

The inherent characteristics of the construction industry construction essay



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The inherent characteristics of construction industry determined its unique level of its management, which contains much higher danger than any other industries. Statistics shows that construction industry have an accident rate and cause of damage more above the national average overall industries and its annual casualties shares 25% of the total numbers of industrial accidents in China. Both country and people could suffer from great losses of economy, properties and life caused by the frequency and severity accidents. Therefore, everyone has responsibility and obligation to enhance the safety in order to minimize the loss of life and properties.

“ Safety” is an essential and vital part for construction industry and its projects through the progress of production and business activities. It’s also a crucial element for a successful business and its future in construction industry. Decent safety environment can benefit the industry over its economic growth and social prestige, which also prevent business property to be damaged and its works’ life against accidental incident. Otherwise it will bring great harm to the enterprises. Safety management is not a one-man’s job, but a serious systematic project that require everyone’s effort through the industry.

Following the steady development of China’s economy and increasing life demands, the construction industry practitioners and entire society has put more attention on the its health and safety issues in order to meet an international standard of construction quality. Hence the its current situation of safety management need to put in seriously concern, and establish a new model consistent with the characteristics of the construction and project management which can minimize or eliminate accidents.

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The goal of this paper is to improve existing models, and establish a new mode of solving the existing problems. Begin with analyze the status of China's current construction safety issues; then improve the existing mode of project management and describe the features of the pattern after improvement; finally detailed in how to improve and evaluation of improved project management.

The situation of construction safety management

Most construction accidents take place during its working progress, in other words, an unorganized construction project is the source of life lost and property damage. Because existing safety actions can hardly help in neither rescue nor stop the danger during constructing progress.

Therefore the project model must be carefully analyzed to meet its industrial safety requirement and compliance with the law and regulations of both state and industry.

1. 1 Analyze the cause of incidents

From the systematic point of view, the cause of incident can be generalized into following four major factors:

Human-human's unsafe action is the direct reason cause the incident;

Equipment-equipment's unsafe status is another direct reason;

Environment-bad environments have negative effect on human and equipments;

Management-ill management is a significant reason for incident, even a direct reason in sometimes, because management will influence people, equipments and environment.

From the reasons above, the object of positive safe management is to create a safe construction environment, keep both human and equipment in safe status. All of these needs a scientific and effectual safe manage system and the good operation to guarantee.

1. 2 Analyze the current safe management mode.

Currently, most of the construction enterprises implement their project safety through a team of specialist. Due to the jobs difference between safety and construction staff, the contact between them are barely connected in many vital areas, such as the working schedule, staff deployment, material management and so force, which all directly related to the construction safety issues. Lack of communications between each department cause the safety specialist team unable to make the effective safety assessment towards other staffs or sometime may even have no knowledge of making one.

Because the safety teams are positioning at a lower rank in the company compare with many of others, which created the barrier of officialism and putting difficulties of implementing safety order in time. Another issue of current safety management is that some safe management resources are wasted significantly and large amount of them are insufficiently put in use. For example, engineers, construction workers and project managers are all equipped professional knowledge of construction safety, in other word, they <https://assignbuster.com/the-inherent-characteristics-of-the-construction-industry-construction-essay/>

have the they all have the responsibilities and obligations to pay attention on the safety management issues and feedback to safety team for improvement. But in the current project safety management model, these safety management resources are not effectively integrated and fully utilized. Therefore, the current pattern of project safety management must be improved.

Improve safety management model

The improvement of safety management model should be a new type which consistent with project management rules and effective integration resources, and also should accord with requirements of industrial laws and regulations, correspond the purpose which need maximum to reduce and eliminate accidents.

The theory and legal basis of the new model

2. 1. 1 The principle of ' Safety and prevention first'

" Safety first, prevention first" is to comply with the general principles of safety, but also the fundamental rule of country's safety production. All kind of safety management must adhere to this principle by law. This principle needs to reflect through any new project safety management model through its organization, processes procedure.

2. 1. 2 Production and safety synchronization

Production must be safe, safety is the prerequisite of production, and therefore, as a production manager must carry out a prior assessment of the

safety and process control to the production environment, production processes, and production methods in order to ensure produce safety. Implement the principle of “ production of safety synchronization” and prevent the separation of safety management and production management.

2. 1. 3 Full participation

Safety is everyone’s business, because safety management job is in related to people’s safety behavior, which also include self-protection awareness and quality, therefore, safety management is not a business for safety manager, it needs the attention to and participation in by all relevant personal.

2. 2. Characteristics of the improvement

2. 2. 1 New concept of safety management project

Construction industry as a traditional industrial sector, a number of relevant personnel for safety and accident prevention misconceptions long time, because a large number of incidents has not resulted in injury or property damage accident, and that the consequences of an incidents caused by the same incentives are very different, so many people may consider that accidents in construction is due entirely to a number of accidental factors, which is inevitable.

Therefore, in order to improve safety management mode, the first thing is to update the concept of its management, which is the idea of “ any safety incidents are preventable”, and by having “ zero accidents” as the firm goal and objective of safety management.

2. 2. 2 New safety culture

Safety management is an overall control of whole working progress and company employee safety. Therefore, safety culture should be the culture learned by all staff. To create a new safety culture is to cultivate full safety culture. Full management includes not only the general contract management, subcontract management and all workers, but also property owners, designers, supervisors and community stakeholders.

As a general contractor, actively mobilize and bring it into play the relevant parties to promote safety management and supervisory role and make safety management become the overriding work. The first thing need to be done is to fully mobilize the enthusiasm of all staff in safety management, shaping the full safety culture. Only if creating a safety culture from all staff, the atmosphere and protection of safety would be created.

