

Key elements on implementing an occupational health and safety management system using ISO 45001 standard

Doru Costin Darabont^{1,*}, *Anca Elena Antonov*¹, and *Costică Bejinariu*²

¹National Research and Development Institute on Occupational Safety – INCDPM “Alexandru Darabont”, Ghencea 35A, Bucharest, Romania

²“Gheorghe Asachi” Technical University of Iași, Dimitrie Mangeron 67, Iași, Romania

Abstract. Occupational health and safety (OHS) management system is one of the main elements of the company’s general management system. During last decade, Romanian companies gained a valuable experience on implementing this type of management systems, using OHSAS 18001 referential and standard. However, the projected release of the ISO 45001 represents a new approach which requires the companies to take in consideration new key elements for a successful implementation of the OHS management system. The aim of the paper is to identify and analyse these key elements, by integration of the following issues: standard requirements, Romanian OHS legislation and good practice examples, including the general control measures for new and emerging risks such as psycho-social risks, workforce ageing and new technologies. The study results represent an important work instrument for each company interested to implement or upgrade its OHS management system using ISO 45001 standard and could be used regardless the company size or activity domain.

1 Introduction

The expected publication of the new ISO 45001 standard represents an important step in the management of occupational health and safety and, in the same time, is an predictable appearance, taking in account the evolution of other management systems approaching, such as quality and environment. Analysing the history of the quality domain standards, it can be observed that they evolved from the first standards with very narrow applicability, such as MIL-Q-9858 in the military domain in 1942-1952, to the British national standards as BS 9000 and, finally, to international standards in the ISO 9000 series, with the latest version ISO 9001:2015 [1].

A similar evolution could be observed at the environmental management standards, amplified as an effect of the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, in 3-14 June 1992, with the participation of 172 states, having as principal themes environment and sustainable development. Thus, starting from

* Corresponding author: darabont_d@yahoo.com

regional and national standards, the approach has evolved to the ISO 14001 standard, with its latest edition in 2015.

A new approach of the occupational health and safety management is necessary, as the worldwide companies are facing with new and emerging risks as well as with substantial changes on economical environment.

The publication of the ISO 45001 is expected for February 2018 [2], but we consider that the companies should start prepare for its implementation. Thus, the aim of the paper is to identify and analyse the key elements for a successful implementation of the OHS management system, by integration of the following issues: standard requirements, Romanian OHS legislation and good practice examples, including the general control measures for new and emerging risks, such as psycho-social risks, workforce ageing and new technologies.

2 The role of ISO 45001 in organization's management

According to International Labour Office [3], every 15 seconds a worker dies from a work-related accident or disease and 153 workers suffer a work-related accident. This statistic stuck out that more than 2.3 million workers die annually due to work-related accidents or occupational diseases. Moreover, in the last years, the perception of risk has been changed substantially as well as the macro economic context in which organizations have to perform. The main problems raised by the new and emerging risk are related to psychosocial hazards, introduction of new technologies or globalization or ageing of the population. The population across the EU has been ageing significantly over the last decades and this trend will maintains in the next decades. The EU average age was 33 years in 1960 and is expected to grow to 44 years in 2020 and to 46 in 2060 [4].

The main obligation of the employer is to ensure the safety and health of workers in every aspect related to work [5-6]. In order to fulfil this obligation, and faced to the changes in micro and macro economic environment and to the new and emerging risks, the employer needs to adopt a new approach and new instruments to perform an efficient management of occupational health and safety.

In this context, the main role of the ISO 45001 standard is to serves as a useful instrument to enable an organization to proactively improve its occupational health and safety performance, regardless the size, type and nature of the organization [7-8]. But observing the requirements of the standard is not enough. An efficient implementation of the standard requires, in the same time, a very good knowledge and compliance with the legal requirements and other requirements, a complete and up-dated risk assessment and a strong safety culture inside the organization. In implementation of the ISO 45001, the organization should not start from zero, but it should put in value the achievements that it already have.

The structure of the ISO 45001 corresponds to ISO Annex SL, guideline for writing standard for management systems. The main advantage of this approach is that all management standards have the same high-level structure, facilitating the implementation of an integrated management system, especially with ISO 9001:2015 and ISO 14001:2015. The structure of the ISO 45001 standard is shown in Table 1 [9].

