EUROSA 2024

SECOND INTERNATIONAL EUROSA CONFERENCE

PROCEEDINGS

May 15-18, 2024

Hotel Vrnjačke terme, Vrnjačka Banja, Serbia

Hybrid event
May 15 – 18, 2024
Hotel Vrnjačke terme, Vrnjačka Banja, Serbia

Organizers:

Department of Environmental Engineering and Occupational Safety and Health, Faculty of Technical Sciences, University of Novi Sad, Serbia

Faculty of Mechanical and Civil Engineering in Kraljevo, University of Kragujevac

European Association of Occupational Safety EUROSA

CIP - Каталогизација у публикацији
Библиотеке Матице српске, Нови Сад

331.45(082)
502(082)
351.78(082)

INTERNATIONAL EUROSA Conference (2 ; 2024 ; Vrnjačka Banja)
Proceedings [Elektronski izvor] / 2nd International EUROSA Conference, May 15-18, 2024, Vrnjačka Banja, Serbia ; [editors Zoran Čepić, Miljan Šunjević, Bojana Zoraja]. - Novi Sad : Faculty of Technical Sciences, 2024

Način pristupa (URL): https://eurosa.rs/wordpress/wp-content/uploads/2024/07/eurosa_2024_zbornik.pdf. - Opis zasnovan na stanju na dan 11.7.2024. - Bibliografija uz svaki rad.

ISBN 978-86-6022-676-3

а) Заштита на раду -- Зборници б) Животна средина -- Заштита -- Зборници в) Ванредне ситауције -- Заштита -- Зборници

COBISS.SR-ID 148853001

Proceedings of the

2nd INTERNATIONAL EUROSA CONFERENCE

Publisher:

Faculty of Technical Sciences
Trg Dositeja Obradovića 6, Novi Sad, Republic of Serbia

Editors:

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ISBN

978-86-6022-676-3

Year
2024

PREFACE

On behalf of the Scientific and Organizational Committee, it is my honor and great pleasure to present the Proceedings of the 2nd EUROSA International Conference, held on 15-18 May 2024 in Vrnjačka Banja, Serbia.

The papers contained in this Proceedings represent current scientific and professional informations in the field of sustainable management of occupational health and safety, environmental protection, fire protection and emergency situations and represent a mix of scientific research and professional opinion, shared with us by participants from academia and industry professionals.

We sincerely thank all the conference participants for their contribution, ensuring the success of the conference. Special thanks to all the participants of the round tables and panel discussions, keynote speakers, chairmen of the sessions and of course the reviewers for their invaluable contribution.

Last but not least, I would like to express my sincere gratitude to all members of the Scientific and Organizing Committee, whose efforts and work led to the successful realization of the EUROSA 2024 conference.

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ADVANTAGES OF SIMULTANEOUS INTRODUCTION OF ISO 45001 AND ISO 14001 STANDARDS - COMMON REQUIREMENTS

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Abstract: This paper explores the significant advantages and synergies gained through the concurrent implementation of ISO 45001, focusing on Occupational Health and Safety (OHS), and ISO 14001, cantered on Environmental Management System (EMS). The study emphasizes the common requirements shared by these standards, presenting a strategic approach to integrated management systems. It provides an overview of the requirements of individual points within the standard. Through an in-depth analysis, it elucidates how organizations can streamline efforts, optimize resources, enhance sustainability, and fortify their commitment to employee well-being and environmental protection. The paper highlights the strategic advantages that arise from aligning OHS and EMS within a unified framework, ultimately fostering a more comprehensive and efficient organizational management approach.

Keywords: *ISO 45001; ISO 14001, Standard requirements.*

INTRODUCTION

Occupational Health and Safety Management System - ISO 45001 is an international standard that specifies the requirements for an occupational health and safety management system (OH&SMS). The purpose of this standard is to provide organizations with a framework to proactively improve occupational health and safety performance, prevent work-related injuries and illnesses, and create a safe and healthy workplace. ISO 45001 has gained significant attraction globally since its release in March 2018. Many organizations around the world have recognized the importance of ensuring a safe and healthy work environment for their employees and have adopted or are in the process of implementing ISO 45001 (Perović and Todorović, 2023). In Serbia, the adoption of ISO 45001 has been part of a broader global trend towards enhancing occupational health and safety standards. Many companies, especially those aiming to compete in international markets, have shown interest in aligning with ISO 45001 to demonstrate their commitment to providing a safe working environment for their employees. The adoption of ISO standards is encouraged with the aim of improving workplace safety and ensuring compliance with international norms.

