

# The Weaknesses of OSHA 1994 Implementation in Malaysian Construction Industry

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**Abstract**—Statistics from Department of Occupational Safety and Health (DOSH) Malaysia indicated that the construction sector suffers the highest level of occupational accident and fatalities almost every year. To overcome this problem, the government has come out with a legislative framework and action plans to deal with this situation. The study aims to identify the weaknesses of Malaysian employers and employees in implementing Occupational Safety and Health (OSHA 1994) in the construction industry and to highlight the responsibilities of both parties to comply as far as practicable of safety and health in construction site. Data were obtained via literature reviews and conducting workplace inspection. There is a high degree of consensus on the two important parties in assuming safety and health responsibilities who are employer and employee. The results indicate the weaker areas done by employers were: General duties of employers and self-employed persons to their employees; Duty to formulate safety and health policy; General duties of employers and self-employed persons to persons other than their employees; and Duties of occupier of a place of work to persons other than his employees. While the weaker areas done by employees were: General duties of employees at work; and Duty not to interfere with or misuse things provided pursuant to certain provisions. Thus, the suggestion for improvement towards safety and health practices was proposed according to the Master Plan (2005 – 2010) which introduced by CIDB. Therefore government bodies, contractors and consultants mostly agree on several stipulations under the Master Plan (2005 – 2010) subdivisions which are: Enforcement and Legislation; Education and Training; and Research, Development and Technology are the suggested areas of concern in which safety and health practices can be improved within the construction industry.

**Keywords:** Construction Site, Occupational Safety and Health, Construction Employers, Construction Employees, OSHA 1994

## I. INTRODUCTION

**I**N Malaysia, the main legislation that governs safety and health in construction industry are Occupational Safety and Health Act 1994 (OSHA). Although the safety regulations imposed are comprehensive but the level of awareness and practicability of it is generally lower than expected over the past few years [1]. Based on Malaysia's Human Resources Ministry data, 1300 industrial accidents reported in 2008. Social Security Organization data, meanwhile, points to over 1,000 work-related fatalities in 2007, with 38,657 work-related accidents also reported. More recent data based on investigation cases indicates no significant improvement in the past two years. Besides, Construction Industry Master Plan (2005-2010) issued by CIDB and DOSH Malaysia was found the reason lack of enforcement, monitoring and safety audit on mandatory safety requirements due to lack of serious commitment, insufficient workforce and budget allocations [2].

This study aims to identify the weaknesses of Malaysian employers and employees in implementing OSHA 1994 in the construction industry and to highlight the responsibilities of both parties to comply as far as practicable of safety and health in construction site. In order to achieve the aims of the study, there are three (3) objectives that have been focused on as follow:

- i. To determine the provision of OSHA 1994 for the employers and employees enforcement in complying eighth occupational safety and health in the construction industry.
- ii. To identify the current practices of safety and health management in the construction industry and the most non-compliance areas made by employers and employees.
- iii. To suggest improvements for safety and health practices in the construction industry.

In carrying out the study, workplace inspection at six (6) different construction sites was carried out to evaluate the most non-compliance areas done by the employers and employees. Furthermore, the questionnaire was then finalized and distributed to the targeted respondents as follow:

- i. Safety and Health Officers from Department Occupational Safety and Health (DOSH, Kuching Branch);
- ii. Safety and Health Officers from Construction Industry Development Board (CIDB, Kuching Branch);
- iii. Consultants (Project Design Teams, Clerk of Works); and
- iv. Contractors (Project Managers, Site Engineers, Site Supervisors, Safety Officers).

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II. METHODOLOGY

The aim and objectives of this study were achieved by using three methods as follows:

- i. Literature review to achieve the first objective.
- ii. Workplace inspection for OSHA 1994 compliances to achieve second objective.
- iii. Questionnaire survey to achieve third objective for this study.

The methods used to analyze the results for second and third objective are shown as follow:

(a) Non-Compliance Percentage Method for second objective  

$$\frac{\text{Non Compliance}}{\text{Total of Question}} * 100\% = X \tag{1}$$

Result  $\geq 50\%$  are considered as Non-Compliance (NC) items.

