

COMPARISON OF NEW DRAFTS OF ISO 9001:2015 AND ISO 14001:2015 STANDARDS IN TERM OF INTEGRATION

Ing. Renáta Kleinová

Technická univerzita v Košiciach, Hutnícka fakulta
Katedra integrovaného manažérstva
Park Komenského 3, 042 01 Košice
E-mail: r.kleinova@centrum.sk

Ing. Petra Szaryszová, PhD.

Ekonomická univerzita v Bratislave,
Podnikovohospodárska fakulta v Košiciach
Katedra manažmentu
E-mail: petra.szaryszova@euke.sk

Abstract

The management system of the modern organization is the framework of the processes and the procedures for fulfilment of all required tasks to achieve the objectives. Integrated management system enables combines all related components of a business into one system for easier management and operations. On the part of the different structure of ISO standards, it is difficult to integrate the management systems into integrated management system. This is the reason why International Organization for Standardization published Annex SL. According to this Annex SL, the new published standards will have the common High-level structure (HLS). Therefore to point out on the common and different requirements of two most widely used ISO Standards is the important element in term of integration.

Key words: Quality management, Environmental management, management system, integration of management systems

INTRODUCTION

In the context of this paper is studied the correlation forthcoming revised standards for Quality Management according to ISO 9001:2015 and Environmental Management according to ISO 14001:2015 in terms of common key elements of systems supporting the integrated implementation and maintenance of enterprise management systems. The authors identify significant news in forthcoming international standards and compares in detail the ten common chapters of standards enshrined in the HLS structure and process management in the Deming cycle of continuous improvement.

HIGH-LEVEL STRUCTURE

International Organization for Standardization (ISO) has more than 280 technical committees that are made up of representatives of industry, non-governmental organizations (NGOs), governments and other stakeholders. They deal with different subjects. For example Technical

committee ISO/TC 176 deals with Quality management and quality assurance. The scope of Technical committee ISO/TC 207 is Environmental management system and tools in support of sustainable development. ISO reviews the standards of manager systems in regular intervals to ensure their permanent usability in exchanging environment and their relevance. ISO developed ISO Guide 83 that was accepted and published as Annex SL. The effort to uniform the all standards of manager systems and create the united structure of standards is the reason why Annex SL was published. All standards of management systems will have the same High level structure (HLS) by this Annex SL, the following 10 clauses: 1 – Scope, 2 – Normative references, 3 – Terms and definitions, 4 – Context of the organization, 5 – Leadership, 6 – Planning, 7 – Support, 8 – Operation, 9 – Performance evaluation, 10 – Improvement.

DEVELOPMENT OF ISO STANDARDS

The development of new ISO standard has several steps. New standard is proposed to relevant technical committee. If proposal is accepted, then working group (WG) of experts start discussion to prepare a working draft. The 1st committee draft is registered and distributed for comments and recommendations by the ISO Central Secretariat. The consensus for the technical content is reached if successive committee draft is presented and finally the text is finalized as DIS (Draft International Standard) for submission. Within period of five months, DIS is circulated among all ISO members for comment and approval. Once the draft is approved, it becomes FDIS (Final Draft International Standard). Again, if the consensus is reached, then the final draft is sent to all ISO members. After the approval by member vote, ISO standard is published.

On the present, two most widely used ISO standards, ISO 9001 and ISO14001, are under the revision. Committee drafts CD 2 of both standards have been published and are waiting for publishing as DIS (Draft International Standard).

ISO 9001 QUALITY MANAGEMENT SYSTEM (QMS)

Standard ISO 9001 was published in 1987. It passed by several revisions – in 1994, 2000 and 2008. At the beginning it was oriented only for the production. When service providing companies had problem with the application, the standard was unified and universalized. ISO 9001 standard is under the revision and its publication is planned for September 2015 (see Fig. 1).

