

# **HEALTH, SAFETY & ENVIRONMENT POLICY**

**OF**



# **SANGAL PAPERS LTD.**

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## **FOREWORD**

Human resources are the biggest and most valuable resources of any organization and there is no great then the agony of the accident.

In Sangal Papers Ltd., Village Bhainsa, 22km mile stone, Meerut-Mawana Road, Mawana-250401. We have been following the principal as the first objective on all our endeavors. Therefore we lay great emphasis on safety proceeds in all operating ensuring that all our machines are equipped with proper in-built safety arrangements.

The documents is the up-dated edition of our safety manual and has been made more comprehensive by incorporating all latest machinery and process changes. I hope that this information on safe procedure and practice will help us to work towards our objective of zero accident.

I wish safe working and healthy life to all members of Sangal Papers Ltd.,  
Village Bhainsa, 22km. mile stone, Meerut-Mawana Road, Mawana-250401, Meerut.

Managing Director

# INTRODUCTION

The aim of safety manual is to assist in providing a safe and helpful workplace by describing safe and helpful workplace by describing safe practicing and helping to correct some of the more frequently encountered violations of the safety and health standards. It is intended to provide total information in all areas of compliances. Additional information can be had from HRD.

Words such as “MUST”, “SMALL”, “REQUIRED” and “NECESSARY” appearing in the indicate requirements under the Factory Acts, procedure indicated by “SHOULD”, “SUGGESTED” etc. constitute generally accepted goof practice.

The purpose of a job safety and healthy programme is to protect the employee by the prevention and control of accident and health hazards which are involved in the elements of productions and operational establishments.

The elements are man power, machinery and tools, materials, equipment and time.

The major share of all the accident by unsafe conditions or unsafe acts or both.

An unsafe condition in created by improper controlled of the physical and environmental hazards.

An unsafe act is violation of correct work practice or method.

Control of conditions and acts will prevent accidents injuries and hazardous environmental conditions.

The control of conditions and acts depend on a safety programmes.

The department head, foreman, supervisor who deals most directly with the employee is responsible for implementing the safety programmes.

With this responsibility he is to have appropriate assistance and support.

The safety manual does not however in any sense supersede or nullify any provisions prescribed by legislation through the Factory Act, 1948. The Electricity Act, etc and Rules prescribed by the State Government.

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## GENERAL

### **DEFINITION OF SAFETY**

Safety is nothing but a way to perform a task in prescribed and scientific method.

Or

Safety is a state of being safe or freedom from risk or danger while performing a predetermined task to achieve the goal.

### **NEED FOR SAFETY**

Our country today is distinctive among the ten most industrialization countries. Such a fast wide-ranging industrialization has also brought numerous hazards the health and safety of the workers.

Accidents are costly to the injured, to the management and to society. When a computing a costs die to accidents we only consider the direct cost i.e. compensation to be paid and the medical expenses. The indirect or hidden cost to the management, to the injured person and to the indirect cost or (hidden cost) on an average or about six time that of the direct cost.

Beside the cost of accident safety of man at work and safety of environment, property or necessary to comply with the necessary requirement.

### **DEFINITION OF ACCIDENT**

Accident is defined as unforeseen, sudden, unintended or unconscious deviations in work activity may or may not cause injury.

Generally accepted definition of an accident is an unplanned and unexpected event which cause or like to cause an injury.

### **CAUSES OF ACCIDENTS**

Accidents may be caused due to:

a) Unsafe condition

b) Unsafe act

An unsafe condition may refer to the condition of the floors of a ladder, of a machine, of a conveyer belt or anything else of a physical environment of mechanical character, which could lead to an accident.

An safe act is something somebody does which may culminate in an accident. The word may is used because it is not necessary that it is not necessary that it should always lead to an accident but we sure that if such acts are persisted they will result in avoidable injuries.

Accidents analysis and studies by safety professional reveal the following facts for the causes of accident.

Human causes	88% (unsafe practices, lack of foresight, wrong attitude etc.)
Mechanical Failure	10%(Plant condition, tools or equipment failure)
Act of God	2% (Weather, Flood, Cyclones etc.)

## **ACCIDENT PREVENTION TECHNIQUES**

It has been proved that with concrete efforts of the men in industry, accident rates can be reduced considerably. During no accident and safety campaigns when men are determined not to get injured, the accident are reduced and averted.

Extensive research has proved that it is only the safe factory which produces more.

