

Regulating High-Risk Activities In Construction Industry In Malaysia: The Need For Legal Protection

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ABSTRACT

Construction industry is one of the important industries in Malaysia to register positive employment growth. With the progress of the industry, problem of industrial accidents are inevitable due to the nature of work involved in every phase within a construction project. As far as the hazards to the workers' safety is concerned, the high-risk related activities including work at height and lifting operations are identified to have posed its own hazards to the workers that contribute to injury cases in construction. However, there are no specific Regulations and Approved Code of Practice for construction that provide further provisions to be followed by the duty holder to achieve the general safety duty, particularly for working at height and lifting operations. Thus, the discussion in this article seeks the reference from the regime of occupational safety and health legislation in other jurisdictions that provide for such protection, as a guidance or direction to improve the present legislation on occupational safety and health in Malaysia.

ABSTRAK

Industri pembinaan adalah salah satu industri penting di Malaysia yang menyenaraikan pertumbuhan pekerjaan yang positif. Apabila industri berkembang, masalah kemalangan industri tidak dapat dielakkan kerana jenis kerja yang terlibat dalam setiap fasa dalam sektor pembinaan. Berkaitan dengan bahaya terhadap keselamatan pekerja, aktiviti-aktiviti berisiko tinggi termasuklah kerja tempat tinggi dan kerja-kerja mengangkat, dikenalpasti telah menyebabkan hazard kepada pekerja-pekerja yang membawa kepada kes-kes kemalangan dalam sektor pembinaan. Walau bagaimanapun, tiada Peraturan-peraturan dan Tata amalan industri yang khusus bagi sektor pembinaan yang menyediakan peruntukan tambahan untuk dipatuhi oleh pekerja yang dipertanggungjawabkan, bagi mencapai tanggungjawab keselamatan, khususnya bagi kerja tempat tinggi dan kerja-kerja mengangkat. Oleh itu, perbincangan artikel ini mengambil rujukan daripada rejim perundangan keselamatan dan kesihatan pekerjaan dalam lain-lain perundangan, sebagai panduan

atau arahnya untuk memperbaiki perundangan semasa berkaitan keselamatan dan kesihatan pekerjaan di Malaysia.

INTRODUCTION

The growth of economy in Malaysia has gone through a significant transformation which was supported by the contribution from the development of the industrial sectors, promoted by the incentives given by the government and commitment from the private sectors. In line with the Government's aim to become a developed nation by the year 2020, Malaysia has moved fast to keep pace with the changes of time. Significantly, construction industry is one of the important industries in Malaysia to register positive employment growth and employment was said to have expanded at an impressive rate due to the strong economic growth, particularly in the manufacturing and construction sectors. However, as the industry continues to progress, problem of industrial accidents are inevitable and this is evident from the industrial injury statistics which have shown a considerably high number of industrial accidents, including the construction industry, for example in 2006, 58,321 industrial accidents generally were reported. In construction industry, 3686 accidents were reported in the year 2006 (SOCSO Annual Report 2006).

In fact, the notion that the nature of construction work is dangerous, demanding and dirty, as compared to other sectors such as manufacturing industry, has led to unenviable reputation of the industry. This is generally due to the nature of work involved in every phase within a construction project which causes hazards to safety of construction workers. In particular, the high-risk related activities including working at height and lifting operation have posed its own hazards to the workers and contributing to injury cases in construction.

Generally, when describing about the perilous scenario in construction, be it in building or civil engineering construction, the common hazard related to workers safety at construction site is accident resulting from falls. In the Malaysian construction industry, the top 4 highest causes of industrial accidents are falling victims (from a height or on the same level), victims struck by falling objects, knocked by moving objects and caught in between objects. Table 1 shows the number of industrial accidents (by Cause of Accident) which were reported to the Labour Department and the Social Security Organization (SOCSO) for the year 2000 to 2006. Although the number of reported accidents has declined, thousands of accidents still occur annually, exceeding the Government's target of zero industrial and workplace accidents by the year 2002 (Fong Chan On, Human Resource Minister, *New Straits Times*, March 26, 2000). Accidents and falls continue to be relatively common causes of death and injury among construction workers. Even though every phase within a construction project has its own hazards, as far as the accident involving fall is concerned, it is very much associated with working at height and lifting operation activities which take place most during the erection of structures phase.