(b) Likert Scaling [3] for third objective  

$$\text{Mean Item} = \frac{\text{Total Score}}{\text{Total Respondent}} \tag{2}$$

$$\text{Scale Index Interval} = \frac{\text{Highest Mean Score} - \text{Lowest Mean Score}}{\text{Total Scale Usage}} \tag{3}$$

Table 2.1 and Table 2.2 shows sample analysis by using the Likert Scaling method:

Table 2.1 Scale Index

Scale	Level of Agreement	Index
1	Strongly Disagree	3.57 $\geq$ Mean Index < 3.70
2	Disagree	3.70 $\geq$ Mean Index < 3.83
3	Moderate	3.83 $\geq$ Mean Index < 3.96
4	Agree	3.96 $\geq$ Mean Index < 4.09
5	Strongly Agree	4.09 $\geq$ Mean Index < 4.22

Table 2.2 Mean Score

Total Respondent (Category Government Bodies) = 30 Persons	Scale (S)					Total Score (C)	Mean Score	Scale Index (Level of Agreement)
	1	2	3	4	5			
<b>Proposes strategies on occupational safety and health through:</b>								
<b>Item A : Enforcement and Legislation</b>								
Monitor and evaluate the safety and health performance compliance to legislation and management system to ensure its effectiveness.	0	0	8	10	12	124	4.13	Strongly Agree
Strengthen the enforcement agency by increasing the manpower.	0	2	4	12	12	124	4.13	Strongly Agree
Arrange intensive training program for enforcement officers to improve their capabilities and knowledge level on the tasks they have to perform.	0	1	6	9	14	126	4.20	Strongly Agree
Review and amend the existing legislation connected to occupational safety and health.	0	3	7	13	7	114	3.80	Disagree
A comprehensive new legislation and regulation should be enacted or developed.	0	3	14	6	7	107	3.57	Strongly Disagree

III. RESULTS AND DISCUSSIONS

Provision of OSHA 1994 for the Employers and Employees Enforcement in Complying with Occupational Safety and Health in Construction Industry

The Law of Malaysia Act 514 Occupational Safety and Health Act 1994 was authorized under DOSH and is applied in the construction industry where employers and employees who are bound under job of contract hold responsible to comply under this Act [4]. The provision of OSHA 1994 for the employers and employees enforcement in complying with occupational safety and health in construction industry are extracted from the literature review as shown in Table 3.1.

Table 3.1 Source of OSHA 1994

Source	Year	Website
Occupational Safety and Health Act 1994 (Act 514) and Regulation and Orders [4]	1994	Malaysia (2000). Occupational Safety and Health Act 1994 (Act 514) and Regulation and Orders. Kuala Lumpur: International Law Book Services.
Guidelines on Occupational Safety and Health Act 1994 (Act 514) [5]	2006	Malaysia (2006), Guidelines on Occupational Safety and Health Act 1994, Act 514. Putrajaya: Department of Occupational Safety and Health Malaysia.

According to Table 3.1, there are several sections formulated which enforcing employers and employees to comply with the OSHA 1994 as followings:

*The Responsibilities of Employers as Stated in OSHA 1994(Part IV: General Duties of Employers and Self-Employed Persons)*

- a) Section 15: General duties of employers and self-employed persons to their employees
- b) Section 16: Duty to formulate safety and health policy
- c) Section 17: General duties of employers and self-employed persons to persons other than their employees
- d) Section 18: Duties of occupier of a place of work to persons other than his employees.

*The Responsibilities of Employees as Stated in OSHA 1994(Part VI: General Duties of Employees)*

- a) Section 24: General duties of employees at work
- b) Section 25: Duty not to interfere with or misuse things provided pursuant to certain provisions
- c) Section 26: Duty not to charge employees for things done or provided
- d) Section 27: Discrimination against employee.

An employer means any person who has entered into a contract of service to employ any other person as an employee and includes the agent, manager or factor of such first mentioned person. The term of employer includes owner, developer, main contractor and subcontractor. An employer would include immediate employer or the principal employer or both. An example of an immediate employer in the construction sector includes contractors in the workplace [6]. Therefore as stipulated under Part IV of OSHA 1994, employers are obliged to provide information, instruction, training and supervision to ensure safety and health of his employees. Employers also obliged to additional duties towards persons other than their employees that include their contractors, employees of contractors or other employer’s employees temporarily visiting the premises, visitors or customers to their premises, government officers, and members of the public who might be affected [4].