Basic approach to accident prevention may be divided into three main factors:

1. Engineering
2. Education
3. Enforcement

### **Engineering :**

- a) Design of the shop building, provision for adequate ventilation, light, free air circulation, exhaust arrangement to reduce dust fumes etc.
- b) Layout of machines, plant and adequate guarding of dangerous machine parts at point of operations.

- c) Hosting and handling equipment, tools, bins, stores area provision of disposal of waste and scraps.

### **EDUCATION:**

Skill and knowledge of the job assignment, appreciation of working environment, what specific dangers in their own line of work what specific things they themselves may line of work- what specific thing they themselves nay to do avoid injury rules and procedures govern the job.

### **ENFORCEMENT:**

Onderliness and discipline - safety contact- follow-up of rules, use of protective appliances.

The following factors are particularly valuable and basic for accident prevention.

1. Housekeeping
2. Machinery Safe Guarding
3. Maintenance
4. Adequacy of equipment essential to safty
5. Definite programme of safety training

### **HOUSEKEEPING:**

Bad housekeeping is a major factor in accident causation- good housekeeping is a major factor in the efficient production of goods of high quality. The relationship is so intimate that it cane safety be said that organization standard of housekeeping is an excellent gauge of its competency.

### **MACHINERY SAFE GUARDING:**

Since the elimination of physical hazards to the maximum practicable degree is required for first grade safety performance and since machinery yields high

proportion of serious disability, inadequate machinery safeguarding means that the probability of serious injuries is high.

### **MAINTENANCE:**

Good maintenance of plant and equipment like good housekeeping is an essential part of good accident prevention programme. Furthermore like good housekeeping the condition of all the equipment safe guard etc. essential for safety of employee is a valuable part to prevent injuries.

### **SAFETY EQUIPMENTS;**

In every establishment or undertaking there are activities or conditions for which specific equipment is essential for the safety of employees. Goggles, Gloves, Shoes, Gum Boots, Helmets, Mask and other items of personal protective equipment fall in the group, other details herein below. Suitable Personal Protective Equipment's (PPE's) must be used for where the situation arises, also there is a wide range of accessory plant equipment whose design, adequacy and condition are vital to safety. Portable ladder, extension cords, lifting tackles and hand tools are important examples.

The purpose of Personal Protective Equipment (PPE) is to protect employees from exposure to work place hazards and the risk of injury. Before using or assigning PPEs, steps should always be taken to eliminate or control hazards and work procedures should be in place to limit exposure to these hazards. These equipments and use are:

### **HEAD PROTECTION**

Head injuries are commonly caused by impact from falling or flying objects, and falling or walking into hard objects. PPE devices such as hard hats may protect you from objects falling on your head and, in a limited way, from electrical shock or burns. Hard hats should be worn in working areas where there is potential for head injuries.

### **EYE and FACE PROTECTION**

Eye and face protection must be worn where there is potential for injury to the eyes or face from small particles, toxic chemicals, flying objects or particles, large objects and other hazards items. According to the types and extent of hazards, different PPE should be worn. PPE for the face and eyes includes devices such as safety goggles and mask, it should be worn whenever handling chemical or other hazards items.

## **Hand Protection**

Selecting the proper gloves is very important since it is our hands that are often used to handle hazardous materials, items and working in electricity department. These materials usually consist of caustic or toxic chemicals, electrical sources, or extremely cold or hot objects that may irritate or burn your hands. In addition, traumatic injuries such as cuts, sprains and punctures may also occur. With the wide range of hazards, there also exists a wide range of gloves that may be used as PPE. Gloves should be worn at the time of handle hazardous materials, items and working in electricity department when working with lives wires.

## **FOOT PROTECTION**

Injuries that may occur when the proper footwear is not worn are chemical and heat burns from spills and splashes of acids and caustics, compression injuries, electrical shocks, and slipping. Wearing the proper footwear is therefore, very important when working in areas where physical and chemical hazards are present. Shoes or Gum Boots must always be worn in laboratory areas where chemicals are present and in working area or the company.

## **SAFETY TRAINING PROGRAMME;**

Training in safe work practice is essential part for good safety performances. To be effective, definite objective of safety training should be set up.

## **SOME IDEAS OF THE THINGS;**

Employees can do to promote safety can be had from the following provision.

1. Every employee should co-operate with the employer.
2. Every employee shall forthwith report to the Employer or the foreman any defect that he may discover in the industrial establishment or the appliances used there in.
3. Every employee shall make proper use of all safeguards, safety devices and Other appliances furnished in accordance with the code of safety practices for his protection or the protection of others and shall obey all safety instructions made or approved by the competent authority pertaining to his work.
4. No employee shall interfere, remove damage or destroy any safety devices or other appliances furnished for his protection or the protection of others or interfere with any method or process adopted with a view to others or interfere with any method or process adopted with a view to Munising occupational hazards.

