SAFETY ASPECT IN MANAGEMENT OF CONSTRUCTION PROJECT

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ABSTRACT

One of the safety aspects that always emphasized by the government is using the safety equipments at construction sites. It is because most of the accident cases that have been reported currently in construction industry are usually related to this matter. As the consequence from the increasing of the accident cases, employers have to ensure that the standards and enrolments lay down by the law (especially statutes) in order to ensure the compliance is more effective. The employee themselves must also comply with the standard and requirements for their own safety while working at site. To make Malaysia become more aware of safety, it is hope that safe work procedure can be improve. The parties that involved are responsible in complying standard of work safety especially in provided and using of safety equipment. This matters are not only to the employer (the contractor), but also to the parties as well, such as consultants, clients and the employees. Some of the basic statutory requirement in using safety equipment relating to safety at workplaces (i.e. the construction site) is specified in Occupational Safety and Health Act 1994 and Factories and Machinery Act 1967.This research solely discusses matters relating to this requirement and compliance of using safety equipment by workers while working at site. Questionnaires are also posted to several different parties that involved in the said matters. The result shows that almost all parties especially employer and workers, are aware of the requirements but still at a lower level of its compliance.

Keywords: Safety, Management, Construction Project

INTRODUCTION

The legal health and safety requirements for places of work are numerous and complex. Health and safety is well recognized as an important component of the activities of any organization, not only because of the importance of protecting people from harm, but also because of the growth in the direct and indirect costs of accidents which have exceeded retail price inflation by a considerable amount in the last few years with the number of civil claims and awards increasing each year. It is very important that the basic health and safety regulation are clearly understood by all organizations, whether public or private, large or small. A good health and safety performance would achieved when health and safety is effectively managed so that significant risks are identified and reduced by adopting appropriate high quality control measures.

LITERATURE REVIEW

Over the years there has been a major change in approach to industrial safety managements with the purpose of managing and reducing the number of accidents, injuries and ill health. The approach can be classified into three stages. The stages are safety engineering, safety management system and behavioral based safety (Terryap Hywel, 2002).

Safety Engineering

The Safety Engineering approach is called the independent stage whereby almost all solutions were made based on the legal requirements and enforcement by the Government bodies. Factories and Machinery Act, 1967 (Act 139) was gazette and enforced in Malaysia for the purpose of regulating factories with respect to matters relating to the safety, health and welfare of persons, the registration and inspection of machinery and matters related. As a result of the enforcement of the Act, the accident frequency rate has shown a significant drop and many engineering solutions are now built-in into workplace and machinery design.

Safety Management System

Although the engineering solutions are still essential, emphasis was moved to the safety management system or also called self- dependent stage. In Malaysia Occupational Safety and Health Act 1994 (Act 514) was made mandatory on 24 February 1994. The basic principles and philosophy of OSHA 1994 are:

a. Self-regulation; the organization must develop and establish their own safety and health policy, procedure and regulation, and a safe system of work at the workplace.
b. Consultation; the mechanism for consultation between management and workers is the Safety and Health Committee (SHC) with more than 40 employees, or directed by the Director General of DOSH to establish one.
c. Co-operation; SHC also provides a channel for communication and co-operation between employer and employees in developing safe and healthy workplace.

Most important of all is the responsibility for controlling hazard and risk at the work place are clearly identified as the persons responsible for the creation of the hazard and risk and the people working with it. The employers, employees, manufacturers (of machineries and equipment), designers, importers and suppliers are among the parties identified to be responsible for the control of hazard associated with their roles in introducing the hazard (NIOSH Malaysia Newsletter, 2003).

Behavioral Based Safety (BBS)

Since the early 1990ôs behavioral based safety has fast become an established tool to reduce the number of accidents at the work place, as its use has helped many companies to dramatically slice through accident plateau (Dr. Dominic Cooper, 1999).

