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The availability of the requirements of the international standard ISO: 45001:2018 for occupational safety and health management in Iraqi organizations: Comparative applied research in the Diyala and Salah Al-Din electricity distribution departments

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Abstract

The research aims to evaluate the actual reality of occupational health and safety management in the Diyala and Salah al-Din Electricity Distribution Departments. Then determine the possibility of applying the international standard ISO: 45001:2018 in them. This was after diagnosing the gap between the actual reality and the requirements of the targeted specification, and from this standpoint the research problem raised questions to the effect of (to what extent is the occupational health and safety management system available in the Diyala and Salah al-Din Electricity Distribution Departments in accordance with the requirements of the international standard ISO: 45001:2018? And what is the extent of the gap between reality? Actual and specification requirements? Several hypotheses were formulated to answer these questions. We also adopted the case study approach and used the Checklist as a main tool in the research, which included the seven (7) main items of the standard. It was found that the percentage of availability of the specification items (ISO: 45001:2018) in general was (64%, with a gap of (36%) in the Diyala Electricity Distribution District, and (76.7%), with a gap of (23.2%) in the Salah al-Din Electricity Distribution District. It became clear that there was a significant difference in application, as preference was given to the Salah al-Din Distribution District. As a result of these results, a set of recommendations were presented with the aim of addressing the weaknesses in the two departments under study, leading to bridging or reducing the gap to effectively implement the occupational safety and health management system.

Keywords: Occupational safety and health management system, international standard ISO:45001:2018, Diyala electricity distribution department, Salah Al-Din electricity distribution department

Introduction

Throughout time, humans are considered one of the most important means of development and progress of societies. From this standpoint, they are the most important elements of production in organizations whose focus is on achieving a work environment that is appropriate for their human resource and is more safe and secure. In view of this, a concept has developed to take care of this resource under the name of the Occupational Safety and Health Administration for the governorate. On the capabilities, skills and experience of workers and ensuring their maintenance on the one hand, and achieving the effectiveness of their performance on the other hand. As workers who suffer from poor health or are exposed to unsafe or harmful working conditions, this will negatively affect their performance and productivity, In light of this emphasis on human safety, public organizations of all kinds are seeking to fulfill occupational safety requirements and in accordance with the latest international standards approved in this field, including the ISO:45001 for the year 2018 in its first edition, which was addressed in the current research, as there are still some challenges facing many organizations. Both service and industrial, including:

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Electrical energy distribution directorates, which we chose to be the site for conducting our research in the governorates of Diyala and Salah al-Din in order to compare them with regard to the application of the provisions of ISO:45001:2018, as the workforce is exposed to danger, which may affect the ability to Productivity and economic performance of both organizations or the beneficiary community in providing the continuity and sustainability of electrical energy. Based on the above, we divided the research into four sections. The first included the research methodology, the second we devoted to the cognitive side of the research variables, and the third section we devoted to the practical, applied side. Then, in the last section, we discussed the conclusions we reached and the recommendations regarding them.

Section One

Research Methodology

First. Research Problem

Workers in the Diyala and Salah Al-Din Electricity Distribution Departments are more vulnerable to occupational hazards and injuries as a result of the rehabilitation of electrical services when they were exposed to terrorist and sabotage operations, their close dealings with dangerous electrical equipment and tools, and because of their lack of complete awareness of the preventive measures that must be taken while performing work, which was revealed through a procedure Some personal interviews of officials in senior departments as well as heads of a number of departments in the two locations where the research was conducted. From this standpoint, the problem of the research lies in the poor attention to occupational health and safety procedures in the Diyala and Salah al-Din electricity distribution departments. In addition to the lack of keeping up with or understanding the requirements of the occupational health and safety management system, and thus the problem of our research focuses on raising two questions: (What is the extent of the availability of the occupational health and safety management system in the Diyala and Salah al-Din Electricity Distribution Departments in accordance with the requirements of the international standard ISO:45001:2018 for health and safety? Professionalism?), and (What is the extent of the gaps between the actual and targeted reality of the occupational health and safety management system in the Diyala and Salah Al-Din Electricity Distribution Departments and the requirements of the international

standard ISO:45001:2018 and occupational safety?

Second: Research Objectives

The research aims to measure the actual reality of occupational health and safety management in the Diyala and Salah al-Din Electricity Distribution Departments. And diagnosing the gap between the actual reality and the targeted requirements in the Diyala and Salah al-Din electricity distribution departments. Then compare the actual reality of occupational health and safety management in the Diyala and Salah al-Din Electricity Distribution Departments.

Third: Research Significance

The research contributes to helping senior management in the Diyala and Salah al-Din Electricity Distribution Departments implement the occupational health and safety management system by identifying gaps in the level of application therein and documenting the requirements of the standard. The research also paves the way for the implementation of the international standard ISO: 45001:2018 and supports the culture of health and safety in the Diyala and Salah al-Din Electricity Distribution Departments, enhancing their role in preserving the health and safety of workers in the workplace and making them more sustainable. Adopting an occupational safety and health management system can be adopted in the organization as a proactive approach to confront potential risks in the two departments investigated.

Fourth: Research Hypotheses

The research seeks to prove: (1. The requirements of the occupational safety and health management system are available in accordance with the specification (ISO: 45001:2018) at an acceptable level in the Diyala and Salah al-Din Electricity Distribution Departments). (2. There is a gap in the level of availability of specification items (ISO: 45001:2018) in the Diyala and Salah al-Din Electricity Distribution Department.) (3. The level of implementation of the specification (ISO: 45001:2018) differs between the Diyala Electricity Distribution Department and the Salah al-Din Electricity Distribution Department).

