

Root causes of accidents on construction



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The construction industry is one of the biggest industries in the whole world. The contribution of this industry towards the global GDP is enormous. The construction industry is also a potential employment generator and employs large number of skilled and unskilled labors. In UK the construction industry employs more than 2.1 million people and accounts for around 9% of the total employment within UK (Howarth and Watson., 2009). Since the industry employs large number, it also has a significant impact on the health and safety of the people working in it. The process of construction involves various activities such as working at heights, working in confined spaces, manual handling, lifting operations, demolition works and ground works. These all activities involve risks and are very hazardous in nature, so the chances of accidents taking place on construction sites are high. Now in order to reduce the level of risk it is very important to implement proper safety management systems on construction sites.

The UK construction industry is successful in many respects. The construction industry in UK has shown a steady improvement in the safety performance after the Egan Report (1998) but still faces numerous challenges with regard to safety on its journey to improve its performance record whilst delivering increased volume and complex construction projects (Howarth and Watson., 2009). According to HSE statistics, more than 200 people are killed at work in United Kingdom every year excluding work related road accidents. In 2006, 30 million working days was lost in UK to occupational ill health and injury which imposed an annual cost of £30 billion i. e. more than 3% of GDP.

As per Lingard and Rowlinson (2005), the construction industry consists of several SMEs and small amount of large firms. These small and medium size firms lack knowledge and resources required to implement safety management activities so the issues related to health and safety are more in small and medium size firms. Eakins (1992) stated that international research confirms that the issues related to health and safety are more in SMEs as compared to larger firms and also smaller firms are poor in implementation of safety programmes. Therefore smaller firms have higher injury frequency rates as compared to larger firms.

The Company- Millennium Contractors Ltd.

Millennium Contractors Ltd. is a small and medium size firm which has been working in the UK construction industry for the last 25 years. The company has a much diversified work force, employees from different cultural background and of different age group works in the company. Diversity in construction organizations in terms of culture and ethnicity has many advantages but at the same time there are many disadvantages related to it. In the condition of uncertainty and complexity diversity does not fare well which may lead to confusion and frustration. In a multicultural organization it is very hard to arrive at an agreement on a particular course of action, and can result in negative dynamics and cultural clashes. The other main disadvantage of multicultural organization is the lack of coordination and communication between the workers which can be a contributing cause of an accident. Apart from this the company is committed to prevention of injuries and ill health at work place but has failed in promoting an incident injury free culture. The recent record of the company related to health and safety has

not been very good. There have been many accidents which included one fatal accident resulting from the fall from height and other major/minor injuries and also some incidents of dangerous occurrences. The main areas of concern for the company have been; manual handling; hit by falling objects; hit by moving vehicles; collapse of temporary structures and scaffoldings. The company was also served with a prohibition notice because of a fatal injury caused by falling from mobile elevated working platform.

The company's policy towards health and safety is also not up to mark. The management has been irresponsible in implementing the policies in an organized manner, which has contributed to the main cause of accident. According to Baxendale and Jones as cited in (Kashyap et al., 2005), the majority of the accidents are not caused by the carelessness of the worker but by the negligence or by the failure to control by the management. Moreover the management should be able to judge the capabilities of the employee before allocating the job and the employees in response should be capable of doing the allocated work. Hence with an involved and committed staff a positive health and safety culture can be maintained. According to Cooper (1998), the impact of organizational safety culture not only affects the accident rates but has significant impact on work methods, absenteeism, quality, commitment, loyalty and satisfaction. According to HSE the positive health and safety culture can only be achieved through 4Cs; competence- recruitment, training and advisory support; control- allocating responsibility, commitment, instruction and supervision; co-operation- between individual and group; communication- spoken, written and visible (Clarke, 1999).

Issues related to Health and safety in Millennium Contractors Limited

As mentioned above, the company has failed to implement structured policy towards health and safety, as a result of which there has been regular incidents of dangerous occurrences. The common issues that the company is facing regularly and the legal action that could be taken against the company are as follows.

Manual handling

The manual handling regulations (1992) defines manual handling as “ any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or by bodily force”. In effect, any activity that requires an individual to lift, move or support a load is classified as manual handling operations (Stranks, 2006). Manual material handling is one of the most significant risk factors for back problems, whole body vibration, bent and twisted positions (Roy et al., 1999). If proper safety measures are not involved while manual handling of materials, it may lead to injuries and occupational diseases. According to HSE, manual handling injuries are the most common type of occupational ill health in UK. As per Helander (1991), 15% of the back injuries due to manual material handling occur in the construction industry.

The main causes of incidents due to manual handling were;

- The use of poor techniques to move materials.
- Lack of proper training and guidelines provided to the workers by the management.

- Lack of communication and co-operation among the workers.

The above figure shows the proper method of moving and lifting materials which can be very effective in reducing the injuries caused by manual handling of materials.

Legal aspects related to manual handling;

“ Section 2 of the Health and Safety at Work Act 1974 and regulations 10 and 13 of the Management of Health and Safety at Work Regulations 1999 states that it is the duty of employers to provide their employees with health and safety information and training. This should be supplemented as necessary with more specific information and training on manual handling injury risks and prevention, as part of the steps to reduce risk required by regulation 4(1)(b)(ii) of the Regulations (HSE).

Hit by Falling Object

The other main issue faced by the company is “ hit by falling objects”. The small objects like bricks, hammers, nails and tiles when dropped from the height can cause fatal head injuries and other serious injuries to the worker working below it or any other person passing by it as shown in the figure.

The main causes of this type of injury were;

- Poor standards of housekeeping.
- Failure of management in providing safety nets at heights.
- Inadequate project planning which leads to inadequate storage of materials.
- Lack of proper guidelines provided to the workers working at height.