Dr. Dominic Cooper in his paper on Behavioral Based Safety (BBS) defines that BBS is the systematic application of psychological research on human behavior to the problems of safety in the workplace that focuses its attentions on the interactions between peopleôs safety related behavior and their working environment at multiple organization level.

Dr Ted Boyce, of the University of Nevada described BBS as follows Behavioral Based Safety concerned with human behavior and safe performance through proactive approaches to increasing safety in the workplace and in the community. It focuses on the application of behavioral research of human performance in relation to the problems of safety in the workplace. What makes the behavioral science approach to safety unique, according to Dr Ted Boyce, are:

a. A reliance on information or data gathering
b. Focus on what people do for safety

c. An emphasis on making decisions about safety successes and areas for improvement based on the data gathered.
d. Inclusion of recognition for safety related behaviors
e. Involvement of employees in the key aspects of the safety process.

ACTS RELATED TO SAFETY AND HEALTH

Occupational Safety And Health Act 1994 (Act 514)

An Act to make further provisions for securing the safety, health and welfare of persons at work, for protecting others against risks to safety or health in connection with the activities of persons at work, to establish the National Council for Occupational Safety and Health and for matters connected therewith. Be it enacted by the Duli Yang Maha Mulia Seri Paduka Baginda Yang di Pertuan Agong with the advice and consent of the Dewan Negara and Dewan Rakyat in Parliament assembled, and by the authority of the same, as follows. This Act may be cited as the Occupational Safety and Health Act 1994 and it was subject to subsection and this Act shall apply throughout Malaysia to the industries specified in the First Schedule. For information, nothing in this Act shall apply to work on board ships governed by the Merchant Shipping Ordinance 1952; the Merchant Shipping Ordinance 1960 of Sabah or Sarawak or the armed forces. The provisions of this Act shall be in addition to, and not in derogation of, the provisions of any other written law relating to occupational safety and health. In the event of any conflict or inconsistency between the provisions of this Act and that of any other written law pertaining to occupational safety and health, the provisions of this Act shall prevail and the conflicting or inconsistent provisions of such other written law shall, to the extent of the conflict or inconsistency, be construed as superseded. The objectives of this act are:
a. To secure the safety, health and welfare of persons at work against risks to safety or health arising out of the activities of persons at work.
b. To protect person at a place of work other than persons at work against risks to safety or health arising out of the activities of persons at work.
c. To promote an occupational environment for persons at work this is adapted to their physiological and psychological needs.
d. To provide the means whereby the associated occupational safety and health legislations may be progressively replaced by a system of regulations and approved industry codes of practice operating in combination with the provisions of this Act designed to maintain or improve the standards of safety and health.

Factories and Machinery Act 1967 (Act 139)

The Occupational Safety and Health Act of Malaysia was gazette in 1994. It augments the Factories and Machinery Act of 1967, which was the main piece of legislation prior to enactment of the Occupational Safety and Health Act and which had been deemed inadequate because it did not apply work premises falling outside the definition of 'factory'. The Factories and Machinery Act of 1967, while going into details regarding specific requirements for machines, building operations, and specific hazards in factories, does not provide workers with adequate protection. An Act also to provide for the control of factories with respect to matters relating to the safety, health and welfare of persons therein, the registration and inspection of machinery and for matters connected therewith.

Workmen's Compensation Act 1952

An Act to provide for the payment of compensation to workmen for injury suffered in the course of their employment.

Private Healthcare Facilities And Services Act 1998

An Act to provide for the regulation and control of private healthcare facilities and services and other health-related facilities and services and for matters related.

RESEARCH METHODOLOGY

Conceptualization

Conceptualization is aimed at understanding the importance and basics of the work to be carried out. In this stage, the objectives of the project will be set and the problem will be stated.

Literature Review

Literature review is to gather information related to the topic. Former studies on topic and issues will be analyzed the scope of study. Relevant literature review resources have been looking for. Relevant articles, journals, paperwork, thesis and books help to get information.