## **INTRODUCTION**

The company believes that consciousness toward safety health and environment is an attitude of mind and living upto such an attitude calls for commitment from everyone of us. We must each one of us make this commitment so that the spirit of this policy prevails throughout the company.

The aim of introducing safety and health policy is to assist in providing a self and healthful workplace by describing safe practices and helping to correct some of the more frequently encountered violations of the safety and health standards.

In keeping with the statutory requirement and to protect the health, life and the environment the company shall outline without any ambiguity a safety, health and environment policy as stated below.

### **OBJECTIVE**

The company objective shall be at all times to conduct its operation safety with a view to protect the health of employees and all persons who may be affected with due regard for the environment.

### **SAFETY AND HEALTH POLICY**

#### **SCOPE;**

1. The management of SANGAL PAPERS LTD., VILL . BHAINSA, MEERUT ROAD MAWANA, DISTT. MEERUT holds very high regards for safety, welfare and health of its employees. It has been and continues to be Sangal Papers Ltd., Vill. Bhainsa, Meerut Road Mawana, Distt. Meerut policy to manage its activities in a responsible manner so as to avoid causing and undue risk to the health and safety of all its employees and others who may be affected by its operations.
2. While the maintenance of safe operating procedure in the plant cane result in significant savings. Management believes that the human values involved are of much greater importance.
3. It is the policy of company to provide for its employees safe working conditions, safe tools, equipment, safe working methods and procedures for carrying out all operations.

No operation is so important and no job is so urgent that one cannot find any time to perform it safely.

4. Management provides the necessary authority and resources to hire managers enabling them to achieve and maintain high standard of safety. The development of safety policies, procedures and practices are the general management functions in the same way as production, quality, dispatching, technical, accounting etc.
5. The heads of divisions/ departments shall be responsible for implementation of safety measures in their work area.
6. The occupier of the company or his representative will closely monitor the safety performance, housekeeping and maintenance of safe working condition in all divisions and various plant facilities. He will hold a monthly review meeting for the same.
7. Management believes in integrating health and safety in all decisions including those dealing with the purchase of plants equipment, machinery and material.

**POLICY;**

8. Health and safety of the employees are of prime importance to the company. The responsibility of the management is not only to protect the employees but also to find out ways and means to safeguard the plant and machinery. All efforts shall be made by the company to identify and prevent all the possible hazards and protect the employees there from. Special attention will be paid to integrate safety and health procedures in all projects involving new, systems, processes, equipments etc.
9. Every employee of the company is entrusted with individual contribution towards safety. According to his qualification, experience and position, he shall be responsible for safety of men, material and machinery under his control.

**HIS RESPONSIBILITIES ARE;**

- a. Safety to himself and his fellow employees.
- b. Lookout for and immediately report any hazard or potential danger.
- c. Be available at or near the work place and respond quickly and responsibly whenever required.
- d. Be aware of all workplace hazards and safety guidelines and follow instructions.

- e. Always use and encourage others to use personal protective equipments provided.
- 10. The management shall organize Plant Safety Committee and shop floor safety meetings involving workers and line managers to discuss and eliminate safety and health hazards prevailed in the work environment.
- 11. Each employee who has been trained in safety shall impart the knowledge he had gained to others employees, in keeping the working conditions safe.
- 12. The management shall strictly take into account the health and safety performance of individual at all levels whiles considering their carrier advancement/promotion or special increment etc.
- 13. All contractors, sub-contractors and other outside agencies who are engaged in work inside the factory premises shall comply with the safety instructions of the company and shall be responsible for the safety of their employees too.
- 14. All the job works awarded to various contractors for working inside the factory should include the safety clause in the terms and conditions of the job order documents and the same should be executed in duplicate by the contractors.
- 15. The company would highlight the health and safety performance of the plant in its annual report.
- 16. Training shall be provided to those engaged in hazardous jobs to enable them to know about the hazards and safety measures that are required to be taken to minimize them.
- 17. Management would conduct periodical plant safety inspections and safety audits to ensure the effectiveness of safety procedures and practices begin followed.
- 18. The management would ensure that working area and outside environment are made by monitoring to the work environment and outside environment periodically through the competent authority.
- 19. Air/water pollution standard shall be strictly adhered to and the air/water pollutants arising out of the production activities shall be effectively controlled.