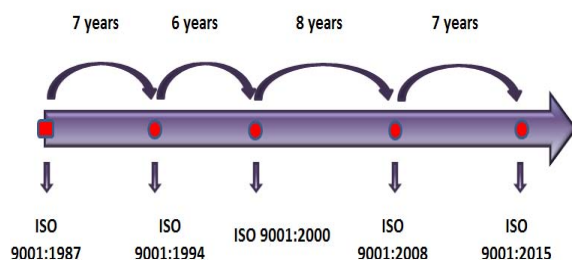


Fig. 1 History of ISO 9001 revisions

ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

After the success of Quality management standards ISO 9000, International Organization for Standardization published the series of environmental management standards ISO 14000. They issued from the results of the 3rd environmental conference of United Nations Organization in Rio de Janeiro in 1992. In the same year the British standard BS 7750:1992 was created. That standard became the base for the certification of Environmental Management System (EMS) in many countries of Europe. In 1993 and 1994 the separate Technical committee ISO/TS 207 was created for environmental management. The role of this Technical committee was the sequential solution of publishing of environmental international technical standards into the standards of ISO group 14000 under the title Environmental management. ISO 14001 became the basic technical standard for implementation and certification of EMS. This standard specifies the requirements for EMS.

ISO 14001 Standard was revised in 2004. But it was only limited change (see Fig. 2).

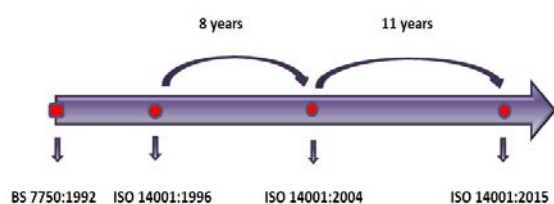


Fig. 2 History of ISO 14001 revisions

In November 2011 International Organization for Standardization balloted for other revision of this standard. In February 2012 ISO approved new High-Level Structure (HLS). In March 2013 the first Committee Draft CD1 of ISO 14001 was published. In October 2013 The Working Group WG5 in Bogota published the second Committee Draft CD2 of this standard. ISO confirmed that groups had balloted for other stage. In May – Jun should be published DIS Draft International Standard and in September – November 2014 should be published Final Draft International Standard (FDIS). It is expected, that in

the middle of 2015, the new ISO 14001:2015 will be published.

2 ANALYSIS AND COMPARATION OF COMMITTEE DRAFTS OF TWO MOST WIDELY USED ISO STANDARDS FOR THE PURPOSES OF INTEGRATION

Over the years, ISO published a lot of management standards of different shapes and structures. Several management standards with different structures can be difficult for organization to operate the management systems. ISO organization created a document regarding High Level Structure that was furnished with a well-defined and structured identical core text along with common terms as well as essential definitions.

The next part shows the different and common parts of ISO 9001:2015 draft CD1 in compare with the ISO 14001:2015 draft CD1 in term of the integration.

CLAUSES – 0 INTRODUCTION, 1 SCOPE, 2 NORMATIVE REFERENCES, AND 3 TERMS AND DEFINITIONS

The introductory clauses **1 Scope, 2 Normative references, and 3 Terms and definitions** give the framework and intended output of both standards.

The nature of the clause 1 “**Scope**” in standards varies according to the different subject matter. The scope of ISO 9001 Standard says that Standard specifies requirements for QMS where the organization needs to demonstrate its ability to consistently provide goods and services and aims to enhance customer satisfaction through the effective application of the system, including processes for improvement of QMS and the assurance of conformity to customer and applicable statutory and regulatory scope says about environmental aspects and how the organization can demonstrate conformity with the standard.

The nature of the clause 2 “**Normative references**” in both standards varies according to the different subject matter.

The clause 4 “**Terms and definitions**” contains the definitions of the terms that are deemed to be the integral part of the common text for both management standards. Both standards have 22 common defined terms, such as organization, interested party, stakeholder, requirement, management system, top management, effectiveness, policy, objective, risk, competence, documented information, process, outsource, monitoring, measurement, audit, conformity, nonconformity, correction, corrective action, continual improvement. The specific standard regarding EMS additionally uses other definitions necessary for this specific subject, such as

environment, environmental aspect, significant environmental aspect, environmental impact, environmental condition, environmental management system, environmental policy, performance, environmental performance, indicator, key performance indicator, prevention of pollution, value chain, supply chain, and life cycle.

