

# PROFESSIONAL ETHICS IN BUSINESS

## LECTURE FIVE

### INDUSTRIAL SAFETY

An industrial accident may be defined as "an occurrence which interrupts or interferes with the orderly progress of work in an industrial establishment." According to the Factories Act of 1948, it is "an occurrence in an industrial establishment causing bodily injury to a person which makes him unfit to resume his duties in the next 48 hours." In other words, it is an unexpected event which is neither anticipated nor designed to occur. It is always sudden for a gradual process does not constitute an accident.

An industrial injury has been defined as "a personal injury to an employee which has been caused by an accident or an occupational disease, and which arises out of, or in the course of, employment, and which would entitle such an employee to compensation under the Workmen's Compensation Act, 1923."

### Causes of Accidents

According to safety experts, there are three basic causes/factors that contribute to accidents in organisations. They are Chance of occurrences, unsafe conditions and unsafe acts on the part of employees.

**1. Unsafe Conditions (work-related causes):** These, of one sort or another, are the biggest cause of accidents. Such causes are associated with defective plants, equipment, tools materials, buildings etc. These can be termed 'technical causes.' They arise when there are improper or inadequate safety guards on machines; when machines break down; when improper personal protection equipment is installed; when mechanical or construction designs are defective and unsafe and when control devices, which have been installed to make the operation of machines safe and accident free are lacking or defective; or when there is an absence of proper maintenance and supervision of these devices. Thus, unsafe conditions include:

- Improperly guarded equipment.
- Defective equipment.
- Hazardous arrangement or procedure in and around, machines or equipment.
- Unsafe storage; congestion, overloading.
- Inadequate safety devices.

## PROFESSIONAL ETHICS IN BUSINESS

- Wrong and faulty layout and bad location.
- Improper illumination — glare, insufficient light.
- Improper ventilation — insufficient air charge, impure air source.
- Poor house-keeping.
- The other work related causes of accidents are:
  - a) The job itself: Some jobs are inherently more dangerous than others, such as the job of crane man in comparison to that of the foreman. Similarly, work in some departments (like personnel) is inherently safer than the work in others (like production department).
  - b) Work schedules, accidents increase late in the day. They do not usually occur during the early hours of the work day. They are more frequent during the night shift. This is due partly to fatigue and partly to the fact that night is the period when one requires rest.
  - c) Psychological climate of the work place also affects the accident rate. Psychological, mental and emotional imbalances are at the root of several accidents.

**2. Unsafe Acts:** These acts may be the result of lack of knowledge or skill on the part of the employee, certain physical defects and wrong attitudes. These acts include acts like:

- Operating without authority.
- Failing to secure equipment or warning other employees of possible danger.
- Failing to use safe attire or personal protective equipment.
- Throwing materials on the floor carelessly.
- Operating or working at unsafe levels of speed, either too fast or too slow.
- Making safety devices inoperative by removing, adjusting, disconnecting them.
- Using unsafe equipment or using equipment unsafely.
- Using unsafe procedures in loading, placing, mixing, and combining.
- Taking unsafe positions, under suspended loads.
- Lifting improperly.
- Cleaning, adjusting, oiling, repairing, etc. or moving dangerous equipment.
- Distracting, teasing, abusing, startling, quarreling, day-dreaming, horseplay.

**Personal Characteristics** also influence accident behaviours of individuals. For example, characteristics like personality and motivation serve as a basis for certain behaviour tendencies such as tendencies to take risks and undesirable attitudes.

**Statutory Provisions for Safety in India Under the Factories Act, 1948**

## PROFESSIONAL ETHICS IN BUSINESS

The Factories Act, 1948, insists that the following preventive measures must be adopted in industrial establishments:

1. Cleanliness: Every factory should be kept clean and free from effluvia - from drain and privy refuse, and from dirt. It should be whitewashed at least once in 14 months or painted at least once in five years. Floors should be swept and cleaned, at least once every week, with some disinfecting fluid.
2. Disposal of Wastes and Effluents: Effective arrangements should be made for their disposal and/or treatment.
3. Ventilation and Temperature: Provision should be made for the circulation of fresh air, and temperature should be maintained by building walls and roofs of such materials as would keep it within reasonable limits. High temperature may be controlled by whitewashing, spraying and insulating the factory premises and by screening outside walls, roofs and windows.
4. Dust and Fumes: Effective measures should be taken to prevent, or at any rate reduce, the inhalation and accumulation of dust and fumes. Exhaust appliances should be used near the point of the origin of dust and fumes.
5. Lighting: Sufficient and suitable lighting, natural or artificial or both should be made available in the factory premises,
6. Overcrowding: No room should be overcrowded. There should be at least 500 cu. ft. of space for every worker.
7. Drinking Water: A sufficient quantity of cool drinking water should be made available for the employees throughout the year, particularly during the hot summer months.
8. Latrines and Urinals: Adequate latrines and urinals should be separately provided for men and women employees.
9. First Aid Appliances: There should be an adequate number of boxes containing first aid materials, qualified personnel to administer first aid, and an ambulance or at least a room where an injured employee may be given first aid.

