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PREFACE

With great pleasure, I extend warm greetings on behalf of the Scientific and Organizing Committees. It is an honor to introduce the Proceedings of the 1st International EUROSA Conference held from September 12 – 15, 2023, in Brzeće, Kopaonik, Serbia.

This compilation represents the culmination of dedicated efforts and scholarly contributions from our esteemed participants. The papers contained herein encapsulate a wealth of knowledge and innovation in the field of sustainable management of occupational health and safety, environmental protection, fire protection and emergency situations. They reflect the collective efforts of researchers, academics, and professionals who have generously shared their insights during the conference.

Our sincere gratitude goes to all contributors for enriching the conference and ensuring its success. Special appreciation is extended to all participants of the Roundtable and Panel Discussions. Special thanks are also due to our esteemed keynote speakers, session chairs, and reviewers for their invaluable contributions.

As we reflect on the insights shared during the conference, we recognize the power in connecting the academic community and the business sector. This synergy provided a platform for exploring significant achievements, the latest trends, and the exchange of practical experiences and best practices in the mentioned fields.

I would like to express my sincere thanks to all members of Scientific and Organizing committees, whose planning and execution were instrumental in ensuring the Conference's success.

Confident that the solid foundation created by the 1st International EUROSA Conference will continue to build up and strengthen the unique international network of academics and professionals, we present these proceedings as a lasting resource. May the papers herein inspire continued dialogue and exploration in the field of sustainable management of occupational health and safety, environmental protection, fire protection and emergency situations.

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In Novi Sad, September 2023

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Table of Contents

THE CROSS-SECTION OF LEGAL AND THE ISO 45001 STANDARD REQUIREMENTS IN THE MANAGEMENT OF HEALTH AND SAFETY AT WORK

Perović M.[1], *Todorović M.*[1]

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Abstract: The protection of health and safety at work, the avoidance of illnesses and accidents at work, and the promotion of a positive and long-lasting work environment are the main purposes of occupational health and safety. Occupational health and safety are regulated by laws and by-laws, by implementing prescribed safety procedures and by meeting the *ISO 45001* requirements.

This paper discusses the crucial intersection between the application of *ISO 45001*, an internationally recognized standard for occupational health and safety management systems, and the legal framework governing safety and health at work (Law on Safety and Health at Work "Official Gazette of RS", No. 35/2023). *ISO 45001* provides organizations with a structured approach to managing occupational risks and promoting a safe working environment, while legislation on safety and health at work sets forth mandatory requirements for workplace safety compliance. The paper presents a useful tool for incorporating the ISO45001 standard requirements into the business environment. It points out that the fulfilment of legal requirements corresponds to the fulfilment of individual ISO45001 standard clause requirements.

The paper also explores the impact of *ISO 45001*'s proactive approach to risk management on reducing workplace accidents, enhancing worker well-being, and improving overall productivity. It presents real-world examples to show how implementing *ISO 45001* can help organizations stay compliant with the law and promote a culture of safety. The importance of harmonizing *ISO 45001*'s principles with the legal framework on safety and health at work is emphasized within the paper. Organizations can create a robust safety management system that not only enhances compliance but also improves overall safety standards, promoting a healthier and more secure work environment for employees. The research provides valuable insights for organizations seeking to optimize their safety management practices, foster legal compliance, and prioritize the well-being of their workforce.

Keywords: *ISO 4500; legal requirements; work safety measures implementation.*

INTRODUCTION

ISO (International Organization for Standardization) is a worldwide federation of national standard bodies. Preparation of international standards takes place in ISO technical committees. ISO works closely with the International Electrotechnical Commission (IEC) on all matters of standardization in the field of electrical engineering. All international standards (ISO) are developed in accordance with the rules given in the ISO and IEC directives.

The Law on Safety and Health at Work governs the development and application of safety and health measures at work for individuals taking part in work processes as well as individuals who are present in the workplace. The objective of enforcing the law is to prevent injuries at work, occupational diseases, and work-related diseases. The law, among other things, defines the general principles of prevention, the rights of special groups of employees, the employer's obligations, the rights and obligations of employees, information, consultation, cooperation, and training of employees and employee representatives for safety and health at work.