Table 1
Industrial Accidents Reported to the Labour Department and Social Security Organization (SOCSO), by Cause of Accident, 2000-2006

YEAR	2000	2001	2002	2003	2004	2005	2006
Fall victims (falling from heights and on the same level)	25,491	26,548	22,770	20,522	18,379	16,879	16,974
Struck by falling objects	12,428	10,146	10,599	9,261	8,524	7,813	5,915
Stepping on, striking against or struck by objects (excluding falling objects)	29,802	24,855	25,730	22,365	22,409	20,060	18,621
Caught in between objects	12,995	10,405	10,518	9,735	8,885	7,663	7,859
Over-exertion or strenuous movements	3,158	2,137	1,923	1,610	1,435	1,409	965
Exposed to/contact with extreme temperatures	1,824	1,529	1,415	1,309	1,159	1,000	853
Exposed to/contact with electric current	69	62	93	64	70	42	33
Exposure to/contact with harmful substances radiations	1,031	796	508	390	316	255	258
Others (not classified)	2,408	9,446	8,254	8,602	7,958	6,761	6,843
TOTAL	95,006	85,926	81,810	73,858	69,132	61,882	58,321

Source: SOCSO Annual Reports, Malaysia (2000-2006)

Legislation on OSH Applicable to the Malaysian Construction Industry

The Occupational Safety and Health Act, 1994 (OSHA 1994) and the Factories and Machinery Act, 1967 (FMA 1967) are the current fundamental legislation which regulate construction activities in the Malaysian construction industry. Before the coming into force of the OSHA 1994, the FMA 1967 caters mostly on the safety, health and welfare aspects of the operation in the factories, which are mostly on the manufacturing operations. Provisions of the FMA 1967 have been applicable to the construction industry since the Act 1967 defined 'factory' to include 'building operation' and 'works of engineering construction' provided that they are undertaken

or carried on by way of trade for the purposes of gain or incidentally to any business so carried on¹.

Therefore, all operations and safety requirements at the building construction and works of engineering construction must comply with the FMA 1967 and the Regulations made thereunder. The Regulations under the FMA 1967 which specifically regulate activities in the construction industry and detailing the manner in which the activities in the construction works could be carried out safely is the Factories and Machinery (Building Operations and Works of Engineering Construction)(Safety) Regulations 1986 (BOWECS). However, the BOWECS Regulations 1986 had never been revised since then. Moreover, looking into the construction of the provisions under the BOWECS Regulations 1986, there are inadequate duty provisions that regulate high-risk related activities (in particular, working at height and lifting operations) which are the common causes that contribute to fall injury at construction sites.

This resulted in situation where the existing problems relating to accidents in construction works could never be resolved. Taking into account the need to have enabling measures that superimpose the FMA 1967, in 1994, the OSHA came into effect and became the specific act to govern safety and health of workers in the Malaysian industries. The OSHA 1994 imposes general duty on the employer to ensure safety, health and welfare of all his employees at work², and the particular duties which include the duties to:

- a) provide and maintain safe plant and systems of work at the workplace³;
- b) make arrangement for ensuring safety and health in connection with the use or operation, handling, storage and transport of plant and substances⁴;
- c) provide necessary information, instruction, training and supervision for purpose of ensuring the safety and health of employees⁵;
- d) maintain the workplace in a safe and healthy condition, as well as to provide and maintain safe means of access to and egress from the workplace⁶; and
- e) provide and maintain safe and healthy working environment, as well as to provide and maintain adequate facilities for the welfare of the employees⁷.