The comparison of the structures of the above mentioned clauses illustrates the Fig. 3.

requirements. The scope of ISO 14001 Standard says that Standard specifies the requirements for the organization to establish, implement and maintain the EMS. If the requirements of EMS are applied then the organization can achieve the outcomes – understand its external and internal context, establish the environmental policy and environmental objectives, reduce adverse impacts and take advantage of opportunities associated with its significant environmental aspects and external environmental conditions that affect its ability to achieve its objectives, be capable of demonstrating its commitment by managing its compliance with applicable legal requirements and voluntary obligations and knowing its compliance status, communicate with relevant interested parties, and improve its environmental management system to enhance its environmental performance and be capable of demonstrating the environmental performance outcomes that it achieves. Next the

CD1 ISO 9001:2015		CD1 ISO 14001:2015
0 Introduction	=	0 Introduction
1 Scope	=	1 Scope
2 Normative references	=	2 Normative references
3 Terms and definitions	=	3 Terms and definitions

Fig. 3 Comparison of the structure of the first four clauses of ISO 9001:2015 and ISO 14001:2015 Standards (CD1)

CLAUSE 4 CONTEXT OF THE ORGANIZATION

This clause in both standards contains 4 sub-clauses. The first sub-clause is called “Understanding the organization and its context”. According to both standards (ISO 9001 and ISO 14001) the organization has to determine the external and internal subjects relevant to the aim of the organization and deemed to influence the intended outcomes of its QMS (ISO 9001) or EMS (ISO 14001).

The second sub-clause is called “Understanding the needs and expectation of interested parties”. The organization has to identify the relevant interested parties and their needs and requirements from the organization. Direct customers, end users, suppliers, distributors, retailers or other involved in the supply chain, regulators and others can be the relevant parties.

The third sub-clauses “Determining the scope of QMS” (ISO 9001) and “Determining the scope of EMS” (ISO 14001) determine the scope of relevant management system. In the scope setting, the organization needs to take note of the two previous sub-clauses.

The fourth sub-clauses “Quality management system” (ISO 9001) and “Environmental management system” explain that any management system (ISO 9001 or ISO 14001) is a continuous process of ongoing change and that the organization therefore needs to focus on regular improvements and to put in place the processes to facilitate this. The organization has to establish, implement, maintain and improve QMS or EMS including the processes needed and their interactions, in accordance with the requirements of the standard. The difference between these two standards is in it, that ISO 9001 standard is supplemented about requirement related with process approach and ISO 14001 standard says about determining the way that will satisfy the EMS requirements, including how they will be integrated to business processes. The comparison of the structure of the clause 4 is shown in the Fig. 4.

CD1 ISO 9001:2015		CD1 ISO 14001:2015
4 Context of the organization	=	4 Context of the organization
4.1 Understanding the organization and its context	=	4.1 Understanding the organization and its context
4.2 Understanding the needs and expectations of interested parties	=	4.2 Understanding the needs and expectations of interested parties
4.3 Determining the scope of the quality management system	=	4.3 Determining the scope of the environmental management system
4.4 Quality Management System	=	4.4 Environmental Management System
4.4.1 General		
4.4.2 Process approach		

Fig. 4 Comparison of the structure of Clause 4 of ISO 9001:2015 and ISO 14001:2015 Standards (CD1)

CLAUSE 5 LEADERSHIP

This clause in both standards contains 3 sub-clauses. The comparison of the structure of the clause 5 is shown in the Fig. 5.

CD1 ISO 9001:2015		CD1 ISO 14001:2015
5 Leadership	=	5 Leadership
5.1 Leadership and commitment	=	5.1 Leadership and commitment
<i>Leadership and commitment</i>		
<i>5.1.1 with respect to the quality management system</i>		
<i>Leadership and commitment</i>		
<i>5.1.2 with respect to the needs and expectations of customers</i>		
5.2 Quality Policy		5.2 Policy
5.3 Organizational roles, responsibilities and authorities	=	5.3 Organizational roles, responsibilities and authorities

Fig. 5 Comparison of the structure of Clause 5 of ISO 9001:2015 and ISO 14001:2015 Standards (CD1)

The first sub-clause is called “**Leadership and commitment**”. This sub-clause is concerned with leadership and commitment, presenting the increased focus on the role of top management to lead and to be committed to the management systems (QMS or EMS). The sub-clause in ISO 9001 standard contains 2 sub-sub-clauses “**Leadership and commitment with respect to QMS**” and “**Leadership and commitment with respect to the needs and expectations of customers**”.

