1 HAZARD IDENTIFICATION & RISK ASSESSMENT

Risk is a potential that a chosen action or activity will lead to a loss of human or property.

Risk assessment is a step for Risk management. Risk assessment is determination of qualitative and quantitative value of risk related a situation or hazard.

Hazard is a situation that poses a level of threat to life, health or environment.

Disaster is a natural or man-made hazard resulting in an event of substantial extent causing significant physical damage or distraction loss of life or drastic change in environment.

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 project equipment and Personnel are exposed to, due to accidents resulting from the hazards present in the project.

Risk analysis involves the identification and assessment of risks to the population exposed to 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 grain based distillery and Co-Generation power plant.

Risk assessment involves the following:

- Hazard Identification
- Vulnerability Analysis
- Risk analysis
- Emergency plan

Hazard Identification

For the distillery unit four categories of hazards are identified and listed below.

- Natural Hazard
- Man made Hazard (such as fire, explosion, accidents, etc.)

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.

1.1 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)- 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.

1.2 Identification of Hazards

Major hazards of the distillery are given below:

Table: 1

Hazard identification in a distillery unit

S. No.	Name	Description	Severity	Hazard
1.	Transportation of raw material and storage	Grains	Minor	Accidents
		Coal	Major	Fire
		Rice husk	Major	Fire
		Enzymes, yeast, nutrients, etc	Minor	Exposure & inhalation
		Chemicals (Caustic, acids, etc)	Major	Exposure to skin
2.	Manufacturing Process	Distillation	Major	Heat & Fire
3.	Other Utilities	Boiler, D.G Sets	Major	Noise, Heat, Fire & electrocution
4.	Products	Alcohol	Major	Fire
5.	Other accidents	Leakages from the	Major	Exposure & Fire

		vessels rupture of vessels and storage tanks.		

1.3 Assessment of risk along with mitigation measures

Qualitative risk assessment based on categorization of both probability and impact provides greater insight into the absolute risk severity. The risk impact assessment investigates the potential effect on a project objective such as schedule, cost, quality, or performance, including both negative effects for threats and positive effects for opportunities.

Table: 2

Risk Assessment Table along with mitigation measures

S.No.	Activity	Associated hazards	Associated risk/ health impact	Risk rating	Mitigation Measures
1.	Storage & handling of raw materials, chemicals	Exposure, fire, leakage, explosion	Exposure, physical injuries, burn,	H	• Use of PPEs. • Inspection & regular monitoring • Training to workers for proper handling • Proper system for loading operation to prevents spillage • Spill kit for Acid and other chemicals • Provision of first aid boxes • Proper ventilation
2.	Working near fermentation vessels & distillation column	Bursting of fermentation vessel, heat, fire	Severe burns & physical injuries	H	• Proper Ventilation • Provision of pressure indicators in the vessels. • Use of PPEs. • Inspection & regular monitoring • Training to workers for proper handling • Provision of fire fighting facility.
3.	Fuel yard	Fire	burns, physical injuries, respiratory disorders	H	• Storage should be away from ignition source • Firefighting facility shall be provided • PPEs should be provided • First aid box
4.	APCD failure	Release of PM in ambient air	Air pollution	H	• Regular monitoring & inspection shall be done. • The plant shall immediately shut down on APCD failure

5.	Working at height	Slip, trips & falls of operators	Physical injuries	H	• Individual alertness of the workers. • First aid boxes shall be provided
6.	Storage of Alcohol	Exposure, inhalation, ingestion & fire	Exposure to over 100 ppm may cause headache, drowsiness, etc. Ingestion may lead to depression of CNS, nausea, etc. Burn injuries.	H	• Well ventilation • Keeping away from heat sparks & open flame. • PPEs. • Fire fighting measures shall be readily available.
7.	Release of High pressure steam from boiler	Explosion	Risk of severe injuries, damage to equipment	H	• Regular maintenance & inspection of parts. • Proper training to the individuals • PPEs • First aid kit
8.	Electrical maintenance work	Electric shock, short circuits in power room	Electric shocks, injury or burn	H	• Regular checking and maintenance of electrical units • PPEs • Provision of First aid box
9.	Working near boiler, D.G. Sets	High noise	Noise induced hearing losses	M	• Provision of PPEs to the workers

1.4 EMERGENCY PLANNING

1.4.1 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 would normally require the assistance of emergency services to handle it effectively.

1.4.2 Scope

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

Emergency planning is just one aspect of safety and cannot be considered in isolation from the project and hence before starting to prepare the plan, works management will ensure/ ensures that the necessary standards, appropriate to safety legislation, are in place.

1.4.3 Objectives

The overall objectives of the emergency plan is/ will be:

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

Elimination will require prompt action by operations and works emergency staff using, for example, fire–fighting equipment, water sprays etc.

Minimizing the effects may include rescue, first aid, evacuation, rehabilitation and giving information promptly to people living nearby.

1.4.4 Classification of Emergency

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. Generally, Emergencies can be categorized into three broad levels on the basis of seriousness and response requirements, namely: –

Level 1: This is an emergency or an incident which:

a) can be effectively and safely managed, and contained within the site, location or installation by the available resources;

b) Has no impact outside the site, location or installation.