Part VI of OSHA 1994 stipulated employees are who employed under principal employer or through an immediate employer at the place of work. Employees have a duty to take reasonable care for the safety and health of themselves and of other people who may affect by what they do or fail to do. They must co-operate with their employers over statutory safety provisions. An employee must not interfere with safety measures or misuse safety and health equipment provided [7].

The Current Practices of Safety and Health Management in Construction Industry and the Most Noncompliance Areas Done by Employers and Employees

Table 3.2 shows the current practices of safety and health management in construction industry are slightly poor. A study has been carried out to prove the weaknesses of the non-compliance (NC) with OSHA 1994 amongst employers and employees. Six (6) selected construction sites have a high percentage of NC. The result shows NC percentages of 50% and above is considered as weaknesses in particular sections.

Table 3.2 Summary of the Noncompliance Areas Made by Employers

Section	Description	Noncompliance Percentage
16	Duty to formulate safety and health policy	65%
17	General duties of employers and self-employed persons to persons other than their employees	58%
18	General duties of occupier of a place of work to persons other than their employees	58%
15	General duties of employers and self-employed persons to their employees	50%

Table 3.3 Summary of the Noncompliance Areas Made by Employees

Section	Description	Non-Compliance Percentage
25	General duties of employees at work	73%
24	Duty not to interfere with or misuse things provided pursuant to certain provision	72%

It is the employer's duty to formulate occupational safety and health policy as stated in OSH legislation, especially OSHA 1994, prevent accidents, eliminate operational hazards through line management and supervision, audits, inspections and continuously improve safety and health performances. Even though the OSH Act requires employers with six (6) or more employees to prepare and, when appropriate, revises a written statement of their general policy with respect to the safety and health of employees at work, but it can reduce to three (3) or more employees. It means that the employers should formulate the most appropriate and effective policy statement which can resolve safety and health arising problems [8].

Table 3.2 shows the current practices of safety and health management in construction industry are slightly poor in the budget allocation for safety and health manner. Lack of enforcement, monitoring and safety audit on mandatory safety and health requirements due to lack of serious commitment, insufficient workforce and budget allocation are the major factors that lead to the poor site management in occupational safety and health practices in the construction industry. The unsatisfactory OSH record of the construction industry has always been highlighted. It is because the OSH management system is a neglected area and a function that has not been pursued systematically in the construction industry. Safety is an important issue, but many employers do not feel it is vital to the success of companies [9].

Meanwhile Table 3.3 clarified for a high percentage of non-compliance exceeding 90% among employees in the six sites. The major problem with regards to the safety and health issue at a construction site is the attitude of employees. The behaviour of employees is influenced by the safety culture and their attitudes also play a very important part in adopting safe work practices at the workplace. Therefore, safe behaviour of the workforce needs to be actively managed. This would suggest that promoting safety education, incentive and enforcement are more approachable and effective way.

As overall the results indicate the most weakness areas done by employers were Section 16 (65%), Section 17 and 18 (58%) and Section 15 (50%), while Section 25 (73%) and Section 24 (72%) for employees. It can conclude that the level of safety and health compliance between the employers and employees in the Malaysian construction industry are weak.

#### *Suggestion of Improvement for Safety and Health Practices in Construction Industry*

Table 3.4 and Table 3.5 indicate the level of agreement responded by the government agencies, contractors and consultants on which stipulated items under the Master Plan for Occupational Safety and Health (2005-2010) are suitable to be implemented in order to improve the safety and health practices in the construction industry.