Fifth: Hypothesis Research Scheme

To answer the research questions and achieve its objectives, we adopted the hypothetical scheme shown in the following figure:

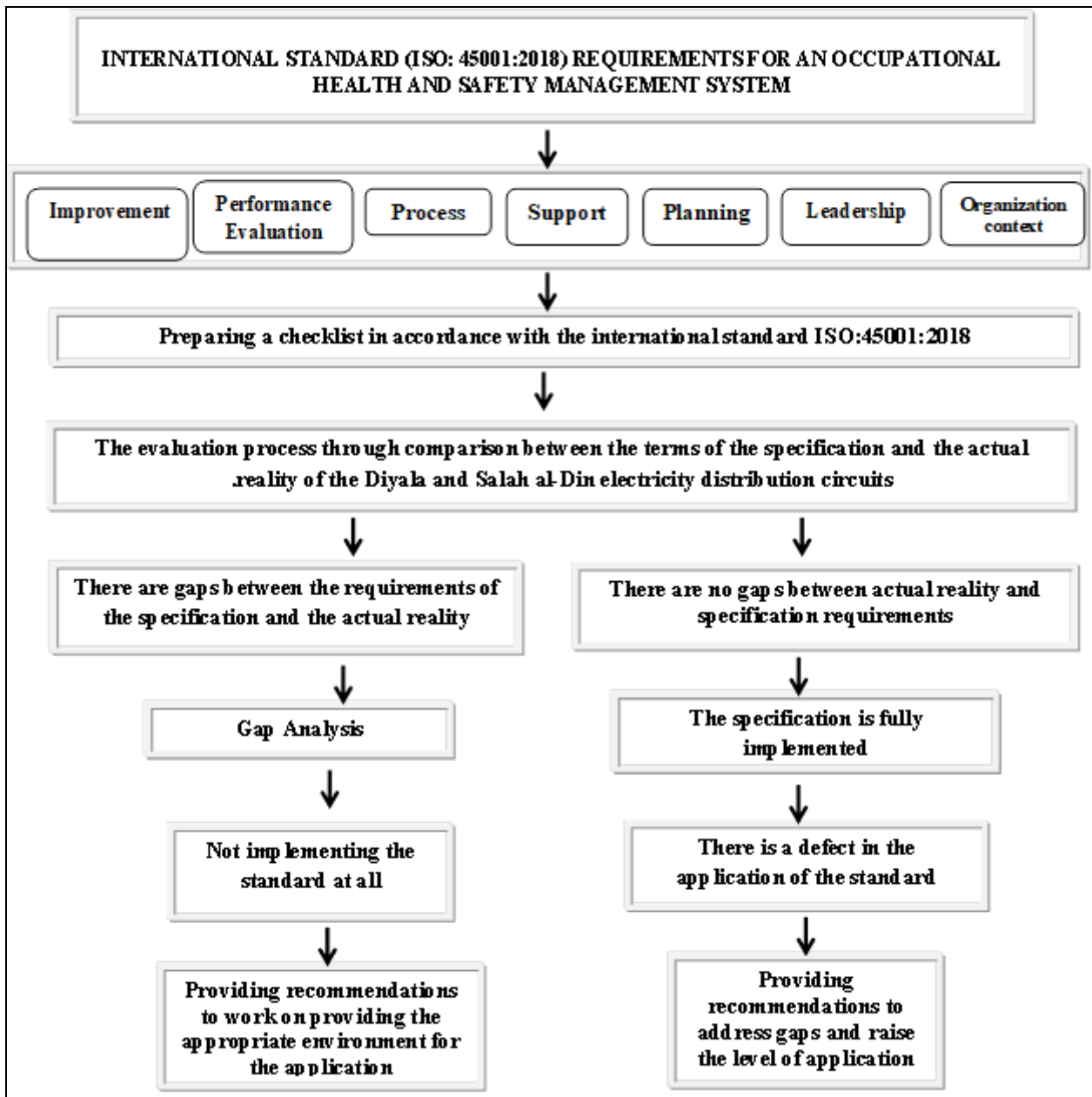


Fig 1: Experimental outline of the research methodology

Sixth: Research Methodology

The research adopted a case study approach to reach the desired goals and results.

Seventh: Methods of Collecting Data and Information

In collecting research data sources and information, we relied on the following methods:

1. **Sources of data and information for the theoretical aspect (secondary):** They are represented in the following: (Arabic and foreign books, university theses and dissertations, Arab and foreign periodicals, Arab and foreign reports, and the International Information Network on the Internet, in addition to the data and information available at the National Center for Occupational Health and Safety in Iraq (Official documents).
2. **Sources of data and information for the practical side (primary):** They are as follows:
 - **Personal interviews:** With officials and stakeholders in the Diyala and Salah Al-Din electricity distribution

departments.

- **Official documents and records:** In the Diyala and Salah al-Din electricity distribution departments.
- **Observation:** Through field observation in the Diyala and Salah al-Din electricity distribution departments.
- **Checklist (Research Instrument):** As the research covered the seven (7) main items of the aforementioned specification, as well as twenty (20) sub-items subordinate to the sub-items of the main items of the standard, this tool was used to diagnose the gap between the safety and health management system Professionalism meets the requirements of ISO:45001:2018 in the Diyala and Salah al-Din Electricity Distribution Departments, and it is a precise tool to increase its credibility and sobriety in measuring the purpose for which it was developed.

