UNIT –IV ORGANIZATION SAFETY

Accident: It is an unexpected event that may cause an injury & also sometimes even death may occur hampering the work.

Causes of Accidents.

- It may happen due to poor electrical wirings.
- It occurs due to unsafe layout & installation of machinery.
- Accident may occur due to overloaded cranes , conveyors & machines.
- It may occur due to defects in the spare parts.
- It may cause leakage of gas , oil & fluids etc.
- It may occur due to improper ventilation .

Organization Safety:

It is defined as the study of healthy environment & working conditions for the people to give safety to workers.

Importance of Organization Safety:

- It helps to increase the production rate.
- It reduces the production cost.
- It reduces the damages of machines.
- It increases the profit of company.
- It reduces the wastage of working hours.

Losses of Accidents : There are 2 types of losses which occur due to accident

1) Direct losses
2) Indirect losses.

Direct losses: The direct losses may occur in form of

- Expenditure spent for injured worker for medical care.
- Uncompensated wage losses for injured employee.

- Compensation for insurance.

Indirect losses: The indirect losses may occur due to

- Cost of damage in material & plant
- Cost of wages paid for time lost to injured workers.
- Cost of production delay due to accident.
- Cost of replacing the injured employee.
- Cost of reduction in efficiency of injured workers.
- Cost of safety engineering & supervisors involved in the investigation.

Prevention of Accidents.: The accidents are to be prevented in order to avoid losses from accidents.

Provide safe work place :

- The worker should be provided with sufficient amount of space to work & low noise.
- Their should be proper lightning & fresh air to work.

Safe Material Handling :

- The workers who are working in industry should test the equipments like elevators, Cranes & lifts periodically.

- Give proper handling devices to workers.

Personal Protective Devices : The different personal protective devices used in industry is

- Clothing to the body like Afrons.
- Use of masks in order to avoid dust & smoke.
- Use of Safety shoes to avoid shocks.
- Use of Helmets to Be away from Heavy ojects which are lifted by cranes.
- Use of Goggles to avoid sparks while welding.

General Safety rules to prevent Accidents:

Provide good house keeping in plant premises:

- Always maintain clean from dust
- Provide natural air & lightening.

Provide Safety Environment awareness to workers:

- Give proper training to workers & follow safety rules.
- Conduct workshop & seminar to get knowledge on safety while working with machines.

Do safety activities in organization:

- Identify danger zones in working place & put board or indicators in that place.

Safety Organization:

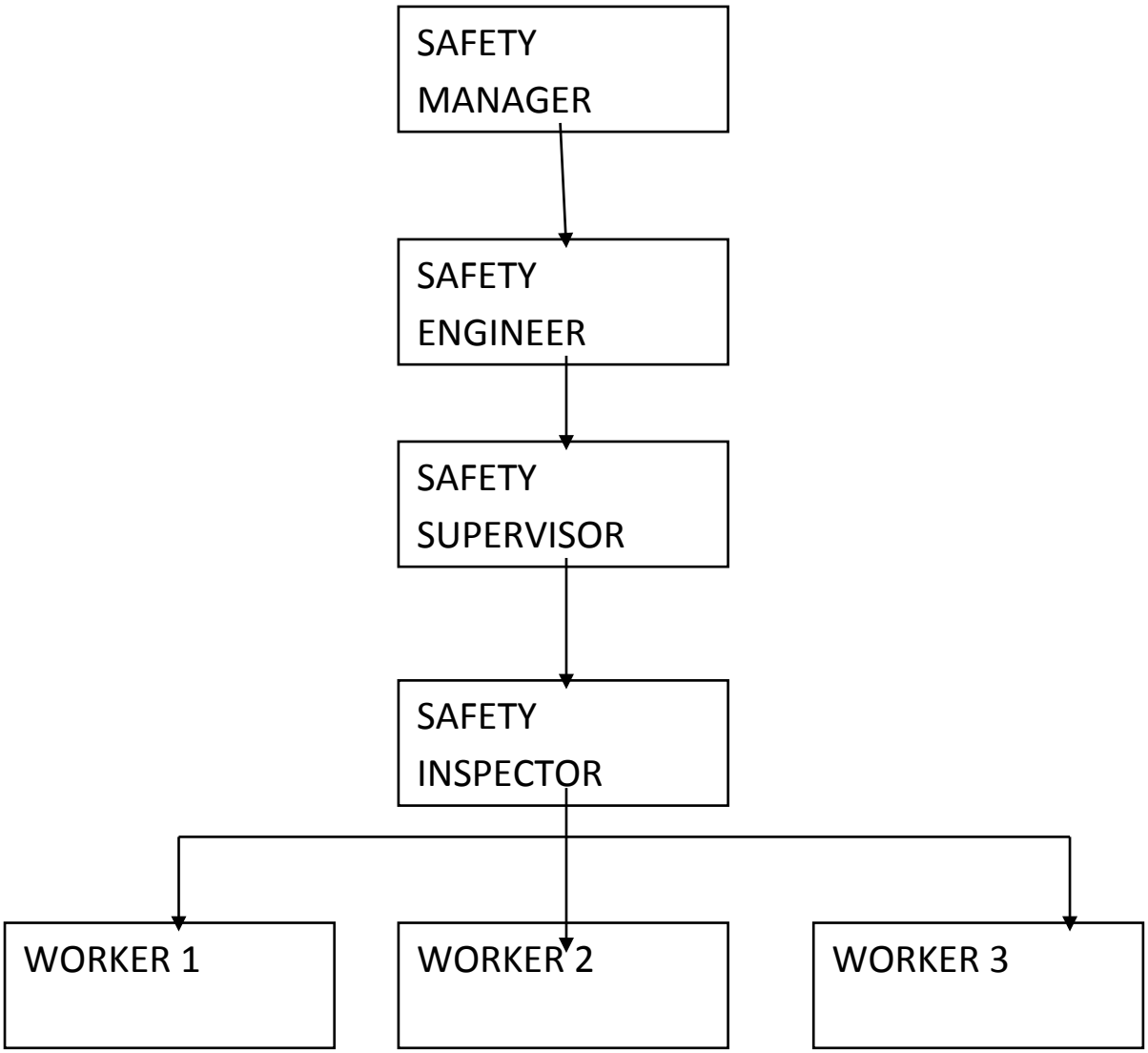

Fig: Structure of Safety Organization

- For a safety organization it consist of Safety manager, Safety Engineer, Safety supervisor, Safety inspector & worker.

Benefits of Safety Organization : Following are the benefits of Safety organization

- It reduces the cost of health care
- It provides safe activities in organization.
- It reduces loss due to accident.
- It builds good relationship among employees.
- It increases the productivity.
- It provides safety for material handling.
- It increases the profit of the company.
- It reduces the turnover of workers.

Duties of Safety Inspector: Following are the duties followed by an safety inspector

- He should provide first aid treatment to injured person.
- He should advice to supervisory staff to do safety practices.
- He should maintain accident reports submitted by the supervisor.
- He should give information about unsafe practice in industry.
- He should estimate the amount for an cause of accident.
- Whenever accident occurs to worker in industry he must make arrangement for injured worker to shift nearby hospital.
- He should make the accident report on visiting the spot.
- He should inspect the machines in industry periodically.
- He should see whether the workers are wearing personal protective devices or not.

Duties of Safety Supervisor :

- He should give training to workers to practice safety methods.
- He should maintain the accident report submitted by the safety inspector.
- He should recommend about unsafe practices in industry.
- He should estimate the amount for an cause of accident.
- He should display the safety posters at appropriate places.
- He should maintain the details of injury reports.

General Safety Rules

(Safety provision under Indian Factories Act1948) :

- Fencing of machinery: All the machine parts like wheels, motors, turbines must be correctly fenced to avoid shock.
- Working on machines when it is in working condition: The person who is working with machines should have knowledge to operate it & must be trained properly to work with it . .
- Hoists & lifts: The lifts used for carrying the materials from one side to another should have strength in it & moust be tested periodically time to time(For every six months)
- Lifting of machines & chains: The chains , belts & gears used in machines must be of good strength to carry the materials & should be tested periodically

- Excessive Weights : The workers who are working in industry should not be allowed to carry materials which are more in weight that may lead to an injury.
- Protection for eyes: The workers who are involved in the metal moldings & welding should wear goggles for protection against sparks.
- Precautions against fire : If the fire occurs in industry then industry should provide certain tools to escape from fire by providing water shedding & fire alarms.
- Revolving Machinery: The working & speed of machine has to be written on board near machine to reduce injury.

Crisis Management : The term crisis refers to situation in which it may lead to an unexpected event or injury.

- The crisis is also a kind of risk that results to conflicts & not handling them in a suitable manner is called as Crisis Management.

Types of Crisis:

There are different types of Crisis namely

- Technological Crisis: It occurs due to break down of machines & failure in any equipments which are related to technology.

- Conflicts Crisis: It occurs due to misunderstanding among the employees where the workers will not come to common conclusion.
- Crisis due to Natural Disaster : It occurs due to Cyclone effects, Tsunami, Floods etc which disturbs the condition of people & workers.
- Crisis of Evil: It occurs due to poor production in the industry which may lead to destroy name of the company.
- Crisis due to workplace Violence: It occurs due to the misunderstandings take place between the employees who work in single organization
- Crisis due to Rumors: It occurs due to gossips which take place about the industry.