Level 2: This is an emergency or an incident which –

a) cannot be effectively and safely managed or contained at the location or installation by available resource and additional support is alerted or required;

b) is having or has the potential to have an effect beyond the site, location or installation and where external support of mutual aid partner may be involved;

c) is likely to be danger to life, the environment or to industrial assets or reputation.

Level 3: This is an emergency or an incident with off-site impact which could be catastrophic and is likely to affect the population, property and environment inside and outside the installation, and management and control is done by district administration. Although the Level-III emergency falls under the purview of District Authority but till they step in, it should be responsibility of the unit to manage the emergency.

1.4.5 Safety Measures for Storage & Handling of Alcohol

In case of any emergency following measures would be taken:

- **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 being/ 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.
  - 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 (CO_2).
  - Transfer of alcohol by pipelines only.
- **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.
- **Slip, trip & fall:** Good housekeeping is the first and the most important (fundamental) level of preventing falls due to slips and trips. It includes**:**
  - ✓ cleaning all spills immediately
  - ✓ marking spills and wet areas
  - ✓ mopping or sweeping debris from floors
  - ✓ removing obstacles from walkways and always keeping them free of clutter
  - ✓ securing (tacking, taping, etc.) mats, rugs and carpets that do not lay flat
  - ✓ always closing file cabinet or storage drawers
  - ✓ covering cables that cross walkways
  - ✓ keeping working areas and walkways well lit
  - ✓ replacing used light bulbs and faulty switches
- **Electrocution:** A severe shock can cause considerably more damage to the body than is visible. For example, a person may suffer internal hemorrhages and destruction of tissues, nerves, and muscles. In addition, shock is often only the beginning in a chain of events. The final injury may

well be from a fall, cuts, burns, or broken bones. Proper preventive measures must be taken to avoid electrocution in the work place. Few measures are enlisted below:

- ✓ All electrical equipment is being/ will be provided with proper earthing. Earthed electrode are periodically tested and maintained.
- ✓ Emergency lighting is being/ will be available at all critical locations including the operator's room to carry out safe shut down of the plant.
- ✓ Easy accessibility of fire fighting facilities such as fire water pumps and fire alarm stations is considered.
- ✓ All electrical equipment is to be free from carbon dust, oil deposits, and grease.
- ✓ Use of approved insulated tools, rubber mats, shockproof gloves and boots, tester, fuse tongs, discharge rod, safety belt, hand lamp, wooden or insulated ladder and not wearing metal ring and chain.
- ✓ Flame and shock detectors and central fire announcement system for fire safety is being/ will be provided.
- ✓ Temperature sensitive alarm and protective relays to make alert and disconnect equipment before overheating is being/ will be considered
- ✓ Danger from excess current due to overload or short circuit is to be prevented by providing fuses, circuit breakers, thermal protection

1.5 DISASTER MANAGEMENT PLAN

1.5.1 General

A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources. Though often caused by nature, disasters can have human origins.

Types of Disaster:

Natural Disaster: are naturally occurring physical phenomena caused either by rapid or slow onset events which can be geophysical (earthquakes, landslides, tsunamis and volcanic activity), hydrological (avalanches and floods), climatological (extreme temperatures, drought and wildfires), meteorological (cyclones and storms/wave surges) or biological (disease epidemics and insect/animal plagues).

Technological or man-made disasters (complex emergencies/conflicts, famine, displaced populations, industrial accidents and transport accidents) are events that are caused by humans and occur in or close to human settlements. This can include environmental degradation, pollution and accidents. Technological or man-made hazards (complex emergencies/conflicts, famine, displaced populations, industrial accidents and transport accidents).

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 functions of the Disaster Management Cell are 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.

1.5.2 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 to be made to deal with any eventuality of fire. Stores, workshop, canteen and administrative building will be included.

1.5.3 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.

1.5.4 Need of Establishing a Fire Fighting Group

A small spark of fire may result into loss of machines and the damage by fire may 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.

Establish which would house and keep in readiness, the following types of equipment and arrangements.

- CO_2 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) are being/ will be used.

1.5.5 Inspection

Fire alarm panel (electrical) covers the entire plant. The inspection group inspects/ will periodically inspect fire extinguishers in fire stations and machines and other places. The groups displays/ will display emergency telephone number boards at vital points. The group carries out/ will regularly carry out general inspection for fire.

1.5.6 Procedure for Extinguishing Fire

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

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

Simultaneously plant fire station is being/ will be informed by phone walkie for fire brigades and fire stations of nearby area.

In the meanwhile, the pipe system is being/ will be operated to obtain maximum pressure on output. In case cables are within the reach of fire, power supply is/ will be tripped and the cables shifted.

1.5.7 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.

1.5.8 Fire Fighting With Fire Extinguishers

To deal with fire – other than carbonaceous fires, which can be dealt 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 would be:

- 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 are being/ 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.

1.6 Environmental Management Cell

Apart from having an EMP, it is also necessary to have a permanent organizational set up charged with the task of project with a department consisting of officers from various disciplines to co–ordinate the activities concerned with the management and implementation of the environmental control measures.

