# Assess context, leadership, and planning requirements for implementing occupational health and safety management in accordance with ISO 45001:2018


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# *Assess context, leadership, and planning requirements for implementing occupational health and safety management in accordance with ISO 45001:2018*

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## *Abstract*

The research aimed to determine the requirements for implementing and complying with the Occupational Health and Safety Management System ISO 45001:2018 in the Arabian Gulf Academy for Maritime Studies. A qualitative research design was utilized, employing a case study methodology to evaluate and discuss the ISO 45001:2018 standards. The study focused on the higher departments and departments responsible for professional safety and quality. To gather accurate details and information and assess the gap between the actual reality and the requirements of the system, a checklist based on the international standard (ISO 45001:2018) was developed. The sample included 12 individuals from the relevant departments. The research findings emphasized the fundamental importance of adopting and implementing the occupational health and safety management system in accordance with the international standard ISO 45001:2018, particularly for the Arabian Gulf

Academy for Maritime Studies. Iraq is a member of the International Maritime Organization (IMO) and is obligated to implement the provisions of international agreements regarding occupational health and safety management.

## Introduction

According to Carmichael et al. (2016:251), occupational health and safety is crucial to individuals, companies, and society as a whole. The Occupational Health and Safety Management System (OHS) is a vital component of the management system in any organization (Darabont et al., 2017:1). Despite the rapid progress in occupational health and safety management systems, many organizations still face challenges in reducing and preventing injuries and accidents in the work environment (Darabont et al., 2018:2711). Human resources are essential for the continuity of industrial and service organizations. To ensure a safe work environment that guarantees safety from risks, organizations must implement occupational health and safety procedures and apply International standards (Abbas, 2020:299). Protecting the human element from work risks not only benefits the individual and their family, but also the national economy and society as a whole. Work accidents have social and economic effects that negatively affect the individual and society (Morgado et al., 2019:755).

Nowadays, organizations are in great need of laws and legislation related to improving working conditions. The International Labor Organization has published regulations related to providing a safe work environment in various areas of working life, highlighting a new term known as occupational health and safety. Occupational health and safety is defined as the application of relevant controls that provide personal protection resulting

from working conditions (Tak, 2016:1).

The Maritime Safety Committee (MSC) of the International Maritime Organization (IMO) has recommended several measures related to occupational health and safety in maritime organizations. These measures focus on developing a vision, principles, and objectives related to occupational health and safety activities, with particular emphasis on the human resource and the organizational component, as well as on the standards that support occupational health and safety plans and programs (Darabont et al., 2018: 2711). The occupational health and safety system has undergone recent global trends to make it compatible with the quality management system and the environmental management system. In response to customers and organizations, local, regional, and global initiatives have been taken to develop specifications for the occupational health and safety management system, with the ISO 45001:2018 standard being the most prominent. This standard addresses important issues such as increasing productivity, reducing costs related to downtime and production losses, insurance, and lost work days, as well as improving the quality of products or services (Morgado et al., 2019:755).

Accidents and injuries can occur in organizations, resulting in various consequences such as disability, death, machine damage, or loss of raw materials. Work-related injuries and diseases have led to significant human losses and financial costs estimated at millions of dollars. According to experts, one person dies every three minutes due to work-related injuries or diseases, surpassing the human losses incurred from wars. The analysis of marine disasters has shown that the human element is primarily responsible for their occurrence, which can be attributed to administrative and

organizational problems, such as the lack of procedures for crew qualification, ineffective communication, and coordination between the management and crew regarding occupational health and safety procedures.

To address these challenges, the research aims to explore the international standard (ISO 45001: 2018) and its requirements for occupational health and safety management systems. Specifically, the study will examine the possibility of adopting and adhering to this standard in Iraqi organizations, particularly in the Arabian Gulf Academy for Maritime Studies, to ensure compliance with global standards for occupational health and safety. The study will focus on three key requirements: context, leadership, and planning.

## Theoretical framework

### Total Quality Management

Total quality management is a system implemented by the organization's management to achieve customer satisfaction, and the importance of total quality management has grown as a strategy to improve organizational performance in this era of globalization (Srima, 2015:174). Many researches have revealed the role of total quality management in enriching the quality of the system and improving employee and organizational performance. TQM is also an innovative approach to managing organizations where TQM integrates quality orientation in all processes and procedures in providing the services required by customers. The importance of total quality management is divided into three parts: (1) Strategic importance: that is, flying and improving quality in the organization leads to increased productivity due to a lack of defects and a reduction in waste of material and human resources (Thorvaldsen & Størkersen, 2021: 28). (2) Economic

importance: Total quality management contributes to controlling costs, maximizing profits, and achieving growth in market share. (3) Social importance: as TQM strives to meet the client's needs, satisfy him, maximize the profits of the owners of the organization, and develop the spirit of creativity among the workers in the organization (Hosseini & Izadkhah, 2020:139).

