RISK ASSESSMENT

Hazard analysis involves the identification and quantification of the various hazards (unsafe condition) that exist in the plant. On the other hand, risk analysis deals with the identification and quantification of the risk, the plant equipment and Personnel are exposed to due to accidents resulting from the hazards present in the plant.

Risk analysis involves the identification and assessment of risks to the population is exposed to as a result of hazards present. This requires an assessment of failure probability credible accident scenario, vulnerability of population etc. Much of this information is difficult to get or generate consequently, the risk analysis in present case is confined to maximum credible accident studies and safety and risk aspect related to proposed expansion of grain/molasses based Distillery.

Activities requiring assessment of risk due to occurrence of most probable instances of hazard and accident are both onsite and off-site.

On-site
- Exposure to fugitive dust, noise, and other emissions
- Housekeeping practices requiring contact with solid and liquid wastes
- Emission/spillage etc. from storage & handling

Off-SITE
- Exposure to pollutants released from offsite/ storage/related activities
- Contamination due to accidental releases or normal release in combination with natural hazard
- Deposition of toxic pollutants in vegetation / other sinks and possible sudden releases due to accidental occurrences

Risk Analysis Methodologies

Risk assessment often requires the synthesis of risk profiles, which represent the probability distribution of total annual loss due to a certain set of events or activities. These assessments usually involve estimation of losses for several sub-classifications of the overall process and synthesis of the results into an aggregate risk profile.

Main risk assessment technologies are:
- Hazard and operability study (HAZOP), and
- Fault Tree Analysis (FTA)
Hazop Study
The HAZOP study is a systematic technique of identifying hazards of operability problems of a process and lists all possible deviations from normal operating condition and how they might occur. The consequences of the process are assessed and the means available to detect and correct the deviations are examined. Thus, within the entire process all “credible” deviations that could lead to hazardous events or operability problems are identified.

Fault Tree Analysis (FTA)
FTA is primarily a means of analyzing non-identifiable hazards. Hazards of top events (the ultimate happening that is to be avoided) are first identified by other techniques such as HAZOP. Then all combinations of individual failures that can lead to that hazardous event show the logical format of the fault tree. Estimating the individual probabilities and then using the appropriate arithmetical expressions can calculate the top event frequency.

Disaster Management Plan
Definition
A major emergency in an activity/project is one which has the potential to cause serious injury or loss of life. It may cause extensive damage to property and serious disruption both inside and outside the activity/project. It normally requires the assistance of emergency services to handle it effectively.

Scope
An important element of mitigation risk is planning for emergency, i.e. identifying accident possibility, assessing the consequences of such accidents and deciding on the emergency procedures, both on site and off site that needs to be implemented in the event of an emergency.

Objective
The overall objectives of the emergency plan are:

- To localize the emergency and, eliminate it; and
- To minimize the effects of the accident on people and property.

Elimination requires prompt action by operations and works emergency staff using, for example, fire-fighting equipment, water sprays etc.
Minimizing the effects includes rescue, first aid, evacuation, rehabilitation and giving information promptly to people living nearby.

**Identification of Hazards**

The following types of hazards may be identified at plant site:

- Fire in Electric Panels, Oil room and alcohol storage.
- Waste treatment processes.
- Cleaning of barrels, which have held chemical substances.

To deal the above emergencies, the Emergency Plan is prepared.

**Safety Measures for Storage & Handling of Alcohol**

Handling and storage of alcohol is done as per prescribed norms. The alcohol is directly fed to the bottling unit mechanically and no manual handling will be involved which will reduce the risk of spillage in the storage area. Following precautionary measures are taken for safety:

- **HANDLING AND STORAGE;** Keeping away from heat, sparks and open flame, care is taken for avoidance of spillage, skin and eye contact, well ventilation, Use of approved respirator if air contamination is above acceptable level is/will be promoted. For Storage and handling following precautions are/will be taken:
  - Keeping away from oxidizers, heat and flames.
  - Avoidance of plastics, rubber and coatings in the storage area.
  - Cool, dry, & ventilated storage and closed containers.
  - Grounding of the container and transferring of equipment to eliminate static electric sparks.