Environmental Management System - ISO 14001 is an international standard that specifies the requirements for an environmental management system (EMS). It provides a framework for organizations to manage and continually improve their environmental performance, considering aspects like resource usage, waste management, and carbon footprint (Perović et al., 2023). ISO 14001 is one of the most widely adopted ISO standards globally. It's utilized by a broad range of organizations, including manufacturing industries, service providers, government agencies, and more. The global adoption of ISO 14001 reflects a growing awareness and commitment to sustainable and environmentally responsible practices. In Serbia, environmental concerns and sustainability have gained prominence in recent years. Organizations in various sectors have been looking to align their practices with ISO 14001 to demonstrate their dedication to environmental responsibility and meet regulatory requirements. This includes efforts to reduce environmental impact, improve resource efficiency, and engage stakeholders in sustainable practices. The adoption of ISO 14001 in Serbia is influenced by factors such as international trade requirements, corporate social responsibility initiatives, and regulatory frameworks aimed at promoting sustainable development.

Considering the ISO introduction in company businesses is not mandatory, but highly recommended and desirable, the aim of the presented research is indicating and highlighting the common requirements of these two standards, facilitating the process of simultaneously introducing these standards into company operations.

MATERIALS AND METHODS

Within this part of the research the concise overview of the clauses' requirements for both standards are presented. Annex SL is a framework that provides a common structure and core text for the development of management system standards. It enhances the consistency and alignment among various ISO management system standards. The purpose of Annex SL is to ensure that different ISO management system standards have a similar high-level structure, terminology, and core requirements. Annex SL establishes a common structure with ten clauses for management system standards, making it easier for organizations to align their management systems regardless of the specific standard. The core text in Annex SL provides fundamental requirements that are consistent across all ISO management system standards. This includes sections on context, leadership, planning, support, operation, performance evaluation, and improvement. It promotes the use of consistent terminology and definitions across different ISO standards, ensuring clarity and ease of understanding. By following Annex SL, organizations can more effectively integrate multiple management systems, into a cohesive and efficient integrated management system (IMS). With this structure, the standard is formed adhering the plan-do-check-act cycle. Due to their similar structure, it is simple to compare the two standards side by side and see their differences.

ISO 14001 and ISO 45001 certification demonstrates the commitment to environmental sustainability and occupational health and safety, ensuring a safer workplace and a reduced environmental impact. There are 10 standard clauses that both standards contain. The standard requirements are listed from the fourth to tenth clause.

Briefly presented the fourth Clause present the Context of the organization. The context includes defining influences of various factors on the organization and how they impact the EMS and the ability to achieve the intended outcomes of the OH&S management. It encompasses understanding the needs and expectations of interested parties, defining the scope, and establishing of the EMS and OH&S management system.

The fifth Clause refers to the responsibilities and obligations of management, covering defining of the Policy. The Policy would, for both standards, among other, include commitment to provide safe and healthy working conditions, considering the environmental impacts of its activities, setting the framework for defining of EMS and OH&S objectives, commitment to fulfil legal requirements. The first difference between these two standards is in Clause 5.4 Consulting and participation of workers, at all applicable levels and functions and workers representatives in the OH&S management.

Within the Clause six Planning is defined. Within this Clause the risks and opportunities, and environmental objectives must be considered, identified, and assessed. The planning to achieve objectives must be defined. The determination of legal and other requirements is also an integral part of the Clause 6. The second difference between these two standards is that within the Clause 6.1.2, of ISO14001, the recognition, identification, and evaluation of the environmental aspects is required.

The Clause seven present Support covering: resources, competence, awareness, communication, and documented information within organization.

The Clause eight – Operation, probably presents the most extensive Clause of these standards. It encompasses operational planning and control and emergency preparedness and response. Especially in ISO 45001 the emphasis is placed on measures to eliminate hazard and reduce OH&S risks, management of change, and procurement.

