

# The Awareness of Occupational Safety and Health Management in Construction Industry

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## ABSTRACT

This article will discuss the awareness of occupational safety and health management in construction industry. The occupational safety and health is one of the main aspect to be considered in construction industry. The management system discuss will provide the basic guideline to ensure the occupational safety and health in construction industry. The implementation by the employee and the employer hopefully can be the bench mark for the level of awareness..

**Key Words:** Occupational safety and health, Construction Industry, Management, Employee, Employer

## 1. INTRODUCTION

Construction industry is a sector national economy engaged in preparation of land and construction, alteration and repairs of buildings, structures and other real properties. During the process of construction, various hazards coupled with the unique nature of the industry contribute to high fatality rates. In construction, workers perform a great diversity of activities, each one with a specific associated risk. The worker who carries out a task is directly exposed to its associated risks and passively exposed to risks produced by nearby co-workers<sup>2</sup>. Construction safety performance is a vital factor that needs to be closely controlled on any construction project. A successful construction project not only depends on the quality of the building, the timeline or costs, but also on whether or not it achieves set safety performance goals.

According to Henry Fayol, management is define as to manage is to forecast and to plan, to organise, to command, to co-ordinate and to control. The are five function of management listed by him. Firstly is planning. Planning is looking ahead. With respect to time and implementation, planning must be linked to and coordinated on different levels. Planning must take the organization's available resources and flexibility of personnel into consideration as this will guarantee continuity. Secondly is organizing. An organization can only function well if it is well-organized. This means that there must be sufficient capital, staff and raw materials so that the organization can run smoothly and that it can build a good working structure. Thirdly is commanding. When given orders and clear working instructions, employees will know exactly what is required of them. Return from all employees will be optimized if they are given concrete instructions with respect to the activities that must be carried out by them. Fourthly is coordinating. When all activities are harmonized, the organization will function better. Positive influencing of employees behaviour is important in this. Coordination therefore aims at stimulating motivation and discipline within the group dynamics. Lastly is controlling By verifying whether everything is going according to plan, the organization knows exactly whether the activities are carried out in conformity with the plan.<sup>1</sup>

Occupational safety and health (OSH), also commonly referred to as occupational health and safety (OHS), occupational health,<sup>1</sup> or workplace health and safety (WHS), is a multidisciplinary field concerned with the safety, health, and welfare of people at work. These terms also refer to the goals of this field so their use in the sense of this article was originally an abbreviation of *occupational safety and health program/department* etc. The goals of occupational safety and health programs include to foster a safe and healthy work environment OSH may also protect co-workers, family members, employers, customers, and many others who might be affected by the workplace environment. In the United States, the term occupational health and safety is referred to as occupational health and occupational and non-occupational safety and includes safety for activities outside of work.

## 2. GUIDELINES ON OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEMS

Occupational safety and health, including compliance with the OSH requirements pursuant to national laws and regulations, and practice, is the responsibility and duty of the employer. The employer shall show strong leadership and commitment to OSH activities in the organisation, and make appropriate arrangements for the establishment of an OSHMS. The system shall contain the main elements of policy, organising, planning and implementation, evaluation and action for improvement (Figure 1).

