees to the airport.

Ensuring optimal health and safety within the organization at the airport requires the airport operator to create an area suitable for the control system. A good system of organization and management of health and safety must be ensured:

- create professional background to perform the tasks in ensuring the OSH,
- assignment and determine the responsibility for coordinating the management of OSH,
- determining responsibility for implementation, maintenance and improvement the system of OSH, for example. establishing a commission on OSH management as an advisory body to the airport,
- determine the specific obligations and responsibilities of all management employee,
- create the necessary communication channels for the transmission of information between organizational units of the airport.

Direct responsibility and obligation of managers in airport safety and health is defined by a generally binding rules, and is transmitted on a lower organizational level. Organization of the OSH management of airports in the SR is parallel to the organizational structure of the airport. Larger airports may have their own model of OSH management. However, there is no universal organization of OSH management uniformly applicable to all airports.

Assignments of responsibility for individual employees, but not for managing OSH of the airport free airport so strict liability. The

main responsibilities of management of the airport operator in relation to the OSH management system include:

- creating good organizational, technical, material and personnel conditions for safe operation and tasks in OSH,
- developing the concept of OSH policy, its implementation and the determination of responsibility for fulfillment of this program,
- developing a system for ensuring a risk assessment for notifying employees of the risk assessment results and current forms of protection against them in planning and implementing actions that lead to the elimination, respectively, to reduce identified risks,
- issuing internal regulations rules of OSH, management and system documents for this area (the education of employees, emergency plans to deal with an incident, directives for provision and use of personal protective equipment tools, procurement, storage, maintenance, the control of technical equipment states, method of communication with state and local government authorities, external emergency services, communications system, update documents of OSH, method of employee participation for airport management other OSH,
- analyzing activities and discussion on any serious accident at work, with emphasis for early implementation of measures against the recurrence of similar events
- applying the material responsibility and disciplinary action for failure to comply and breach of obligations on OSH,
- determining the tasks and responsibilities of filling to management employee in OSH,
- implementing the system of occupational health (preventive medical examinations, health surveillance),
- checking tasks within the OSH,
- provisions of OSH committee and the appointment of representatives - Security techniques - for OSH of employees, determining the scope of the functions,

powers, program activities, training and other.

Responsibility of the heads individual sections of the airport in OSH is higher at middle management level, which within the organizational structure is transmitted to the lower level of management. Airport management is obliged to ensure the technical equipment, operating procedures, job layout and organization of work do not endanger the health and safety of airport staff (and public). Important role in this process is a security technician or authorized safety technician, and also the employees' representative for safety and health committee and airport safety and health at work.

A separate area of OSH management system includes the operation of airport technical equipment so that their operation, operation, maintenance and repairs meet the regulations for ensuring OSH (this inspection and testing of technical equipment states at intervals determined by special regulations or supervisory authority. The OSH management structure enjoys a special status. Assignment of airport employees to work and workplaces must be undertaken with regard to their professional qualifications, skills and health.

The organization of OSH management at the airport must be in line with the overall concept of aviation safety management, safety and security in the operational processes, human resources, marketing, quality, finance and environment. Sound governance of health and safety at work is based on legislative standards, which form the core of directives, guidelines and recommendations developed in the form of operational guidelines and regulations. The basis is represented by international and national standards that describe the basic methodology for improving the quality of OSH, basic principles of evaluating OSH and provide other methodologies.

Most business OSH management systems based on the general management system of quality management of Dr. Edwards Deming, are relying on the principle of continuous improvement of the management process. These are called continuous process of continuous improvement of the management area of quality management systems, with the structure of this

system based on the so-called. Deming PDCA cycle.

Deming cycle is composed of four stages:

1. **plan** - setting targets and planning processes,
2. **do** – implementation of planned activities and processes,
3. **check** – the control (monitoring) and measurement (review),
4. **act** – implementation and continuous improvement activities (evaluation).

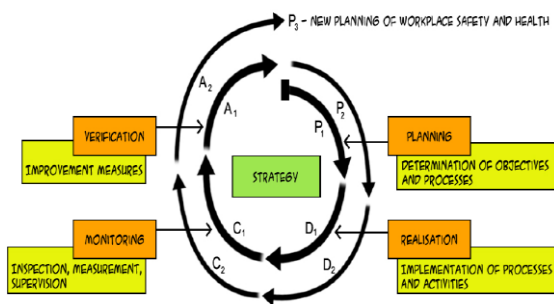


Fig.2: Deming management model

This model is fully applicable also in the process system managing health and safety of employees at the airport of airport operational and service processes.

#### 4 STRUCTURE OF OSH MANAGEMENT

By the management system of quality management (Deming management model) is also in airport OSH management system the starting point - the formulation of strategies and policies OSH. The individual steps of Deming cyclic OSH management model, which are planning, organizational security, the control and evaluation is an important part of the process of taking action to improve OSH management system. It is this last step of the cycle is the basis for formulating new airport policy objectives in OSH for a qualitatively higher level. The basic principle of continuous improvement of OSH management is based on completion of another Deming cycle.

Continuous improvement of OSH management system should be the subject of a separate methodological tools, with a fixed structure and defined features. Each element of the management of OSH (Fig. 3) in this case may constitute a separate area with a single structure, where each chapter will address the area of legal framework, defining goals, establishing principles and rules of OSH, assessment and prjimenie measures with emphasis on the quality system output.

