CHAPTER 7

DISASTER MANAGEMENT PLAN

7.0 HAZARD IDENTIFICATION

7.1 INTRODUCTION

Hazard Analysis involves identification and quantification of various hazards (unsafe conditions). On the other hand, risk analysis deals with identification and quantification of risks, the equipment and personnel are exposed to, due to accidents resulting from the hazard present in the project.

Risk analysis follows an extensive hazard analysis. It involves the identification and assessment of risks, which the neighboring populations are exposed to as a result of hazards present. This requires a thorough knowledge of failure probability, credible accident scenario, vulnerability of populations etc. Much of this information is difficult to get or generate. Consequently, the risk analysis is often confined to maximum credible accident studies.

7.2 APPROACH

Risk involves the occurrence or potential occurrence of some accident consisting ofan event or sequence of events. The risk analysis assessment study covers the following:

- Identification of potential hazard areas.
- Visualization of the resulting scenarios in terms of fire.
- Assess the overall damage potential of the identified hazardous events and the impact zones from the accidental scenarios.
- Assess the overall suitability of the site from hazard minimization and disaster mitigation point of view.
- Preparation of broad emergency management plan (DMP).

7.3 HAZARD IDENTIFICATION

Identification of hazards within township project is of primary significance in the analysis, quantification and cost effective control of unlikely events of accidents. A classic definition of hazard states that hazard is in fact the characteristics of system/process that presents potential for an accident. Hence, all the components of project need to be thoroughly examined to assess their potential for initiating or propagating an unplanned event/sequence of events, which can be termed as an accident.

Based on information available, project will store HSD, which is flammable and can catch fire in the event of spillage if ignition source is available near the storage. In the event of spillage followed by fire, pool fire will take place. Thermal radiation from pool fire will be confined with the short distance. Further, state-of-the-art firefighting facilities will be provided to extinguish fire.

No other toxic hazard will be stored within the project.

7.4 EMERGENCY MANAGEMENT PLAN

Emergency Management Plan is necessarily a combination of various actions, which are to be taken in a very short time but in a pre-set sequence to deal effectively and efficiently with any disaster, emergency or accident with an aim to keep the loss to the minimum.

The project will have to have complete liaison and co-ordination with outside agencies to minimize the effect of such disaster/emergency. The major function of the plan is to formulate a procedure for:

a) Controlling it with minimum damage to men, material and machine
b) Rescuing victims and treat them suitably
c) Safeguarding others (evacuating them to safe places)
d) Identifying the person affected
e) Information to relatives of the causalities
f) Providing authoritative information to news media and others concerned
g) Preserving relevant records needed as evidence in any subsequent enquiry

7.4.1 SCOPE

The aim of hazard control and disaster management is concerned with preventing accidents through good design, operation, maintenance and inspection, by which it is possible to reduce the risk of an accident, but it is not possible to eliminate it. Since, absolute safety is not achievable, an essential part of hazard control must include mitigating the effect of an accidents.

An important element of mitigating is emergency planning i.e. recognizing that accidents are possible, 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 emergency.

Emergency planning is just one aspect of safety and cannot be considered in isolation. In particular, it is not a substitute for maintaining good standards within the project. Before starting to prepare the plan, project management will ensure that the necessary standards and safety precautions are administered.

Emergency plans are likely to be separate for on-site and off-site, but they must be consistent with each other, *i.e.* they must be related to the same assessed emergency conditions. The on-site plan is called Disaster Management Plan (DMP) and the off-site plan is called Emergency Preparedness Plan (EPP).

7.4.2 OBJECTIVES

The overall objectives of an emergency plan are:

a) To localize the emergency and if possible, eliminate it; and

b) To minimize the effects of the accident on people and property

Elimination of hazard will require prompt action by operators and emergency staff using, for example, fire-fighting equipment and water sprays. Minimizing the effect will include rescue, first aid, evacuation, rehabilitation and giving information promptly to people living nearby.

7.4.3 FORMULATION OF DMP

FORMULATION OF DMP AND EMERGENCY SERVICES;

The assessment of the risk and hazards leads either to improvements being made to the project, in the form of additional safeguards or better procedures, or to the decision being taken that the risk is sufficiently small to be accepted.