2. 2. 3 Implementation of four changes

Compared with the traditional safety project model, the new safety management model has introduced has four changes: change the simple to the full participation of the safety management; change simply for the safety management to integrated management which makes safety management and progress, process and construction methods combine closely; change intermittent management to continuous, dynamic management; change the safety and production of two parallel lines for safety to one line closely with production and safety.

How to establish safety management project

3. 1 Establishment of safety management organization

3. 1. 1 Definition

Under new safety management model, the safety management organization is no longer a individual department, but leading by project manager, specialized in safety management as the core and all having professional advise support from leading engineers as the backbone, participation by team leaders and all workers, safety management and safety oversight are not only the independent set but also closely contact with each other and rely on each other. It's an organization of the close combination of production and safety; it's an adequacy of safety management and fully usefulness of that.

3. 1. 2 Project Safety Organization

1) Safety management and supervision level: Project managers, project chief engineer, safety supervisor or safety director and exclusive safety officer.

2) Safety administration level: including professional engineers, team leaders and operational workers.

3. 2 Redistribute safety management responsibilities

From the studying above, most of the responsibilities are undertaken by the safety officers and having them under tremendous pressures through our existing safety management environment, but less applied to construction crews who shares a good industrial knowledge and employee numbers, in

which their safety awareness and resources are not making any contribution to the industry. Therefore, it is an important content in the creating new project safety management model by adjusting the safety management responsibilities between these two groups of staffs.

3. 2. 1 Responsibilities of safety management and supervision staffs

1) Project Manager: The project manager is the person who directly in charge of the safety production project. Therefore, the project manager is in responsible of making safety management objectives, establish safety management department, dividing staffs' safety management responsibilities, making safety management working process and supervising the progress and efficiency of overall safety management project.

2) Project Chief Engineer: The project chief engineer is the technical leader of this project. The technical management contains both engineering and safety technologies. Therefore, the project chief engineer must take the responsibility of the managing project's safety technologies which including specific safety technical schemes making, approving, and fulfilling. It is narrow minded and incorrect to think technical management as only project technical management.

3) Safety supervisory director: The chief safety supervisory or officer is the direct executor of project safety management, who also responsible for the safety management project just like the project manager. Man's job is to draw up the safety management program project, participate in construction

scheme making and examine and verify the safety standard of the construction project.

The safety supervisory director also should take charge of clarification of overall safety management program to the construction crews, safety clarification of different subprojects, examination and verifying of the safety clarification submitted by the construction crews, supervision of the fulfilling of safety management program and technical clarification, and supervision of the safety management process.

3. 2. 2 Safety management operational layer

Security management operational staffs are responsible for safety management programs and safety technical disclosure of the specific implementation, security management layer of the work results of the direct impact on the effectiveness of safety management.

1) Construction workers: The construction workers (professional engineers) who are the backbones of construction project who have the advantages in numbers, high qualification and positive health status. However, the safety management and production management are not combined well in the traditional project model, and the safety management resource of construction crews is not put into good use, therefore, the construction workers needs to enhance their safety management awareness for improving the overall safety management purposes.

As the direct commander of construction process, the construction crews must comply with the principle which says safety management must be

synchronized with the production management, and make sure safety production. Therefore, the construction crews must take charge of the fulfilling of specific safety management measures regulated by safety management program, and safety technical clarification of different subprojects, handling of safety problems in different stages related to the production. The construction crews also should subject themselves to the supervision of safety management and supervision crew, remove the safety management hidden dangers, and make sure safety production.

2) Operational Team Leader: The operational team leader takes the directly responsible for the construction workers, whose safety awareness and knowledge has a direct impact on workers actions, in other word that the team leader responsibilities is linked with the safety production line. The operation team leaders must be highly knowledge with production's operational instructions and operational safety, form a habit of pre-shift safety brief, shape the atmosphere of following the regulations and instructions, and enhance self-protection and self-defense awareness.

3) Operational Workers: According to the statistical point of view that almost entire fatal accident are caused by operational personal and the most of them are resulted by non-compliance with operational procedure. Therefore, the self-protection awareness and extent of compliance the rules and procedures of the operation workers is an important factor which will decide whether the expected effect of safety management can be achieved or not. The operation workers should comply with the operation instructions, and achieve the objective of 'three no-harm' which means 'not harm to other people, not harm to oneself, and not harmed by other people'.

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Evaluate the safety management model

The new project safety management model is improvement on the traditional safety management model. The major improvements are showing on the update of safety management idea, create of all employees' safety culture, and adjust of safety management responsibilities. And the safety management process is reconstructed and the safety regulation is also completed. Therefore, the objective of improving safety management is to explore safety management resource fully, and reduce safety accidents in the maximum limit. The following problems should be paid attention to during the new safety management model running.

Should combine with the running of safety management system closely

The major feature of new project management model is the completeness and improvement of safety management organization which is unified with occupational health and safety management system. And these two systems are running together. Therefore, in daily safety management process, the safety management system must combine with the running of safety management system closely.

All employees' safety culture should be created

The improvement of project safety management model is based on the all employees' management and participant. The creation of all employees' safety culture will provide healthy atmosphere for new model running, and make sure the smooth running of the new model. Therefore, creation of all employees' safety culture is equally important to the safety management.

To carry out concepts and ideas' update

Traditional project safety management model has been deeply rooted in the minds of most people, which they needs to make lot efforts in order to update and create, therefore, must vigorously promote and instill the new concept and new point of safety management which is the fundamental point of ensuring the efficient model.