THIS POLICY SHALL BE FOLLOWED BY ALL EMPLOYEES TO CREATE AND MAINTAIN A SAFE AND HAPPY ENVIRONMENT AMONG THE SANGAL PAPERS LTD., BHAINSA, MEERUT ROAD MAWANA, DISTT. MEERUT

### **EMPLOYEES PLANT CONDUCT**

1. Employees are allowed in the plant only at such time as their duties may require them to be within the boundaries of reservation.
2. It is the responsibility and in the interest of the employees to work safely.
3. Do not report for duty in ill health or under the influence of intoxicants.
4. Attend duty in proper dress. Do not use loose clothing and chappals.
5. Clothing not worn on job should be placed at designated location and not lying around.
6. Do not tease or abuse others while at work. This will divert his attention. Do not disturb a person who is working on a machine.
7. Never make short-cut or take chance. Do not use a makeshift arrangement.
8. Be careful to yourself and to your fellow workers, so that they may not get involved in accident due to your negligence.
9. Never remove or deface a tag placed on any valve or equipment unless you are specifically authorized by the section in charge to do so.
10. Every employee should know the location of the alarm call points, fire fighting and safety appliances and first-aid boxes in their respective area.
11. Running, jumping, horseplay and yelling or throwing material inside the factory are prohibited.
12. Every employee should consider it a part of his duties to take an active part in all safety work and should insist on the observation of safe practices by fellow employees.
13. Every employee must report any accident, near miss accident, damage caused to equipment or material at the earliest to his supervisor.
14. Any situation likely to affect the safety of any employee must be promptly reported to the supervisor concerned and/or safety department.
15. Entering in electrical switchgear building without any authority is forbidden.
16. Employees are forbidden to use compressed air to clean their clothing or person and to direct it on other person.
17. Keep all exits free of obstruction for emergency escape.

## RESPONSIBILITIES OF PLANT PERSONALS IN CASE OF ACCIDENTS

### RESPONCIBILITIES:

#### 1. The injured person:

- a) Report the accident to the supervisor immediately.
- b) Get the first- aid in first aid post/hospital.

#### 2. The person at site:

- a) Inform the supervisor of not already done.
- b) Give first aid if you can or call for help
- c) Inform first aid post and if necessary call for ambulance.
- d) If it is a serious accident, inform the head of Department, giving the exact location of the accident.

#### 3. The supervisor:

- a) On receipt of the information of the accident, rush to scene.
- b) Render help, first aid, medical aid if necessary call for ambulance or use vehicle available at site.
- c) In case of serious injury inform department head/personal manager.
- d) Full up internal accident report and send to the medical officer through the injured person or special messenger.
- e) Obtain information and take care of injured person.
- f) In case of serious dangerous occurrence or accident, do not disturb anything at site of accident except removing the casualties and taking precaution or measures as are necessary to prevent damage, loss or accident/injury.

#### 4. Division Head:

- a) In case of simple injury, the injured person should be allowed to resume duty if advised fit by the Chief Medical Officer in accident report.
- b) In case of serious accidents, rush to the scene of accident and take charge of overall situation or depute senior Supervisor/Engineer to do so.
- c) As per the seriousness of the accident, he shall form an enquiry committee for investigation.

### **Accident Investigation:**

The main essentials of accident investigation are:

- i. To bring out full details leading to the accident for the notice of all personnel in a systematic manner.
- ii. To establish the true cause of accident so that the preventive action can be taken to avoid recurrence.
- iii. To comply with the statutory requirement.

### **SAFETY ORGANISATION:**

Safety committee consists of persons headed by HRD manager under the control of General Manager for effective implementation of accident prevention programmes. The functions of the safety committee are as follows.

### **ACCIDENT PREVENTION:**

1. Accident investigation, analysis, prevention and follow up.
2. Statistical report and monitoring.
3. Plant safety inspection.
4. Safety audit.
5. Job safety.
6. Approach for total loss control.

### **SAFETY EDUCATION AND LIASION**

1. Training programme for all level of employees.
2. Safety propaganda by mean of displaying safety poster and pamphlets.
3. Safety day celebration and safety week function.

4. Incentive and awards for outstanding employee in observing safety provisions.

#### **SAFETY EQUIPMENTS:**

1. Evaluation, selection and development of safety equipment's.
2. Planning, co-ordinate to procure, inspection and control the issue of safety equipment.

#### **PLANT SAFETY COMMITTEE:**

1. Name: The name of committee shall be the "Plant Safety Committee".

##### **1. OBJECTIVE**

The objective of the committee is to promote and maintain active interest in safety and accident prevention.

##### **2. JURISDICTION**

The jurisdiction of the committee shall to matters here in after mentioned in relation to the plant.