**Occupational health and safety systems according to ISO 45001**

The number of companies accredited to the Occupational Health and Safety Management System (OHS) is growing significantly, especially with the introduction of [ISO 45001] in the field of occupational safety. Based on the requirements of the standard, companies use the Deming cycle to carry out continuous improvement processes in occupational health and safety activities and events. These processes begin with leadership and commitment, followed by planning that includes context analysis, risk assessment and control. In this case, support operations planning takes participation, documentation management, competency resources, and resource awareness. Finally, monitoring and auditing activities are carried out, and then management reviews performance evaluations (Agus et al., 2020:14054). A handsome discussion of what the specification is, the following axes. ISO 45001 is the first occupational health and safety standard issued by the International Organization for Standardization (ISO) that provides a framework for managing the prevention of work-related death, injury and ill health, with the intended outcome of improving and providing a safe and healthy workplace for workers and individuals under the organization's control.

ISO 45001 can be defined as part of the organization's management system

aims at developing and implementing an occupational safety and health policy, and it is the first global standard for health conditions in order to reduce work accidents. The use of ISO 45001 will create opportunities for risk management more effectively as organizations work to improve their ability and management. To be more sustainable (Bachtiak-Radka, 2018:206), the new ISO45001 standard on Occupational Health and Safety Management System was created by the ISO/PC 283 Project Committee established in June 2013 by the Technical Management Board (ISO/TMB) after reviewing the results of a proposal The new work item (Kleinová & Szaryszová, 2014, 2014:45). In London, the initial meeting was attended by 83 representatives from 27 organizations who decided to name the standard ISO 45001 (Neag et al., 2020: 2). Its main goal is to equip organizations with a comprehensive understanding of the factors that may impact the management of their occupational health and safety obligations towards their employees, both positively and negatively.

Campailla et al. (2019: 60) indicated that the new ISO 45001 standard provides a significant impetus to the growth of the number of companies that have adopted and approved the occupational health and safety management system, as the importance of this specification emerges through its relationship to the production process. Because achieving high levels of performance depends largely on Providing an appropriate work environment that motivates the workers to exert maximum effort to proceed with the production process without exposure to injuries (Olcay et al., 2021:14). In addition to preserving the health and safety of workers, the application of this standard reduces work costs due to reducing treatment costs, as well as reducing the resulting psychological effects on occupational

accidents and diseases (White, 2019: 23). The good management of the organization gives the issue of occupational health and safety a special importance, as it conducts a risk assessment process in the workplace, provides protective devices and equipment, and imposes penalties on workers when violating occupational health and safety rules, as this leads to the worker's realization that he is the most important element in the production process, which supports the human relationship between management and workers (Nagyova, 2018: 3) according to many researchers who saw that the importance of this specification lies in preserving the human resource as it is the basis of everything because without it there is no production or even the organization (Olcay et al., 2021:15).

The importance of using ISO 45001 as a procedural standard lies in improving and harmonizing the occupational health and safety sector in the organization in general, which enhances work safety (Nagyova, 2018: 4), as the occupational health and safety system is an essential part of the general management system of the organization, and adopts the ISO 45001 standard as a structure. A new high-level standard that complies with IOS regulations, meaning that it fits into new items such as corporate context, leadership, planning, support and operation, and the standard will be aligned with other ISO standards for management systems, for example, ISO 9001 on quality management and ISO 14001 on environmental management (Tumbaco et al., 2016, 647).

**ISO 45001 standards**

The provisions of ISO 45001 specify the requirements for the occupational health and safety management system, in addition to guidelines for the

application of the standard for the purpose of enabling organizations in all their forms to provide healthy and safe workplaces, by providing an integrated system for the prevention of work injuries, and the prevention of occupational injuries or diseases, and conforming to the ISO 45001 standard any organization wishing to establish and implement an occupational health and safety management system, with the aim of improving occupational safety and health, regardless of its size, type, and type of activities. Ten main items (ISO 45001,2018:1), but the current study will focus on only three elements, which are context, leadership, and planning.