Development and Distribution of Questionnaire

The questionnaire will be developing based on topic and objective of research. 100 sets of questionnaire have been distributed to contractor Class A until Class C which is listed in PKK. Out of 100 questionnaires distributed, only 30% responds rate of 30 respondentôs feedback or give cooperation.

Analysis

The collected data will be analyzed by using Statistical for Social Science (SPSS) program. All the outcome of the analysis will be represented in the form of table and pie chart.

RESULT AND DISCUSSION

Analysis of Data

Level of Safety Practices among the Contractor

From these tables, it represents the level of practices among the contractor.

Table 1: Level of Knowledge about the Existing of Work Safety and Health Act 1994 (Act 514) and, Factory and Machine Act 1967 (Act 139)

Level of Knowledge	Frequency	%
Yes	30	100.0
No	0	0.0

From the table, 100% of the respondent said they know about the existing of both act.

Table 2: Respondent Understanding about Work Safety and Health 1994 (Act 514)

Level of Understanding	Frequency	%
Yes	26	86.7
No	4	13.3

86.7% of the respondent said they understand about work safety and health Act 1994 (Act 514) while the other 13.3% didnôt exactly understand the act.

Table 3: Company Complete With Written Safety Policy and Rules

Properties	Frequency	%
Yes	28	93.3
No	2	6.7

From the table, 93.3% of 30 companies have written safety policy and rules while the other 6.7% didnôt have.

Table 4: Company Implementation on Safety Policy

Implementation	Frequency	%
Yes	28	100.0
No	0	0.0

The table shows all company totally implements the safety policy.

Table 5: Did You Prepare Complete Safety Equipment for Your Workers at the Construction site?

	Frequency	%
Yes	26	86.7
No	4	13.3

More than three quarters, which is about 86.7% respondent prepared safety equipment at construction site while the other 13.3% didnôt do that.

Table 6: Respondentôs Knowledge on Employer Responsibility on Preparing Safety Equipment

	Frequency	%
Yes	30	100.0
No	0	0.0

100% of the respondent, which mean all respondent have knowledge about employer responsibility on preparing safety equipment. Generally, all of the respondent know about the existing of Occupational Safety and Health Act 1994 (Act 514) and Factory and Machinery Act 1967 (Act 139), but only 86.7% of the respondent really understand the act. About 93.3% companiesôs owner had the written safety policy and safety rules. They also implement the policy and rules in their company organization. 86.7% of 30 respondents which their workers have completely safety equipment and the others didnôt have. All respondent know that safety equipment should be prepared by employers and the employers have to make sure the equipment is totally use. 21 of 30 respondents which the percentage is 70.0% showed workers obedient in using safety equipment. This clearly shows that about 30.0% workers did not using safety equipment while working.

Percentage of employers responsible in prepared safety equipment is higher which the percentage is 93.3%. Training session on using safety equipment also got higher percentage,

86.7%. This analysis shows that employers have initiatives to reduce incident at construction sites. Some of safety equipment that prepared at construction sites are safety helmet, safety boots, an also glove which the percentage attain 100.0%. While harness and mask each one 90.0%. Other than that, goggles (83.3%), ear plugs (80.0%). Safety dress got lowest percentage in preparation which is only 66.6%. These may be because of no work in such construction site which not related in using some of the equipment.

CONCLUSION

Contractors and project managers had followed the entire requirement needed by OSHA for safety and health of their construction workers. From both of the observation, we can see that contractors took the highest percentages in following the entire requirement needed by OSHA. According to the questionnaire results which got from the contractor, 93.3% company completely have written safety policy and rules. 100.0% of the contractors have implemented the safety policy. From questionnaire results which got from workers, 88.3% employers prepared the safety equipment at construction site. 80.0% of the employers had done talk or training on using safety equipment at construction site. These results show that the employerôs responsibility is very high in following the entire requirement needed by OSHA act.

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