All the above duties are qualified by the phrase 'so far as is practicable'⁸. At the same time, the OSHA 1994 also imposes the duty on the employee to take reasonable care for the safety and health of himself and of other persons who may be affected by

¹ Section 2, FMA 1967.

² Section 15(1), OSHA 1994.

³ Section 15(2)(a), *Ibid*.

⁴ Section 15(2)(b), *Ibid*.

⁵ Section 15(2)(c), *Ibid*.

⁶ Section 15(2)(d), *Ibid*.

⁷ Section 15(2)(e), *Ibid*.

⁸ The phrase has the effect of permitting the employer to conduct a cost benefit analysis in respect of his safety and health systems. It allows the employer to calculate whether the benefits afforded by the addition of certain safety and health procedures are outweighed by the costs (in terms of time, inconvenience, money, etc.) of those additional procedures. If so, in theory, those precautions need not be taken.

his acts or omissions at work⁹. Notwithstanding the above duties, up to this date, there are no specific relevant Regulations¹⁰ and Approved Code of Practice¹¹ for construction (particularly for working at height and lifting operations) that provide for further provisions to be followed to achieve the general duty.

Inadequate Duty Provisions on Working at Height and Lifting Operations

It has been highlighted earlier that for many years, the main cause of industrial accidents in the construction industry is fall and this must be given immediate attention so that immediate steps can be taken to minimize, if not totally eliminate the risk of workers falling from height or even falling on the same level or being struck by falling objects. However, adequate specific provisions are not found in the BOWECS Regulations 1986. Instead, there is only one specific provision on working at height under Regulation 12¹² of the Factories and Machinery (Safety, Health and Welfare) Regulations 1970. This provision requires safety belts or ropes to be provided for workers working at height of more than ten feet. Nevertheless, the means of preventing workers from falling are not confined to the use of safety belts or ropes only and thus, this provision is rather insufficient. More comprehensive provisions are needed to specifically regulate the system of working which is safe and suitable for the workers.

Apart from working at height, lifting operation in construction works also poses its own hazards to the workers and this activity is the common cause of accidents involving workers struck by falling or moving objects. However, there are also no adequate specific provisions that regulate the lifting operation under the BOWECS Regulations. Under the Factories and Machinery (Fencing of Machinery and Safety) Regulations, 1970, there is one provision (Regulation 21) which provides that every overhead structure, crane, block, sling and other appliance for *lifting* a load shall be of sound construction and in every way suitable for the purpose. Regulation 21 provides that any appliance used for lifting operation must be in good condition and suitable to be used for its purpose but this provision is inadequate since it only emphasizes on the physical status of the appliance or the equipment and not on the method of safe lifting operation. Eventually, more comprehensive provisions are needed to specifically regulate the system of working involving this activity that is safe and suitable for the workers.

⁹ Section 24, *Ibid.*

¹⁰ *Regulations* are designed to supplement and strengthen the provisions of the Act, spelling out the requirements in greater detail; and a breach of a duty imposed by Regulations is punishable as a criminal offence.

¹¹ *Approved Codes of Practice* offer practical guidance on the requirements contained in the duty provisions under the statute or in health and safety regulations. It has a special legal status and shall be admissible in evidence; thus a failure to observe it shall constitute proof of the breach of duty, or contravention of the regulations or statutory provisions.

¹² Regulation 12, Factory and Machinery (Safety, Health and Welfare) Regulations 1970 provides that where any person is required to work at a place from which he will be liable to fall a distance of more than ten feet, means shall be provided to ensure his safety and such means shall where practicable include the use of safety belts or ropes.