Eighth: Methods of Analyzing Data and Information

The research relied on the seven-point scale with weights from 0 to 6 degrees, shown in the following table:

Table 1: Method for determining the degree of conformity between the station's operating reality and the ISO: 45001:2018 standard

| The seven-point scale to determine the degree of conformity with the provisions of ISO: 45001:2018 | | | | | | | |
|--|---|--------------------------------------|----------------------------------|---|--|------------------------------------|---------------------------------|
| Scale | Totally applied and completely documented | Totally applied Partially documented | Totally applied and undocumented | Partially applied and completely documented | Partially applied Partially documented | Partially applied and undocumented | Not Applicable and undocumented |
| Measure | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Statistical methods were also used, represented by the weighted arithmetic mean and percentage, to the extent of actual application and documentation of the requirements of the standard in the two electricity departments. In addition, the data analysis to find the gaps and the extent of application was carried out according to the following equations:

1. Score = Sum (Weights x Frequency).
2. Average (Weighted Mean) = total score ÷ total repetitions.
3. Conformity rate = Average ÷ Highest score on the scale (which is 6).
4. Gap size = 1 – Matching percentage.

Section Two

The philosophical theoretical framework for research variables

First: Occupational health and safety management system

1. The concept of an occupational health and safety management system: Implementing an effective occupational health and safety management system in organizations is absolutely necessary to reduce work injuries and accidents, as well as the economic, psychological and humanitarian effects of the human element, which causes many risks related to the health and safety of workers, and just as man, science and technology have developed. Health at work has also evolved (Molano *et al.*, 2013: 24) ^[24]. The matter is not only about preserving the life and health of the human element, but managing the protection of workers and others must be one of the basic political principles based on the Declaration of Human Rights and Fundamental Freedoms and the Declaration of the Rights of All Employees, and the legal protection of other people, as well as the protection of material values. The administration also works to Creating conditions for satisfactory work, well-being at work, and social protection in a way that takes into account all aspects (Šolc *et al.*, 2022: 2) ^[34]. Based on the above, organizations are obligated to prioritize the culture of operational safety and security of the socio-technical system, as wrong behavior or negligence in dealing can lead to an accident, i.e. harm to oneself, colleagues (work safety), patients, customers, tools, or Machines or any of the elements of work (Maier *et al.*, 2023: 2) ^[35] and that the origin of health and safety management systems emerged as a major means of strategic prevention in the mid-1980s, although the concept of the system had been clear since the 1960s. The Bhopal disaster has been credited as a catalyst for a focus on management systems in manufacturing industries (Sweeney, 1992). An estimated 2,500 people were killed and ten times that number injured in Bhopal in December 1984. Problems have been identified as contributing to the disaster, including inadequate care in plant design. The process of equipment maintenance, protection tests, training and emergency planning does not address broader planning issues associated with safety procedures.

KYSOR introduced the term “occupational safety management system” in an integrated manner for the first time in 1973 during the 1970s, and the concept gained momentum in the 1980s. It appeared in official reports following major disasters, and international standards for quality management systems were then introduced as a basis for devising, amplifying, or developing studies that focused on “management,” “safety,” and “health,” as well as “system” theories, safety audit tools, and risk analysis techniques. And the relevant standards, (Pilanawithana, 2022: 25) ^[29] and the Occupational Safety and Health Administration took many names, because it is a complex concept, including: (occupational safety risk management, health risk management, occupational safety management, industrial safety management, and security risk management), and there were many its definitions as a result (Al-Barzanji *et al.*, 2019: 6) ^[2]. He defines: The occupational safety and health management system as “preserving the main elements of production represented by the workforce, equipment, mechanisms, supplies, and the country's economies.” He believes that it is “a set of rules set by the legislator to ensure protection, safety, and general occupational health for workers in establishments.” As Costa *et al.* (2021: 15) ^[13] defines it as “the science of anticipating, recognizing, assessing and controlling risks arising in or from the workplace that could harm the health and well-being of workers, taking into account the potential impact on the surrounding communities and the general environment.” (The Arab Forum for Human Resources Management, 2016) goes on to define the occupational safety and health management system as “the science concerned with preserving human health and safety, and preventing loss of life whenever possible by providing safe work environments free from the causes of accidents or occupational diseases.” That is, they are operations aimed at achieving protection and health education for workers by controlling the causes of occupational accidents and diseases and preventing them by removing hazardous occupational factors and conditions that affect the health and safety of workers at the work site. That is, it is a management system or part of a management system used to achieve specific goals in the field of occupational health and safety policy within institutions and organizations. This system included specific processes and procedures for improvement and continuous monitoring to ensure the safety and health of workers at work sites. As for the (US Department of Labor, 2020: 3), it believes that the Occupational Safety and Health Management System (SHMS) is “a collaborative effort that brings together labor and management in order to prevent injuries, illnesses, and deaths resulting from work-related causes and reduce losses of material resources.” As for the NSF International defines it as “a system that establishes a new international standard that provides a framework for an organization to manage risks and opportunities to help prevent work-related injuries and ill health for workers, with the intended result of improving and providing a safe and healthy workplace.”