- Absence of cautionary sign boards.

Legal aspects related to hit from the falling object;

Regulation 8(b) part 1 of schedule 3, of the Work at Height Regulation, 2005, states that it is the duty of the employer to prevent, where necessary, injury to any person so far as reasonably practicable and also the employer shall provide enough storage space so as to prevent risk of movement of such material.

Fall from height

The company has a record of one fatal accident resulting from the fall from height. According to the data of HSE in 2005/06 falls from height accounted for 46 fatal accidents at work and around 3350 major injuries. This was the single biggest cause of workplace deaths and one of the main causes of major injury. The workers working at heights are prone to have fatal injuries such as skull fractures. Therefore it is absolutely necessary to provide proper training and guidance to the workers working at height.

The main causes of this type of incident were;

- Lack of proper training and guidelines provided to worker by the management.
- Negligence and unsafe action of the worker.
- Inadequate use of personal protective equipments.
- Lack of planning and supervision.
- No barrication provided.

Legal aspects related to fall from height;

The Work at Height Regulation 2005 applies to all work at height where there is a risk of fall liable to cause personal injury. It place duties on workers, employers, the self-employed, and any person who controls the work of others (eg facilities managers or building owners who may contract others to work at height) to the extent they control the work.

Hit by moving vehicle

The other issue of the company is workers being hit by moving vehicles. This type of issues is very dangerous in occurrence and can cause fatal injury.

The accident involved vehicle like trucks.

The main causes of this type of incident were;

- Inadequate site planning
- Improper signs and absence of cautionary (speed limit) boards
- Unsafe conditions of working

Legal aspect related to hit by the moving vehicle;

Section 2(2)(a) of HSWA 1974 states that it is responsibility of the employer to maintain plant and system at workplace, so far as is reasonably practicable. According to Workplace (Health, Safety and Welfare) Regulation (17), there should efficient segregation of pedestrian from vehicular traffic of incoming and outgoing.

Collapse of temporary structures and scaffolding

The other main issue of the company related to health and safety was collapse of temporary structures and scaffoldings. The incident took place

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due to lack of inspection. Incompetence of the inspectors to identify risk and hazard involved. Moreover the employer failed to provide the workers with suitable equipment and provide collective measures along with personal protective measures.

Legal Aspect:

The Work at Height Regulation 2005, Regulation 6(4)(b), 6(5)(a, b), 7, 8, 12 and 13, states that it is necessary for the employer to provide suitable equipment, take account of working condition and rigorous inspection by a competent person. Further according to section 2(2)(a) of HSWA 1974, there should be provision and maintenance of plant and machinery at work.

Apart from these issues the company was served with three enforcement notices and one prohibition notice by HSE because of dangerous occurrences at work place. The company failed to implement proper structure of health and safety policy due to inadequate management system. Hence for successful implementation of the policy the company should have proper safety management system.

Safety Management aims at minimizing the chances of risks, injuries and accidents by implementing risk management techniques and safety management operations, improving the standard of health of the employees, monitoring the operating systems and bolstering the safety measures of an organization.

Management practices and documentation

In order to reduce the risks of accidents in the company the company should have proper management practices and associated documentation relating <https://assignbuster.com/root-causes-of-accidents-on-construction/>

to safety induction procedures, tool-box talks, training requirement, accident record book and method statements. The proper safe management practices involve;

Risk assessment:

During risk assessment, the hazards or hazardous work is first identified before commencement of any work activity. The rating information is then passed on for preparation of method statement, which must be read and understood by every worker undertaking the activity before the commencement of work.

Method statement:

It is the document that shows or states how an activity needs to be carried out in a safe manner. The statement is usually prepared by a competent person and passed to the principle contractor and the safety coordinator for its inclusion in sites health and safety plan.

Site induction and training:

The site induction and training is usually provided to the worker before the start of any work by the employer. The workers are informed about the various precautions that are to be taken while working on sites. The site induction includes brief on welfare facilities, brief on site hazards, brief on how to report onsite injury or accidents and the use of PPEs.

Accident record book:

The accidents that take place on sites are to be entered in this book. Any reportable accident should be reported under RIDDOR, to the site supervisor immediately.

Tool box talks:

Toolbox talks are safety lectures aimed at the construction trade. The lectures are intended to educate workers about creating and maintaining safer work conditions, and attendance is mandatory with many companies. Many companies provide toolbox talks in modular form, so that a safety educator has a curriculum readily available.

The Millennium Contractors Ltd do not have organized structure of management and have failed in implementing the health and safety policies due to which the company is unable to follow safe management practices.

Overcoming the Barriers

The potential barriers that the company needs to overcome to aim for zero accident policy on sites are as follows;

Cultural and language barrier:

The company has mixed workforce, workers from different cultural background works in the company now because of ethnic diversity the management might find it difficult to convey all the messages efficiently, resulting in difference in understanding of instructions which may cause problems regarding safety on sites.

Fear of change:

New ways and methods of working may create confusion and sense of discomforting amongst workers, leading them to traditional ways of working which can cause some problems related to safety. Therefore in order to overcome this barrier the company should motivate the workers and should train them properly.

Difference in education level: Different workers might have studied till different levels in education. It may affect their ability to understand instructions clearly.

Conclusion

Although the company has vast experience it had failed in implementing the safety policies which are very essential for reducing the risks of accidents.

The company has inadequate safety management system which has resulted in several major and minor incidents. An effective safety management system will be most effective if a safety culture permeates the organization and this can only be achieved through communicating leadership, personalizing safety outcomes, engaging individuals in safety responsibilities, improving understanding of safety system and increasing hazard/risk awareness and preventive behaviors. In order to improve the safety management system the Millennium Contractors Ltd must follow these steps which would indirectly help them in reducing the accidents.