While the FMA 1967 is found wanting in provisions pertaining to working at height and lifting operations, the OSHA 1994 is expected to overcome the shortcomings. In relation to this, the OSHA 1994 imposes a particular duty on the employer to provide and maintain plant and system of work that are, so far as is practicable, safe and without risks to health; and to make arrangements for ensuring, so far as is practicable, safety and absence of risks to health in connection with the use or operation, handling, storage and transport of plant and substances. Nonetheless, these provisions are generic in nature and need to be clarified by further rules in order to achieve the objective of the particular duty provisions under the Act. Therefore, the activities involving working at height and lifting operations in construction still demand further clarification of the general duty to ensure safety of workers involved in such works. For purpose of better regulating the system of work involving high-risk activities and offering better protection to workers involving in such activities in Malaysia, it is worth looking into the regime of OSH legislation in other jurisdictions that provide for such protection as guidance or direction. The OSH Legislation of the United Kingdom (UK) and Western Australia are referred to in this article for their comprehensive protection relating to work at height and lifting operation. The Regulations made under the relevant Acts (UK and Western Australia) can become an important guide for Malaysia to formulate similar kind of Regulations for work at height and lifting operations, so as to overcome the existing problem of inadequacy and weaknesses of the law.

Legal Protection under the OSH Legislation Regime in Other Jurisdictions *United Kingdom*

a) Working at Height

In UK, working at height on construction site is governed by the Construction (Health, Safety and Welfare) Regulations 1996 (CHSW Regulations 1996)¹³, the Regulations made under the Health and Safety at Work Act, 1974. Under the Regulations, i) there is a duty to prevent falls from height by physical precautions or, where this is not possible, provide equipment that will arrest falls; ii) to ensure there are physical precautions to prevent falls through fragile materials; iii) to erect scaffolding, access equipment, harnesses and nets under the supervision of a competent person and; iv) to ensure there are criteria for using ladders¹⁴. The main duty holders under these Regulations are employers, the self-employed and those who control the way in which construction work is carried out. Employees also have the duties to carry out their own work in a safe way. Further, the Regulations provide protection to the workers by imposing the duty i) to take steps to prevent materials or objects from falling; ii) to take precautions to prevent people from being struck; iii) to store materials and equipment safely and; iv) not to throw them down from a height if they could strike someone¹⁵. With regard to the use of personal protective equipment, the Regulations oblige the duty holders to ensure that the personal

¹³ The Approved Code of Practice applicable to workplace safety is the Workplace Health, Safety and Welfare (ACOP) (HSE Booklet L 24), HSE UK.

¹⁴ Regulations 6 and 7, Construction (Health, Safety and Welfare) Regulations 1996, HSE UK.

¹⁵ Regulation 8, *Ibid*.

protective or rescue equipment is immediately available for use in the event of a fall¹⁶. For purpose of inspection and report, the Regulations require the workplace to be inspected by a competent person before work at height begins, and following inspection, the duty holders must ensure that written reports are prepared by the competent person¹⁷. Reports detailing inspections are generally required every time an inspection is carried out.

Apart from the CHSW Regulations 1996, another specific Regulation on working at height is the Work at Height Regulations 2005. These Regulations apply to all work at height where there is a risk of a fall liable to cause personal injury. The employer is thus obliged to ensure that work at height is properly planned, appropriately supervised and carried out in a safe manner so far as is reasonably practicable. The planning includes the selection of work equipment and planning for emergencies and rescue. In addition, the employer must also ensure that work at height is carried out only when the weather conditions do not endanger the health and safety of the workers¹⁸. Further, in order to avoid the risks from work at height, the employer must take suitable and sufficient measure to prevent any person falling a distance liable to cause personal injury. The measures include ensuring that the work is carried out from an existing place of work or using an existing means which complies with Schedule 1¹⁹ listed in the Regulations. If the measures taken do not eliminate the risk of a fall occurring, the employer must provide sufficient work equipment to minimize the distance and consequences of a fall²⁰.