In case of any emergency following measures would be taken:

- **FIRST AID MEASURES:** For Skin contact, Eye contact, & Inhalation.
- **FIRE FIGHTING MEASURES:**
  - Use of extinguishing media surrounding the fire as water, dry chemicals (BC or ABC powder), CO, Sand, dolomite, etc
  - Foam System for firefighting is provided to control fire from the alcohol storage tank. The foam thus produced will suppress fire by separating the fuel from the air (oxygen), and hence avoiding the fire & explosion to occur in
the tank. Foam would blanket the fuel surface smothering the fire. The fuel will also be cooled by the water content of the foam.

- The foam blanket suppresses the release of flammable vapors that can mix with the air.
- Special Fire Fighting Procedures; Keeping the fire upwind. Shutting down of all possible sources of ignition, keeping of run-off water out of sewers and water sources. Avoidance of water in straight hose stream which will scatter and spread fire. Use of spray or fog nozzles will be promoted, cool containers will be exposed to flames with water from the side until well after the fire is out.
- Hazardous Decomposition Products: gases of Carbon Monoxide (CO) & Carbon Dioxide (CO₂).

➢ ACCIDENTAL RELEASE MEASURES; For Spill Cleanup well Ventilation, Shutting off or removal of all possible sources of ignition, absorbance of small quantities with paper towels and evaporate in safe place like fume hood and burning of these towels in a safe manner), Use of respiratory and/or liquid-contact protection by the Clean-up personnel will be promoted.
Emergency Planning

General
Disaster Management Plan for an industrial unit is necessarily a combination of various actions which are to be taken in a very short time but in a present sequence to deal effectively and efficiently with any disaster, emergency or major accident with an aim to keep the loss of men, material, plant/machinery etc. to the minimum.
The main aspect of disaster management is to prepare a detailed Disaster Management Plan which includes:

- Identification of various types of expected disaster depending upon the type of the industrial unit.
- Identification of various groups, agencies, departments etc. necessary for dealing with a specific disaster effectively.
- Preparation – by intensive training of relevant teams/groups within the organization to deal with a specific disaster and keep them in readiness.
- Establishment of an early detection system for the disaster.
- Development of a reliable instant information/communication system.
- Organization and mobilization of all the concerned departments/organizations/groups and agencies instantly when needed.
- A major disaster that can be expected due to fire in this proposed distillery.

Emergency Planning for Disaster due to Fire
Cable rooms, transformer, unit, auxiliary transformers, oil tanks, etc. within the plant are the likely areas for which disaster management plan is made to deal with any eventuality of fire. Stores, workshop, canteen and administrative building are included.

Classification of Fire

Class (A)
Fire involving combustible materials like wood, paper, cloth etc.

Class (B)
Fire due to liquid materials like oil, diesel, petroleum products and all inflammables.

Class (C)
Fires involving domestic and industrial gases like butane and propane etc.

Class (D)
Metal fires etc.

Class (E)

Electrical fires due to short circuiting etc.

Need of Establishing a Fire Fighting Group

A small spark of fire may result into loss of lives, machines and the damage by fire may result in high economic losses. This type of losses can be avoided by preventing and controlling the fire instantly for which fire-fighting group will be established.

The fire fighting group would house and keep in readiness, the following types of equipment and arrangements.

- CO₂ extinguishers
- Dry powder chemical extinguishers
- Foam extinguishers
- 80 mm. spray hoses
- Fire brigade
- Fire hydrant
- Protocol (chemical to combat oil fires).

In order to avoid fire in cable galleries, all the power and control cables of FRLS type (Fire Resistant Low Smoke) will be used.

Inspection

Fire alarm panel (electrical) will cover the entire plant. The inspection group will periodically inspect fire extinguishers in fire stations and machines and other places.

The groups will display emergency telephone number boards at vital points.

The group will regularly carry out general inspection for fire.

Procedure for Extinguishing Fire

The following steps will be taken during a fire accident in the system:

As soon as the message is received about fire, one of the systems will be diverted to the place of the fire accident along with a staff member.

Simultaneously plant fire station will be informed by phone walkie for fire brigades and fire stations of nearby area.
In the meanwhile, the pipe system will be operated to obtain maximum pressure on output. In case cables are within the reach of fire, power supply will be tripped and the cables shifted.

**Fire Fighting with Water**

Adequate and reliable arrangement is required for fighting the fire with water such as:

1. Provision for Fire brigade and Fire hydrant.
2. Arrangement of pipelines along and around all vulnerable areas.
3. Provision of valves at appropriate points to enable supply of water at the required place/area or divert the same to another direction/pipe line.
4. Provision of overhead tanks which will be providing with the water during power failure and it would work by the gravitational force.