Table 3.4 Summary of Level of Agreement for Category Government Bodies

Total Respondent (Category Government Bodies) = 30 Persons		Scale Index (Level of Agreement)
<b>Proposes strategies on occupational safety and health through:</b>		
<b>Item A : Enforcement and Legislation</b>		
i	Monitor and evaluate the safety and health performance compliance to legislation and management system to ensure its effectiveness.	<b>Strongly Agree</b>
ii	Strengthen the enforcement agency by increasing the manpower.	<b>Strongly Agree</b>
iii	Arrange an intensive training program for enforcement officers to improve their capabilities and knowledge level of the tasks they have to perform.	<b>Strongly Agree</b>
iv	Review and amend the existing legislation connected to occupational safety and health.	Disagree
v	A comprehensive new legislation and regulation should be enacted or developed.	Strongly Disagree
<b>Item B : Education and Training</b>		
i	Training for Safety and Health Personnel.	<b>Strongly Agree</b>
ii	Training should be extended to all levels of management staffs and employees in the construction industry.	Strongly Disagree
iii	Organise construction occupational safety and health seminars annually at national and state level.	<b>Strongly Agree</b>
iv	Provide construction (Design and Management) course for Professionals.	Disagree
v	Enhance the capacity of enforcement officers through upgrading their knowledge and skills in construction techniques as well as occupational safety and health.	<b>Strongly Agree</b>
<b>Item C : Promotion</b>		
i	Electronic media such as television, radio and internet.	Moderate
ii	Promoting safe work practices.	Strongly Disagree
iii	Organise safety and health promotion activities such as safety campaigns regularly.	Moderate
iv	Introduce annual award for Best Project Owner or Contractor for who has contributed to safety and health.	Moderate
v	Special certificate of achievement for best practice in occupational safety and health.	<b>Strongly Agree</b>
<b>Item D : Incentive</b>		
i	Incentives for construction safety and health officer course and site safety supervisor course.	Moderate
ii	Incentives from insurers for good risk management.	Strongly Disagree
iii	Itemisation of safety and health item in Preliminary section of Bill of Quantities.	Agree

iv	Tax exemptions for PPE and safety tools or equipment used in the construction industry.	<b>Strongly Agree</b>
v	Employers encourage their employees and staffs to participating in OSH trainings and campaigns by granting them paid leave.	Agree
<b>Item E : Standard</b>		
i	Guidelines on MS Construction Occupational Safety and Health Management System (MS COHSMS).	Agree
ii	Guidelines for safe construction works.	<b>Strongly Agree</b>
iii	Code of Practice on construction at highly hazardous workplace.	Agree
iv	Provide handbook on good practice of OSH at construction sites.	Disagree
v	Department of Standard Malaysia to accredit certification body for MS COHSMS.	Strongly Disagree
<b>Item F : Research, Development and Technology</b>		
i	Identify more research and development on project safety and health.	Strongly Disagree
ii	Review the existing construction accident reporting mechanism and enhance the e-portal online accident reporting.	<b>Strongly Agree</b>
iii	Proposes new methods for preventing fall from height.	<b>Strongly Agree</b>
iv	Improving the signal system for site traffic management.	Strongly Disagree
v	Study on the suitability and practicability of PPE and safety and health tools and equipment for use in the construction industry in Malaysia.	<b>Strongly Agree</b>