**Context of the organization**

This item includes understanding the challenges facing the implementation of the occupational health and safety system within the organization, the risks are inherent in the practice of the organization's activities. In addition, analyzing the internal and external environment to determine the causes of these challenges and methods of minimizing their impact on the production process, and identifying the requirements and expectations expressed by the concerned parties (employees and customers). ISO 45001 requires the organization to address the following issues: understanding the organization and its context; Understand the needs and expectations of workers and other stakeholders and define the scope of an occupational health and safety management system. To define and understand the context of the organization, the ISO 45001 standard recommends addressing issues of internal and external context, such as cultural, social, political and legal aspects, introduction of new competitors, contractors, suppliers, partners and providers, new technologies, culture in the organization, form and extent of the contractual relationship, working time arrangements, etc.

(Yahya et al., 2018:3).

Before defining the scope of an occupational health and safety management system, a detailed analysis of the organization's context and the expectations of workers and other interested parties should be made. The main tools that should be used to conduct this analysis are: (1) Meetings with each interested party to document their needs and expectations. (ii) reviews of legal requirements relevant to the organization as well as other requirements, such as contractual clauses or requirements of other interested parties. (iii) internal audits to assess compliance with legal and other requirements, including those of interested third parties; Consultations with OSH experts and authorities (Jones, 2017:4).

**Leadership and worker participation**

This item means the intervention of drawing policy and organizational roles in the organization, defining responsibilities and powers, as well as proving the ability of senior management to lead. The main idea that must be understood by all members of the organization, from top management to all workers, is that they must have an active role in the occupational health and safety management system, and the efforts of all members must be synergistic. At this stage, the following tools should be used, in addition to the specific requirements of the standard: (1) Training courses for all levels of the organisation's management, especially for senior management, bearing in mind that in many situations, senior managers have poor knowledge of OSH principles and legislation (ii) Training courses for all workers, in order to make them understand their role as a support to the management and to promote the safety culture of the organisation; (iii) Activate and engage OSH actors, such as the OSH Committee,

representatives of OSH workers, internal/external prevention and protection service(s), and occupational medicine service. Training courses should be tailored to each OSH level and role in the organization and should be geared towards practical issues relevant to the focus group (Darabont et al., 2017:4).

**Planning**

This item is concerned with taking into account the threats and opportunities, as well as the strengths and weaknesses, whether in the organization or the concerned parties, and determining the appropriate way to deal with these threats, as the organization in this case must consider the active participation of workers and sometimes clients also in the planning process, and the organization must evaluate Risks and identifying opportunities related to the expected results from the application of the occupational health and safety management system in the organization or its operations in the event of the planned permanent or temporary changes. Planning in ISO 45001 Occupational Health and Safety Management System refers to (1) procedures for dealing with risks and opportunities, including hazard identification, OSH risk assessment, identification of applicable legal and other requirements, and (2) occupational health and safety objectives and planning for their achievement. Hazard identification and OSH risk assessment are among the most sensitive activities that can determine the success or failure of an OSH management system. The method selected as a risk identification and risk assessment tool must meet the following key requirements: (1) It must enable the identification of risks and risk assessment for each component of the work system, the worker, the work task, the means of work/equipment and the work environment for each

workplace (2) it must (3) It should enable the identification and assessment of all occupational health and safety risks related to the activities of the organization (Campailla et al., 2019:210).

## Methodology

The study adopted a qualitative design using the case study methodology to evaluate and discuss the ISO45001:2018 occupational health and safety system and standards. The research methods included observations, personal interviews, and accessing archived records and documents to obtain accurate information and achieve the research objectives. A checklist was developed, consisting of items related to three criteria: context, leadership and participation, and planning. The checklist was administered to a sample of 12 occupational health and safety officials to obtain results reflecting the actual situation and achieve the research objectives. The ultimate goal is to support the Arabian Gulf Academy for Maritime Studies in obtaining the occupational health and safety management system certification according to ISO45001:2018 standards.

### Population and sample

The Arab Gulf Academy for Maritime Studies in Basra specializes in maritime studies. The academy was established in 1975 and is one of the oldest maritime academies specialized in maritime studies at the Arab level. It is the second in the Arab world after the Egyptian Arab Academy for Science, Technology and Maritime Transport in Alexandria and the first in the Gulf region Arabi. The Academy was established under Academy Law No. 206 of 1975 AD. Its purpose is to provide civil and military marine institutions with cadres of engineers and officers, as well as research in marine studies as the Center for Marine Sciences.