Basically this department undertakes to monitor the environmental pollution levels by measuring stack emissions, ambient air quality, water and effluent quality, noise level etc. either departmentally or by appointing external agencies wherever necessary.

In case the monitored results of environmental pollution are found exceeding the allowable values, the environmental management cell will suggest remedial action and get these suggestions implemented through the concerned project authorities. The actual operation and maintenance of pollution control equipment of each unit will be under the respective project managers.

The Environmental Management Cell (EMC) handles all the related activities such as collection of statistics of health of workers and population of the region, afforestation and green belt development.

1.7 On–Site Emergency Plan

1.7.1 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.

1.7.2 Preparation of Plan

1.7.2.1 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 shall be as follows:

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

1.7.3 Communication

Walkies & Talkies are being/ will be located at strategic locations; internal telephone system EPBX with external P&T telephones would be provided.

1.7.4 Fire Protection System

1.7.4.1 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.

(a) Fire brigade

Automatic / manual fire detection & alarm system

(b) Fire Hydrant

Fire hydrant is provided at all around in the plant as per TAC Norms.

(c) Portable fire extinguishers

Various areas of the plant are having one or more of the above system depending upon the particular nature of risk involved in that area.

(d) Portable Chemical Fire Extinguishers

These are intended as a first line of defense, and hence will be stationed at strategic locations in different buildings and also for outdoor facilities. Portable fire extinguishers are/ will be foam type; carbon dioxide type and multipurpose dry chemical (MPDC) type.

(e) Fire Detection and Alarm System

Fire detection and alarm system an effective means of detection, visual indication of fire location and audible alarm of any fire at its incipient stage. This system comprises/ will comprise fire alarm panels, automatic fire detectors, manual call points and fire siren (hooter).

The main fire alarm panel provides/ will provide both visual and audible alarm of fire in any protected areas of the plant.

Manual break glass type fire alarms are/ will be provided at strategic locations where high hazards exits.

Automatic fire detectors will be provided for coal handling areas and in plant areas such as control rooms, switchgear rooms, cable galleries etc.

1.7.5 First Aid

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

1.7.6 Security

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

1.7.7 Safety Committee

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

1.7.8 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 would involve only the people working very close to the fire area.

1.7.9 Emergency Control Center

Provision is made to establish an Emergency Control Centre (ECC) from which emergency operations are directed and coordinated. This centre is activated as soon as on–site emergency is declared.

The ECC consists of one room, 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 gathers/ will 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.

1.7.10 Communication Equipment 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 that are being/ will be installed in the plant are given below.

1.7.10.1 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.

1.7.11 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 will be 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.

1.7.12 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 will be carried out time to time.

1.7.13 Disclosure of Information to Worker and Public Awareness System Anticipated

- Safety awareness among workers by conserving various training programmes 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.

1.8 Off-site emergency Plan

If the accident or incident occurred in the factory premises, factory will need help from outside sources because of magnitude of emergency then it termed as Offsite Emergency. This offsite emergency cannot be controlled only by using the internal resources and need timely help from the outside companies or from the government authorities to tackle such type of emergencies to avoid the loss of property, human health or environment in and around the premises. An offsite emergency management plan involves government bodies as well as nearby industries for necessary help and to control the emergency.

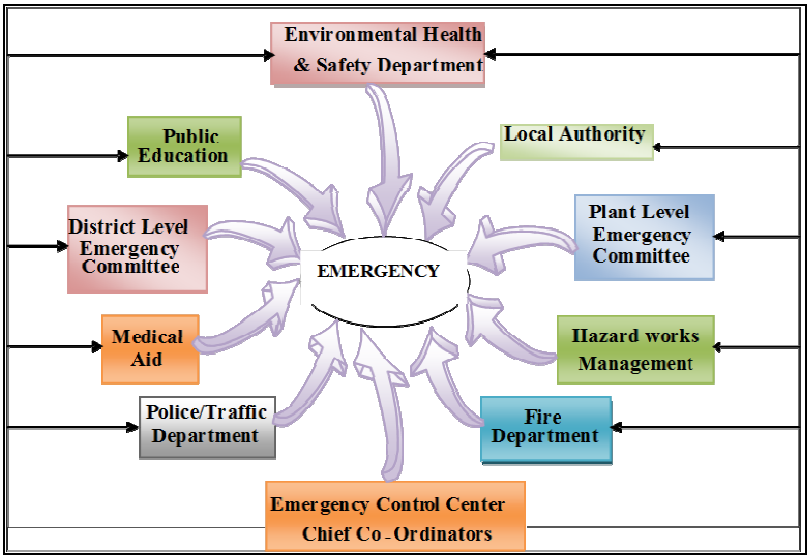

Figure 1: Various Organizations Involved During Emergency

1.9 Conclusion

It is concluded that there will be no major risk involved due to expansion project. Proper precautionary measures are being/ will be taken to minimize risks. Personal Protective Equipments (PPEs) helps/ will help to minimize the health hazards and accidental casualties. So it is safe to say that there will be no major risk involved due to the proposed expansion project.