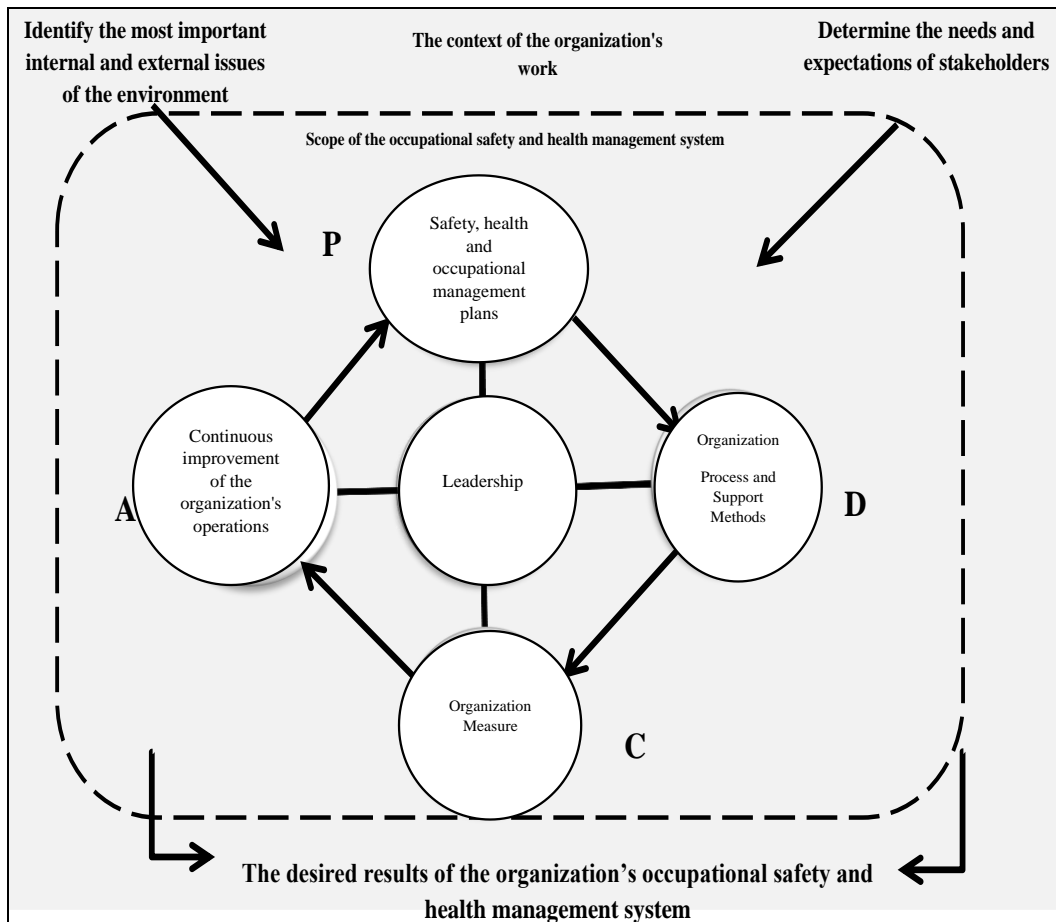
As for the Organization (ISO), the Occupational Health and Safety Management System (SHMS) is “the world’s first international standard for health, which provides a framework to increase safety, reduce risks in the workplace, and enhance health and well-being at work, enabling the organization to proactively improve occupational health and safety performance.” Which can be applied to all institutions, regardless of their size, large or small, industry, or nature of work, and it has been designed to be integrated into the current administrative processes of the institution and follows the same high-level structure. Based on all of the above, the occupational safety and health management system can be defined as the policies, processes, procedures and legal requirements adopted by the organization to ensure its ability to maintain the human element first, then the machines and equipment, and the continuity of work with the lowest costs and the least effort, and secondly, increase its production to achieve its goals.

2. The importance of the occupational health and safety management system: The importance of the occupational health and safety management system stems from setting, implementing and monitoring policies and plans, as well as reviewing and improving performance in order to create a safe, comfortable workplace free of work-related diseases (Arifin, 2021: 9) ^[7], and (Nurfaizah *et al.*) agrees. al, 2022 ^[26]: 393) However, he believes that occupational safety and health are part of various efforts to prevent work accidents by creating healthy and safe working conditions or environments free of pollution, and thus increasing work productivity and efficiency. 1. (Gowda *et al.*, 2022: 5) ^[39] goes with the above as well. The importance of the occupational safety and health management system, as seen by (Hogstod & Pieris, 2000: 2) and (Robson *et al.*, 2007: 340), is to protect the components of human production and encourage it to control the causes of risks. Preparing health organizations and adapting them to suit ongoing developments. Maintaining the material supplies used in manufacturing processes. And apply all occupational safety and health instructions to keep individuals and property together. As well as instilling a spirit of enthusiasm and reassurance at work among workers while performing work to achieve the greatest possible return. In addition to rooting a distinct culture of occupational health and safety (Al-Barzanji *et al.*, 2019: 7) ^[2]. And protecting state funds (Rashid, 2016: 4) ^[31]. And reducing the number of work-related accidents in various fields (Dessler, 2013: 814) ^[15].