The academy graduated many marine staff on which the Iraqi naval fleets, whether civil or military, relied on - such as the Water Transport Corporation (oil, commercial transport, dredging and fish) and the military naval force, which was represented by the Coast Guard and military frigates during the eighties and nineties of the last century until 2003, when it graduated Staffs in various disciplines, such as captains, engineers, officers, and middle staff, are considered today by the testimony of the sister maritime institutions for the efficiency of these staffs, their technical skills, capabilities, and great experience. The research community is generally represented by higher managements and departments concerned with professional safety and quality in the Arabian Gulf Academy for Maritime Studies. While the research sample was (all departments and individuals in the divisions and departments concerned with occupational safety and quality).

**Results and Discussion**

This section deals with identifying, diagnosing and gap analysis of the occupational health and safety management practices and activities in the Arab Gulf Academy by comparing them with the requirements of the standard (ISO 45001: 2018) by using the checklist that was designed and its paragraphs built based on the main items of this specification According to the seven-point Likert scale shown in Table (1). The researcher will base the process of collecting data from the relevant parties on conducting direct personal interviews as well as on actual coexistence and field observations of the reality of the work, since the researcher is one of the members of the academy in question.

Table (1) Seventh scale

| Items | | Weight |
|---|---|---|
| 1 | Fully implemented and fully documented | 6 |
| 2 | Fully implemented and partially documented | 5 |
| 3 | Completely implemented and not documented | 4 |
| 4 | Partially implemented and fully documented | 3 |
| 5 | Partially implemented and partially documented | 2 |
| 6 | Partially implemented and not documented | 1 |
| 7 | Not implemented and not documented | 0 |

Follow the researcher in identifying and diagnosing the gaps according to a set of equations as follows:

(1) Result = weights × frequencies

(2) Arithmetic mean = sum of score / sum of iterations

(3) Matching range percentage = weighted arithmetic mean / value of the highest weight in the scale

(4) The size of the gap for each checklist = 1 - the percentage of the extent of conformity

**Organization context**

It refers to the understanding of the organization and the context of its work, as well as the understanding and realization of the expectations of all concerned parties related to the work of the organization, as well as taking into account the challenges and risks related to the field of work and the internal and external environment of the organization. The checklist in table (2) shows that the level of actual application and documentation in the Arabian Gulf Academy is in accordance with the requirements of the

standard (ISO 45001: 2018). And that the percentage of application and documentation reached (17%), which is a weak percentage, which indicates the existence of a gap in application and documentation of up to (83%).

Table (2) Organization context requirements checklist

| Understanding of the Academy and its working context | | | | | | | |
|---|---|---|---|---|---|---|---|
| Items | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| The Academy identifies external and internal issues related to its desired goals and that affect its ability to reach what it desires in applying the occupational health and safety system. | | | | | | √ | |
| Understanding the needs and expectations of associates and other relevant parties involved. | | | | | | | |
| The Academy is interested in determining the needs of its members and the parties dealing with it in a manner that is consistent with the applicable laws as well as with the requirements of the occupational health and safety system. | | | | | | √ | |
| Determine the scope of occupational health and safety management system | | | | | | | |
| The Academy sets applicable limits and standards for the occupational health and safety management system related to work performance and duties therein | | | | | | √ | |
| Occupational health and safety management system | | | | | | | |
| The Academy establishes, implements, maintains and improves the occupational health and safety management system in accordance with the requirements of the international standard ISO 45001 2018. | | | | | | √ | |
| Weights | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Frequencies | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Result | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Arithmetic mean | 1 | | | | | | |
| Matching range percentage | %17 | | | | | | |
| The size of the gap | %83 | | | | | | |

It is clear from Table (2) that the rate of application of the organization context standard is (17%) and by adopting weights (06, 5, 4, 3, 2, 1), which

is a weak percentage, so the percentage of non-application, cumulative, or gap was (83%), which is High percentage due to the following: (1) The existence of a partial application and the absence of valuable documentation in the academy related to external and internal issues related to its desired goals and affecting its ability to reach what it desires in applying the occupational health and safety system. (2) The existence of a partial application and the lack of documentation regarding understanding the needs and expectations of the associates and other parties related to the relationship concerned and in a manner that is consistent with the applicable laws. (3) Existence of partial application and lack of documentation with regard to setting applicable boundaries and standards for the occupational health and safety management system related to work performance and duties therein. (4) Partial application and lack of documentation regarding the establishment, implementation, maintenance and improvement of the occupational health and safety management system in accordance with the requirements of the international standard ISO 45001 2018.