Safety Officer: where 500 or more workers employed in factory, there should be safety officer

### **The role of a safety officer in an organization should be:**

- To formulate safety procedure, safety policy, safety requirements and standard of the company.
- To promote schemes to guarantee observance of legal requirements.
- To act as chairman or secretary or, in any other capacity on the works safety committees.
- To promote formation of such committees, where they do not exist.

## PROFESSIONAL ETHICS IN BUSINESS

- To administer safety suggestion schemes.
- To organise safety education, training, publicity at various levels of company's operations.
- To investigate the causes of industrial injuries and the circumstances leading to accidents.
- To prepare and circulate accident statistics.
- To act in close liaison with governmental and non-governmental agencies.
- To co-ordinate the safety effort of the company in every possible way.
- To assess critically the safety performance of the organisation and if necessary, conduct safety training programmes and feedback sessions on an ongoing basis.
- To perform the job of a salesman of safety to the top executives, and as a technician, planner, organiser and stimulator of safety.

### **Define Accident, Non-Reportable and Reportable Accident:**

Accident — Accident can be defined as an unplanned, unexpected, unforeseen event that leads to injury to human body or no injury or property damage or loss of property or both. Non-Reportable Accident— When a person avails of first-aid after an accident and returns to work immediately or within 48 hrs, it is called as non-reportable accident Reportable Accident:- When a person, after an accident avails of first-aid and returns after 48 hrs, such an accident is called as Reportable Accident.

### **Discuss the importance of safety in the industry.**

The importance of safety was realized because of following:

- (a) Every year millions of industrial accidents occur which result in death or temporary or permanent disablement. For example, industrial accident occurred in Bhopal i.e. "Bhopal gas tragedy" which leads to death of hundreds of people.
- (b) Latest estimation of industrial accident cost the country at least 285 million each year. Which one is big loss to the Indian economy? This economic loss only.
- (c) There is the human cost in terms of emotional sufferings to the partners, children, family and workmates of those killed at work.

### **What are various safety measures in an industry?**

To provide safety to an industry, there are some steps which should be followed by all people working in an industry. These are the following:-

#### **Safety Policies:**

Management should make some safety policies to avoid accidents which should be followed by people working in a plant. Safety policies include:

- (i) Safety committee

## PROFESSIONAL ETHICS IN BUSINESS

- (ii) Regular inspection
- (iii) Maintenances of plant.
- (iv) Preventive clothing
- (v) By preventing physiological and physical harassment to workers.

(a) Safety committee: - Safety policy should include one of the major step i.e. safety committee. This committee would include 5-6 members who individual having supervisors and workers. The work of this committee is that they would regular make some rules and regulations for the safety, some programs to aware the workers about safety. They should alular the peoples about marks or signs like Fire extinguisher, No open flame, caution high voltage, caution (wear hard hat), etc.

(b) Regular Inspection:- when safety committee established then Regular Inspection of machinery, or whole plant is one of the major part of the safety. For e.g. Inspection of electric wires, motors, inspection of machines, inspection of Electronic circuits, inspection of peoples who did not follow the safety rules and because of them accidents occur.

(c) Maintain ace of plant:- Now of you find any fault during inspection then do not ignore it and go for a maintenance of plant or machinery. Plant should be maintained. In manner such that it may provide safety and security to the workers at all costs. Obstructions should be removed from the path of workers where they are working or walking or moving etc.

### PLANT LAYOUT

#### Meaning

**Plant layout** is the physical arrangement of industrial facilities. It involves the allocation of space & the arrangement of equipment in such a manner that overall operating costs are minimized.

#### Objectives of plant layout

1. Economies in materials facilitate manufacturing process & handling of semi-finished & finished goods.
2. Proper & efficient utilization of available floor space.
3. To avoid congestion & bottlenecks.
4. Provision of better supervision & control of operations.
5. Careful planning to avoid frequent changes in layout which may result in undue increase in cost of production.
6. To provide adequate safety to the workers from accidents.
7. To meet the quality & capacity requirements in the most economical manner.

## PROFESSIONAL ETHICS IN BUSINESS

8. Provision of medical facilities & cafeteria at suitable & convenient places.
9. To provide efficient material handling system.
10. To suggest the improvements in production process & work methods.

### **Principles of plant layout**

1. Principle of integration (of 5M's)
2. Principle of minimum distance
3. Principle of cubic space utilization (both horizontal & vertical space).
4. Principle of flow( must be forward no backtracking)
5. Principle of maximum flexibility
6. Principle of safety, security & satisfaction
7. Principle of minimum handling.

### **Factors affecting plant layout**

1. **Nature of product-** e.g. some products need air-conditioned plants.
2. **Size of output-**
  - For bulk-product/line layout
  - For small-functional layout
3. **Nature of manufacturing system-**
  - For intermittent-functional layout
  - For continuous-product/line layout
4. **Localization of plant-** e.g. there will be different transportation arrangement if site is located near railway line.
5. **Machines or equipment-** e.g. heavy machines need stationary layout
6. Climatic conditions, need of light, temperature also affect design of layout.

### **Types of plant layout**

- Product layout
- Process layout
- Fixed Position/ Stationary layout
- Cellular or group layout