ISO 45001 is a global standard for occupational safety and health management systems that provide companies with practical solutions to improve worker safety and prevent occupational illnesses, injuries, or fatalities. The aim of the research is to emphasize the relation and importance of the interconnection of legal requirements and standard requirements for managing occupational safety and health.

The adoption of the *ISO 45001* standard was of particular importance for Occupational Health and Safety (OH&S) management systems. The standard's development rendered the Occupational Health and Safety Assessment Series (OH&S AS) 18001 outdated (Neag et al., 2019). Legal entities are not legally compelled to implement *ISO 45001* or other equivalent management standards. Despite this, implementing this standard can assist in providing a formal framework for the company to protect the safety of all its employees. Implementing *ISO 45001* recommendations into regular operations also enhances hazard detection and risk assessment, at the same time decreasing the overall cost of workplace incidents, and the total amount of insurance premium payments.

For successful standard implementation, it is essential to conduct an objective assessment of the organization's current functioning in relation to the standard's requirements. The process of comparing the present core processes practices, and documentation with the *ISO 45001* requirements is called gap analysis. As a result of the analysis, the recognized gaps and flaws can be corrected.

Within the implementation of *ISO 45001,* each of the employees (including the top management) can acquire additional responsibilities related to occupational health and safety, which enables everyone to feel a sense of ownership in the safety management system.

Following the establishment of the company's safety goals, it's necessary to correlate the standards requirements with these goals. This alignment should be quantified creating the unique metrics. The metrics will assess the efficacy of the OH&S management system and identify the need for alterations as well as long-term improvements.

How to identify and comply with legal requirements with *ISO 45001* requirements

Considering the human health and safety concerns, compliance of legal requirements with *ISO 45001* requirements is one of the most important tasks. The standard quotes legal requirements in several places, demanding the inclusion of at least a commitment to comply with applicable legal requirements, and with other requirements to which the organization declares to relate when writing the Policy. This compliance must be considered through the whole Plan-Do-Check-Act (PDCA) cycle within the OH&S management system, from the OH&S Policy and definition of OH&S Objectives to management review. Legal requirements that apply to a certain company should be selected, listed, and kept up to date.

When the company is setting its OH&S Objectives (Clause 6, *ISO 45001*) and planning to achieve them, applicable legal requirements should be considered. Periodic evaluation of compliance with legal and other requirements is a mandatory activity, and evidence of the implementation must be kept.

Management System Approach

The *ISO 45001* standard focuses on adopting a systematic approach to manage occupational health and safety risks and opportunities. Organizations need to implement processes for hazard

identification, risk assessment, and risk control, as well as establish clear health and safety objectives and performance indicators.

While the Law on Safety and Health at Work in Serbia may require organizations/companies to take similar measures to ensure safety and health, it may not prescribe specific management system requirements like *ISO 45001*. The law sets out general guidelines and minimum safety and health requirements that organizations must follow.

Continuous Improvement and Certification

Organizations can seek certification from accredited certification bodies to demonstrate compliance with the *ISO 45001* standard. The certification process involves external audits to assess the organization's health and safety management system's effectiveness and adherence to the standard's requirements.

Compliance with the Law on Safety and Health at Work in Serbia is determined through inspections and assessments carried out by relevant authorities. Organizations must adhere to its requirements to avoid legal consequences.

Interconnection of legal requirements and standard requirements in managing occupational safety and health

ISO 45001 provides a framework that can be adapted to comply with relevant laws and regulations. Here are some key areas where *ISO 45001* requirements may intersect with legal requirements:

Hazard identification and risk assessment:

ISO 45001 requires organizations to identify and assess health and safety risks and hazards associated with their activities. Similarly, laws prescribe risk assessment and the implementation of appropriate control measures to protect workers from workplace hazards. Organizations must comply with both *ISO 45001*'s risk assessment requirements and the specific legal requirements in their respective jurisdictions.