**Leadership and associate participation**

This item confirms the leadership, the participation of all the members of the Academy and the extent of their commitment to the policy of occupational health and safety through the roles, responsibilities and powers assumed and exercised by managers and associates at various organizational levels, since the application of the occupational health and safety system is not limited to a specific group of individuals or a specific department, but is related to all members To participate and submit proposals and recommendations in coordination with senior management. The checklist in

table (3) shows the rate of actual application and documentation in the Arabian Gulf Academy in accordance with the requirements of the international standard (ISO 45001: 2018), which shows that the percentage of actual application and documentation of leadership requirements and the participation of members of the academy compared to the international standard was (0.95) degrees. Out of (6) degrees, and that the percentage of application and documentation reached (16%), which is a weak percentage, which indicates that there is a gap in application and documentation of up to (84%).

Table (3) Leadership and associate participation requirements checklist

| Leadership commitment in the Academy | | | | | | | |
|---|---|---|---|---|---|---|---|
| Items | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| The Academy bears responsibility and accountability in general and provides the requirements for prevention of work injuries and work-related diseases, as well as the creation of safe and healthy workplaces. | | | | | √ | | |
| Ensuring that occupational health and safety directions and their related goals are consistent with the strategic policy of the Academy. | | | | | | √ | |
| It undertakes to complete the requirements of the occupational health and safety management system in the operations of the Academy. | | | | | | √ | |
| Provide the resources required to build, implement, maintain and continuously improve the occupational health and safety management system at the Academy. | | | | | | √ | |
| Highlighting the need for effective management of occupational health and safety in the academy and its compatibility with the requirements of the occupational health and safety management system. | | | | | | √ | |
| Confirm that the occupational health and safety management system in the academy has achieved the desired results. | | | | | | √ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Guiding and supporting associates to contribute effectively to the occupational health and safety management system. | | | | | | √ | |
| The senior management of the Academy has a responsibility to promote and develop an organizational culture that supports the desired objectives of the occupational health and safety management system | | | | | | √ | |
| The Academy supports members when reporting incidents, risks, risks and opportunities in occupational health and safety. | | | | | √ | | |
| The administration in the academy supports the formation of occupational health and safety committees. | | | | | | √ | |
| Occupational health and safety policy at the Academy | | | | | | | |
| A commitment must be made to create a healthy and safe work environment to prevent work-related injuries and diseases in a manner consistent with the academy's goals, size, nature of health and safety risks, and available opportunities. | | | | | | √ | |
| The Academy provides a framework for occupational health and safety objectives. | | | | | | √ | |
| The Academy undertakes to reduce occupational health and safety risks. | | | | | √ | | |
| The senior management of the Academy continuously improves in line with the requirements of the Occupational Health and Safety Management System. | | | | | | √ | |
| The senior management of the academy undertakes to consult and participate with the associates through the formation of health, safety and occupational committees. | | | | | | | √ |
| The academy's policy is based on creating a reliable, accessible and appropriate database within the academy, and it is available to interested parties as needed. | | | | | | | √ |
| Organizational roles, responsibilities and authorities | | | | | | | |
| The senior management of the academy reviews the | | | | | √ | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| responsibilities and authorities of the roles related to the occupational health and safety management system, as they are assigned and communicated to all departments, divisions, and various joints in the academy. | | | | | | | |
| Submitting reports on the performance of the occupational health and safety system to the higher management of the academy. | | | | | | | √ |
| Employee participation | | | | | | | |
| The Academy conducts processes for consultation and participation of associates in all departments and divisions and at all organizational levels. | | | | | | | √ |
| One of the duties of the administration in the academy is to prepare the tools, time, training, and provide the necessary resources for consultation and participation. | | | | | √ | | |
| The administration in the academy enables access to clear data related to occupational health and safety management. | | | | | | | √ |
| The Academy works to diagnose and remove the obstacles that prevent the participation of the members, or to reduce those obstacles that cannot be removed. | | | | | | | √ |
| Emphasis of management in the academy on consultation and participation with non-administrative affiliates by providing needs, spreading a culture of safety, completing legal requirements, defining roles, monitoring, evaluation and continuous development. | | | | | | | √ |
| Weights | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Frequencies | 0 | 0 | 0 | 0 | 6 | 10 | 7 |
| Result | 0 | 0 | 0 | 0 | 12 | 10 | 0 |
| Arithmetic mean | 0.95 | | | | | | |
| Matching range percentage | %16 | | | | | | |
| The size of the gap | %84 | | | | | | |