3. Objectives of the occupational safety and health management system: The Organization (ISO, 2022) stated that the primary objective of the occupational health and safety system, in addition to eliminating or reducing risks, is to involve workers and answer their requirements and

expectations, as well as the requirements and expectations of other concerned parties, as well as meeting regulatory requirements and achieving results. desired, because it depends on preventive measures and continuous improvement within the context in which the organization operates (Tolmin, 2023: 24) ^[36]. (Martn *et al.*, 2023: 22) believes that the goal of the occupational safety and health management system is to achieve health and safety by reducing risks by adopting preventive techniques and training. (ILO Sustainability, 2005: 1): In its published report, it indicates that the general objectives of occupational health and safety are ⁽¹⁾ protecting workers from injuries resulting from work environment hazards by preventing their exposure to accidents and injuries, ⁽²⁾ preserving the components of the element. The physical nature of machinery, devices and equipment in an organization ^[3]. Providing all occupational health and safety requirements ^[4], Providing a safe work environment that prevents dangers to the human and material elements, ⁽⁵⁾ Providing safety in the hearts of workers while they do their work. (Mady and Al-Khatib, 2010: 100) believe that one of the objectives of the occupational health and safety management system is to implement occupational health and safety conditions for workers, by providing a sound professional atmosphere. (Furtina, 2023: 2 & Widajati) ^[18] adds that all subsystems in occupational health and safety in Industrial environments aim to carry out planning and identify risks present in industrial work environments so that any unwanted events or activities that can cause losses can be prevented. Therefore, occupational health and safety mainly searches for and detects operational weaknesses that allow accidents to occur. As stated by (Al-Barghouti *et al.*, 2009: 14) ^[1] that the general goal of occupational safety and health is to achieve production without accidents and injuries, and to reduce as much as possible sick accidents and the death rate related to them by following various means, including engineering control and protection of machines and equipment whether involved in the work or not, monitoring legislation related to occupational safety and health and clarifying the role of that control in social awareness, and providing a sound professional atmosphere such as providing lighting, humidity, and a comfortable temperature for work, and initial and periodic medical examinations, which are examinations that must be carried out for all workers in commercial and industrial establishments. The services and agricultural sectors aim, firstly, to choose the appropriate job for each worker, and secondly, to detect occupational diseases in their early stages.

4. Elements of the occupational safety and health management system: They can be illustrated in the following figure:



Source: Prepared by the researchers based on the literature.

Fig 2: Elements of implementing the occupational health and safety management system

It is noted that the elements of the occupational safety and health management system mentioned in the literature are the same as the provisions of ISO:45001 or derived from it, and many researchers agree with that and we in turn agree with that.

Second: International specification ISO: 45001:2018

1. The concept of the standard ISO: 45001:2018: The emergence of the standard ISO 45001: for occupational health and safety, through a global initiative in October 2013, when the 283 PC/ISO association met to create the first draft of the standard with the participation of 54 countries, along with 15 monitoring countries and 71 liaison members (Boiral, 2020: 1) [10]. The British Standard OHSAS 18001: Health and Safety Management Systems helped to formulate it. It was used to address occupational hazards in organizations, and is defined by (Morales & Castillo, 2021: 14) [11] as “the conditions present in work situations related to the organization of work, the type of job, the performance of the task, and even the environment, which affect the development of work and the health of workers over a period of 18 years.” From its implementation, and from this standpoint, the ISO organization developed a new standard in the year 2018 under the name “Occupational Health and Safety Management Systems” and symbolized by ISO 45001:2018: It supports organizations to reduce the impact of occupational injuries and diseases by establishing a well-organized framework to improve the occupational safety and health of employees or health in any A place in the world, to create safer working conditions through a committee that included many occupational health and

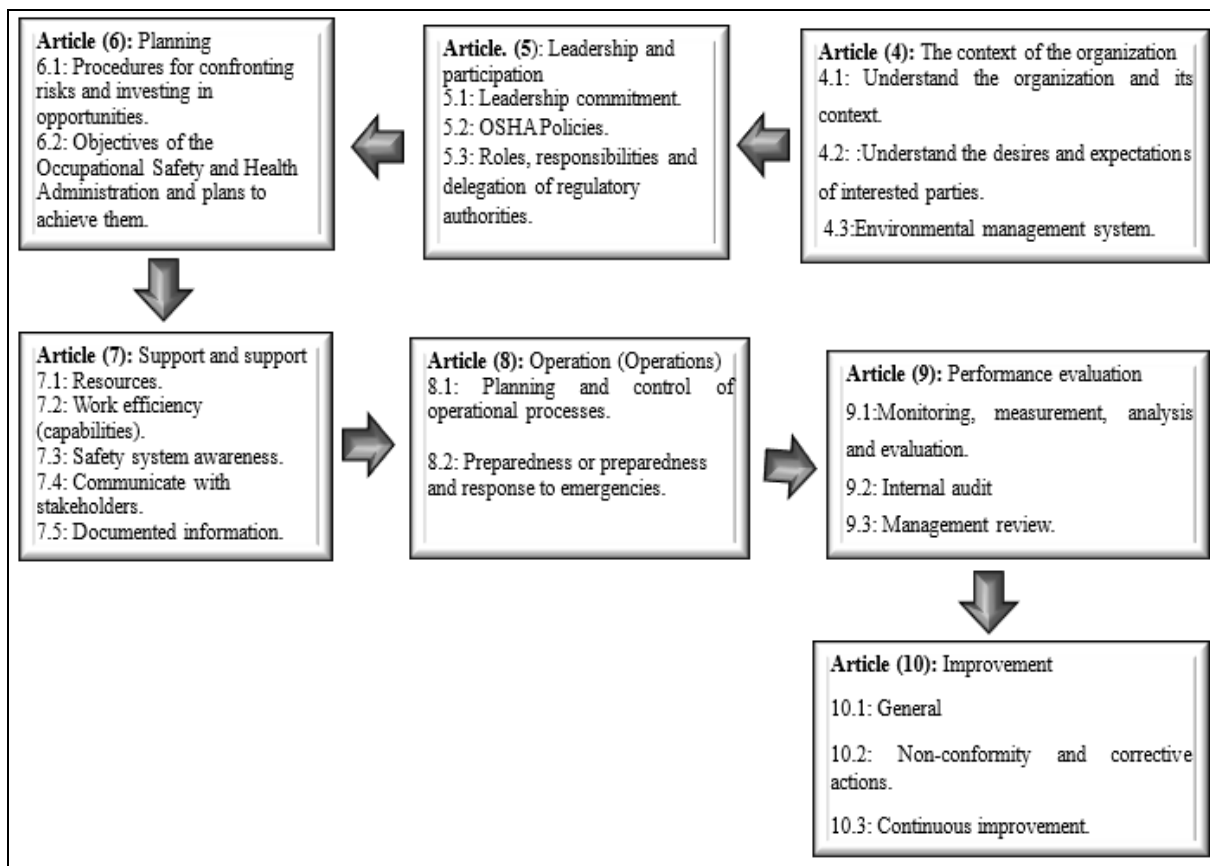
safety experts (K. Marhaviilas *et al.*, 2022: 9) [20], (Melke, 2021: 9) [23] and Bejinariu *et al.*, 2023: 4) [9] believe that ISO 45001:2018: depends on the cycle of planning, implementing, verifying and directing, which means that it is constantly evolving with the availability of new information, and the creation of an assessment of potential risks, as well as The standard is based on a compilation of international preventive practices in the past twenty years and advanced knowledge in recent decades. International Standard 45001:2018 (ISO) has many definitions depending on the points of view on it, as (Chavez and Jessica, 2022: 10) see it as “a system that focuses on the well-being of employees within the company organizes the organization through a management system that adopts health and safety at work and aims to establish processes, implement the system, maintain what has been implemented over time, and improve appropriate and timely follow-up processes. As for (3: 2018 International Organization for Standardization,) the standard is known, as are occupational health and safety management systems, as the first international standard in the world for occupational health and safety (OH&S) and applies to all institutions, regardless of their size, industry, or nature of work. It is designed to be integrated into an organization's existing administrative processes and follows the same high-level structure as other ISO management system standards such as: ISO:9001 Quality Management and ISO:14001 Environmental Management. Solano and Santos (2023: 5) defined it as “the standard that facilitates the management of continuous improvement to keep (the human element) primarily employed and maintain machines.” While Purwanto *et al.*, 2021: 1) [30]