Legal compliance:

ISO 45001 expects organizations to identify and have access to relevant legal and regulatory requirements related to occupational health and safety. This includes understanding how these requirements apply to their operations and ensuring compliance. Integrating legal compliance into the health and safety management system is crucial for both *ISO 45001* and the law.

Incident reporting and investigation:

ISO 45001 emphasizes the need for organizations to establish procedures for reporting, investigating, and recording work-related incidents and safety non-conformities. The law requires employers to report certain types of workplace incidents to the relevant authorities, such as injuries at work. The intersection here involves complying with *ISO 45001*'s incident reporting requirements while also adhering to legal obligations regarding incident reporting.

Employee participation and consultation:

ISO 45001 emphasizes the importance of engaging workers and their representatives in the development and implementation of the health and safety management system. The law requires employee participation and consultation on health and safety matters. Organizations must ensure

they meet both *ISO 45001*'s requirements for worker involvement and any additional legal obligations related to employee participation.

Emergency preparedness and response:

ISO 45001 requires organizations to plan and implement emergency preparedness and response procedures to address potential accidents and emergency situations. These procedures must be aligned with legal requirements related to emergency response.

Training and competency:

Both *ISO 45001* and the law stipulate the importance of providing adequate health and safety training to employees to perform their work safely and competently. Organizations must ensure they meet the specific training requirements of both *ISO 45001* and applicable legal regulations.

It's important to note that the intersection between *ISO 45001* and legal requirements will vary depending on the country and industry. Organizations seeking *ISO 45001* certification should carefully evaluate their health and safety management system to ensure it meets the standard's requirements while also complying with relevant laws and regulations on safety and health at work. Consulting with legal experts and *ISO 45001* consultants can help organizations navigate this intersection effectively.

Differences between legal requirements and standard requirements in managing occupational safety and health

The management of occupational safety and health involves adhering to both legal requirements and standard requirements. These requirements serve distinct purposes and can have differences in their scope and level of detail.

Legal requirements are enforceable by law, and organizations are obliged to comply with them. Failure to meet these obligations can result in legal consequences, such as fines, penalties, or legal action. Legal requirements are established by governmental or regulatory authorities at the local, national, or international levels, depending on the jurisdiction.

Standard Requirements are voluntary and not legally binding. Organizations can choose to adopt and implement standards based on their needs and objectives. Standards are developed by independent organizations with the aim of promoting best practices in a specific area, such as occupational health and safety. Standards outline best practices, methodologies, and guidelines to achieve optimal safety and health performance in the workplace. Unlike legal requirements, standards are designed to be applicable globally, providing a consistent approach to managing safety and health regardless of the jurisdiction.

Concrete examples in practice

Within 10 clauses of the standard, for clauses 1- 3 documented information is not required. The *ISO 45001 standard* requirements within clause 6 are OH&S objectives and planning to achieve them.

Examples of OH&S objectives might include - increasing employees' awareness of OH&S; reducing the number of injuries at work; and maintaining constant compliance with the appropriate legal and other requirements.

To increase OH&S awareness several things should be done: OH&S training, education, and informing employees about the importance of use of personal protective equipment (PPE) and obligatory OH&S informing of employees.

Reduction of the number of injuries at work could be achieved through OH&S training; procurement of adequate PPE, mandatory medical examinations of employees, especially at workplaces with increased risk, and full implementation of OH&S measures.

Maintaining constant compliance with the appropriate legal and other requirements is achieved through regular compliance review followed by keeping records of the conducted review.

The examples above demonstrate how meeting standards requirements in practice means meeting legal requirements, whereby instead of competing, they effectively complement each other.

Within Clause 8, of *ISO 45001*, Operational Planning and Control, for Emergency Preparedness and Response an adequate number of visible and well-marked first aid kits should be available. An adequate record of the contents and expiration date of the supplies in the first aid kit must be kept up to date. The legal requirement is that the employer must provide first aid to employees, as well as train the appropriate number of employees to provide first aid.