The selection of work equipment for work at height is obviously important and under the Regulations, the employer has a duty to select the work equipment by giving collective protection measures priority over personal protection measures and take account the working conditions and the risks to the safety of the workers, the distance and consequences of a potential fall, the duration and frequency of use, the need for easy and timely evacuation and rescue in an emergency, and any additional risk posed by the use, installation and rescue from it. The work equipment must also be appropriate to the nature of the work to be performed and the foreseeable loading and allow passage without risk²¹. In relation to fragile surface, the employer is obliged to ensure that suitable and sufficient platforms, coverings, guard rails or similar means of support or protection are provided and used. Where the risk of falling remains despite the measures taken, the employer must take suitable and sufficient measures to minimize the distances and consequences of his fall²². Equally important

¹⁶ Regulation 14, *Ibid.*

¹⁷ Regulations 29 and 30, *Ibid.*

¹⁸ Regulation 4, Work at Height Regulations 2005, HSE UK

¹⁹ Every existing place of work or means of access or egress at height shall be stable and of sufficient strength and rigidity; have sufficient dimensions to permit the safe passage of persons and the safe use of any plant or materials required to be used; possess suitable and sufficient means for preventing a fall; possess a surface which has no gap through which a person could fall, through which any material or object could fall and injure a person or giving rise to other risk of injury to any person; and shall be constructed and used, and maintained in such condition so as to prevent the risk of slipping or tripping or any person being caught between it and any adjacent structure.

²⁰ Regulation 6, *Ibid.*

²¹ Regulation 7, *Ibid.*

²² Regulation 9, *Ibid.*

is the inspection of the work equipment and the place of work at height²³. The regulations require the employer to check every place at which work is to be done at height every time before the place is used and this includes checking the surface and every parapet, permanent rail etc. Other duties include i) to ensure all equipment used (including guard-rails, toe-boards, barriers, working platforms, scaffoldings, ladders etc.) are inspected after they are assembled or installed; ii) to ensure any platform used for (or for access to) construction work and from which a person could fall more than 2 metres is inspected in place before use and; iii) to ensure that the person inspecting a platform prepares a report before going off duty and submit the report within 24 hours of completing the inspection. The report must be kept at the construction site until the work is completed and then at the office of the employer for another three months.

The following examples of decided cases showed the importance of not taking safety and health matters lightly at any worksite. In the case of *Boyce v Wyatt Engineering and others*²⁴, the claimant suffered a serious ankle injury as a result of climbing a ladder propped inside a large and at the time empty sewage tank. The tank was about 13 foot deep with its bottom sloping down from its sides to its centre. The ladder slipped and the claimant had to jump or fell. The claimant sued three defendants. For present purposes it is common ground that he can be treated as having been engaged as a steel erector by the second defendants, and he sued them as his employers for breach of statutory duty and negligence. Mance LJ. in allowing the appeal by the claimant and remitting the case for retrial before a different judge, pointed out the failure of the judge hearing the case to address the allegations of breach of statutory duty which had been pleaded. It was alleged that the second defendants as the employers failed to ensure that there was suitable and sufficient safe access to and egress from the plaintiff's place of work as required by Regulation 5(1) of the Construction (Health, Safety and Welfare) Regulations 1996. Further, the second defendants failed to ensure that the claimant's place of work was made and kept safe for him without risks to health to the claimant, contrary to Reg 5(2); failed to ensure that suitable and sufficient steps were taken to ensure that the claimant did not gain access to a place which did not comply with the requirements of paragraphs (1) and (2), contrary to Reg 5(3); failed to take suitable and sufficient steps to prevent him falling, contrary to Reg 6(1); and failed to ensure that the ladder from which the claimant fell had complied with the provisions of Sch 5, contrary to Reg 6(6).

Potter LJ. in agreement with the decision of Mance LJ., commented that the second defendant was in overall control of the work site as the main sub-contractor of the third defendant and also in the position of the claimant's employer. As such, the second defendant would in principle be liable to the claimant at least for breach of statutory duty under the Construction (Health, Safety and Welfare) Regulations 1996, and in particular Regulations 6(1) and 6(5) and Sch 5 to those Regulations, subject only to a defence of contributory negligence. In another important case of *R v Keltbray Ltd.*²⁵, the work in hand at the time of the accident involved two demolition labourers

²³ Regulations 12 and 13, *Ibid.*

²⁴ [2001] EWCA Civ 692, (*Transcript: Smith Bernal*).