ISO:45001:2018 defined it as “a health and safety management system that serves as an international standard that provides instructions and requirements and defines standards for the application of a health and safety management system and is provided with a user guide so that organizations can improve their performance in a way that makes it easy to apply.” In every organization, regardless of its size and type. As it stands, ISO:45001:2018 is a coherent and active organizational function, making the organization's performance in situations of injury, illness or danger. (Annisa, 2023: 1) ^[5]. As for (Al-Barzanji, 2018: 341) ^[3], (Barakat, 2018: 2), and Panez *et al.*, 2022: 13), they quote the definition of ISO 45001:2018: for occupational safety and health management, according to the ISO organization, as “the standard responsible for the occupational health and safety of workers who They may be affected by the activities of the organization through the responsibility to promote and protect their physical and mental health.” In this regard, the International Organization for Standardization (ISO) stated that ISO:45001 manages risks as well as available opportunities, prevents employees from suffering from injuries, reduces their fatigue, improves their psychological and social condition and ensures an appropriate work environment. (PaulikovÁ *et al.*, 2022: 6) ^[28] agrees with the previous definitions add that they enhance or create well-being at work, which enables the organization to proactively improve occupational health and safety performance. Likewise (Uzun *et al.*, 2018: 3) ^[38], adding that it is a work approach based on the plan-do-check-act model, or what is known as the PDCA plan, which provides a framework for institutions to plan what they need to put in place in order to reduce the risks of

harm, and can be combined with Specifications of other management systems, and has content that is compatible with the organization’s management, and helps improve the organization’s efficiencies in the complex operations of the organizations and goes (Federico *et al.*, 2018: 1) ^[17] with the above as well, as it is considered integrated with the requirements of other standards such as ISO 9001 quality management systems certification. The ISO 14001 certification standard for environmental management systems (Daas and Yahya, 2023: 506) ^[14] goes with the above. Based on the above, we see that all definitions, even if their wording differs, give the same meaning, which is that the standard works to provide a framework for the prevention of work-related injuries, ill-health, or death, and thus provides a safe and healthy workplace, and that it is derived from Specification 18001OHSAS and works with all types of organizations. It can be defined as legal, applied and regulatory procedures and requirements that help workers and employers and encourage them to work according to disciplinary contexts to implement occupational safety and health requirements in order to prevent or reduce work injuries and ward off potential risks.

2. Clauses of the international specification

ISO:45001:2018: The standard is a comprehensive system for managing occupational safety and health, and aims to improve the safety and health system for workers in organizations and evaluate it in the workplace to ensure their safety and create a safe environment for them. The clauses can be clarified. The main and sub-standards of ISO: 45001:2018 are as follows:



Source: Researcher, based on the provisions of ISO:45001:2018.

Fig 5: Articles of the ISO: 45001:2018 specification for occupational health and safety management

Section Three

Applied Analytical Research Framework

First: Measuring the application of the provisions of the international standard ISO: 45001:2018 and testing hypotheses.