The second sub-clause has different title in each standard. For ISO 9001 Standard is called “**Quality Policy**” and for ISO 14001 Standard is called “**Policy**”. These sub-clauses regard the policy and emphasises the role of top management. They require the policy of the management standards to be available to interested parties. The Quality policy has to be appropriate to the purpose of the organization, provide a framework for setting quality objectives, include a commitment to satisfy applicable requirements and include a commitment to improvement of QMS. Environmental policy has to be appropriate to the purpose and the context of the organization, has to include a commitment to prevention of pollution and to support environmental protection specific to the context of the organization, provides a framework for setting environmental objectives (ISO 9001 – a framework for setting quality objectives), includes a commitment to satisfy applicable requirements, including compliance to legal requirements and voluntary obligations which relate to its

environmental aspects and includes a commitment to improvement of the environmental management system to enhance its environmental performance as set by top management. Both policies have to be available as documented information, communicated within the organization, available to interested parties.

The last sub-clause has the same title “**Organization roles, responsibilities and authorities**” for both standards. The role of top management is made very clear. Top management should assign the relevant roles, responsibilities, and authorities, and communicate it within the organization. Top management is responsible for overall system and for reporting on its performance.

CLAUSE 6 PLANNING

The clause 6 “**Planning**” gives the requirements that the organization needs to identify the risks and opportunities that come from evaluating its external and internal issues. Next, the organization needs to plan how to address both risks and opportunities, and later to evaluate the effectiveness of these actions. The organization needs to also establish relevant objectives that need to be consistent with the policy and ideally be measurable, monitored, communicated, and updated. All the above requirements need to be fully documented.

The structure of this clause is a bit different between ISO 9001 and ISO 14001 Standard. ISO 9001 Standard has 3 sub-clauses and ISO 14001 Standard has only 2 sub-clauses. See Fig. 6.

CD1 ISO 9001:2015		CD1 ISO 14001:2015
6 Planning	=	6 Planning
6.1 Actions to address risks and opportunities	=	6.1 Actions to address risks and opportunities
		<i>6.1.1 General</i>
		<i>6.1.2 Environmental aspects</i>
		<i>6.1.3 Legal requirements and voluntary obligations</i>
6.2 Quality objectives and planning to achieve them		6.2 Environmental objectives and planning to achieve them
		<i>6.2.1 Environmental objectives</i>
		<i>6.2.2 Environmental improvement programmes</i>
6.3 Planning of changes		

Fig. 6 Comparison of the structure of Clause 6 of ISO 9001:2015 and ISO 14001:2015 Standards (CD1)

The first sub-clause is called “**Actions to address risks and opportunities**” and is common for both standards. ISO 9001 Standard in this sub-clause says about planning for QMS, where the organization has to consider the issues referred to in 4.1 sub-clause and the requirements referred to in 4.2 sub-clause and determine the risk and opportunities that need to be address to assure the QMS can achieve its intended outcome, assure that the organization can consistently achieve conformity of goods and services and customer satisfaction, prevent or reduce, undesired effects and achieve improvement. This sub-clause in ISO 14001 Standards says about planning for EMS. The requirements is supplemented about determining the risks and opportunities that arise from the organization significant environmental aspects, applicable legal requirements, voluntary obligations and other business risk and opportunities interfering with the EMS have to be addressed to assure the EMS. Next this sub-clause of ISO 14001 Standard says about requirements for environmental aspects and legal requirements and voluntary obligations. This part is missing in ISO 9001 Standard.

The second sub-clause is called “**Quality objectives and planning to achieve them**” in ISO 9001 Standard and “**Environmental objectives and planning to achieve them**” in ISO 14001 Standard. The requirements for quality objectives and environmental objectives are very similar. The difference is that ISO 9001 has requirements for quality objectives to be consistent with quality policy and to be relevant to conformity of goods and services and customer satisfaction and take into account applicable requirements. ISO 14001 Standard has requirements for environmental objectives to be consistent with the environmental policy, be developed to take into account the organization’s significant environmental aspects, applicable legal requirements and voluntary obligations and be developed considering the organization’s internal and external issues. The other requirements for objectives are common. This sub-clause of ISO 9001 Standard also contains the requirement that organization has to determine what will be done, what resources will be required, who will be responsible, when it will be completed and how the results will be evaluated, to achieve its quality objectives. In ISO 14001Standard is added the requirement how it will be integrated into the organization’s processes, to achieve its environmental objectives.