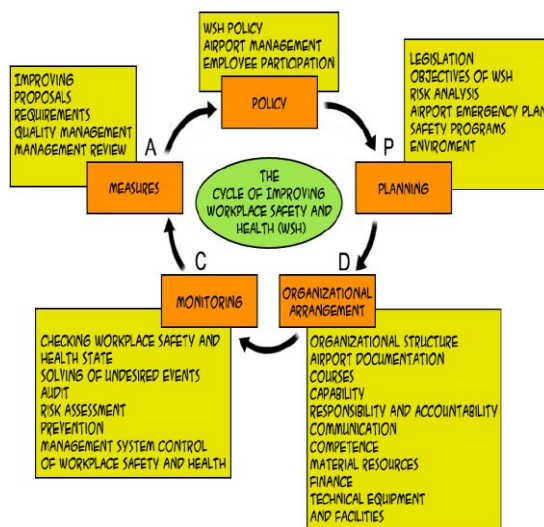


Fig. 3 The structure of the OSH management system

#### The basic description of the structural model:

1. **Airport OSH policy** - presents the basic objectives and strategy for the airport in accident prevention , improving working conditions, improving the working environment, increasing levels of safety and health at work. Policy of airport of OSH management must be part of the complex philosophy and culture of continuous work, defining the direct responsibility of the airport operator and its employees in compliance with the principles of OSH.
2. **Planning** - in the planning of new airport of OSH management system is necessary to consider and evaluate existing OSH management system. Focus should be placed

on the legislative requirements and objectives for improving of OSH. If the airport does not work good OSH management system analysis and determine the actual state of of OSH objectives in the planning should serve as the primary source of information and documentation of building a new of OSH management system

3. **Organizational and technical support** - to achieve an effective of OSH management system in the operational activities of the airport is necessary that was established a clear organizational structure for all employees, clearly formulated task is a reliable flow of information, finance, fixed responsibility and authority for OSH. The building structure of the OSH management can also be invited external professional services in this area. An essential part of quality management policy system of OSH must be a good hardware sites and material security personnel protective devices.
4. **Control and evaluation** - assential for maintaining a high work discipline and meet the challenges of of OSH is to introduce an effective system for checking compliance with established rules and principles of of OSH of the employees themselves. The state controls implementation of of OSH is also prescribed for technical inspections, tests, reviewsand technical measurement equipment states to be continuously controlled technical competence machinery, equipment, facilities, technology and job security activities.
5. **Measures to improve** – top management of the airport should be regularly and systematically take measures to improve of OSH management system. Verification of the functionality of the OHS system must meet the adoption and implementation measures in all areas in terms of security policy, strategy and the objectives of OSH. Review status of of OSH at the airport management airport should provide new or updated goals for continuous improvement, appropriate for the following period and consider whether some elements of the OH & S management system requiring a change.

The introduction of elements of OSH management in Fig. 3 does not necessarily mean that the system will be functional. OSH management system must be a dynamic process that will ensure its continuous improvement. OSH management system must provide interconnection of individual elements to risk assessment as the results were currently in training, documentation, preventive and control activities, and outputs to the documentation were the basis for further training, repairs, construction quality, and ultimately increase the cultural, social and security level of the airport.

## 5 CONCLUSION

OSH management system in airport processes must include objectives which will be included in projects of implementation, to ensure the required safety and health at work of its employees. The airport operational activities and service processes are employees of the airport daily at risk of health and safety risks. These are the specific activities in the technical operation of aircraft on the aprons (aircraft fuel performance, aircraft handling, etc.) and maintenance of airport movement areas. A special area is the protection of civil aviation against acts of unlawful interference. Principles of OSH management must also take into account these specific activities within the management cycle quality management health and safety (see Deming cycle of quality management).

The main burden of responsibility for the application of the principles of OSH management at the airport, which must have its own airport and a clear concept of OSH management. This concept must be in accordance with international and national standards of safety and health standards and the process of building a comprehensive quality system TQM, which emphasizes the personal responsibility of all employees. Airport management has an obligation regarding the concept of quality of health and safety to have it properly implemented, managed and continuously improved An OSH management system must emphasize the prevention, prediction of adverse events and the immediate elimination of the deficiencies found. It is a suitable tool for

improving the overall condition of the airport safety and health is also a form of stimulation and motivation of employees and their active participation in the process of quality management health and safety. However, the principle is that only 15% of the problems in OSH should be left to the employee and 85% would rest on the shoulders of airport management.

An important condition for increasing the quality of health and safety at the airport to OSH management system applied in all areas of airport processes consistent and uniform procedures. OSH management system is not possible without the flow of information and feedback that will enable OSH to make constant comparisons the achievements and ensure their improvement. An important element management system is a legislative legal basis and documentation. Processed in writing are to be all safety policies and procedures documenting all airport activities in the form of internal guidelines, operating systems and security programs.

Airports is to ensure that airport traffic operations were conducted under controlled conditions and prescribed way. However, it must be ensured the possibility of adequate operative intervention in case of adverse events. In the air, for an important operational action, time is an important factor. For this purpose, each airport must have a prepared the emergency plan with immediate response

Special attention in the process of increasing the quality of health and safety should be paid to the selection, readiness and professional skills of employees at all organizational levels of the airport structure. Important are not only regular training but also regular monitoring the activities performed by them.

Creating a quality and reliable system of OSH management at airports is based on the process of identification, assessment, evaluation and analysis of potential risks to the health and safety management.

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