It is clear from Table (3) that the percentage of application of the leadership

criterion and the participation of associates (16%), depending on the weights (06, 5, 4, 3, 2, 1), which is a weak percentage, so the percentage of non-application, cumulative or gap was (84%) It is a high percentage due to the following:

1. Existence of partial application and partial documentation regarding the academy's responsibility and accountability in general and the provision of requirements for the prevention of work injuries and work-related diseases, as well as the creation of safe and healthy workplaces.
2. Existence of partial implementation and lack of documentation with regard to ensuring that occupational health and safety directions and related objectives are consistent with the strategic policy of the Academy.
3. Partial application and lack of documentation regarding the academy's commitment to complete the requirements of the occupational health and safety management system in the academy's operations.
4. The existence of partial implementation and the lack of documentation regarding the provision of resources required to build, implement, maintain and continuously improve the occupational health and safety management system at the Academy.
5. The existence of a partial application and the lack of documentation regarding highlighting the need for effective management in the Academy of Occupational Health and Safety and its compatibility with the requirements of the Occupational Health and Safety Management System.

6. Partial implementation and lack of documentation regarding the assurance that the occupational health and safety management system in the academy has achieved the desired results.
7. Existence of partial application and lack of documentation for guiding associates and supporting them to contribute effectively to the occupational health and safety management system.
8. Existence of partial implementation and lack of documentation regarding the fact that senior management in the academy has a responsibility to promote an organizational culture that supports the desired objectives of the occupational health and safety management system and its development.
9. The existence of a partial application and the lack of documentation regarding the academy's support of the associates when they report accidents, risks, dangers, and opportunities in occupational health and safety.
10. Partial implementation and lack of documentation regarding the administration's support for an academy by forming occupational health and safety committees.
11. The existence of a partial application and the absence of documentation regarding the undertaking to create a healthy and safe work environment to prevent work-related injuries and diseases in a manner consistent with the objectives of the academy, its size, the nature of health and safety risks, and the available opportunities.
12. Partial application and lack of documentation regarding the Academy's provision of a framework for occupational health and safety objectives.

**13.** Partial implementation and partial documentation of the Academy's undertaking to reduce occupational health and safety risks.

**14.** The existence of partial application and the lack of documentation regarding the continuous improvement of the academy's senior management in line with the requirements of the occupational health and safety management system.

**15.** Lack of application and documentation regarding the commitment of senior management in the academy to consult and participate with associates through the formation of health, safety and occupational committees.

**16.** Lack of application and documentation regarding the academy's policy that works to create a reliable, accessible and appropriate database within the academy and is available to interested parties as needed.

**17.** The existence of partial application and partial documentation regarding the academy's senior management reviewing the responsibilities and authorities of the roles related to the occupational health and safety management system, as they are assigned and communicated to all departments, divisions, and various joints in the academy. on her.

**18.** Lack of application and documentation regarding reporting on the performance of the occupational health and safety system to senior management in the academy.

**19.** The absence of an application and documentation related to the academy conducting processes for consultation and the participation

of associates in all departments and divisions and at all organizational levels.

**20.** The existence of a partial application and partial documentation of the duties of the academy's administration related to preparing the tools, time and training, and providing the necessary resources for consultation and participation.

**21.** Lack of application and documentation related to the administration in the academy enabling access to clear data related to occupational health and safety management.

**22.** The absence of an application and documentation related to the academy's work on diagnosing and removing obstacles that prevent the participation of members, or reducing those obstacles that cannot be removed.

**23.** The lack of application and documentation related to the administration's emphasis on consultation and participation with non-administrative members by providing needs, spreading a culture of safety, completing legal requirements, defining roles, monitoring, evaluation and continuous development.

**Planning**

This item focuses on the process of planning the occupational health and safety system and setting the necessary goals that lead to the success of this system, as well as identifying the legal requirements, defining procedures related to risks, and assessing the opportunities and threats that must be taken into consideration when dealing with the surrounding environmental conditions. The checklist in table (4) shows the level of actual application and documentation in the Arabian Gulf Academy in accordance with the

requirements of the international standard (ISO 45001: 2018), which shows us that the rate of application and documentation of the planning requirements in the Academy compared to the international standard was (0.75) degrees out of Out of (6) grades, and the percentage of application and documentation reached (7%), which is very weak, which indicates that there is a gap in application and documentation of up to (93%).