Fire Prevention :

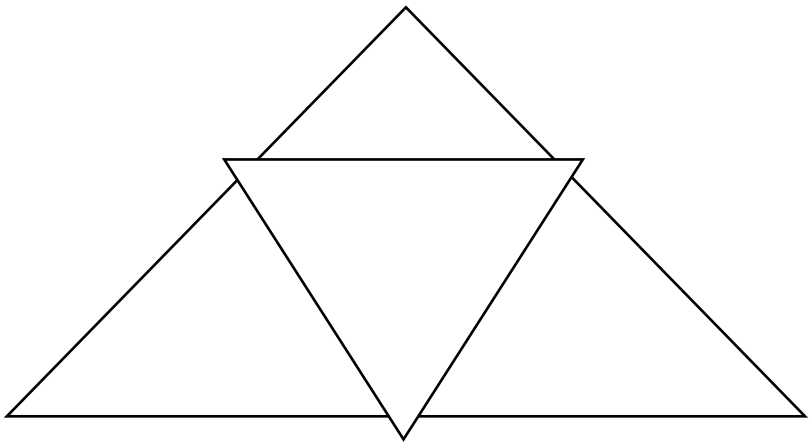

Fig: Fire Prevention Triangle

- The main Objective of fire prevention is to give awareness & alert the public to take safety precautions from fire.
- Hence fire prevention is proactive method of minimizing the emergencies that may occur during fire.
- The three elements with which spread is due to Heat, Oxygen and Fuel.

Fire Protection :

- It is the study of removing the unwanted effects from potential fires.
- It involves study of investigation on fire related emergencies.
- It suggest that the construction of building must be done with building code.
- Hence fire protection system mainly consist of Fire detection system, Fire alarm system, Fire hydrant system & fire control panel.

Types of Fire Extinguishers :

- The fire extinguishers are of following types
- Water Extinguishers
- Foam Extinguishers
- Carbondioxide Extinguishers
- Powder Extinguishers
- Wet Chemical Extinguishers

Water Extinguishers:

- It is the a simple way to remove fire that may consist any solid materials like wood, textiles etc
- Water Extinguishers are classified into different categories

1. Water Jet

2.Water Spray

3.Water with additives

4.Water fog

- In water jet extinguishers the spray of water is done on burning materials which cools & Water jet extinguishers should not be used on electrical equipments.
- In water spray extinguishers the water droplets are used to remove the fire which is surrounded by air .
- In water with additives extinguishers the water is mixed with foam in order to remove the fire so that it can easily mix up with burning substances by using less water.
- In Water fog extinguishers water droplets used are very less .

Foam Extinguishers:

- These types of extinguishers are used to remove the fire that occurs due to liquid fires like petrol, diesel, oil etc.
- Hence foam extinguishes liquid fires seal the surface of liquid

Carbon dioxide Extinguishers:

- Such types of extinguishers discharge gas on the fire to remove it.
- The carbon dioxide extinguishers are suitable for offices & the place where electrical equipments are kept.

Powder extinguishers:

- These are also called as dry chemical extinguishers Which is filled with non toxic powder.
- Such types of fire extinguishers are used in fire involving electrical equipments.
- The disadvantage of using powder extinguisher is it does not cool the fire & can create some breathing problems.

Wet Chemical Extinguishers:

- These type of fire extinguishers remove the fire & cool the burning oil where it chemically reacts to soap like solution.
- It is suitable for fire involved in cooking oils .
- It is also used for wood & paper fabrics.

Safety Management System:

OHSAS 18001 : It is an International Standard which is used in industrial organization to certify the Occupational Health Control & Safety risk for employees to work.

- OHSAS-18001
- (Occupational Health Safety Assessment Series) is used to provide safety at the work place to employees.

Benefits of OHSAS: The benefits of OHSAS are as follows

- Potential reduction in health
- Demonstration of regular & legal compliance
- Demonstration of stake holders of your commitment to health & safety.
- Demonstrative of innovative & forward thinking approach.
- Increased access to business partners .
- Better management of health & safety risk.

RoHS (Restriction of Hazardous Substances) :

It is directive for Restriction in use of hazardous Substances in Electrical & Electronic Components and their products which consist of materials like lead, Mercury, Cadmium etc.

Features of RoHS (Restriction of Hazardous Substances) :

- To keep the area clean from electrical & electronic wastes.
- To reduce the pollution from electronic waste
- To overcome the disposal of electrical & electronic waste.
- To save the natural resources from pollution.
- To develop the responsibility within scope of directive.
- To bring the import and export from electric & electronic within scope of directive