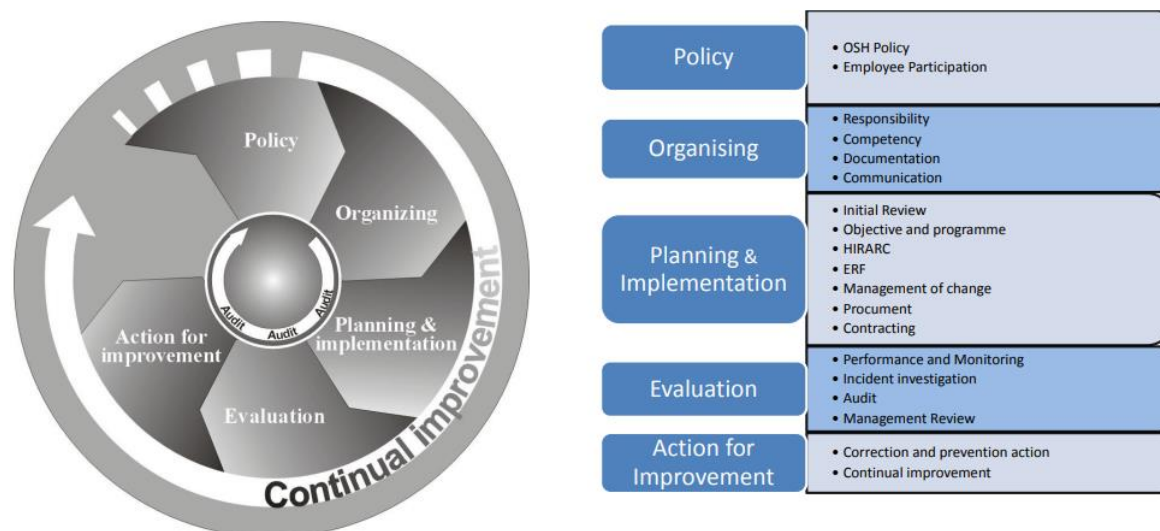


Figure 1: OSH Elements

These categories are:

### 2.1 Policy

An OSH policy is a written document which expresses the organisation's commitment to employee's health, safety and well being. It is a foundation for the efforts taken to provide a suitable working environment. The policy should influence all the activities including the selection of people, equipment and materials, the way work is done and how you design and provide goods and services. The policy should be:

- a) drawn in participation with employees and their representatives.
- b) stated in clear, unambiguous, and unequivocal terms
- c) signed by the most senior accountable person in the organization
- d) kept up-to-date
- e) communicated to employees and individual or groups concerned with or affected by the OSH performance, and adhered to in all work activities.

Situation where employees are involved in some way with decision-making regarding safety and health issues in a business organization is known as employees participation. Employee's participation should be strongly encouraged by management because it establishes ownership of safe behaviour at the execution level, where it is most appropriate. Employee participation can take many forms. There might be through participation or through a safety circles which meet regularly in small groups to discuss ways in which safety and health issue could be improved.

## 2.2 Organising

Organising addresses the establishment of OSH responsibilities and accountabilities structures, a training system, competency definitions, documentation practices and a communication system. The role, responsibility, accountability and authority of all employees who perform duties that are part of the OSHMS shall be clearly defined, documented and communicated to respective employees. These can be described in job descriptions, manuals and procedures. The employer should appoint a person at the senior management level as OSH management representative to develop, implement, review and evaluate OSHMS, report on the performance of OSHMS and promote participations in achieving the relevant OSH objectives. The management representative would be supported by other personnel who have delegated responsibilities for monitoring the overall operation of the OSHMS.

All employees should possess the necessary mental skills (e.g. knowledge capability), physical preparation, and knowledge to work safely. Management and employees should demonstrate competence to safely conduct or supervise work. This competence can be acquired through a combination of education, certification(s), experience, and workplace training. When necessary the organisation could engage competent consultant (s) from external sources. The organisation should give specific consideration to the competency requirement for those person(s) who will be:

- a) the management representative
- b) performing hazard identification risk assessment and risk control (HIRARC)
- c) performing exposure assessment
- d) performing audit
- e) performing behavioural observation
- f) performing incident investigation
- g) performing high risk task
- h) others who may require competency in carrying out their work safely.

The organization should maintain up-to-date documentation that is sufficient to ensure that its OSHMS can be adequately understood and effectively and efficiently implemented. Generally, the OSHMS documentation consists of OSHMS Manual, Standard Operating Procedures (SOPs), Operation Controls /Work Instructions specific to the processes and plant, Forms to support the above documentation.