Table (4) Planning requirements checklist

| Actions to address risks and opportunities | | | | | | | |
|---|---|---|---|---|---|---|---|
| Items | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| The senior management of the Academy undertakes that the Occupational Health and Safety Department can achieve the required goals. | | | | | | | √ |
| The Academy seeks to limit or legalize undesirable effects related to occupational health and safety. | | | | | | √ | |
| The Academy works on continuous improvement by developing plans and implementing occupational health and safety practices. | | | | | | √ | |
| The Academy takes into account risks in the occupational health and safety system, other risks, occupational health and safety opportunities, other opportunities, legal requirements and other requirements. | | | | | | √ | |
| The Academy carries out planning processes related to diagnosing and evaluating the risks and opportunities related to the desired outputs of the Occupational Health and Safety Management System associated with the Academy's variables or operations, whether they are permanent or temporary. This assessment must be done before the change. | | | | | | √ | |
| The Academy maintains approved and reliable data on risks and opportunities and conducts the required operations to address risks and maximize opportunities as previously planned. | | | | | | | √ |
| Identify risks and assess risks and opportunities | | | | | | | |
| The Academy takes measures to identify risks continuously and proactively, such as workload risks | | | | | | √ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| and working hours risks. | | | | | | | |
| The Academy identifies routine and non-routine activities and cases that include risks related to infrastructure, workplace, services, research and development, ongoing maintenance, and human factors. | | | | | | √ | |
| The Academy works to create a database of previous incidents related to internal or external issues, including emergency cases and their causes. | | | | | | | √ |
| Evaluating the risks of occupational health and safety and other risks | | | | | | | |
| The Academy develops plans and evaluates practices in order to reduce occupational health and safety risks. | | | | | | √ | |
| The Academy works to identify other risks related to the processes of establishing, implementing and maintaining the occupational health and safety management system. | | | | | | √ | |
| Evaluation of occupational health and safety opportunities and other opportunities | | | | | | | |
| The Academy is keen to improve the performance of occupational health and safety in accordance with the planned changes in activities, policies and operations. | | | | | | | √ |
| The Academy maintains opportunities to improve the occupational health and safety system by eliminating or reducing risks. | | | | | | √ | |
| Determine legal and other requirements | | | | | | | |
| The Academy works to follow the legal requirements that are compatible with occupational health and safety risks and regulations. | | | | | | √ | |
| The Academy provides a database of legal and other requirements, as well as updating it continuously. | | | | | | | √ |
| Assignment planning | | | | | | | |
| The Academy analyzes risks, opportunities, legal requirements, and other requirements, and is ready for emergencies. | | | | | | √ | |
| The Academy takes into account the hierarchy when planning action related to occupational health and safety management. | | | | | | √ | |
| Occupational health and safety goals | | | | | | | |
| The Academy sets goals for occupational health and safety in departments and divisions related to health and safety for the continuous improvement of the | | | | | | √ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| system. | | | | | | | |
| The goals of occupational health and safety of the academy are consistent with its policy and are measurable, and thus performance can be evaluated through it. | | | | | | √ | |
| Planning to achieve occupational health and safety goals | | | | | | | |
| The academy must determine what is required to be done, what resources are required, who is responsible for completion, the method of evaluating the results, and integrating the results to achieve the objectives of the Occupational Health and Safety Department. | | | | | | √ | |
| Weights | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Frequencies | 0 | 0 | 0 | 0 | 0 | 15 | 5 |
| Result | 0 | 0 | 0 | 0 | 0 | 15 | 0 |
| Arithmetic mean | 0.75 | | | | | | |
| Matching range percentage | %7 | | | | | | |
| The size of the gap | %93 | | | | | | |

It is clear from Table (4) and Figure (15) that the rate of application of the planning criterion is (7%) and by adopting weights (06, 5, 4, 3, 2, 1), which is a weak percentage, so the percentage of non-application, cumulative, or gap was (93). %), which is a very high percentage, and the reason is due to the following:

1. Lack of application and documentation regarding the commitment of senior management in the academy that the Occupational Health and Safety Department can achieve the required goals.
2. The existence of a partial application and the absence of documentation regarding the academy's endeavor to reduce or legalize the undesirable effects related to occupational health and safety.