**Sources of Water for Fire Fighting**

The following two sources of water have been considered for firefighting:

- Overhead Tank
- Raw Water Reservoir

**Fire Fighting with Fire Extinguishers**

To deal with fire – other than carbonaceous fires, which can be deal with by water – suitable fire extinguishers are required to do the job effectively. It is therefore necessary to keep adequate number of extinguishers in readiness at easily approachable places.

Adequate number of fire stations is provided.

- Further, other spray groups from the system will be diverted to the spot.
- In case of fire in the belt, belt will be cut near the burning portion to save the remaining parts.
- After extinguishing the fire, the area will be well prepared for reuse.
- Foam System for firefighting will be provided to control fire from the alcohol storage tank. The foam thus produced will suppress fire by separating the fuel from the air (oxygen) and hence avoiding the fire & explosion to occur in the tank. Foam would blanket the fuel surface smothering the fire. The fuel will also be cooled by the water content of the foam.
The foam blanket suppresses the release of flammable vapors that can mix with the air.

Environment Health and Safety Cell
RNVDML have fully fledged EHS cell (Environment Health & Safety Cell). Main function of EHS cell is to assess the potential risks/hazards to environment, health of employees & society and safety within the plant. Installation of fire fighting system, fire alarm, provision of safety/protective equipments to workers and regular medical check-ups have been taken up. Plant is maintained at zero discharge so no likely impact is likely to occur on environment and society. Also regular monitoring of different parameters is being carried out to ensure safety of environment and society. Trainings and Mock drills are also carried out in regular intervals for workers to ensure the safety in case of any accident or natural hazard.

HSE Policy of Radico NV Distilleries Maharashtra Limited:

Policy Statement on Health, Safety, Environment (HSE).
At RNVDML, we have values which assist us in:

- Protecting the health and safety of our employees, our contractors, our customers and our neighbors,
- Maintaining the security of our people and assets,
- Protecting the environment.

In addition to compliance with laws and regulatory requirements, our Company will pursue the following objectives:

- Ensure that all activities are conducted in a manner which is consistent with RNVDML Health, Safety, and Environment Standards
- Ensure that business activities are conducted to prevent harm to employees, contractors, the public, other stakeholders and the environment.
- Develop, manufacture and market our products with full regard for HSE aspects.

To achieve this we will:

- Set targets and measure progress to ensure continuous improvement in HSE performance
- Provide safe and healthy workplaces for our employees and contractors.
- Provide information, instruction and training to enable employees to meet their
responsibility to contribute to compliance with the Policy.

➢ Provide appropriate HSE information for all contractors and others who work for us.

➢ Protect the environment by preventing or minimizing the environmental impact due to our activities and products through appropriate design, manufacturing, distribution and by promoting responsible use and disposal practices.

➢ Develop products and processes that help preserve resources and the environment
Proposed On–Site Emergency Plan

Introduction

The views of the possible hazards that can arise out of the daily operations in the distillery plant, various measures are adopted to prevent the occurrence of a major accident. This comprises of:

- Built in safety measures, alarms, trips and interlocks etc.
- Standard safe operating and maintenance procedures permit system etc.
- Training of all the involved staff in normal and emergency operating procedures.
- Training of all employees in safety, fire fighting and first aid.

However, in spite of these precautions, it is required to foresee situation of major accident and plan for taking timely action to minimize the effects of such incident on the safety and health of persons working in the plant as well as those living around the premises.
Preparation of Plan

Alarm System
A siren is provided under the control of Security office in the plant premises to give warning. In case of emergencies this will be used on the instructions to shift in charge that is positioned round the clock. The warning signal for emergency is as follows:

- Emergency Siren: Waxing and waning sound for 3 minutes.
- All clear signal: Continuous siren for one minute.

Communication
Walkies & Talkies are located at strategic locations; internal telephone system EPBX with external P&T telephones are provided.

Fire Protection System

Fire Fighting System
The fire protection system for the unit is to provide for early detection, alarm, containment and suppression of fires. The fire detection and protection system has been planned to meet the above objective an all–statutory and insurance requirement of Tariff Advisory Committee (TAC) of India. The complete fire protection system comprises of the following.

