

Construction Hazards and EHS

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Abstract: From past we know that construction safety is a big issue because of it is not safe for both environment as well as health. Benefit of EHS (Environment Health and Safety) programs is to preventing incidents such as injuries, illnesses, hazards and other harmful effects, because these hazards are real. The EHS management first introduce in 1985, the main reason behind this why it is started? Because of incidents such as Bhopal disaster (1984), and Seveso disaster (1976). General concepts of the Environmental Health and Safety management has risen in 1990s. Therefore, Health and safety is an important parameter in construction sites, and this industry is prone to hazardous situations and illness and can be dangerous at any times according to a report 3% of all construction workers in the UK sustain a work-related injury and around 4% are suffering from work related illness. In today modern age of technology as we know that health and safety is core component of any organization, Normally EHS is the collection of processes, rules and laws which aim to protect environment and human resources and provide them adequate safety against any site hazard. EHS Program help to identify risk conditions, train workers, and control hazard at workplace. Apart from that it provides a solid track how can work safely? And how to analyze the risk. Construction industry has the largest number of injuries and illness as compared to other industries. So that it is important to analyze the risk. The main objective of this paper is to analyze the hazard and why EHS is important? Data for this study were collected using site visit, and web survey. During the site visit I found that this type of hazard occurs due to lack of awareness, poor safety awareness, poor framework for EHS, and lack of knowledge And the outcome of this study can help in construction industry, managers to prepare proper safety plans, and analyze why EHS program is an integral part for construction industry. Because EHS program deal with the awareness and to train the workers so that risk free environment and work can be generate.

Keywords: construction safety, EHS (Environment Health and Safety), harmful effects, workers.

1. INTRODUCTION

The main objective of the Environment, Health and Safety is that as we know that construction industry right now is really at a crossroads or evolution and construction industry is the most hazardous places but with the help of proper training, good equipment and right choices these sides don't have to be dangerous for work. In entire world across the industry we realize that we must make a change on how we approach health and safety and how we protect the environment and apart from that how can be the construction industry friendly as per Health, environment and safety aspect, and various different forms of construction across the world. And the bigger problem is that how can we anticipate such type of problem so that construction industry will be more economically and friendly. Construction industry play a wide role in national growth because it is an important contributor its output governs both the rate and quality. It plays an important role in today modern age of technology, from past there is high number of accidents that happened in construction and that outcome was loss of life, therefore it become a very important issue for stakeholders to take care the human resources. If we look at current state, current performance, and relate that back to the last couple of years, we really haven't made any significant headway in improving the safety performance in construction. we know that in United State there is a federal agency- OSHA (Occupational Safety and Health Administration), the main objective of this agency is to perform safety inspection and they also track occupational injuries. This type of damage can be prevented with the help of regulation, education, training, risk assessment, risk prevention, evaluation the risk, accident analysis and so on.

From past we analyze that most of the injury takes place due to slips and falls, slip and fall is the most common accidents occur in construction workplace. And this type of hazard is sudden. We can evaluate that construction sites are highly risky sites some time we can look employees are expected to work at great height in workplace.

Labors play an important role in construction sites because they are the main foundation of the construction industry. In construction sites safety is topmost priority and safety should be placed over cost and productivity. As we know that sometime we are responsible for the self-injury this type of injury can be prevented by using the Personal Protection Equipment (PPE), this will protect your eyes, face, skin and so on. Our alertness and preplan can also protect from any type of hazard. Construction industry is the more accident-prone workplace where workers is at constant risk, this is the place where health and safety hazards are not unknown.

The main problem is that how can we rid this type of hazard in construction and ether how can we minimize it effect in construction. Does some common hazard such as slip and falls occur due to lack of awareness and alertness? Does it happened due to over working? We often found worker fatigue in construction site, whether physical or mental. May be such hazard can be occurred due to not proper work life balance. Thus, one reports written – working in jobs with overtime schedules was associated with a 61% higher injury rate compared to jobs without overtime, working at least 12 hours per day was associated with a 37% increased hazard rate and working at least 60 hours per week was associated with a 23% increased hazard rate. Thus, it can be evaluating one of the major reasons of construction hazard is over working.

2. ANALYSIS & METHODOLOGY

Purpose

EHS (Environment, Health, Safety) programs is helpful in order to protect human resources and environment against hazard, this type of hazard happened due to the lack of knowledge, lack of awareness, lack of training. There are many organizations in the world who develop the policies so that we can analyze risk, and this type of risk can be mitigate.

The various institutions and authors have acronyms ESH differently, one researcher transformed it as SHE in 1996. According to this “safety of people as a prime consideration”.