##### **3. FUNCTIONS**

Matter to be dealt with the committee shall be following:

1. Promotion of the safe work practice and methods among the employees of the plant including contactors employees.
2. Implementation of safety rules and effective use of protective appliances.
3. To make safety an integral part of process or production methods.
4. To provide an opportunity for free discussion of accident problems and preventive measure thereof.
5. Implementation of safety measures as stipulated for the operation carried out inside the factory.
6. To consider any other matter or issue connected with the promotion of safety & accident prevention.

7. In the event of any fatal or serious accident or dangerous occurrence, the committee would appoint a sub-committee to investigate the cause of accident and to suggest preventive measures.

#### **4. MEMBERSHIP**

The committee shall consist of the following members beside the chairman,

1. Vice-President (VP Plant),
2. Production Manager
3. Manager Engineer
4. Manager Industrial Relation
5. Section Heads
6. HRD Manager
7. Controller of Store

#### **5. MEETINGS**

The committee shall meet as often as necessary but not more than once in a month on a date fixed by the chairman.

#### **6. MEETING NOTICE**

The notice of the meetings together with the agenda shall be sent by the VP Plant to each member of the committee or their representative at least two days before the date of the meeting.

#### **7. MINUTES OF THE MEETINGS**

The VP Plant of the committee shall prepare and issue the minutes of the meeting within seven days of commencement of the meeting to all members.

#### **8. ACTION ON COMMITTEE'S RECOMMENDATION**

The VP Plant shall co-ordinater necessary action on the recommendation of the committee. The action taken shall be included in the minutes of the meetings.

#### **SAFETY IN RELATION TO OPERATIONAL MAINTENANCE WORK**

1. Unexpected operation of electrical equipment that can be started by automatic or manual remote control may injuries to persons engaged in maintenance of machines.
  - a. No work on any equipment shall be carried out without obtaining the necessary safety tag permit from the electrical department.
  - b. Before the safety tag work permit is issued the equipment shall be isolated electrically by removing the fuses and making the panel off. Safety tag shall be signed by the person making electrical panel off and shall be displayed prominently as penal.
  - c. After completion of the work supervisor should issue that all men, material and tools have been with draw and concern electrical parson should be informed.
  - d. In case the work is being carried out through a contractor, the safety tag work permit will be issued in the name of person under whose supervision the contractor is working.
  - e. Power shall be restored only after returning the clearance card to electrical authority.
2. For Maintenance it is vital that the machine be put into a state in which the possibility of its making an unexpected movement and thus causing injury is reduced to a practical minimum.
3. The use of flowing Dhoti/pyajama or shirt or Bush-shirt hanging loose, pugrees and in particular scarves, mufflers are liable to caught in moving machineries in for bidden.
4. In special cases safety equipment prescribed for jobs such as goggles for protection of eyes, respirator for protection against poisonous gases, aprons to protect against corrosive liquids splashes etc. will be worn.

5. The proper tools must be used for the job and tools must be maintained in good condition.
6. All guard on machinery, fencing and railing around machinery etc. must not be removed without proper authority and displaying caution boards to warn the people to that effect.
7. No obstruction should be put in the way of the firefighting or safety apparatus. These must all times be readily accessible.
8. Employee should not be permitted to continue at work if sick or otherwise incapable of performing their duties to avoid accident.

#### **FACTORIES ACT REQUIREMENT IN RELATION TO WORK ON MOVING MACHINERY**

1. All moving machinery shall be securely fenced and that fences shall be kept in position when the machinery in motion.
2. When it is necessary to examine or work on any part of machinery which is in motion, the work shall be carried out by a specially trained adult male worker wearing tight fitting clothing.

#### **PRECAUTIONS TO BE TAKEN**

- a. No work will be carried out on moving machinery in the work can be carried out with the machinery stopped.
- b. Only such parts of guards will be removed which are essential for the execution of the work.
- c. The machinery will be cordoned off to prevent unauthorized person.
- d. Adequate supervision shall be provided where the work is being carried out.
- e. Nobody in any circumstances shall work above moving machinery in position from where he may accidentally fall into the machinery.

#### **GUARD/SAFETY DEVICES**

- a. Always keep machine guards in position and bolted so that they can't be unnecessarily removed.
- b. Ensure that the guard is securely in position before commission machine after maintenance.
- c. Bring machines running without guards to the notice of your supervisor.

- d. Ensure that safety devices are inspected regularly and maintained in good shape all the time.
- e. Report any abnormal process condition to your supervisor.
- f. Don't by-pass alarm system, trip out relays or equipment interlocks at any time.