The employer should set up a communication system to draft, update and disseminate OSH related information across the organization. Communication system includes all communications channels whether verbal, written or electronic communication. Communication can be in the form such as: OSH briefings for employees and other interested parties,• Notice boards containing OSH performance data, newsletter, posterand etc. In order for the communication to be effective, processes of information flow need to be established and relevant workers need to be trained. The organization should ensure that the content and methods of OSH-related communications are timely, useful, and easily understood by the intended recipients.

## 2.3 Planning & Implementing

Planning and implementing include the initial assessment of the OSH arrangement that then support the actual system planning, development and implementation functions. Initial review of the workplace can gather necessary information to perform a baseline or gap analysis by employer with the assistance of competent person(s) in consultation with employees and/or their representatives. Organizations with well-established OSHMS may find that they already have most if not all of the kinds of information. The purpose of the review is to assure, as far as practicable, that all OSHMS issues are identified so that they can be assessed and prioritized for further action. Initial review should;

- a. identify the current applicable national OSH policies, laws and regulations, guidelines, voluntary OSH programmes and other requirements to which the organisation subscribes

- b. identify and anticipate hazards and assess risks to safety and health arising from the existing or proposed work environment and work organisation, and established procedures for the processes
- c. determine whether planned or existing controls are adequate to eliminate hazards or control risks.

When setting OSH objectives the organization needs to take into account many aspect for example legal and other requirements, technological options, financial, operational and business requirements, views of workers (e.g. from employee perception or satisfaction surveys, past records of OSH nonconformities and incidents, the results of the management review and the need for and availability of resources. The objectives shall be periodically reviewed and communicated to workers and other stakeholders.

Hazard identification is the process of identifying hazards in the workplace or for a work procedure. In order to understand what hazard identification involves, it is first necessary understand the nature of hazards. Hazard identification should consider different types of hazards including physical, chemical, biological and psychosocial hazards which are found in many workplaces. The organisation should establish specific hazard identification tools and techniques that are relevant to the work activities.

Risk assessment involves the estimation and evaluation of risks levels taking into account the existing controls. Risk is estimated by taking into consideration the levels of likelihood of an occurrence of a hazardous event with specified period or in specified circumstances and the severity of injury or damage. The level of exposure (e.g. number of people likely to be exposed) should also to be considered where applicable. Risk levels for all hazards identified should be ranked to facilitate decision making in risk control.

Appropriate risk control should be established and implemented according to the level of risks identified. Determining whether these risks are tolerable; and determining the appropriate risk controls, where these are found to be necessary (workplace hazards and the way they are to be controlled are often defined in regulations, codes of practice, guidance published by regulators, and industry guidance documents).

The organisation should establish a documented procedure for controlling the process of procurement. The knowledge on all regulatory requirements, code of practices related to acquisition, use, storage and disposal of procured items (materials, machines, equipments and products) and services entering the facility are essential to understand the potential OSH ramifications they present.

Arrangements for contractors working on site should include OSH criteria in procedures for evaluating and selecting contractors; establish effective ongoing communication and coordination between appropriate levels of the organisation and the contractor prior to commencing work. This should include provisions for communicating hazards and the measures to prevent and control them; include arrangements for reporting of work-related fatalities, injuries, disabilities, ill health, diseases and near misses among the contractors' employees while performing work for the organisation; provide relevant workplace safety and health hazard awareness and training to contractors or their employees prior to commencing work and as work progresses, as necessary; regularly monitor OSH performance of contractor activities on site; and ensure that on-site OSH procedures and arrangements are followed by the contractor.

## **2.4 Evaluation**

Evaluation addresses those functions associated with measuring the management system's performance. This involves the development of performance monitoring and measurement protocols, investigation practices for accidents, auditing methods and management review arrangement.