Only ISO 9001 Standard has the third sub-clause called “**Planning of changes**”. This sub-clause says that the organization has to determine the needs and opportunities for change to maintain and improve the performance of QMS and undertake change in a planned and systematic manner, identifying risks and opportunities and reviewing the potential consequences of change.

CLAUSE 7 SUPPORT

The organization is required to provide sufficient support for the management system, so that the necessary people have the proper competence and awareness of the management system and its benefits. The organization needs to determine the need for both external and internal communication. The last part of this clause is focused on the documented information, the creation and the updating as well as the control of the documented information. The structure of this clause is shown in Fig. 7.

CD1 ISO 9001:2015		CD1 ISO 14001:2015
7 Support	=	7 Support
7.1 Resources	=	7.1 Resources
7.1.1 General		
7.1.2 Infrastructure		
7.1.3 Process environment		
7.1.4 Monitoring and measuring devices		
7.1.5 Knowledge		
7.2 Competence	=	7.2 Competence
7.3 Awareness	=	7.3 Awareness
7.4 Communication	=	7.4 Communication
		7.4.1 General
		7.4.2 Internal communication
		7.4.3 External communication and reporting
7.5 Documented information	=	7.5 Documented information
7.5.1 General	=	7.5.1 General
7.5.2 Creating and updating	=	7.5.2 Creating and updating
7.5.3 Control of documented information	=	7.5.3 Control of documented information

Fig. 7 Comparison of the structure of Clause 7 of ISO 9001:2015 and ISO 14001:2015 Standards (CD1)

The first sub-clause is called “**Resources**” in both standards. The organization has to determine and provide the resources needed for the establishment, implementation, maintenance and improvement for both management systems. ISO 9001 Standard is accompanied by the requirement that the organization has to consider: what are existing internal resources, capabilities and limitations, and which goods and services are to be sourced externally. Next the sub-clause is accompanied by the requirements for Infrastructure, Process environment, Monitoring and measuring devices and Knowledge.

The second sub-clause is called “**Competence**” in both standards and states the requirements for determining and assuring necessary competences. These requirements are the same for both management systems.

The third sub-clause is “**Awareness**”. In ISO 9001 Standard is the requirement that persons doing work under the organization control have to aware of the quality policy, relevant quality objectives, their contribution to the effectiveness of the QMS, including the benefits of improved quality performance and the implications of not conforming with the QMS requirements. In ISO 14001 Standard is the requirement regarding relevant quality objectives replaced by the requirement regarding the significant environmental aspects and related actual or potential impacts associated with their work, including applicable legal requirements and voluntary obligations.

The fourth sub-clause has the title “**Communication**” in both standards. The requirements in ISO 9001 are the same as the requirements in sub-sub-clause “7.4.1 General” of ISO 14001 Standard. In ISO 14001 the requirements are accompanied by the requirement: how to communicate, including communication methods, tools and approaches. When planning for communication, the organization shall take into account the requirements of relevant interested parties. Next this standard contains the requirements for internal communication in sub-sub-clause 7.4.2 and for external communication a reporting in sub-sub-clause 7.4.3.

The fifth sub-clause is called “**Documented information**”. The requirements for documented information are the same in both standards. The requirements of ISO 14001 standards are supplemented by the requirement for description of the main elements of the environmental management system and their interaction, including with other business processes.

CLAUSE 8 OPERATION

This clause leads from the information in clause 6.1 on risks and opportunities. The organization needs to plan, implement and control

the processes that are deemed to address the information identified earlier. The organization needs to have the criteria to assess the outcome and these needs to be fully documented. The structure of this clause is illustrated in Fig. 8 (Part 1) and in Fig. 9 (Part 2).