## **SAFETY DEVICES AND MACHINE GUARDS**

### **INTRODUCTION**

Safety devices installed on machines and safe guarding of dangerous parts of machinery is a vital part of an accident prevention; which should receive considerable attention. The high severity rate of accident caused by dangerous part of machinery justifies the importance of safety devices and machine guards.

### **LEGAL**

Under the provision of THE FACTORY ACT & RULES it is obligatory on the part of provided and maintain adequate and effective safety devices and machine guards in good condition to minimise the risk of accident and degree likely to be encountered with the dangerous parts. It is also and degree of danger likely to be encountered with the dangerous parts. It is also obligatory on the part of employee that they shall not willfully violate any established safety rules/safety devices under the provisions of the same act and rules.

### **BASIC REQUIREMENT OF GUARD/SAFETY DEVICES**

- a. It should protect the operator.
- b. It should protect others.
- c. It should not interfere with efficiency.
- d. It should be fool proof
- e. It should allow repairs.
- f. It should allow oiling.
- g. It should be well constructed.
- h. It should be well secured.
- i. It should not create new hazards.

### **SAFETY OF ELECTRICALLY DRIVEN MACHINES/ TOOLS/ APPLIANCES**

All non-current metal parts of electrical equipment should be properly earthed. Earthing connection should be made to earth electrode and path resistance must be as low as possible.

### **EMERGENCY STOP SWITCH**

Emergency stop switches of mushroom head construction easily identified and accessible are installed for instant stoppage of the machinery in case of emergency.

### **SAFETY IN FORK LIFT TRUCK**

#### **INSPECTION AND MAINTENANCE**

1. Powered industrial trucks should be inspected on a regular schedule.
2. Operators should make daily inspections of controls, breaks, tyres and other moving parts.
3. Check list should be used to record conditions requiring corrections.
4. Trained maintenance personnel should be assigned to keep the equipment in safe operating condition.
5. Operators should not try to carry out any repair/ maintenance work on trucks.

#### **SAFETY RULES FOR LIF TRUCK DRIVERS**

A safety minded operator protects both himself and others and eliminates the risk of damage to the truck and its load.

1. High lift rider MUST be fitted with an overhead guard.
2. Only trained operator should operate the truck.
3. When a powered industrial truck is lift unattended the forks must be lowered, the control levers positioned in neutral, the power shut off and the brakes set. The wheels must be blocked if parked into an inclined.
4. Industrial truck must be examined daily for ant conditions adversely effecting the safety of the vehicle before being placed into service.
5. Never lift load which exceeds the truck maximum capacity.
6. Never tilt the mast forward when carrying a maximum capacity load except when over a stack.
7. Never block fire fighting equipment by parking the truck or stacking the load in front of it.
8. Always travel at a speed consistent with load and road conditions.

9. Always sound the horn and slow down on corners.
10. Always avoid sudden stop.
11. Always travel with forks lowered- maintaining ground clearness.
12. Always lower heavy load slowly.
13. Always remove key when you leave the truck.
14. Always leave the truck with the forks full lowered.

## **GENERAL SAFETY MEASURES FOR BOILERS**

A boiler is closed vessel in which water is heated by combination of fuel heat from other sources to from steam, hot water or high temperature water under pressure.

A large amount of potential energy is contained in boilers, Which if released suddenly will cause serious damage to the surrounding equipment and injuries to personnel, several mechanical and other hazards are also associated with boilers. It is therefore essential that in addition to statutory requirement suitable precautions are taken to ensure that failure do not occur. A few guidelines for general safety precaution to be observed are given below:

### **1. SAFETY VALVES:**

- a. The full discharge capacity of the safety valve fitted to any boiler, should at maximum evaporative capacity, be such that the maximum pressure reached is not in general more than 10% in excess of the highest safety valve set pressure.
- b. The safety valve should always be fitted with hand operated easing gear so that the free movement of the valve disc can be checked without the necessity of raising the pressure to blow off.
- c. Safety valve should be locked so that unauthorized personal can not tamper with them.
- d. No packed glands should be fitted to a safety valve spindle.
- e. The vent pipe fitted to a safety valve should be satisfactory drained to avoid condensate collecting in the pipe.

### **2. PRESSURE GAUGES:**

The important requirement for pressure gauge are as follows.