The Clause nine - Performance evaluation considers monitoring, measurement, analysis, and evaluation of its environmental performance and identified hazards, risks and opportunities, effectiveness of operational and other control. The important part of this Clause is Internal audit (Clause 9.2). which ensures each requirement of the standard is implemented and maintained within the occupational health & safety management system and environmental management system and includes the ability for the company to add additional questions to suit additional company needs. The Management review (Clause 9.3) considers that top management shall review the organizations environmental and OH&S management system, at planned intervals, ensuring its continuing suitability, adequacy, and effectiveness.

The last tenth Clause – Improvement indicates that organization determines its opportunities for improvement and implement needed steps to accomplish the planned outcomes of its OH&S and EMS management system. The requirements for ongoing improvement in the OH&S and EMS management systems involve recognising nonconformities and taking corrective action to prevent them from recurring repeatedly by removing the underlying cause of the nonconformity.

With the aim of facilitating the simultaneous adoption of these two standards and providing a useful tool for their concurrent implementation, which would demonstrate their common requirements and differences, this research was conducted.

RESULTS AND DISCUSSION

In addition to previously stated common format, many of the processes included are the same for all management systems. For processes such as internal audit, determining interested parties, competence and awareness, control of documented information or management review, there is a common way of performing these activities. Both standards require identification, analyses, and assess the risks of processes. For the EMS, this refers to the aspects of the processes (how it interacts with the environment) and the impacts on the environment. For the OH&S, this refers to the OH&S risks of the process and the hazards they pose to workers. Both standards include requirements to determine what are the legal requirements for either the OH&S or EMS and remain updated of changes. This can be achieved through common format for review and recording, while also providing compliance with these legal obligations. The OH&S or EMS requirements comparison is presented in Figure 1. The common requirements are marked as cross-section listed below with arrow, while the differences are listed within the ellipses (orange - ISO 45001 and green - ISO 14001).

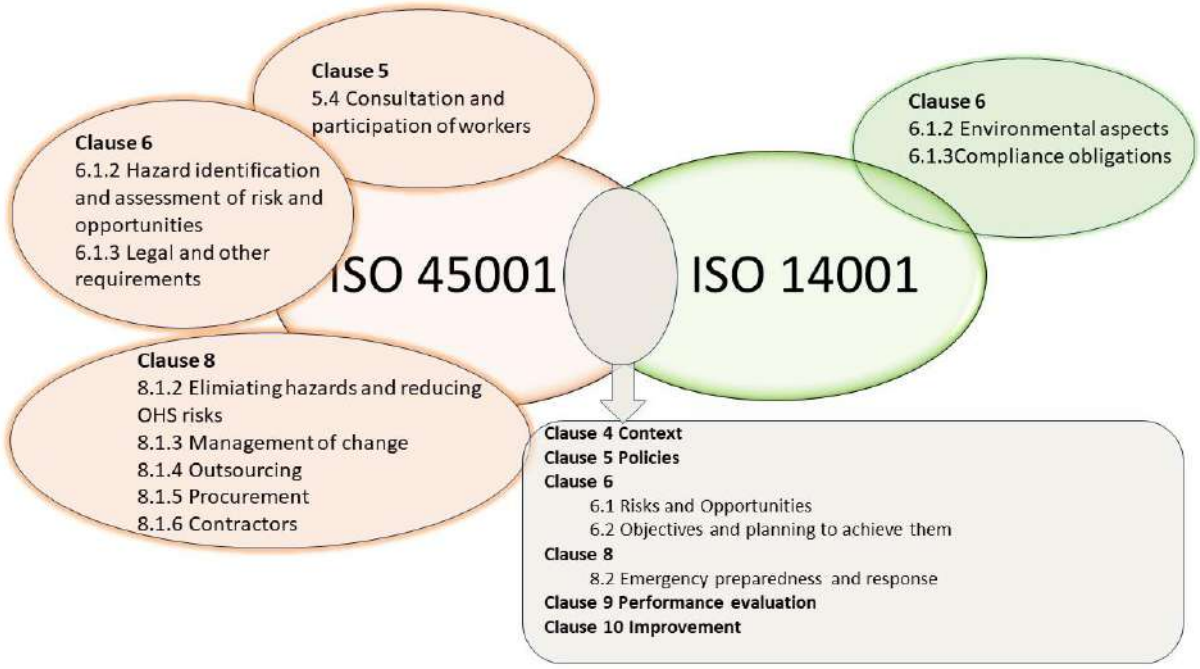

Figure 1. The differences between the ISO 45001 and ISO 14001 requirements and the common requirements

The good example of the cross-section between EMS and OHS is an emergency simulation exercise. During this exercise, a company can simulate various emergency scenarios that could impact both the environment and the safety of its employees. Within the environmental aspect the simulation could involve a mock scenario where a hazardous chemical spill occurs within the facility. This addresses an environmental aspect as it assesses how the organization responds to mitigate the environmental impact, containment measures, and proper disposal of the hazardous materials to prevent pollution.