Performance monitoring and measurement are important in managing OSH issues in the organization. They provide feedback on what is happening so that we can shape appropriate actions to respond to changing circumstances. They provide information on: what is happening around us, how well we are doing, what has happened so far, warning of impending problems or dangers that we may need to take action to avoid. Arrangement for performance monitoring and measurement should be based on the organisation's identified hazards and risks, the commitments in the OSH policy and the OSH objectives also support the organisation's evaluation process, including the management review. Active monitoring should contain the elements necessary to have a proactive system and should include:

- a) monitoring of the achievement of specific plans, established performance criteria and objectives;
- b) the systematic inspection of work systems, premises, plant and equipment
- c) surveillance of the working environment
- d) surveillance of employees' health, where appropriate, through suitable medical monitoring or follow-up of employees for early detection of signs and symptoms of harm to health in order to determine the effectiveness of prevention and control measures
- e) compliance with applicable national laws and regulations, collective agreements and other commitments on OSH to which the organisation subscribe

The organisation should establish, implement and maintain procedures to notify, investigate record, analyze and document all OSH related incidents. All work-related fatalities, injuries, disabilities, ill health, diseases and near misses shall be notified to the employer and/or relevant authorities in accordance to national laws for it to be investigated by the organisation. In order to prevent recurrence, the investigation should determine the root causes of all incidents in order to identify: a) the need for corrective action(s); b) opportunities for preventive action(s); c) opportunities for continual improvement.

All incidents must be investigated as soon as possible. Those assigned to conduct incident investigations should be competent. Employees and their representatives should participate for the benefit of the investigation. The results of such investigations should be communicated to the safety and health committee, where it exists, and the committee should make appropriate recommendations. In cases where there is no such

An audit programme and procedure should be developed, which includes defining the criteria of auditor competency, the audit scope, audit methodology and reporting. The audit should identify the audit objectives, criteria and cover all areas and activities within the scope of the OSHMS. An audit programme should be planned, established, implemented and maintained by the organisation, based on the results of risk assessments of the organisation's activities, and the results of previous audits. An audit programme should address the following: a) providing the resources required for successful implementation of the audit programme; b) establishing and maintaining the selection, training and registering of the organisation auditor; c) establishing control of all audit record, document and their circulation and communication to relevant and approved parties; and d) planning coordinating and scheduling of audit. Audit procedure(s) should be established, implemented and maintained. The procedures should address the responsibilities, competencies, and requirements for planning and conducting audits, reporting results and retaining related records. The frequency of audit should be predetermined before commencement. Such frequency and coverage of audit are dependent on the risks associated with the failure of the various element and sub-element of the OSHMS, performance of the OSHMS, the output of management review as well as the extent of changes expected from the OSHMS or the organisation activities committee, the employer must take the responsibility to take necessary action(s).

Management review should be carried out by the employer and senior management, on a regular basis (e.g. quarterly, semi-annually, or annually) and can be carried out by meetings or other communication means. Partial management reviews of the performance of the OSH MS can be held at more frequent intervals, if appropriate. Different reviews may address different elements of the overall management review. The management representative has the responsibility for ensuring that reports on the overall performance of the OSH MS are presented to employer and senior management, for review.

## **2.5 Action for Improvement**

Action of improvement addresses issues associated with preventive/corrective actions and continual improvement. With the information obtained from performance monitoring and measurement, investigations, audits, and management review, appropriate prevention/corrective and continual improvement actions can be taken. The organization should have effective procedures for preventive and corrective action resulting from OSHMS performance monitoring and measurements, OSHMS audits and management reviews. These arrangements should include:

- a) identifying and analysing the root causes of any non-conformities with relevant applicable National Laws and legislations and/or OSHMS requirements

- b) reviewing potential problems and deciding appropriate control measure to stop the problem from occurring. Whenever the preventive and control measure is inadequate then the new control measure should be implemented
- c) the response and timing of such actions appropriate to the nature and scale of the non conformity and the OSH risk completed and documented.

### **3. AWARENESS OF OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT IN CONSTRUCTION INDUSTRY**

#### **3.1 The Awareness of Employer**

The employer is an owner of an organisation or the person with whom an employee has entered into a contract of service. The Occupational Safety and Health Act 1994 (Act 514) stipulates that the primary responsibility of ensuring safety and health in the workplace rests with the employers. Employers can fulfil this through the creation of an occupational safety and health management system that is efficient and effective. For an OSH management system to be effective and efficient, the high commitment of the employers is necessary to prevent occupational accidents and diseases at the workplace. Additionally, it requires heightened knowledge of the employers and workers in particular in risk management of hazards at the workplace.