Fire Fighting Facility: Available in existing unit and will be maintained in future

System Description of Fire Fighting System
The entire fire safety installation is compliant with the most stringent codes / standard for the entire complex to ensure the highest safety standard and uniformity of system. Further, the fire protection is tested under simulated conditions to demonstrate compliance with the most stringent standards, codes and guidelines.

A) Fire pumping system
The fire pumping system comprises of independent electrical pumps for hydrant and sprinkler system, diesel engine driven pump & jockey pump for hydrant & sprinkler system.

Electrical pump provides adequate flow for catering requirement of hydrant system. Diesel engine driven fire pumps is provided for ensuring operation & performance of the system in case of total electrical power failure. Jockey pumps compensates for pressure
drop and line leakage in the hydrant and sprinkler installation. Provision of PRS/orifice plate are made in sprinkler riser to restrict pressure on sprinkler system.

Individual suction lines are drawn from the fire reserve tanks at the basement level and connected to independent fire suction header. The electric fire pumps, diesel engine driven fire pumps and the jockey pumps all draw from this suction header.

Delivery lines from various pumps are connected to a common header in order to ensure that maximum standby capacity is available. The sprinkler pump is isolated from the main discharge header by a non return valve so that the hydrant pump can also act as standby for the sprinkler system. The ring main remains pressurized at all times and Jockey pumps make up minor line losses. Automation required to make the system fully functional is provided.

B) Fire hydrant system

Internal and external standpipe fire hydrant system is provided with landing valve, hose reel, first aid hose reels, complete with instantaneous pattern short gunmetal pipe in the Complex.

The internal diameter of inlet connection is at least 80 mm. The outlet is of instant spring lock type gunmetal ferrule coupling of 63 mm dia. for connecting to hose pipe. Provision of flow switch on riser is made for effective zone monitoring. The flow switch is wired to FAP and shall indicate water flow on hydrant of the identified zone.

Recessed cupboard/fire hydrant cabinet is strategically located for firefighting requirement. Location of cabinets is accessed as per compartmentation plan in consultation with the Architect. Provision of fire man's axe is made for internal hydrant.

External hydrant is located within 2 m to 15 m from the building to be protected such that they are accessible and may not be damaged by vehicle movement. A spacing of about 45-50 m between hydrants for the building is adopted. Details of fire hydrant system are as follows:

Piping: Mild Steel pipes (heavy class) as per IS: 1239 is provided throughout the complex. Pipes buried below ground are suitably lagged with 2 layers of 400 micron polythene sheet over 2 coats of bitumen.

External Hydrants: External hydrants are provided all around the Complex. The hydrants are controlled by a cast iron sluice valve or butterfly valve. Hydrants have instantaneous
The hydrants are double outlet with CI duck foot bend and flanged riser or required height to bring the hydrant to correct level above ground.

- For each external fire hydrant two numbers of 63mm dia. 15 m long controlled percolation hose pipe with gunmetal male and female instantaneous type couplings machine wound with GI wire, gunmetal branch pipe with nozzle is provided.
- Each external hydrant hose cabinet is provided with a drain in the bottom plate.
- Each hose cabinet is conspicuously painted with the letters “FIRE HOSE”.

**Internal Hydrants:** Internal hydrant is provided on each landing and other locations as required by NBC with double headed gunmetal landing valve with 100 mm dia inlet, with shut off valves having cast iron wheels. Landing valve has flanged inlet and instantaneous type outlets.

- Instantaneous outlets for fire hydrants are standard pattern and suitable for fire hoses.
- For each internal fire hydrant station two numbers of 63 mm dia. 15 m long rubberized fabric lined hose pipes with gunmetal male and female instantaneous type coupling machine with GI wire, fire hose reel, gunmetal branch pipe with nozzle is provided.
- Standard fire hose reels of 20mm dia high pressure rubber hose 36.5 m long with gunmetal nozzle, all mounted on a circular hose reel of heavy duty mild steel construction having cast iron brackets is provided. Hose reel is connected directly to the wet riser with an isolating valve. Hose reel is mounted vertically.
- Each internal hydrant hose cabinet is provided with a drain in the bottom plate. The drain point is led away to the nearest general drain.
- Each internal hydrant hose cabinet containing items as above is provided with a nozzle spanner and a Fireman’s Axe. The cabinet is recessed in the wall.
- Each hose cabinet is conspicuously painted with the letters “FIRE HOSE”.