Is expected that an ISO 45001 based occupational health and safety management system will enable the organization to improve its performance by [7]:

- developing and implementing an OHS policy and objectives;
- establishing systematic processes which consider the organization context, its risk and opportunities and its legal and other requirements;
- determining the hazards and risks associated with its activities;

- establishing operational control to manage the OHS risks as well as legal and other requirements;
- increasing awareness of its OHS risks;
- evaluating its performance and seeking to improve it;
- ensuring workers to take an active role in OHS issues.

Table 1. The structure of ISO 45001 standard

Chapter no.	Title
1	Scope
2	Normative references
3	Terms and definitions
4	Context of the organization
5	Leadership and worker participation
6	Planning
7	Support
8	Operation
9	Performance evaluation
10	Improvement

3 OHS key elements related to ISO 45001

3.1 Context of the organization

In chapter 4, ISO 45001 requires the organization to address the following issues:

- understanding the organization and its context;
- understanding the needs and expectations of workers and other interested parties;
- determining the scope of the OHS management system.

To determine and understanding the context of the organization, the ISO 45001 standard recommends to address both internal and external context issues, such as: cultural, social, political, legal aspects, introduction of new competitors, contractors, suppliers, partners and providers, new technologies, culture in the organization, form and extent of contractual relationship, working time arrangements etc. [9].

The interested parties, of which expectations should be taken in consideration, include stakeholders, authorities, parent organizations, suppliers, contractors, trade unions and employers' organizations.

Before establishing the scope of the OHS management system, a detailed analysis of the organization's context and expectations of workers and other interested parties should be performed. The main instruments that should be used to perform this analysis are:

- meetings with each interested party in order to document their needs and expectations;
- reviews of the legal requirements which are relevant for organization as well as of other requirements, such as contractual clauses or other interested parties requirements;
- reviewing the good practice examples, in order to adopt the relevant ones;

- internal audits for evaluation of compliance with legal and other requirements, including the requirements of other interested parties;
- consultations with OHS experts and authorities, i.e. National Research and Development Institute on Occupational Safety or Territorial Labour Inspectorate.

The results of applying the above mentioned instruments should be used to define the scope of the OHS management system.

3.2 Leadership and worker participation

Chapter 5, “Leadership and worker participation” address the following issues [9]:

- leadership and commitment;
- OHS policy;
- organizational roles, responsibilities, accountabilities and authorities;
- participation and consultation.

The main idea that all members of an organization, from top-management to each worker, should understand is that they must have an active role in the OHS management system, and the efforts of all members should be synergic.

At this phase, the following instruments should be used, additionally to the specific requirements of the standard:

- training courses for all managing levels of the organization, especially for top-management, taking in account that in many situations, top-managers have a poor knowledge of occupational health and safety principles and legislation;
- training courses for all workers, in order to make them understand their role as a support for management and to strengthen the organization safety culture;
- activating and involving the actors in OHS domain, such as OHS Committee, OHS worker’s representatives, internal/external preventive and protective service(s), occupational medicine service.

The training courses should be tailored for each level and OHS role in organization and should be oriented on practical issues which are relevant for the focus-group.

3.3 Planning

Planning the OHS management system is presented in chapter 6 of ISO 45001 and refers to the followings [9];

- actions to address risks and opportunities, including hazard identification and OHS risks assessment, and determination of applicable legal requirements and other requirements;
- OHS objectives and planning to achieve them.

Hazard identification and OHS risk assessment is one of the most sensitive activities which could decide the success or failure of the OHS management system. The method selected as an instrument for hazard identification and risk assessment should respond to the following main requirements:

- it should enable the identification of hazards and risk assessment for each work system components, respectively, worker, work task, work means/work equipments and work environment for each workplace, as requires the G.D. no.1425/2006 regarding the approval of the Methodological norms for applying the provisions of Law no.319/2006 on occupational health and safety, art.15(1) pt.1 [10];
- it should be fitted to the activity type of the organization;
- it should enable to identify and assess all OHS risks related to the organization’s activities.

For example, the risk assessment method developed in 1998 by the National Research and Development Institute on Occupational Safety, and widely used by Romanian companies and external preventive and protective services, responds to requirements of art.15(1) pt.1 of

G.D. no.1425/2006 and is fitted for industrial activities, but is too detailed for more simple activities such as office activities. It is recommended to review studies which analyse multiples assessment methods and provides clear selection criteria for practical application of most adequate tools [11].

It is very important that the risk assessment method should enable to identify and assess all OHS risks related to the organization's activities, including new and emerging risks or specific risk. Also, for specific risks, such as fire and/or explosion risks in coal mines, it is more suitable to develop and use additional specialised methods, as shown in [12].

