



# **STUDY OF SAFETY MANAGEMENT ON HIGH RISE BUILDINGS THROUGH WORKERS BEHAVIORS**

**Author Name : Mr. Atul B. Mane**

Guided by Prof.S.B.Patil

Ashokrao Mane Group of Institutions, Engineering and technology., Vathar, Kolhapur, Maharashtra, India.

**Abstract:** In previous decades since workers balanced themselves at dizzying heights above ground with little to prevent them from falling, high-rise construction has been layered in safety regulations and equipment. Construction can be referred as a relatively hazardous undertaking. There are significantly more injuries and lost workdays due to injuries or illnesses in construction as compared to any other industry. In contrast to most industrial accidents, innocent bystanders also get injured due to construction accidents. Several crane collapses from high rise buildings under construction have resulted in injuries to passersby.

**Index term—** Introduction, concept, requirement, problem statements, benefits, awareness program, preparation of report.

## **OVERVIEW ON SAFETY MANAGEMENT**

### **Accidents**

A high rise accident, which occurs by scaffolding, people fall from height, struck by falling object and plant and machinery. The workers are always exposed to the risk of collapse of the scaffolding. Major of the scaffold accidents occurred were due to the use of defective materials for scaffolding and coupled with the unskilled and careless workmanship in erection of scaffolds. In construction industry, falls is not only the most fatal accidents but it also is the most frequent occurred accidents.

Everybody in the construction site has the risk to expose to fall in anywhere and anytime especially at the higher level. In general, lack of the safety measure at the construction sites is one of the causes the occurrence of fall accidents. Struck by falling object accidents can be defined as people who work at construction site is struck by the equipment, private vehicles, falling materials, vertically hoisted materials and horizontally transported materials. The improper rigging method had caused the accident happen.

## Earthquake Resistance

In India, most high-rise buildings are developed as per the local building bye-laws and the standards of National Building Code for structural safety. These are considered safe to withstand certain intensities of earthquakes. Since most of the parts in India are located in seismic zones, it is very important for the builders and structure safety authorities to ensure that construction is being done as per the prescribed standards.

## Fire Hazard Safety

In a country like India, lack of skilled labour and technicians, poor building designs, low-quality building materials, and, lack of reliable safety and fire-fighting systems were justifiable causes of concern in the past. Let us take fire-fighting in a high-rise as a possible scenario. In a city suffering from chronic infrastructure deadlock, extinguishing fire even on the seventh floor is difficult - leave alone extinguishing the fire on the 25th or 30th floor.

## SCOPE OF THE PROJECT

In each type and stage (like substructure, superstructure) of construction, the hazards & risks vary to a great extent.

Following mentioned points can be considered as generic scope of construction safety:

- Safety management system
- Training, awareness, competence and behavior
- Hazard Communication
- Reporting of accidents & diseases
- Subcontractor safety management
- PPE & lifesaving equipment
- Scaffolds & Ladders
- Lifting appliances

- Earth moving & material handling equipment
- Plant & machinery
- Electrical safety including Power Transmission and Distribution
- Construction Activities
- Excavations, shafts, earthwork, underground work & tunnel
- Fires and emergencies
- Protecting the public

This above points shows the scope of the project discussing the safety measures during high rise building construction-related accidents.

## PROBLEM STATEMENT -

This chapter will give brief introduction of Investigation in safety measures of high rise building is a vast topic having an huge research going on several aspects of this topic. Various authors have different contribution in their own respective method or technique. It becomes intense need to learn and understand the view of various authors from various parts to give our own contribution on this topic.

## OBJECTIVES OF PROJECT

- To study the concept of safety management in construction of high-rise buildings.
- To study various hazards, accidents and its preventive measures.

- To analyze applicability of safety management in construction of high rise building through accidental case studies.
- To study the various safety and prevention measures used at construction site.
- To study safety management through workers behavior on site.

## METHODOLOGY

We will first study the journals related to safety management of high rise building and prepare our literature review which will help us to decide the objective of the project and also to set questionnaire. Then we will visit the project site and observe the safety management of the site, also collect data through interview of the head of safety management of the site. We will analyze the whole collected data i.e. from journal and visit and prepare the result and conclusion of project. We will also add our suggestions to improvise the safety management at site in current scenario.

## STUDY OF SAFETY RULES AND REGULATIONS

This part covers the requirements of the protection for the multistoried buildings (high rise buildings) and the buildings, which are of 15 m. and above in height and low occupancies of categories such as Assembly, Institutional., Educational (more than two storeyed and built-up area exceeds 1000 sq m.), Business (where

plot area exceeds 500 sq m.), Mercantile (where aggregate covered area exceeds 750 sq m.), Hotel, Hospital, Nursing Homes, Underground Complexes, Industrial Storage, Meeting / Banquet Halls, Hazardous Occupancies in city.

## SAFETY TOOLS AND EQUIPMENTS

**Personal Protective Equipment :** Personal Protective Equipment protects users against potential health and safety risks at work. The equipment protects the wearer's body from injuries or infection. The hazards that PPE protects site workers from include electrical, chemical, physical, heat, biohazards and airborne particles.

- 1)SAFETY HELMET
- 2)SAFETY SHOES
- 3)EAR PLUGS
- 4)SAFETY GOGGLES
- 5)SAFETY BELT
- 6)SAFETY JACKETS
- 7)HEALTH AND SAFETY SIGNS
- 8)FIRST AID BOX

## CONCLUSIONS

Safety is vital element of every industry. Safety measures at construction sites of high rise building helps to prevent unforeseen accidents. Accidents at construction sites may lead to loss of life and involve huge cost. Safety and precautions should therefore be an integral part of the operations of each construction site. This will enhance the success of the program as well as ensure project activities are completed as scheduled without delay. Each operation has its own peculiar hazards and a safety program

should be developed to suit the particular hazards.

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