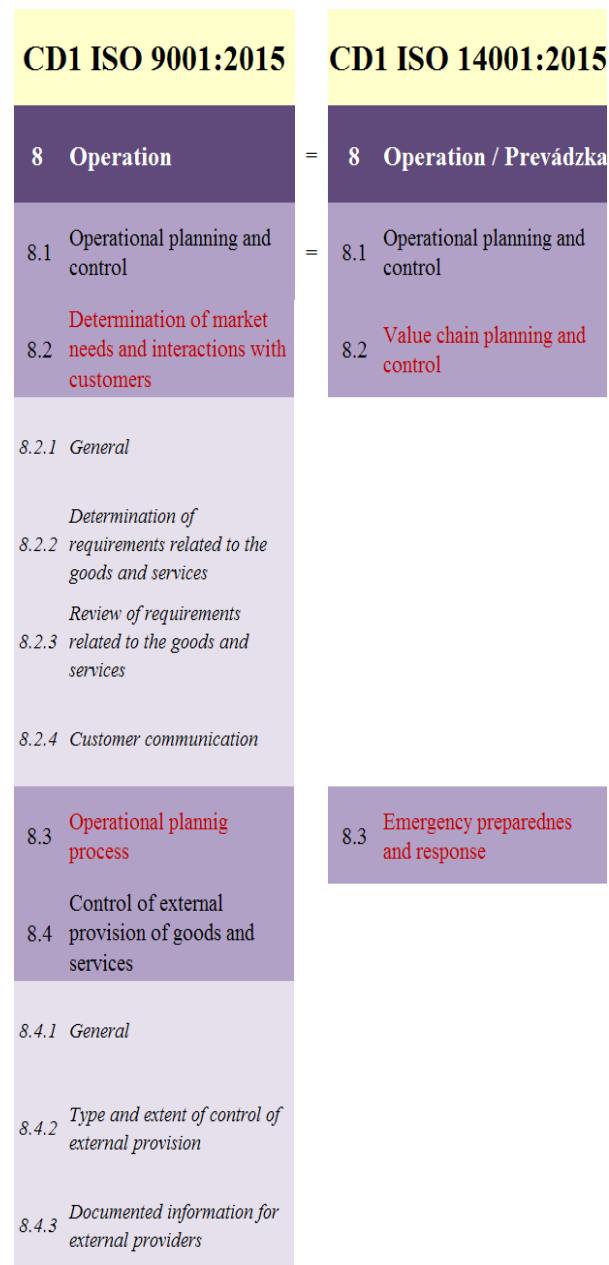


Fig. 8 Comparison of the structure of Clause 8 of ISO 9001:2015 and ISO 14001:2015 Standards (CD1) - Part 1

The first sub-clause is called “**Operational planning and control**” and contains the same requirements for both management systems. the organization has to plan, implement, and control the processes needed to meet requirements and to implement the actions determined in sub-clause 6.1 by establishing criteria for the processes, implementing control of the processes, in

accordance with the criteria and keeping documented information to the extent necessary to have confidence that the processes have been carried out as planned. The organization has to control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

CD1 ISO 9001:2015	CD1 ISO 14001:2015
8.5 Development of goods and services	
8.5.1 Development processes	
8.5.2 Development controls	
8.5.3 Development transfer	
8.6 Production of goods and provision of services	
8.6.1 Control of production of goods and provision of services	
8.6.2 Identification and traceability	
8.6.3 Property belonging to customers or external providers	
8.6.4 Preservation of goods and services	
8.6.5 Post delivery activities	
8.6.6 Control of changes	
8.7 Release of goods and services	
8.8 Nonconforming goods and services	

Fig. 9 Comparison of the structure of Clause 8 of ISO 9001:2015 and 14001:2015 Standards (CD1) - Part 2

All next sub-clauses are different in these two ISO Standards. In the committee draft of ISO 9001 there are next seven sub-clauses with their sub-sub-clauses. The committee draft of ISO 14001 Standard contains only two other sub-clauses without sub-sub-clauses.

The second sub-clause of ISO 9001 standard is called “**Determination of market needs and interactions with customers**” and contains the requirement for the organization to implement a process for interacting with customers to determine the requirements relating to goods and services. The organization has to determine the requirements specified by the customer including the requirements for delivery and post-delivery

activities, requirements not stated by the customer but necessary for specified or intended use, statutory and regulatory requirements applicable to the goods and services and any additional requirements considered necessary by the organization. This sub-clause also contains the reviewing of the requirements related to the goods and services. The review has to be conducted prior to the organization’s commitment to supply goods and services to the customer. The organization has to maintain documented information that describes the results of review. The last part of this sub-clause says about communication with customer. The organization has to determine and implement planned arrangements for communicating with customers in relation to goods and services information, enquiries, contracts or order handling customer feedback, the handling of customer property and the specific requirements for contingency actions.