²⁵ [2001] 1 Cr App R(S) 132, Lexis UK CS 1548, (*Transcript: Smith Bernal*).

cutting a well hole in the eighth floor. This work was hazardous as it involved the risks of a fall from the eighth floor of the building either by falling from the edge of the floor being removed or from the part or the entire floor that was being broken out collapsing in an unplanned manner. Well holes had been cut in all seven floors below, down to and including the first floor slab. While Mr Cummins and Mr Fraher were in the process of cutting out the floor to form the well hole the section of floor slab they were standing on collapsed. They fell with the collapsed section of floor to the ground below.

The judge in this case made the following findings: On the eighth floor there were no proper harnesses with extended ropes. No scaffolding had been erected and there was no obvious extension or solid part of the building to which any such harnesses could be attached. The operation in hand was the demolition of an eight-storey building. Plainly it was a potential dangerous operation which requires foresight as to the methods to be followed. Such foresight was present in this case. It requires firm supervision to ensure that the safe methods devised are in fact followed. In the event, a highly dangerous operation was permitted on the eighth floor when the well hole was being created. That job was done in a very dangerous manner. The fall back means of safety which would have been provided by a properly anchored harnesses was not present. As Scott Baker J. stated in *Howe* (1999) 2 Cr App Rep(S) 37:

The objective of prosecutions for health and safety offences in the work place is to achieve a safe environment for those who work there and for other members of the public who may be affected. A fine needs to be large enough to bring that message home where the defendant is a company not only to those who manage it but also to its shareholders.

In this case, the Court accepted the relevance when assessing sentence of the guilty plea of the Appellant's Company, their good safety record and the steps they have taken since the accident to improve further their approach to safety on demolition work. Nevertheless, the Court considered this as a grave offence for the reasons the Court had given. Two men died as a result of the breach of safety regulations. The Court had thus come to the conclusion that a fine of £200,000 was appropriate for the offence committed.

b) Lifting Operations

For lifting operations on workplaces, the relevant Regulation in UK is the Lifting Operations and Lifting Equipment Regulations 1998 (LOLE Regulations 1998), the Regulations made under the Health and Safety at Work Act 1974. The Regulations apply to any item of work equipment used for lifting or lowering loads and to any operation concerned with the lifting or lowering of a load. The wide definition of lifting equipment brings equipment not covered under previous legislation into the scope of the regulations. Lifting equipment covered by the Regulations includes cranes, goods and passenger lifts, joists, mobile elevating work platforms, scissors lifts, vehicle hoists, gin wheels, ropes used for access, fork lift trucks, lorry loaders, side booms etc.

The LOLE Regulations 1998²⁶ apply to employers who provide the lifting equipment or employers who allow employees to provide their own lifting equipment. Under the Regulations, the employer must ensure that the lifting equipment has adequate stability to prevent it from overturning and every part of a load used in lifting must be of adequate strength²⁷. The employer must also ensure that the lifting equipment for lifting persons must be safe to prevent the person using it from being crushed, trapped or struck or falling from the carrier²⁸. To reduce the risk of the lifting equipment striking a person, the equipment must be properly positioned or installed²⁹. In addition, the employer must also ensure that the machinery and accessories for lifting loads are clearly marked to indicate their safe working loads³⁰ and every lifting operation involving lifting equipment is properly planned by a competent person, appropriately supervised and carried out in a safe manner³¹. Thorough examination and inspection must also be carried out where the lifting equipment is put into service for the first time or after installation, for purpose of ensuring that it has been installed correctly and safe for operation³².