The seven items addressed in the research were measured in each of the Diyala and Salah al-Din distribution districts, respectively, on the basis of which the research hypotheses were tested, as they appear in the following table:

| Article No. | Main Article Name | Sub-Article | Diyala Distribution Directorate | | | | Salah Aldin Distribution Directorate | | | |
|-------------|------------------------------|--|---------------------------------|-----------------|----------|---------|--------------------------------------|-----------------|----------|---------|
| | | | Mean | Conformity Rate | Gap rate | Ranking | Mean | Conformity Rate | Gap Rate | Ranking |
| 4 | Organization Context | 4.1 | 4.2 | 0.7 | 0.3 | 3 | 4.2 | 0.7 | 0.3 | 6 |
| | | 4.2 | | | | | | | | |
| | | 4.3 | | | | | | | | |
| | | 4.4 | | | | | | | | |
| 5 | Leadership And Sharing Staff | 5.1 | 4.5 | 0.75 | 0.25 | 1 | 5.444 | 0.907 | 0.093 | 1 |
| | | 5.1 | | | | | | | | |
| 6 | Planning | 6.1 | 2.61 | 0.435 | 0.565 | 7 | 3.8 | 0.648 | 0.352 | 7 |
| | | 6.2 | | | | | | | | |
| 7 | Support and Enhancement | 7.1 | 4.4 | 0.733 | 0.267 | 2 | 4.4 | 0.733 | 0.267 | 5 |
| | | 7.2 | | | | | | | | |
| | | 7.3 | | | | | | | | |
| | | 7.4 | | | | | | | | |
| 8 | Operation | 3.944 | 3.944 | 0.657 | 0.343 | 5 | 4.61 | 0.769 | 0.231 | 3 |
| | | 9.1 | | | | | | | | |
| 9 | Performance Evaluation | 9.2 | 4.125 | 0.687 | 0.313 | 4 | 5.25 | 0.875 | 0.125 | 2 |
| | | 9.3 | | | | | | | | |
| | | 10.1 | | | | | | | | |
| 10 | Improvement | 10.2 | 3.09 | 0.515 | 0.485 | 6 | 4.454 | 0.742 | 0.257 | 4 |
| | | 10.3 | | | | | | | | |
| | | The general average of the provisions of the international standard ISO4:5001:2018 | | | | | | | | |

After analyzing the percentage of conformity, the amount of the gap, and the arithmetic averages of the procedures of the Diyala and Salah al-Din Electrical Energy Distribution Directorates, and for each item of the specification (ISO:45001:2018), we can now test the research hypotheses as follows:

1. Testing the first hypothesis: Which states: (The requirements of the occupational safety and health management system are available in accordance with the specification (ISO:45001:2018) at an acceptable level in the Diyala and Salah Al-Din Electricity Distribution Departments). From the results of (Table 1), it is clear that the percentage of availability of the provisions of the specification (ISO:45001:2018) as a whole in the Diyala Electricity Distribution Department was (64%), which is a fairly acceptable percentage. Thus, the first part of the first main hypothesis is accepted, that is, the requirements are available. The occupational safety and health management system in the Diyala Electricity Distribution Department is at a fairly acceptable rate.

From the results of (Table 1), it is clear that the percentage of availability of the specification items (ISO:45001:2018) as a whole in the Salah al-Din Electricity Distribution Department was (76.7%), which is a fairly acceptable percentage. Thus, the second part of the first main hypothesis is accepted, i.e. availability the requirements of the occupational safety and health management system in the Salah al-Din Electricity Distribution Department are acceptable and good.

From the results in (Table 1), it is clear that the amount of the gap in the requirements of the standard (ISO:45001:2018) from the actual reality in the Salah al-Din distribution district in general was (23.3%), which is an acceptable and good percentage, and thus the second part of the second main hypothesis is accepted. That is, there is a

gap, but it is at an acceptable level in the Salah al-Din electricity distribution circuit.

3. Testing the third hypothesis: Which states (the application of the specification (ISO:45001:2018) differs between the Diyala Electricity Distribution Department and the Salah al-Din Distribution Department) and from the results of (Table 1) it is clear that the Diyala Distribution Department obtained an arithmetic average of (3.838) and a percentage Application reached (0.64) and achieved gap reached (0.36). While the Salah al-Din Distribution Department obtained a mathematical average of (4.594), an application percentage of (0.767), and an achieved gap of (0.233), which indicates the presence of a significant difference in application, and thus the third main hypothesis is accepted.

Section Four

Conclusions and Recommendations

This study explains the conclusions we reached based on the results that appeared as follows:

First. Conclusions

1. The ISO:45001:2018 standard represents a modern development in the occupational health and safety management system compared to the previously approved standard OHSAS:18001. It focuses more on worker health and safety, including psychological, social and organizational, and avoiding risks and makes it the responsibility of senior management.
2. The occupational health and safety management system provides the individual with a sense of security and reassurance through instructions and laws to protect them and ensure their safety, which positively affects the performance of workers in particular and the organization in general.