The plan will be substantial document including following:

- Assessment of the size and nature of the events foreseen and probability of their occurrence;
- Formulation of the plan and liaison with outside authorities, including the emergency services;
- Procedure for- raising the alarm and communication both within and outside the works;
- Appointment of key personnel and their duties and responsibilities are:

  -work incident controller

  -works main controller

  - Emergency control center;

The project will set out the way in which designed people at the site for the incident can initiate supplementary action both inside or outside the works at an appropriate time. An essential element of the plan must be the provision for attempting to make safe the affected unit, for example by shutting it down. On a project site, the plan will contain the full sequence of key personnel to be called in from other sections or from off-site.

It is particularly important that the requirement of the plan for emergency resources, both personnel and equipment, are reasonable and can be quickly assembled in the event of an emergency. Management will consider whether sufficient resources exist at the site to carry out the plan for the various assessed incidents in conjunction with the emergency services, for example sufficient water for cooling and fire fighting. The time element is of great significance but is often overlooked.

7.4.4 ONSITE EMERGENCY PLAN

Emergency is the one which may or may not cause material damage or injury but likely to have an impact on the project. Such an emergency may be controlled using resources and resources available in the surrounding establishments.

SCOPE OF ONSITE EMERGENCY PLAN

The scope of the plan is to ensure safety of life, protection of environment and protection of property. Although the emergency may be caused by different factors such as natural calamity, civil disturbance, sabotage, equipment failure, human error, it will normally manifest in the form of fire, etc.

OBJECTIVE OF EMERGENCY PLAN

- To localize the emergency and if possible eliminate
- To control and contain the incident as early as possible
- To safeguard other employees by evacuating them to safe assembly points
- To minimize the damage to the project;
- To rescue accident victims and organize medical treatments
- To re-establish normal conditions; and preserve relevant records and equipment for the subsequent enquiry into the cause and circumstances of the emergency.

7.4.5 ROLES AND RESPONSIBILITY

SITE CONTROLLER

- Upon hearing announcement on P.A. system, he will proceed to emergency control center.
- Establish contact with the Incident Controller through telephone
- Declare emergency in consultation with incident controller
- Review all possible action and assesses in consultation with incident controller and other personnel.
- Directs the evacuation of personnel.
- Arranges for additional help from pot side agencies if required.

- Exercises direct operational control over the works out side the affected area, with the help of emergency coordinator (service/communicator)
- And emergency coordinator (first aid and medical)
- Once the situation is brought under control, calls off onsite emergency in consultation with incident controller.

EMERGENCY COORDINATOR (FIRST AID AND MEDICAL MANAGEMENT)

- Arranges for first aid specific treatment with the advice of doctor.
- Organizes to shift injured to nearby clinic. Accompanies the victim if the case is critical based on doctor's advice.
- In case of need arrange for shifting to other medical centers as the case may be, maintains contact with site controller from time to time.

EMERGENCY COORDINATOR (SECURITY AND SUPPLY)

- Upon hearing the siren, all person will be sent out and closes the gate
- Restricts visitor entry inside the premises
- Directs the ambulance to the vicinity of site of incident
- Ensures all the security guards are reporting to main gate. Sends one person to main road to bring fire tender if it is called for.
- He will rush to scene and reports to incident controller.
- Additional fire extinguisher, hoses, nozzles, located in various points will be drawn and arranged for fire fighting
- Organizes to open the main gate as soon as the ambulance reaches
- Co-ordinates with fire brigade group and help them

DRIVER-AMBULANCE

- Keeps engine in running condition
- Opens the back door of the ambulance
- Goes back to seat
- Takes the injured to hospital, stops the vehicle and opens the back door.

7.4.6 ALARM AND COMMUNICATION MECHANISM

Communication is crucial factor in handling an emergency. It is the practice that many persons can raise an emergency alarm, so allowing the earliest possible action to be taken to control the situation.

There will be an adequate number of points from which the alarm can be raised either directly, by activating an audible warning, or indirectly, viz., a signal or message to a permanently manned location. The alarm will alert the incident controller who will assess the situation and implement appropriate emergency procedures. In areas where there is a high level of noise, it may be necessary to install more than one audible alarm transmitter or flashing lights. Automatic alarms may be appropriate on some site.

There will be a reliable system for informing the emergency services as soon as the alarm is raised on site. The details of the communication arrangements will be agreed locally; in some cases it may be advisable to have a direct line to the fire brigade. Pre determined code words to indicate the scale and type of the emergency may be valuable.

7.4.7 FIRE FIGHTING FACILITIES

Adequate firefighting facilities will be provided as per applicable rules in the various parts of the project as per applicable regulations.