Western Australia

a) Working at Height

In Western Australia, the Occupational Safety and Health Regulations 1996 (the Regulations made under the Occupational Safety and Health Act 1984) cater provisions on working at height³³. Under Part 3 (Workplace Safety Requirements), Division 5 (Prevention of Falls at Workplaces), the duty holders (including the employer, main contractor, self-employed person and person having control of the workplace) have the responsibilities in relation to the identification and assessment of hazards for falling, the inspection of fall injury prevention systems, the inspection of anchorages, the protection for holes and openings, the edge protection and the activities involving working on or from brittle or fragile roofing.

For identification and assessment of hazards in relation to falling, the Regulations oblige the duty holders to identify each hazard at the workplace in relation to the person falling from one level to another, assess the risk of injury from each hazard and consider the means by which the risk may be reduced³⁴. The duty holders must ensure that an anchorage or a fall prevention system at the workplace is designed, manufactured, constructed, selected or installed to withstand the force applied to it as a result of a person's fall³⁵. Thus, the anchorages and the fall injury prevention systems must be inspected by a competent person³⁶. Further, the duty

²⁶ The Approved Code of Practice accompanying the LOLE Regulations is the Safe Use of Lifting Equipment (ACOP) (HSE Booklet L 113), HSE UK.

²⁷ Regulation 4, Lifting Operations and Lifting Equipment Regulations 1998, HSE UK.

²⁸ Regulation 5, *Ibid.*

²⁹ Regulation 6, *Ibid.*

³⁰ Regulation 7, *Ibid.*

³¹ Regulation 8, *Ibid.*

³² Regulation 9, *Ibid.*

³³ The Code of Practice relevant to working at height is the Prevention of Falls at Workplaces 2004, Commission for OSH, Government of Western Australia.

³⁴ Regulation 3.49, Occupational Safety and Health Regulations 1996, Western Australia.

³⁵ Regulation 3.50, *Ibid.*

³⁶ Regulations 3.51 and 3.53, *Ibid.*

holders must ensure that any hole or opening in a floor is covered with a material that is strong enough to prevent persons or things entering or falling through or into the hole or opening and securely fixed to the floor³⁷.

For additional safety measure, the edge protection must be provided and kept in place whenever there is a risk that a person could fall 2 or more metres from the edge of a scaffold, fixed stair, landing or suspended slab at the workplace, or from the edge of formwork or falsework at the workplace. The Regulations also provide that whenever there is a risk that a person could fall 3 or more metres from an edge at the workplace (other than the edge mention earlier), the edge protection must also be provided and kept in place or a fall injury prevention system is provided and in operation³⁸. In relation to working on or from brittle or fragile roofing, the Regulations require the duty holders to ensure that the person who is to work on or from the roof is informed of the condition of the roof and the person is provided with a safe working platform and safe access way. The person to work must also be trained and instructed on the precautions to be taken. In addition, a warning notice must be placed at each place where a person is to access the roof³⁹.

b) Lifting Operations

Lifting operations at workplaces is also regulated by the Occupational Safety and Health Regulations 1996 (the Regulations made under the Occupational Safety and Health Act 1984). The relevant part under the Regulations is Part 4 (Plant), Division 4 (Safety Requirements in Relation to Certain Types of Plant). For purpose of safety in relation to plants used for lifting, suspending or lowering people, equipment or materials at the worksite, the duty holders must ensure that no loads are suspended over or travel over a person. Therefore, no other plant than those specifically designed for the lifting or suspending of persons can be used except if; i) another method is impracticable, ii) a suitable and adequate work box or other personnel carrying device is used and securely attached to the plant, iii) the plant is fitted with a means by which the work box or other personnel carrying device can be safely lowered in the event of an emergency or the failure of the power supply, iv) the plant is suitably stabilized at all times while the work box or other personnel carrying device is in use, v) a suitable means of preventing a person falling from the work box or other personnel carrying device is provided and worn by all persons in a suspended work box or other personnel carrying device, and vi) in the case of a crane, the control device on both the hoisting and lifting motions are used appropriately⁴⁰.