3. The application of the International Standard for Occupational Safety and Health Management is a demonstration of commitment from senior management to internal and external stakeholders with the intention of protecting workers from accidents, including bad health effects in the short and long term.
4. The results of the analysis of the checklist for the Diyala Electricity Distribution Department showed that there is a significant gap in the overall provisions of the ISO:45001:2018 standard, which indicates the need to improve this aspect to ensure full compliance with addressing the weak points. The details of this result appear as follows:
 - A. The results showed that there is a gap in the item (organizational context) between the actual reality and the required standards. This requires improving the procedures for the monitoring system and determining the possibility of implementing the occupational health and safety management system in accordance with the requirements of international specifications ISO45001:2018.
 - B. The results showed that the smallest gap was in the item (leadership and employee participation) between the actual reality and the required standards. However, it requires improving procedures, taking full responsibility for the prevention of work-related injuries and diseases, and adhering to the legal requirements of the Occupational Safety and Health Administration.
 - C. The results showed that there was the largest gap in the item (planning), amounting to more than half, between the actual reality and the required standards. This requires improving the treatment of risks, taking advantage of opportunities, responding to legal requirements and other emergency preparations and response, and addressing weaknesses to bridge this gap.
 - D. The results showed that there is a gap in the item (support) between the actual reality and the required standards, and this requires improving awareness of their roles and responsibilities, documented information, and consideration of external communication to bridge the existing gap.
 - E. The results showed that there is a gap in the item (operating operations) between the actual reality and the required standards. This requires improving the definition of a clear definition of various emergency situations, improving weak points and procedures, and documenting procurement processes to ensure compliance.
 - F. The results showed that there is a gap in the item (performance evaluation) between the actual reality and the required standards. This requires improving the recording of monitoring and measurement data and results and conducting internal audits for specific periods to fill the gap.
 - G. The results showed that there is a gap in the item (improvement) between the actual reality and the required standards, and this requires improving corrective procedures and applying legal requirements to ensure continuous improvement and bridge the gap.
5. The results of the checklist analysis showed that there is a somewhat acceptable gap in the provisions of the ISO:45001:2018 specification for the Salah al-Din Electricity Distribution Department, which indicates the need to improve this aspect to ensure full compliance with addressing the weaknesses. The details of this result appear as follows:
 - A. The results showed that there is a gap in the item (organizational context) between the actual reality and the required standards. This requires improving the procedures for the monitoring system and determining the possibility of implementing the occupational health and safety management system in accordance with the requirements of international specifications ISO: 45001:2018.
 - B. The results showed that there was the smallest gap in the item (leadership and employee participation), which shows good application with a high percentage of agreement. However, procedures must continue to be documented to ensure continued improvement in this item.
 - C. The results showed that there is the largest gap in the item (planning) between the actual reality and the required standards. This requires improving the system, responding to part of the legal requirements (training) and others, preparing for and responding to emergency situations, good selection and appointment of workers, awareness campaigns, and good training to avoid risks and address weaknesses to bridge the gap.
 - D. The results showed that there is a gap in the item (support) between the actual reality and the required standards, and this requires improving training programs for different levels of potential risks, documented information, and taking into account external communication to fill the gap.
 - E. The results showed that there is a gap in the item (operating operations) between the actual reality and the required standards. This requires improving the identification of the needs of the concerned parties when planning to respond to various situations, defining a clear definition of various emergency situations, and improving weak points and procedures to ensure compliance.
 - F. The results showed that there is a significant gap in the item (performance evaluation) between the actual reality and the required standards, and this requires reviewing the occupational health and safety management system to bridge the gap.
 - G. The results showed that there is a gap in the item (improvement) between the actual reality and the required standards. This requires improving necessary procedures to achieve the results of the current risk assessment system and intensifying efforts to train and educate workers to ensure continuous improvement and bridge the gap.
6. The results generally showed the superiority of the Salah Al-Din Electricity Distribution District over the Diyala Electricity Distribution District, which makes them closer to obtaining the standard certificate if some aspects of the defects and shortcomings are addressed.

Second: Recommendations

We present a number of recommendations that are expected to contribute to assisting the Diyala and Salah al-Din

Electricity Distribution Departments, based on the implementation of an occupational health and safety system, as follows:

1. The need for the Diyala and Salah al-Din Electricity Distribution Departments to adopt the international standard for occupational health and safety (ISO45001:2018) and include it in their strategies because the two organizations are partially implemented, which requires senior management to provide the necessary support to complete the application of the modern standard to achieve reducing the gap that appeared in the evaluation results. For the requirements of the two organizations that are the subject of the research.
2. The necessity of developing the training programs that are held in the Diyala and Salah al-Din Electricity Distribution Departments or the courses that are held outside the country in accordance with the international standard (ISO45001:2018), especially for workers who are in contact with electrical hazards and introducing them to its benefits, importance, and ways to apply them.
3. It is necessary to take into account the psychological aspect (work vacations, financial incentives and rewards, and training and entertainment courses (delegations) outside the palace for workers who come into direct contact with electrical hazards, as it has a psychological and awareness-raising effect on them) and to provide safe and good working conditions for workers to improve their job satisfaction and instill in them what is known as the spirit of Working to improve productivity and achieve the goals of the two organizations.
4. The need to improve corrective and legal measures against violators by implementing preventive measures for occupational safety and health for all workers and all administrative levels.
5. The necessity of in-depth investigation into occupational safety and health accidents in a way that is appropriate to the extent of the accident, in order to determine its true causes and reveal its results to workers in order to benefit from the mistakes that led to the accident, whether intentional or unintentional.
6. It is necessary to conduct continuous follow-up to implement the requirements of (ISO45001:2018), as this standard, combined with good tools to reduce accidents in the two organizations studied, according to the SG-SST process, using the Zero Incidents system, or applying the seven golden rules, helps to obtain accurate results.
7. The necessity of coordination and exchange of experiences with the National Center for Occupational Health and Safety in the governorates of Diyala, Salah al-Din, or Baghdad.
8. Separating the occupational safety and health plan from the organization's general plan and being within the scope of the organization's general plan, with independent financial support to purchase all logistical support tools and taking into account incentives and psychological support processes for workers.
9. The occupational health and safety management system is one of the main elements of the general management system of any organization and must be implemented in an integrative manner (taking into account other

management systems such as quality, environment or social responsibility).

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