**Hose Reel:** Hose reel is heavy duty, 20 mm dia, length is 36.5 metre long fitted with gunmetal chromium plated nozzle, mild steel pressed reel drum which can swing upto 170 degree with wall brackets of cast iron finished with red and black enamel complete.

C) **Sprinkler system**
Elaborate automatic sprinkler system is provided. The system is suitably zoned for its optimum functional performance.

The sprinkler system is provided with control valves, flow and tampers switches at suitable location and is connected to control module of the fire alarm system for its monitoring and annunciation in case of activation.

Sprinkler type along with its Quartzite bulbs rating is selected based on the requirement of the space and is specified accordingly. Inspector’s test valve assembly with sight glass is provided at remote end with discharge piped to drain outlet / pipe.

**Quartzite Bulb Automatic Sprinkler:** Sprinkler heads is made of brass/ quartzite bulb sufficiently strong, in compression to withstand any pressure, surge or hammer likely to occur in the system. The yoke & body is made of high quality gun metal brass with arms streamlined to ensure minimum interference with the spread of water. The deflector of suitable design is fitted to give even distribution of water over the area commanded by the sprinkler.

The bulb contains a liquid having a freezing point below any natural climatic figure and a high coefficient of expansion. The temperature rating of the sprinkler is stamped on the deflector & the color of the liquid filled in the bulb is according to the temperature rating as per NFPA standard. The sprinkler heads is of type & quality approved by the local fire brigade authority. The inlet is screwed.

The sprinklers have 15 mm nominal size of the orifice for ordinary hazard. The orifice size is marked on the body or the deflector of the sprinkler. Metal guards for protection of sprinkler against accidental or mechanical damage are provided.

**Installation Control Valves**

Each installation is provided with a set of installation control valves comprising:-

- An Alarm Valve.
- A Water Motor Alarm & Gong.
- Installation valves are installed on the sprinkler circuits as shown on the drawings.
- Installation valve comprises of a cast iron body with gunmetal trim, and double seated clapper check valves, pressure gauges, test valve and orifice assembly and drain valve with pressure gauges, turbine water gong including all accessories necessary and required and as supplied by original equipment manufacturer and
required for full and satisfactory performance of the system. A cast iron isolation valve with lock and chain at the inlet of the installation valve is provided.

**Inspection and Test Valve Assembly**

Inspection and testing of the automatic starting of the sprinkler system is done by providing an assembly consisting of gunmetal valves, gunmetal sight glass, bye-pass valve and orifice assembly.

**D) Fire Extinguishers**

Portable fire extinguishers of water (gas pressure), Carbon-di-oxide, foam type, Dry Chemical Powder and FM-200 or Clean agent type are provided as first aid fire extinguishing appliances. These extinguishers are suitably installed in the entire areas as per IS: 2190.

The appliances are so installed over the entire sections, that a person is not required to travel more than 15 m to reach the nearest extinguisher. These are placed or hanged on wall in a group on several suitable places.

**E) Fire Pump**

The fire pump is horizontally mounted, variable speed type. It has a capacity to deliver and developing adequate head so as to ensure a minimum pressure at the highest and the farthest outlet. The pump is capable of giving a discharge of not less than 150 per cent of the rated discharge, at a head of not less than 65 per cent of the rated head. The shut off head is within 120 per cent of the rated head.

The pump casing is of cast iron and parts like impeller, shaft sleeve, wearing ring etc. is of non-corrosive metal like bronze/brass/gun metal. The shaft is of stainless steel. Provision of mechanical seal is also made.

Bearings of the pump are effectively sealed to prevent loss of lubricant or entry of dust or water. The pump is provided with a plate indicating the suction lift, delivery head, discharge, speed and number of stages. The pump casing is designed to withstand 1.5 times the working pressure.

**F) Foam System For Fire Fighting**

Aqueous Film-Forming Foams (AFFF) based on combinations of fluoro-chemical surfactants, hydrocarbon surfactants, and solvents is used as foam agent. These agents require a very low energy input to produce a high quality fire fighting foam.
Foam concentrate are stored in a bladder tank system. In AFFF systems a bladder tank containing a nylon reinforced elastomeric bladder is used to store the foam concentrate. System water pressure is used to squeeze the bladder providing fire fighting foam concentrate, at the same pressure, to the proportioner.

An aqueous film will be formed on the surface of the alcohol by the foam solution as it drains from the foam blanket. This film is very fluid and floats on the surface of most alcohol. This gives the AFFF unequaled speed in fire control and control the spill fire.