In addition, the duty holders must ensure that a load is lifted safely at the workplace and no plant other than a crane or hoist is used to suspend a load unless the use of such crane or hoist is impracticable and the appropriate safety measures have been taken. Any person and vehicle is also prevented from entering the area in or adjacent to the workplace where there is a risk of injury or damage occurring as a result of the movement of the load⁴¹.

³⁷ Regulation 3.54, *Ibid.*

³⁸ Regulation 3.55, *Ibid.*

³⁹ Regulation 3.57, *Ibid.*

⁴⁰ Regulation 4.53, *Ibid.*

⁴¹ *Ibid.*

Additional requirements as to cranes, hoists and building maintenance units are also provided by the Regulations. Thus, each responsible person at the workplace must ensure that both the rider and the driver of the crane have been given written instructions for the use of the crane. Besides, the crane, hoist or building maintenance unit at a workplace must be maintained, inspected and operated in accordance with the written instructions developed at the time of design or manufacture by the person who designed or manufactured the crane, hoist or unit⁴². In cases of cranes with certain maximum capacity used at a construction site, the responsible person must ensure that there is at least one crane operator and one dogger or one rigger, who has experience in the use of such crane⁴³. In one case involving the employer's duty to provide suitable plant and equipment, *Czatyрко v Edith Cowan University*⁴⁴, the appellant began to work for the respondent as a general assistant and his duties included the shifting of furniture and the distribution of mail. On the day of the accident, the appellant and another employee were collecting boxes and loading them on to the truck using an unenclosed hydraulic lifting platform. The respondent successfully appealed to the Full Court of the Supreme Court upon the judgment given in favour of the appellant in the sum of \$379,402 for being entirely responsible for the appellant's injuries. However, on the appellant's appeal to the High Court of Australia, the Judges were of the opinion that the Full Court erred in its determination that the respondent was not in breach of its duty and decided that the orders of the Full Court of the Supreme Court of Western Australia should be set aside. The Judges mentioned in the judgment:

"...this is clearly a case of failure to devise and implement a safe system of work, or to provide the appellant with proper and sufficient equipment to enable him to carry out his work safely. The risk that the appellant would attempt to step backwards on to the platform in the belief that it was raised, without checking whether this was the case, was plainly foreseeable. There was no system in place to guard against it. The risk could have been readily obviated by the respondent by the taking of simple measures. The measures included the fitting of a warning "beeper" or the introduction of a system for the giving of an oral warning as and when the platform was being lowered. In light of its failure to implement such or like measures, the respondent was in breach of its duty to take reasonable care to prevent the risk of injury to the appellant".

⁴² Regulation 4.54, *Ibid.*

⁴³ *Ibid.*

⁴⁴ [2005] P 44/2004 HCA 14 BC200501748, High Court Unreported Judgments. © 2005 Reed International Books Australia Pty Limited trading as Lexis Nexis.

CONCLUSION

As critically elucidated in the discussion, the activities involving working at height and lifting operations in the Malaysian construction industry demand for adequate legal protection to ensure safety of workers involved in such works. The activities still demand for further clarification of the general duty to overcome the inadequacy and weaknesses of the existing law. Hence, the regime of OSH legislation in other jurisdictions that provide for such protection has been referred to as a source of guidance or direction for an improvement in the present OSH legislation in Malaysia. The OSH legislation of the UK and Western Australia are relevant source of reference as they provide not only the duty to ensure the safety of the work equipment but also the safe method of doing works through injury prevention system and the identification and assessment of hazard in relation to the related activities. Thus, they provide comprehensive protection relating to work at height and lifting operations. It is hoped that the formulation of further rules and regulations which further clarify and explain the general safety duties relating to work at height and lifting operations under the Malaysian OSH legislation could be expedited to overcome the problem of inadequacy of such legal protection.

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