The second sub-clause of ISO 14001 Standard is called “**Value chain planning and control**”. The organization has to ensure that upstream and downstream processes related to significant environmental aspect are controlled or influenced. The type and extend of control or influence to be applied to these processes has to be defined within the EMS. The organization has to ensure that outsourced processes and processes related to the purchase of goods and services are controlled. The organization has to consider the result of the evaluation of significant environmental aspects as input in the process of the design, development or change of its products and services. The organization has to consider the need to provide information about potential significant environmental impacts during the use and end of life treatment of the product or during the delivery of the service.

The third sub-clause of CD 1 of ISO 9001 Standard is called “**Operational planning process**”. In preparing for the realization of goods and services, the organization has to implement a process to determine the requirements for the goods and services taking into consideration relevant quality objectives, actions to identify and address risks related to achieving conformity of goods and services to requirements, the resources that will be required arising from the requirements for the goods and services, the criteria for the acceptance of goods and services, how the performance data will be established and communicated and requirements for traceability, preservation, goods and services delivery and post delivery activities.

The third sub-clause of CD1 of ISO 14001 Standard is called “**Emergency preparedness and response**” and contains the requirement for specifying the way that will implement and maintain a process to determine potential emergency situations and accidents that can have

the impact on the environment and how it will respond to them. The organization has to take action to prevent occurrence and reduce the environment consequences of emergency situations, appropriate to the magnitude of the emergency or accident and the potential environmental impact, respond to actual emergency situations and accidents, periodically test plan where practicable, and periodically review and revise emergency preparedness and response plan after the occurrence of accidents or emergency situations or tests. Documented information is required on emergency response plan.

The other sub-clauses of CD1 of ISO 9001 relate to the control of external provisions of goods and services, development of goods and services, the production of goods and provisions of services, traceability, preservation of goods and services, release of goods and services and at last nonconforming goods and services.

CLAUSE 9 PERFORMANCE EVALUATION

The clause 9 contains three sub-clauses. The structure of this clause is shown in Fig. 10.

CD1 ISO 9001:2015		CD1 ISO 14001:2015
9 Performance evaluation	=	9 Performance evaluation
9.1 Monitoring, measurement, analysis and evaluation	=	9.1 Monitoring, measurement, analysis and evaluation
9.1.1 General	=	9.1.1 General
9.1.2 Customer satisfaction		9.1.2 Evaluation of compliance
9.1.3 Analysis and evaluation of data		
9.2 Internal audit	=	9.2 Internal audit
9.3 Management review	=	9.3 Management review

Fig. 10 Comparison of the structure of Clause 9 of ISO 9001:2015 and ISO 14001:2015 Standards (CD1)

The first sub-clause is “**Monitoring, measuring, analysis and evaluation**”. For QMS this sub-clause contains 3 sub-sub-clauses “General”, “Customer satisfaction” and “Analysis and evaluation of data”. For EMS this sub-clause contains only 2 sub-sub-clauses “General” and “Evaluation of compliance”.

The common requirements in the first sub-sub-clause “**General**” for both standards are that

the organization has to determine what need to be monitored and measured, the methods for monitoring, measurement, analysis and evaluation, as applicable to ensure valid results, when the monitoring and measuring shall be performed, when the results from monitoring and measurement shall be analysed and evaluated. The organization has to retain appropriate documented information as evidence of the result. The organization has to evaluate the performance and the effectiveness of the management system. These common requirements are supplemented about following requirements for QMS – the organization has to evaluate the performance of external provider (8.4), establish processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements. For EMS the standard is supplemented by the following requirement – the organization has to determine the criteria against which the organization will evaluate and analyse its performance, using key performance indicators.

ISO 9001 Standard in the second sub-sub-clause contains requirements for “**Customer satisfaction**”. The organization has to monitor data relating to customer perceptions of the degree to which requirements have been met. The organization has to obtain data relating to customer feedback and customer views and perceptions of the organization, its processes and its goods and services. The organization has to determine the methods for obtaining and using this data and evaluate the data obtained to determine opportunities to enhance customer satisfaction.

The third sub-sub-clause “**Analysis and evaluation of data**” of ISO 9001 Standard contains the requirements that the organization has to analyse and evaluate appropriate data arising from monitoring, measurement and other relevant sources, including determination of applicable methods and for what the results of analysis and evaluation have to be used.