3. Partial application and lack of documentation regarding the Academy's work on continuous improvement by developing plans and implementing occupational health and safety practices.
4. The existence of a partial application and the lack of documentation regarding the Academy's taking into account the risks in the occupational health and safety system, other risks, occupational health and safety opportunities, other opportunities, legal requirements and other requirements.
5. Existence of partial application and lack of documentation regarding the academy's planning processes related to diagnosing and evaluating risks and opportunities related to the desired outputs of the occupational health and safety management system related to the academy's variables or operations, whether they are permanent or temporary. This assessment must be done before the change.
6. Lack of application and documentation regarding the academy's work to maintain approved and reliable data on risks and opportunities and to conduct the required operations to address risks and maximize opportunities as previously planned.
7. Existence of partial implementation and lack of documentation regarding the Academy taking measures to identify risks continuously and proactively, such as workload risks and working hours risks.
8. Partial application and lack of documentation regarding the Academy's identification of routine and non-routine activities and cases that include risks related to infrastructure, workplace, services, research and development, ongoing maintenance, and human factors.

9. Lack of application and documentation regarding the work of the Academy to create a database of previous incidents related to internal or external, including emergency cases and their causes.
10. Existence of partial application and lack of documentation regarding the academy's development of plans and evaluation of practices in order to reduce occupational health and safety risks.
11. Partial application and lack of documentation regarding the work of the Academy to identify other risks related to the processes of establishing, implementing and maintaining the occupational health and safety management system.
12. Lack of application and documentation regarding the academy's keenness to improve the performance of occupational health and safety in accordance with the planned changes in activities, policies and processes.
13. Existence of partial implementation and lack of documentation regarding the academy's retention of opportunities to improve the occupational health and safety system by eliminating or reducing risks.
14. The existence of a partial application and the absence of documentation regarding the academy's implementation of the legal requirements that are compatible with occupational health and safety risks and regulations.
15. Lack of application and documentation regarding the academy's provision of a database related to legal requirements and other requirements, as well as its continuous updating.

16. The existence of a partial application and the lack of documentation regarding the academy's analysis of risks, opportunities, legal and other requirements, and preparation for emergency situations.
17. The existence of a partial application and the lack of documentation by the Academy regarding the consideration of the hierarchy when planning to take action related to occupational health and safety.
18. Partial application and lack of documentation regarding the Academy's setting occupational health and safety goals in departments and divisions related to health and safety for the continuous improvement of the system.
19. The existence of partial application and the lack of documentation regarding the consistency of occupational health and safety goals of the Academy with its policy, as well as considering that these goals are measurable and therefore performance can be evaluated through them.
20. The existence of a partial application and the absence of documentation regarding the academy's determination of what is required to be done, what resources are required, who is responsible for completion, the method of evaluating the results and merging the results to achieve the objectives of the Occupational Health and Safety Department.

## Recommendations

Through the discussion that took place, we can suggest a number of practical effects that can be utilized and invested in supporting the Arabian Gulf Academy for Maritime Studies in adopting and implementing the occupational health and safety management system in accordance with the

international standard ISO 45001: 2018, as follows: First, the Arabian Gulf Academy for Maritime Studies serves as the primary educational institution for graduating both civilian and military marine crews, which includes captains, engineers, and officers with various specializations. Iraq, being committed to the international agreements of the International Maritime Organization (IMO) regarding maritime safety, mandates that the academy management adopt a strict policy of adhering to occupational health and safety systems in accordance with international standards. This policy is not only a theoretical necessity, but a practical one as well, as the academy's graduates will be expected to uphold these regulations in their work environment. Second, there is a need to formulate an effective strategy that includes a clear vision and a specific timetable to keep pace with developments and changes in the work environment related to occupational health and safety activities and practices at the Arabian Gulf Academy for Maritime Studies. Third, the need to formulate and set clear and specific goals for the application of the occupational health and safety system and the organization of private resources, whether financial or human, in the academy, for the purpose of activating the standards of the international standard (ISO 9001.2015). Fourth: the need to cultivate and build an organizational culture in the academy that works to increase and enhance awareness of the importance, objectives and advantages of the occupational health and safety system at all administrative levels in the academy and to document them, and this can be done through training courses and workshops. Fifth: the need for the senior management to formally and systematically adopt and approve programs and policies to implement the occupational health and safety system in the academy, and to initiate future

plans for that. Sixth, Documenting all evaluation cases, which in turn will be the basis for identifying the strengths and weaknesses within the academy and the impositions and threats that it will face from outside the academy. Seventh, A work schedule for simple evaluation processes that are periodically held and documented, provided that they are linked to the international standard for occupational health and safety (ISO 45001: 2018). Eighth, Adopting a practical approach to cases of improvement in the occupational health and safety system, whether for the present or for the future. Ninth, Documenting reports on accidents and risks to which the staff of the Academy were exposed, whether for the past or future period. Finally, Opening consultative doors between senior management and the staff of the academy regarding work risks and ways to remedy them, and bringing senior management closer to the lower administrative levels.

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