Table 3.5 Summary of Level of Agreement for Category Contractors and Consultants

<b>Total Respondent ( R ) = 30 Persons</b>		<b>Scale Index (Level of Agreement)</b>
<b>Proposes strategies on occupational safety and health through:</b>		
<b>Item A : Enforcement and Legislation</b>		
i	Monitor and evaluate the safety and health performance compliance to legislation and management system to ensure its effectiveness.	<b>Strongly Agree</b>
ii	Strengthen the enforcement agency by increasing the manpower.	Strongly Disagree
iii	Arrange an intensive training program for enforcement officers to improve their capabilities and knowledge level on the tasks they have to perform.	<b>Strongly Agree</b>
iv	Review and amend the existing legislation connected to occupational safety and health.	Disagree
v	A comprehensive new legislation and regulation should be enacted or developed.	Strongly Disagree
<b>Item B : Education and Training</b>		
i	Training for Safety and Health Personnel.	<b>Strongly Agree</b>
ii	Training should be extended to all levels of management staffs and employees in the construction industry.	<b>Strongly Agree</b>
iii	Organise construction occupational safety and health seminars annually at national and state level.	Strongly Disagree
iv	Provide construction (Design and Management) course for Professionals.	Strongly Disagree
v	Enhance the capacity of enforcement officers through upgrading their knowledge and skills on construction techniques as well as occupational safety and health.	Agree
<b>Item C : Promotion</b>		
i	Electronic media such as television, radio and internet.	Agree
ii	Promoting safe work practices.	<b>Strongly Agree</b>
iii	Organise safety and health promotion activities such as safety campaigns regularly.	Strongly Disagree
iv	Introduce annual award for Best Project Owner or Contractor for who has contributed to safety and health.	Disagree
v	Special certificate of achievement for best practice in occupational safety and health.	Moderate
<b>Item D : Incentive</b>		
i	Incentives for construction safety and health officer course and site safety supervisor course.	Disagree
ii	Incentives from insurers for good risk management.	Strongly Disagree
iii	Itemisation of safety and health item in Preliminary section of Bill of Quantities.	Agree
iv	Tax exemptions for PPE and safety tools or equipment used in the construction industry.	Agree
v	Employers encourage their employees and staffs to participating in OSH trainings and campaigns by granting them paid leave.	<b>Strongly Agree</b>
<b>Item E : Standard</b>		
i	Guidelines on MS Construction Occupational Safety and Health Management System (MS COHSMS).	Strongly Disagree
ii	Guidelines for safe construction works.	Disagree
iii	Code of Practice on construction at highly hazardous workplace.	<b>Strongly Agree</b>
iv	Provide hand book on good practice of OSH at construction sites.	Moderate
v	Department of Standard Malaysia to accredit certification body for MS COHSMS.	Agree
<b>Item F : Research, Development and Technology</b>		
i	Identify more research and development on project safety and health.	Strongly Disagree
ii	Review the existing construction accident reporting mechanism and enhance the e-portal online accident reporting.	Moderate
iii	Proposes new methods for preventing fall from height.	Agree
iv	Improving the signal system for site traffic management.	<b>Strongly Agree</b>
v	Study on the suitability and practicability of PPE and safety and health tools and equipment for use in the construction industry in Malaysia.	<b>Strongly Agree</b>

Based on Table 3.4 it is interesting to note that the government agencies are strongly agreed for a special certificate of achievement for best practice in occupational safety and health to first 100 contractors and 20 developers who may achieve a certain pre-determined standard. To measure their safety and health performance, evaluation system based on merit point assignment for compliance and achievement should be established as suggested in the OSH Master Plan (2005 – 2010). Contractors with low performance shall be given further guidance for improvement. Government bodies were strongly agreed on tax exemption for PPE and safety tools or equipment used in the construction industry. It was to encourage employers to provide sufficient personal protective equipment to their employees without increase the construction cost. In addition, SOSCO as government agencies could also play a meaningful role in promoting and attracting maximum participation in occupational safety and health training programs through financial incentives to stakeholders.

Table 3.5 shows contractors and consultants are strongly agreed on promoting safe work practices through the development of standard safety signs and Code of Practice on construction at highly hazardous workplace. Besides government bodies has the same idea with contractors and consultants agreeing on OSH enforcement and legislation strategy to monitor and evaluate the OSH performance compliance to legislation and management system in ensuring its effectiveness. They suggested arranging an intensive training program for enforcement officers to improve their capabilities and knowledge level of the tasks they have to perform. Besides, by proposing strategies on OSH through training for Safety and Health Personnel were suggested to enhance and upgrading their knowledge and skills. Thus, it will enhance their capacity during performing their inspection on sites and resolve OSH problems arising [10]. Strategy through study on the suitability and practicability of PPE, safety and health tools and equipment for use in the construction industry in Malaysia were also suggested. Scaffolding and safety tools that provided should fulfil the different construction site condition with respect to safety and health manners.

#### IV. CONCLUSION

The study identified all Section 15, 16, 17, and 18 under Part IV (General Duties of Employers and Self-Employed Persons) of OSHA 1994 are mostly not complied by employers. While Section 24 and 25 under Part VI (General Duties of Employees) under OSHA 1994 are the most non-compliance items done by employees. It is crucial to ensure a safe and healthy job site which requires the concerted efforts to all members of the management team, especially the employers and employees. An effective safety planning and programs shall take into consideration the fundamental factors on corporate responsibilities, social and moral obligation, good business sense and legal obligation. Hence, the various efforts carried by the government bodies, contractors and consultants should incorporated by continuing improvement through the combination of enforcement of legislation, education and training, promotion, incentive, standard, occupational safety and health research, development and technology.

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