The second sub-sub-clause of ISO 14001 standard is called “**Evaluation of compliance**” and includes the requirements that the organization has to specify the way it will implement and maintain processes for evaluating compliance with applicable legal requirements and voluntary obligations. Accordance with commitment of the organization to compliance, the organization has to determine the frequency that compliance will be evaluated, evaluate compliance and take action if needed, maintain knowledge and understanding of its compliance status and retain documented information as evidence of the results of its compliance evaluation.

The second sub-clause “**Internal audit**” in both standards focuses on what is demanded from the internal audit. The common requirements for

both standards are the same. The organization has to conduct internal audits at planned intervals, plan, establish, implement and maintain the audit programmes.

The third sub-clause “**Management review**” in both standards identifies what is demanded in the management review. The common requirements for both standards are that top management has to review the organization management system at planned intervals to ensure its continuity suitability, adequacy and effectiveness. The management review has to include consideration of the status of actions from previous management reviews, opportunities for improvement, changes in external and internal issues that are relevant to management system and information on the performance (environmental performance) including trends in nonconformities and corrective actions, monitoring and measurement results and audit results. For QMS this part extra contains customer feedback, supplier and external provider issues and process performance and product conformity. For EMS this part extra contains compliance with applicable legal requirements and voluntary obligations and communication from external interested parties including complaints. This sub-clause also contains the requirements for the outputs of the management review. The outputs for QMS have to include decisions related to improvement opportunities and any need for changes to QMS. The outputs for EMS have to include conclusions on the continuity suitability, adequacy and effectiveness of EMS, decisions related to continual improvement opportunities for environmental performance and any need for changes to EMS, including the environmental policy and environmental objectives consistent with the strategic direction of the organization.

CLAUSE 10 IMPROVEMENT

This clause has two sub-clauses. The first is called “**Nonconformity and corrective action**”. The organization needs to have the detailed structure of how to deal with nonconformity, and this structure needs to be reviewed regularly. The requirements of both standards are the same.

The second sub-clause is called “**Improvement**”. It emphasises the need for continual improvement. The requirements of the second sub-clause are the same in both standards of management systems. The organization has to improve the suitability, adequacy and effectiveness of the management systems. Next according to ISO 9001 Standard the organization has to improve the QMS, processes and goods and services, as appropriate, through responding to results of analysis data, changes in the context of the organization, changes in identified risk and new opportunities. The organization has to evaluate and

determine the improvement to be implemented. According to ISO 14001 Standard the organization has to continually improve the suitability, adequacy and effectiveness of EMS to enhance its environmental performance as set by top management in line with the environmental policy. The structure of this chapter is shown in Fig. 11.

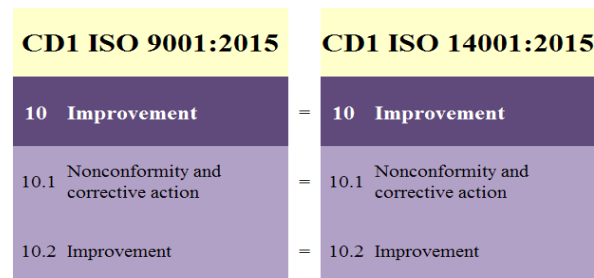


Fig. 11 Comparison of the structure of Clause 10 of ISO 9001 and ISO 14001 Standards (CD1)

SUMMARY

The analysis of Committee Drafts of two most widely used ISO Standards in Chapter 6 shows, that there are a lot of common clauses, sub-clauses and requirements. Only some clauses or sub-clauses are different for each standard by reason of unique of each area.

CONCLUSION

The standards such as ISO 9001 and ISO 14001 have similar intents but different structures, text and terminology. This is the reason, why their implementation together is more difficult on the present.

The revision of ISO 9001 and ISO 14001 has not finished yet. From Committee drafts we can see that the integration of management systems will continue in unification of the contents, text and terminology of basic standards for QMS and EMS. This integration also allows the differentiation of specific requirements. Risk management has the key role in these two standards. In the future these standards with HLS structure according to Annex SL will have very similar structure, text and terminology and will offer more common requirements and will make the creation of integrated management system much easier.

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