First Aid
A first aid centre with adequate facilities are provided. It is maintained round the clock by a compounder cum dresser and a doctor. An Ambulance is also provided at site to carry affected people to hospital.

Security
The security requirements of the company premises are taken care of by CSO assisted by a Fire In charge. The team, apart from the normal security functions manage the role required during a disaster management operation as a part of the crisis control team.

Safety
The safety wing led by a Safety Manager meets the requirement of emergencies round the clock. The required safety appliances are distributed at different locations of the plant to meet any eventualities. Poster/placards reflecting safety awareness are placed at different locations in the plant area.

Evacuation Procedure
As the major hazard is only due to fire, which has more or less localized impact no mass evacuation, procedures are required. Evacuation will involve only the people working very close to the fire area.

Emergency Control Center
Existing unit has an emergency control centre to control emergency. Emergency Control Centre (ECC) is cell from which emergency operations are directed and coordinated. This centre activates as soon as on-site emergency is declared.

**General Description of ECC**

The ECC is located in an area that offers minimal risk being directly exposed to possible accidents.

During an emergency, the Emergency Management Staff, including the site controller shall gather in the ECC. Therefore, the ECC is equipped with adequate communication systems in the form of telephones and other equipments to allow unhampered organisations and other nearby facility personnel.

The ECC provides shelter to its occupants against the most common accidents; in addition, the ECC’s communication systems are protected from possible shutdown. The ECC has its own emergency lighting arrangement and electric communication systems operation.

Only a limited and prearranged number of people are admitted to the ECC, when in use. This eliminates unnecessary interference and reduces confusion.

The ECC is always ready for operation and provided with the equipment and supplies necessary during the emergency such as:

- Updated copies of the On–site Disaster Management Plan.
- Emergency telephone numbers.
- The names, phone number, and address of external agencies, response organizations and neighboring facilities.
- The adequate number of telephone (more than two).
- Emergency lights, Clocks, Personal protective equipment.
- List of fire extinguishers with their type no. and location, capacity, etc.
- Safety helmets – List of quantity & location.
- Status boards/message board.
- Material safety data sheets for chemicals handled at the facility.
- Several maps of the facility including drainage system for surrounding area showing:
  - Areas where hazardous materials are stored.
  - Plot plans of storage tanks, routes of pipelines, all water permanent lines etc.
The locations where personal protective equipment are stored.
- The position of pumping stations and other water sources.
- Roads and plant entrances.
- Assembly areas & layout of Hydrant lines.

**Communication Equipments and Alarm Systems**

This kind of equipment is absolutely vital for notifying accident; make the emergency known both inside and outside of the facility and coordinating, the response actions among the various groups involved in response operations.

In particular, this equipment is used to communicate within the facility; communicate between the facility and outside organizations; and inform the public.

Different communications systems can vary in effectiveness depending on the task. The most common types installed in the plant are given below.

**Sirens**

These are audible alarm systems commonly used in facilities. In case of any emergency siren will be operated short intermittently for 1.5 minutes.

An alarm does more than just emergency warning. It also instructs people to carry out specific assignments, such as reach to assembly point for further instructions and actions, or carry out protective measures; this can be achieved only if the people are familiar with the alarm systems and are trained to respond to it.

**Personal Protective Equipments**

This equipment is used mainly for three reasons; to protect personnel from a hazard while performing rescue/accident control operations, to do maintenance and repair work under hazardous conditions, and for escape purposes. The list of Personal Protective Equipment provided at the facility and their locations are available in ECC.

Effective command and control accomplish these functions necessitates personal trained in this On–site Disaster Management Plan with adequate facilities and equipments and equipment to carry out their duties and functions. These organizations and the facilities required to support their response are summarized in the following subsections.

**Procedure for Testing & Updating the Plan**

Simulated emergency preparedness exercises and mock fire fighting exercises including
mutual aid scheme resources and in conservation with district emergency authority to be carried out time to time.

**Disclosure of Information to Worker & Public Awareness System in Existence & Anticipated**

- Safety awareness among workers by conserving various training programs and Seminars, competition, slogans etc.
- Practical exercise.
- Distribution and practices of safety Instructions.
- Safety Quiz contests.
- Display of Safety Posters & Safety Slogans.
- Developing Safety Instructions for every Job and ensuring these instructions/booklets or manuals by the workers.