##### **3.1.1 OSH Knowledge and Skills**

The employers must equipped themselves with related knowledge, skills and competence which will enable them to identify hazards and assess risks more effectively and thereby take appropriate measures to control and manage risks. Employers must carry out their responsibilities in ensuring their workers and themselves receive OSH training as stipulated in OSH legislation through enforcement and promotion.

##### **3.1.2 OSH Compliance**

Consistent with the economic growth, the aspect of safety and health at construction site must be given greater attention by the employer to create a safe, healthy and productive workplace and help stimulating growth, employment and national income. They are also the pillar of the country's economic transformation to make Vision 2020 a reality wherein the country becomes a high-income developed nation is undoubtedly a tremendous challenge which requires a fresh approach to accelerate the growth. Consistent with its growth, the aspect of safety and health of the sector must be given greater attention to create a safe, healthy and productive workplace.

##### **3.1.3 Environment of Preventive Culture**

The effectiveness of the preventive culture promotion programme must be improved through strategic and focused approaches by the employer. Employer must play their respective roles to promote preventive culture through a variety of effective approaches including seminars, talks, dialogues, videos, posters and articles.

##### **3.1.4 OSH Innovation**

The issue of OSH at the workplace becomes more complex in the face of technological advancements in the performance of work. This demands a more creative and innovative way of managing OSH to ensure that issues can be handled in a comprehensive and cost effective manner. Despite the numerous innovations which have been and are being carried out by employers, workers and OSH practitioners to deal with OSH issues, scant attention has been given to sharing such innovations among the industries.

##### **3.1.5 Effective OSH enforcement**

The enforcers need to increase the effectiveness of enforcement and implementation of OSH legislation which will subsequently raise compliance in the industrial sector. Planning for such enforcement must be premised on risk priorities and OSH issues in order to influence and boost

the capability of the management of the industry to deal with OSH issues at the workplace. This enforcement must be seriously taken concern by employers.

### 3.2 The Awareness Of Employee

Any person who perform work, either regularly or temporarily, for an employer is called an employee. Potential hazards for workers in construction include falls (from heights), trench collapse, scaffold collapse, electric shock and repetitive motion injuries..

#### 3.1.1 OSH Knowledge and Skills

Good OSH knowledge and skills among employee can ensure the success of the OSH programme at the workplace. Another important aspect in enhancing OSH standard is the involvement of OSH competent persons such as safety and health officers, site safety supervisors, crane operators, hygiene technicians and supervisors of confined spaces who play the important part of assisting the management in implementing OSH management system at the workplace. Consequently the number of competent persons must be sufficiently determined based on the needs of the industry. Furthermore, the quality of competent persons must be raised over time by reviewing the training syllabus.

#### 3.1.2 OSH Compliance

OSH compliance among the employee with Occupational Health and Safety legislations can increase productivity in industries by reducing accidents, because accidents result in decreasing productivity and damage to equipment or property.

#### 3.1.3 Environment of Preventive Culture

Toward a preventive culture environment among employee, yhey must be aware of all aspect of safety during their process of work such as fire safety, safety when working at height and safety when handling loads

## 4. CONCLUSION

The construction industry has been recognised as one of the hazardous industries. Although there is an improvement of the safety performance and increase in safety awareness in this industry, the accident rate is still one of the highest across all sectors. Besides causing human tragedy and economic losses, construction accidents also affect the productivity and reputation of the construction industry. The statistic of accidents at construction sites give us a picture that Malaysian construction industry is one of the critical sectors that need a huge and fast overhaul from the current site safety practices. Hopefully, increasing awareness of both employer and employee can be a significant factor in overcoming the situation.

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