Apart from the EHS there are few more vogue they are ESH, SHE, HSE, SHEQ. There are many federal agencies in worldwide for EHS they are-

Occupational Safety & Health Administration (OSHA)

Environmental Protection Agency (EPA)

Nuclear Regulatory Commission (NRC)

Procedure

There are following type of steps of simple procedure-

- (a) Regulation
- (b) Education
- (c) Training
- (d) risk evaluation
- (e) risk prevention
- (f) accident analysis

These create a better link of relationship among safety, health and environment. This procedure is necessary. Except that injury rates can be mitigate when we clearly identify the risk.

- Severe injuries and new jobs where hazards are unknown should be selected first, identify the risk and its results.
- To identify the different types of hazards firstly observe the operations as many times as necessary.
- Many types of hazards take place because of not proper knowledge of the job, so perform a job having a good knowledge.
- Before using any instrument, the precaution must be given.

- Before doing any job, we must consider different type of possibilities of accidents, mode of failure and its consequence.
- Must be used personal protective equipment.
- prepare a job sheet or job instruction sheet and all necessary data should be mention in this sheet
- everything's of above findings should be mention and record in this sheet and it must be explained to operators and trainee to perform the job safety.
- Heavy objects lift with the help of lifting machine.
- Enclose all noisy machinery, because this cause workplace noise hazards.

“Noise is a workplace hazard in construction it should be avoided during the working. With Noise OSHA Permissible Exposure Limit (PEL) is 90 dBA for all workers for an 8-hour day. When noise level is increased by 5 Dba the amount of time a person can exposed to a certain noise level to receive the same dose is cut in half.”

Process flow activity of the EHS having three various operations in the first step it is project EHS, second one is EHS leadership and third one is Operations and you.

Therefore, it can be evaluating that EHS is an important parameter for safety, health and environment purpose.



JSA

A Job Safety Analysis which accepted safety and health principles in construction field and practices into a particular task or job operation.

JSA is important because of its evaluating certain jobs, tasks and procedures and with the help of this action risk and hazards can be mitigate and thus in order to protect workers from injury and illness JSA is an important criterion in the field of construction.

Procedure-

- Select the job which to be analyzed.
- Divide the jobs into sequence and tasks.
- Identify hazards for each task.
- Develop safety measure to eliminate above hazards.

The whole job is broken down in tasks, sequence, operation and precaution should be mention so that the hazards can be mitigate apart from this observe and evaluating the operation as many as times. the problem should be anticipating and after this eliminate same hazards. finding a new method to do job. And except that the personal protective equipment is necessary during the whole operations.

JOB SAFETY ANALYSIS WORKSHEET:

Site Name:	Permit to work:
Unit in charge:	Approved by:

S. N	WORK	Hazards	Recommendation/control
1	Work at height	Fall and slip	Safety belt and safety harness
2	Work at crane	Outriggers failure Crane touch electric wire	Maintain a suitable distance
3	Foundation	Fall of material	Safety Helmet
4	Earth excavation	Earth Slide, Landscape	Helmet
5	Steel erection	Fall of object and workers	Safety helmet, safety harness, belt
6	Scaffold work	Fall, slip and object fall	Safe harness, helmet
7	Work at column	Workers slip	Hook, safety harness, helmet
8	Lifting crane	Fall of object	Precaution provided
9	Work at slabs	Fall from height or slip	Safety helmet, harness, hook
10	Welding	Eyes problem, skin burn	Goggles, helmet, gloves

INJURY RATES:

According to the Bureau of Labor Statistics (BLS) Fatal occupational injuries and construction industry topped the list with 937 worker deaths in 2015 this is about 4% increase in occupational fatalities over the 899 reported for 2014 this is the largest number of construction worker deaths since 2008.

- 2 percent (325) of the fatalities involved falls.
- 107 of the 325 falls were from 30 feet or higher.
- 20 percent of the 768 deaths occurred in the victims’ first two months on the job.

Therefore, there is large number of construction safety and health issue.

3. CONCLUSION

The overall conclusion of this topic is that why EHS helpful in order to prevent human resources and environment from any type of illness and hazards. EHS is complete flow chart one step follow by other it creates alertness, awareness, risk identifying skill so that construction hazards can be minimize. There are many active federal agencies who works for safety, health and environment.

The main aim of EHS is to prevent and mitigate accidents, emergencies, health and other environmental issues that could result from work practices

ACKNOWLEDGEMENT

This Article has prepared from discussions with many people. I would like to thanks all of them, it is my great pleasure to my profound gratitude to Joshi Sir project manager- L&T construction, Neeraj Kumar- Assistant professor, Krishna sir – Sr Engineer, Indore for his valuable inspiration, courage, guidance and help which enabled me to carry out and complete my work. I am also thankful to all the persons who helped me directly or indirectly to bring the research paper work in to the real shape.

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