Within the Occupational Health and Safety aspect, simultaneously, the scenario considers the safety of employees. It tests the company's emergency response procedures, evacuation protocols, provision of safety gear, training effectiveness, and the efficiency of communication and coordination among employees to ensure their well-being during the incident. By combining these aspects, the exercise helps the organization assess its preparedness and response capabilities holistically, aiming for a well-coordinated and effective response that safeguards both the environment and the health and safety of its workforce.

If a fire scenario is an emergency exercise, the environmental aspect assesses how the organization handles a fire incident concerning environmental concerns. This includes evaluating the potential environmental impact of the fire, such as air and water pollution due to

the burning of materials, and devising strategies to minimize or prevent environmental damage. Proper containment measures, safe handling of firefighting agents, and minimizing runoff that could contaminate nearby water sources are key considerations. Occupational Health and Safety aspect primarily tests the safety of employees in the event of a fire. It evaluates evacuation procedures, fire safety training, availability and functionality of firefighting equipment, emergency communication, safe routes for evacuation, and overall preparedness to protect employees from harm and potential health hazards associated with fire and smoke inhalation. This simulation exercise serves as a comprehensive evaluation of the organization's readiness to address fires, ensuring that the response not only protects the environment but also prioritizes the health and safety of the workforce. It allows for the integration and alignment of EMS and OHS strategies to achieve a more effective and coordinated emergency response.

CONCLUSION

The common concepts for ISO 45001 and ISO14001 standards are: common format, common management system processes, risk management and focus on legal requirements. The differences could be summarized as distinctive ISO 45001 requirements, focusing on those affected most directly by activities to improve occupational health & safety in the workplace. These can be summarized as focus on workers participation, incident inclusion in the process for taking corrective action, focus on hazard elimination and risk minimization, and requirements for procurement. Several sections of the ISO 45001 standard include requirements to include workers in the creation and functioning of the OHSMS. This includes consultation of workers when determining the processes that need to be included in the implementation of the OHSMS, and worker participation in the running of the OHSMS after it is implemented. The ISO 45001 standard specifies the requirement for corrective action when an OH&S incident happens at work to prevent repetition and protect workers in the future, while all management system standards provide a mechanism for taking corrective action when a process has some nonconformities. Working to obtain elimination of risks in the organisation is one of the ISO 45001 operation requirements. The OH&S risks reduction makes the workplace safer by attempting to eliminate hazards. The procedure of procurement (ISO 45001) enables that any goods or services obtained from contractors or through outsourcing must adhere to OH&S Management System procedures. As a result, a threat of a contractor working on company's property using the different safety procedures from the ones accepted as adequate, will be minimized. Distinctive requirements exclusive to the ISO 14001 standard encompass determination and recognition of environmental aspects, alongside specific compliance obligations.

ISO 14001 places a strong emphasis on environmental performance improvement and sustainability. It mandates proactive measures for pollution prevention, resource conservation,

and waste management. Additionally, the standard prioritizes stakeholder engagement, requiring organizations to consider the interests and concerns of relevant parties in their environmental management practices.

Furthermore, ISO 14001 promotes a lifecycle approach to environmental management, encouraging organizations to consider the environmental impacts of their products and services from design and development through to end-of-life disposal. It also emphasizes the importance of continuous improvement, requiring organizations to regularly monitor and review their environmental performance and take corrective action as necessary.

When integrating diverse management systems, the synergy without doubling costs can be achieved. Commonalities between systems allow joint processes, saving time and money while reaping the benefits of both. This approach enhances continual improvement from dual perspectives without doubling expenses, offering the organization added value and efficiency.

ACKNOWLEDGMENT

This research was supported by Jaroslav Černi Water Institute.

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