3.4 Support

Chapter 7 of the ISO 45001 is related to the following issues:

- resources;
- competence;
- awareness;
- information and communication;
- documented information.

In this phase, the main instruments that could be used to fulfil the standard requirements are the following:

- trainings and courses to maintain qualification or to acquire a new qualification;
- formal or informal meetings with different interested parties on OHS aspects, as a support for information and communication process;
- awareness programmes for contractors, temporary workers, visitors etc. in accordance to OHS risks at which they are exposed.

3.5 Operation

Regarding operation of OHS management system, the following issues should be addressed [9]:

- operational planning and control;
- management of change;
- outsourcing;
- procurement;
- contractors;
- emergency preparedness and response.

The main instruments that could be used in this phase, additionally to the requirements of standard, are the following:

- trainings for ensuring the competence of workers, to update their competence as a part of management of change or to rise the response capacity of workers in emergency situations;
- internal audits focused on compliance with preventive regulations and manufacturer's instructions for equipments;
- internal audits focused on compliance with essential requirements of safety for machinery;
- checklists and questionnaires on OHS issues for suppliers and contractors.

3.6 Performance evaluation

Chapter 9 of the ISO 45001 is related to the following clauses:

- monitoring, measurement, analysis and evaluation, including evaluation of compliance with legal requirements and other requirements;

- internal audit;
- management review.

Practice shows that, if the internal audit of the OHS management system is performed on a proper basis, the evaluation of compliance with legal and other requirements is made, in most cases, on a superficial manner. Among the main causes of this poor approach, we could mention:

- lack in identification of legal and other requirements relevant for organization;
- insufficient information and training of the OHS managers and internal/external auditors regarding this requirement.

A proper approach of the evaluation of compliance with legal requirements and other requirements should start with an exhaustive and updated identification of the requirements which is relevant for the organization, including the organization's internal OHS instructions. An efficient instrument for evaluation of compliance should be structured on checklists and should address each legislation article or requirement that is relevant for the organization. An example of method for evaluation of compliance with legal requirements is presented in [1] and is composed by a set of checklists each related to a specific norm, as follows:

- Checklist A "Employer's obligations" and
- Checklist B "Rights and obligations of workers" – both related to the provisions of Law no.319/2006 and G.D. no.1425/2006 – applicable for the organization's management;
- Checklists C "Specific requirements", from C.1 to C.23 each related to a specific norm, applicable selectively according to the type of activities performed in organization;
- Checklists D "Internal OHS instructions and other requirements", containing checklists elaborated on the internal OHS instructions of the organizations and other relevant requirements, i.e. contractual OHS requirements.

Each checklist is composed by a number of items linked to specific articles of the related norms, and each item could be evaluated by a score from 0 to 3 points, reflecting the compliance with the requirements.

The method enables to determine two qualitative indicators which define the compliance with legal requirements:

- compliance level – showing the global level of compliance with requirements;
- safety level – which considers the potential consequences of the risks related to the referred requirements.

3.7 Improvement

Chapter 10, "Improvement", of the ISO 45001 refers to the following issues:

- incident, nonconformity and corrective action;
- continual improvement.

Instruments used in this context should be focused on the identification of opportunities, such as [9]:

- new technologies;
- good practices, both internal and external to the organization;
- suggestions and recommendations from interested parties;
- new knowledge and understanding of OHS issues which is relevant for the organization;
- new or improved materials;
- changes in worker capabilities or competence;
- achieving improved performance with fewer resources.

In each case, attention should be paid to a proper risk assessment prior to implementing the improvement resulting from the above mentioned opportunities.

4 Conclusions

Occupational health and safety management system is one of the main elements of the company's general management system and its implementation should be made by integration with other management systems which are relevant for the organization, such as quality, environment or social responsibility.

Romanian companies gained a valuable experience on implementing this type of management systems, using OHSAS 18001, but the projected release of the ISO 45001 (planned for February 2018) represents a new approach which requires the companies to take in consideration new key elements for a successful implementation of the OHS management system.

The presented study was performed on the present draft version of the ISO 45001, considering that the final version of the standard could mark some differences, but not essentially for the relevance of the proposed instruments as support in implementing and maintaining an OHS management system.

The study results represent an important work instrument for each company, regardless its size and activity domain, interested to implement or upgrade its OHS management system using ISO 45001 standard.

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