

Study of Practices for Safety in Construction with Aspect of Small Industry

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Abstract—Today construction line is an industry that requires working at ever-changing locations and work environments. In urban sector of India increasing number of workers have taken up construction work as a means of immediate employment, which provides cash earnings at the end of the day. The best way to protect workers against hazards is to control problems at the source. The problem regarding construction industry is not that the hazards and risks are unknown, but it is very difficult to accurately identify in a constantly changing work environment. To prevent health hazards at work, all possible hazards that may be encountered should be identified in advance. In the present study various types of hazards present in construction areas were identified and appropriate PPE for hazard prevention were suggested. And also study of various effects of accidents to find out economic solution against this hazards.

Keywords:- Safety Practices, Health Hazards, Construction, Small Industries.

I. INTRODUCTION

Being as unorganized sector, the fatal injury rate for the construction industry is higher than the national average in this category for all industries. A variety of hazards exist in the construction sites. Construction is an industry that requires working at ever-changing locations and work environments. Nearly 6.5 million people work at approximately 2,52,000 construction sites across the nation on any given day (The Hindu, Sept 9, 2006). Construction is one of the important economic activities in India. It offers employment opportunities to all categories of people right from highly skilled to totally unskilled labour. In urban sector increasing numbers of workers have taken up construction work as a means of immediate employment, which provides cash earnings at the end of the day. The rural masses also migrate towards urban areas in search of job and being involved in this 2nd largest occupation. In metropolitan cities, the construction work is predominantly a male dominated economic activity due to the arduous nature of work to be performed by the workers.

II. METHODOLOGY

There are total five steps to manage safety at construction site. These are listed below

A. Safety management

Unlike the remainder of this manual, which is intended primarily for workers and their supervisors, this chapter is intended to remind management at a more senior level of the foundations they need to lay to achieve a safe and healthy site.

The improvement of safety, health and working conditions depends ultimately upon people working

together, whether governments, employers or workers. Safety management involves the functions of planning, identifying problem areas, coordinating, controlling and directing the safety activities at the work site, all aimed at the prevention of accidents and ill health. Accident prevention is often misunderstood, for most people believe wrongly that the word “accident” is synonymous with “injury”. This assumes that no accident is of importance unless it results in an injury. Construction managers are obviously concerned with injuries to the workers, but their prime concern should be with the dangerous conditions that produced the injury – with the “incident” rather than the “injury”. On a construction site there are many more “incidents” than injuries. So safety management means applying safety measures before accidents happen. Effective safety management has two main objectives:

- To make the environment safe;
- To make the job safe.

B. Safety Policies:

Safe and healthy working conditions do not happen by chance. Employers need to have a written safety policy for their enterprise setting out the safety and health standards which it is their objective to achieve. The policy should name the senior executive who is responsible for seeing that the standards are achieved, and who has authority to allocate responsibilities to management and supervisors at all levels and to see they are carried out. The safety policy should deal with the following matters:

1. Arrangements for training at all levels. Particular attention needs to be given to key workers such as scaffolders and crane operators whose mistakes can be especially dangerous to other workers;
2. Safe methods or systems of work for hazardous operations: the workers carrying out these operations should be involved in their preparation;
3. The duties and responsibilities of supervisors and key workers;
4. Arrangements by which information on safety and health is to be made known;
5. Arrangements for setting up safety committees;
6. The selection and control of subcontractors.

C. Safety organization:

The organization of safety on the construction site will be determined by the size of the work site, the system of employment and the way in which the project is being organized. Safety and health records should be kept which facilitate the identification and resolution of safety and health problems on the site. In construction projects where subcontractors are used, the contract should set out the responsibilities, duties and safety measures that are

expected of the subcontractor's workforce. These measures may include the provision and use of specific safety equipment, methods of carrying out specific tasks safely, and the inspection and appropriate use of tools. Some examples of duties which should be listed are:

1. Provision, construction and maintenance of safety facilities such as access roadways, pedestrian routes, barricades and overhead protection;
2. Construction and installation of safety signs;
3. Safety provisions peculiar to each trade;
4. Testing of lifting machinery such as cranes and goods hoists, and lifting gear such as ropes and shackles;
5. Inspection and rectification of access facilities such as scaffolds and ladders;
6. Inspection and cleaning of welfare facilities such as toilets, clothing accommodation and canteens.

Safety officer/manager:

Every construction company of any size should appoint a properly qualified person (or persons) whose special and main responsibility is the promotion of safety and health. Whoever is appointed should have direct access to an executive director of the company.

D. Safety Committees:

An active safety committee is a great spur to safety. Its primary purpose is to enable management and workers to work together to monitor the site safety plan so as to prevent accidents and improve working conditions on site. Its size and membership will depend on the size and nature of the site and upon differing legal and social conditions in the countries concerned, but it should always be an action-oriented group of people in which both management and workers are represented. The safety committee carrying out a site inspection together raises the level of safety consciousness at the site.

Safety training and education:

Formal safety training-

- General training includes Induction training for new employees, ongoing safety training, safety representative training, supervisor training, senior/ middle management, Director training.
- Specific training- Safety system of particular work, first-aid training, use of PPE'S, fire protection systems, safety inspection.

Informal safety training-

It is practical in nature & generally taken place on the work. In such training one can train the individual or group of particular section in unsafe & safe practices in their work.

Tool Box Talks:

1. Tool box talks shall be conducted by site engg./ supervisor/ Safety officer/ Coordinator at list once in a week & in following situations.
2. Before starting of new work.
3. When unprecedented hazards is notified at work place.
4. After receiving accident investigation report.
5. When work to be commenced having potential risk.
6. Following are some snaps showing the active participation of workers in safety training.



Fig.1:Safety training – Belt



Fig. 2:Safety training – Helmet

E. Site Performance Facility:

One full time doctor is appointed on the site in working hours for any cut injury/burn injury or any type of disease.

- If any major accident which we not handle on the site such case they sent to any city hospital having tie up with firm.
- For such type of emergency one emergency vehicle ready for 24 hours on site.

1) Green Tag & Red Tag System For Scaffolding:

Green Tag

- Completely erected structure of scaffold which is safe for work.
- It is procedure that protect employee for work start safely.
- Green tag defined scaffold is ready for use.



Fig. 3:Green tag at site

Red Tag

- Erected structure but not ledger support.
- Incomplete erected structure.

- Faulty & damaged structures should be tagged properly.



Fig. 4: Red tag at site

Some safety signs are also displayed all over on site in order to spread awareness in the workers and the peoples at the location of site. Figure 10 below shows safety signs like wear helmet, use safety belt etc.



Fig. 5: Safety signs on site

III. CONCLUSION

- Construction Safety doesn't just happen; it has to be handled conscientiously from project start to finish.
- There are hundreds of ways to excuse a bad Safety record, but none of them is really acceptable.
- Safety is the fourth leg on the chair of safely completing the project as specified, on time and within budget.
- Safety is as simple as ABC – ALWAYS BE CAREFUL

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