- a. The range of pressure gauge used should be suitable for the working pressure.
- b. The gauge should be clearly marked and in position so that it can be read easily.
- c. Where the water and liquid level gauge is so the tubular type, it should be protected by an efficient guard so as not to obstruct the reading of the gauge.
- d. Make sure the safety and relief valves are always tested with pressure on the boiler to prevent damage to the valve seats.
- e. Never operate with malfunctioning safety or relief valves.
- f. If a safety valve opens, failed to reseal correctly, can not be freed by use of the hand lifting lever, then the boiler should be taken out from services and the safety valve repaired.
- g. Valves and other operating controls of boiler should be easy to reach.
- h. It is necessary to open steam lines, maintenance personal should always assume that the lines are reloaded and under pressure. A supervisor who is completely familiar with the system should then certify that the proper line is being opened and that all steps possible have been taken to drain and vent the line.
- i. When a boiler is taken out of services for a prolonged period, it should be cleared promptly and inspected for any defect.
- j. Blow down and operation of all gauges should be checked daily.
- k. When cleaning a boiler, employees should wear hats, goggles, dust respirators and other personal protective equipment required for the job.

### **FIRE PREVENTION**

Fire prevention is largely of the practice of careful habit. It is the duty of every employee to prevent fire by strictly observing the following rules.

(A):

1. "Danger Area" cautions are displayed for strict observance. Smoking is prohibited in the whole plant area.
2. Waste paper, cotton waste, rags and other scrap combustible materials should not be allowed to accumulate.
3. Flammable liquid and lubricants should be kept in approved safety cans and labeled for identification.
4. Over heating of electrical equipment and sparks resulting from short-circuit etc. should be avoided by frequent inspections.

5. Lighting arresters should be installed in the building in which inflammable material are used/handled/stored.

6. Storage tanks containing oil, inflammable liquids and tall chimneys and stacks should be inspected periodically.

(B):

All employee should be familiar with the location and proper use of the extinguishing media and type of fires as follows:

#### **CLASS "A" FIRE**

Fire in ordinary material (paper, wood, cloth etc.). The quenching and cooling effect of water or of solutions containing large percentage of water are of primary importance for extinguishing material fires.

#### **CLASS "B" FIRE**

Fires in flammable liquids as gasoline, oil, grease, paints etc. . A blanketing or smothering action is of primal importance on class B fires. Foam, Co<sub>2</sub> and dry chemical powder fire extinguishers are good media to extinguish class B fire.

#### **CLASS "C" FIRE**

Fine revolving gaseous substance under pressure where it is necessary to dilute the burning gas at a fast rate with an inert gas or powered Co<sub>2</sub>, Dry chemical powder fire extinguishers are good media to extinguish class C fire.

#### **CLASS "E" FIRE**

Fire in or near electrical equipment such as motor, switch board etc.. A non-conducting extinguishing media such as Co<sub>2</sub> or dry chemical has a smothering effect to tackle class E fire.

#### **NOTE:**

1. If a person clothing catches fire, the best thing to do is roll him in a blanket to smother the fire.
2. Many materials give off poisonous gases when they burn so move out to avoid inhaling the smoke.

3. When fire is discovered, call or send someone to call fire department and also to inform plant section officers. If the fire is already not beyond control use proper first aid fire extinguishers installed in area.
4. The plant authorities should put a responsible person near the location of fire to guide the fire brigade.
5. All employees in plants and maintenance department should be trained in fire-fighting.
6. Whenever a fire extinguisher is used for fighting fires information should be conveyed to fire Deptt. For necessary action.
7. Easy access to fire fighting equipments.

Portable extinguishers are first aid devices provided for immediate use on fires in their incipiency and are effective only at that stage. They are the first line of defence and it is of great importance that they be immediately accessible and promptly used.

The Indian Standards Institution has classified fires according to the nature of material on fire (IS: 2190 - 1917). Type of extinguishers to be used depend on following:

1. **Ease of handling:** where elderly or otherwise physically weaker persons are involved, smaller sized and lighter extinguishers should be installed.
2. **Method of operation:** All extinguishers installed on one premises should be perfectly operated by the same method.
3. **Operating angle of jet:** Extinguishers may be required to fight fires in places which can not be easily reached such as under stored boards, into fume hoods etc.
4. **Effective range:** Where approach to a fire may be restricted as in an overhead fire in a high ceiling room, extinguishers of the appropriate range must be chosen.
5. **Shape of jet:** a spray rather than a jet is more suited to cover a fairly large area and where the penetration of a solid jet is not needed. Surface fires in ordinary combustibles are dealt with more effectively by a spray.
6. **Type of Extinguishers:** In many industries the hazards of various types of materials catching fire may be present. It is advisable to have CO<sub>2</sub> or dry chemical powder extinguishers which can safely be used on all classes of fire.