The legal obligation of the employer is to appoint an advisor, i.e., an associate for safety and health at work, by acting in writing. The appointment of employee representatives for safety and health at work is a recommendation of the law and a requirement of ISO 45001. The Risk Assessment Act (RAA) is a legal requirement, and among other things predicts the use of personal protective equipment for certain workplaces. The prescribed by RAA becomes the obligation of the company. Otherwise, the compliance with Clause 7 of the ISO 45001 standard and working environment conditions, is proven by RAA.

Key Performance Indicators (KPI), Clause 9 of *ISO 45001*, present a tool for determining whether the organization is meeting the requirements of *ISO 45001*. Organizations are required to have a systematic approach for measuring and monitoring of KPI of their OH&S management system performance. Defined KPIs are quantifiable measurements of a certain type of activity that a company conducts.

These KPIs usually consider quantifying the data whose monitoring is a legal requirement: The number of held training - training employees for safe and healthy work; The number of periodic inspections of the correctness of the hydrant network and mobile fire extinguishers, the number of days spent on sick leave due to an injury at work.

The listed intersections and differences are summarised and presented in Figure 1.

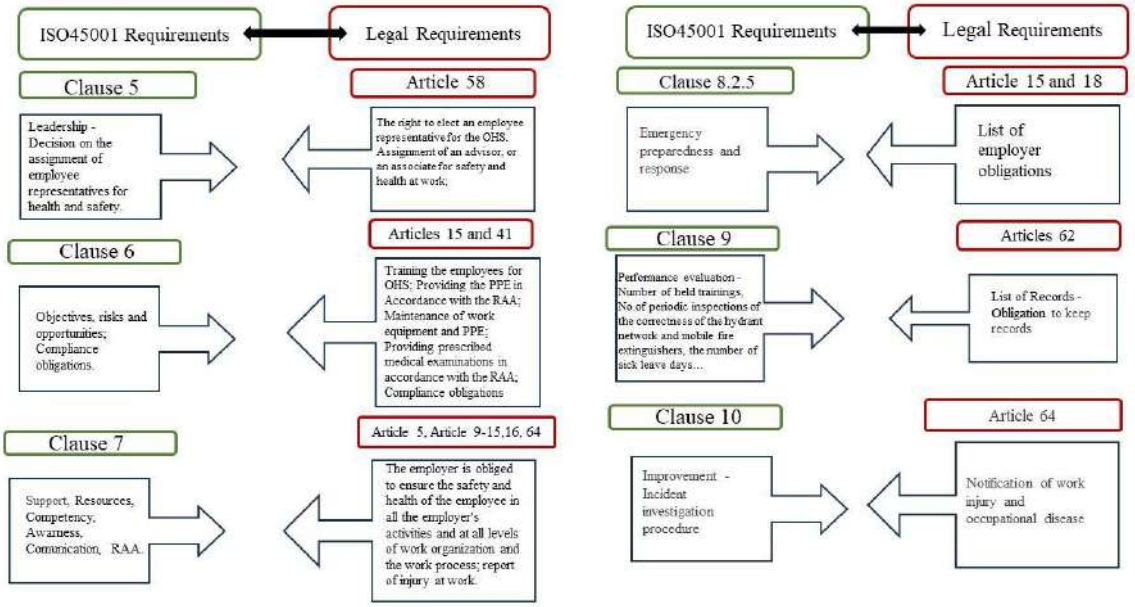

Figure 1. The intersection of ISO 45001 standard requirements and Legal Requirements

CONCLUSION

Being an international standard, *ISO 45001* is not legally binding by itself. Organizations choose to implement it voluntarily to demonstrate their commitment to ensuring a safe and healthy work environment and to comply with relevant legal and regulatory requirements.

Law on Safety and Health at Work in Serbia is a mandatory legal document for organizations operating within Serbia. It is enforceable by the relevant authorities, and non-compliance may lead to penalties or legal consequences.

The certification of an OH&S management system against the requirements of *ISO 45001* is not a guarantee of legal compliance, but it is a proven and efficient tool to achieve and maintain such legal compliance. Compliance with legal and other requirements disables organizations from unintentionally violating the legislation and results in the improvement of the health and safety of employees at the workplace. The findings of Mohammadfam et al., 2017, show that certified companies perform much better than uncertified companies in terms of occupational health and safety management practices.

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