## **ENVIRONMENT;**

**General:-** It is the policy of the company to manage all its activities ensuring that they meet relevant laws and regulations that are acceptable minimum.

### **In implementing this policy, the company will;-**

1. Co-operate fully with the relevant authorities in meeting its legal obligations.
2. Provide information and assistance to ensure that the company's products may be used, stored and disposed off in an environmentally responsible manner.
3. Promote environmental information with customers and suppliers as well as within the company and with the communities where the company operates.
4. Establish and implement environmental practices which accord with the principles of this policy as well as with the local regulations.
5. Review at regular intervals the environmental performance of existing facilities.

## **RESPONSIBILITIES:**

**The occupier i. e.** Managing Director shall have the over – all responsibility for the safety, health and environmental policy of the company.

The authorized director/ managers subject to the control and supervision by the company are responsible for ensuring that the reasonable care and precautions, in conducting the company's operations so that the above policy is fully implemented.

## **EMPLOYEES:**

It is the duty of all employees to exercise personal responsibility and co-operate in doing all they can do to prevent harm to them selves and others.

## **SUPPORT AND ADVISE:**

The company will provide adequate resources for the implementation and monitoring of the company's safety, health and environment policy indicated above.

Within the framework of the above policy further elaboration are hereby made in specific terms to confirm to the spirit of the policy and the guidelines provided.

### **CENTRAL SAFETY COMMITTEE:**

A nine members works safety committee shall be constituted under the chairmanship of the vice president .The members include supervisory staff and workers. One secretary shall be appointed amongst the above members.

### **REMITTS:**

1. To review safety status of the factory.
2. To discuss accidents, fire and others abnormal occurrences.
3. To frame safety plan be with consultation of the committee.
4. To monitor the safety action plan and its implementation .

### **FUNCTIONS OF SAFETY COMMITTEE:**

1. Accident prevention programmme.
2. Investigation of accidents and fire.
3. Routine inspection to identify and removal of unsafe conditions materials.
4. Statutory inspections.
5. Organise safety and fire training programme.
6. Advise management on all matters related to safety and suggest improvements.
7. Supervise fire fighting, spillage and toxic removals.
8. Circulate information available on occurrence of interest reading safety.

**FREOUENCY OF THE MEETING:** Once in 3 months

1. REMITS- To discuss and review the investigation reports already with the committee's secretary regarding injury, accidents, fires, abnormal accidents etc. in the factory.
2. To invite suggestions to improve SHE Standards from members.
3. To inform the committee above progress in implementation of recommendations made in the pase.

### **(a) CAREER APPRAISEMENT REPORT:**

In order to plan the career progression of various employees an annual performance assessment system shall be evolved.

Due weightage shall be given to employees contribution towards safety, health and environment (SHE) factors.

The following items have been made an integral part of this assessment with the provision of suitable incentive, promotion or any other benefits are considered SHE factors shall be taken into account on a point scale basis.

The SHE factors are the following:-

- Accident involvement- No. of accident major / minor he has saved.
- Un safe condition- How much he has been able to remove or been responsible, for directly / indirectly.
- Safety suggestions.
- Helping colleague to develop safe attitude and habits.
- House keeping – self/surrounding.
- Help fire fighting if required.
- Use of personal protective equipment.
- Any major violation of SHE standards and codes laid down by the company/department.

Protective measures shall be taken. Unless there is change in process with a corresponding change in the hazardous material this method shall not usually be repeated.

5. Major accidents shall be investigated in detail by a team comprising of members from safety and the owners.

#### **SHE STANDARDS APPLIED IN PLACEMENT PURCHASE OF EQUIPMENT MATERIAL ETC.**

Hazards contents of various types of jobs shall be determined by a safety committee taking the following into account.

Occupational health hazards

Job safety analysis report

Degree of exposure

## **TRAINING ON SHE:**

Training programmes and refresher courses in the following areas shall be conducted at regular intervals.

1. Fire Fighting
2. First Aid
3. Plant operational safety
4. Action arising out of emergency situation e.g. fire explosion, large scale spillage of toxic and flammable material.
5. Maintenance hazards
6. Usage of personal protective equipment.
7. General safety.

NOTE: Normally safety persons with the permission of Directors shall organize these programmes. External agencies shall be sometimes engaged to conduct Lecturers in then factory premises. Employees at all level shall be nominated to attend such training outside also. It is ensured all such programmes are work oriented and realistically structured.

A feed back system from employees who have undergone such training shall be instituted to gauge the efficacy and to modify such programmes if required.