

X: DISASTER MANAGEMENT PLAN

10.0 GENERAL

A major emergency in a plant 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 plant. Sometimes, it would require the assistance of outside agencies.

Emergency may be caused by a number of different factors, e.g. plant failure, and it will normally manifest itself in three basic forms, viz fire, explosion or toxic release.

10.1 DEFINITION OF DISASTER

A Disaster is called when following one or the other or more incidents occur

- i) Risk of loss of human lives-ten or more in one single situation
- ii) A situation which goes beyond the control of available resource of the plant
- iii) Loss of property as a consequence of the incident is over Rs. 1 Crore and/or bears a potential to the above
- iv) A situation apparently may not have much loss but its long-term severity can affect loss of life, production and property.

Disaster occur due to

- i). Emergencies on account of:
 - Fire
 - Explosion
 - Spillage of toxic chemicals
 - Electrocutation
- ii) Natural calamity on account of:

- ü Flood
- ü Earth quake / Cyclone / Storm / Cloud burst / Lightning

iii). External factor on account of

- ü Food poisoning
- ü Sabotage

10.2 OBJECTIVES:

- ∅ To identify type of major disaster which may occur in the proposed project.
- ∅ To collect data on type of disasters, which has happened already in similar plants
- ∅ To prepare an action plan to handle disaster.

10.3 IDENTIFICATION AND ASSESSMENT OF HAZARDS

This stage is crucial to both on site and off site emergency planning and requires to systematically identify what emergencies could arise in the plant. These should range from small events, which can be dealt with by plant personnels without outside help to the largest event for which it is practical to have a plan. Experience has shown that for every occasion that the full potential of an accident is realized, there are many occasions when some freak event occurs or when a developing incident is made safe before reaching full potential.

The assessment of possible incidents should produce a report indicating

- ∅ The worst events considered
- ∅ The route to those worst events
- ∅ The time scale to lesser events along the way
- ∅ The size of lesser events if their development is halted
- ∅ The relative likelihood of events
- ∅ The consequences of each events

10.4 DISASTER PREVENTIVE MEASURES

It is not easy to control any disaster if contingency plans are not available. For effective control of disaster adequate manpower, technical know-how, alertness and internal help are the prime requirements. It is always better to take preventive measures to avoid any disaster. In the proposed project following prevention measures will be taken to prevent disaster:

- i) Design, manufacture and construction of all plant and machinery's and buildings will be as per national and international codes as applicable in specific cases and laid down by the appropriate statutory authorities.
- ii) Provision of adequate access ways / walk ways for the movement of equipment and personnel are kept.
- iii) Minimum two numbers of routes for escape during disaster are provided and a separate escape route plan is in place.

10.5 GUIDELINES FOR DMP

10.5.1 Formulation of DMP and Emergency Services

Industries proposed in CSIDC will formulate a Disaster Management Plan for better and safe management of the plants. The DMP is related to the final assessment and it is the responsibility of the plant management document including the following elements.

- Ø Assessment of the size and nature of the events foreseen and the probability of their occurrence.
- Ø Formulation of the plan and liaison with authorities, including the emergency services.
- Ø Procedures for raising the alarm and communications both within and outside the works.
- Ø Appointment of key personnel and their duties and responsibilities, especially for works incident controller and works main controller.
- Ø Emergency control center
- Ø Action on-site
- Ø Action off-site

The plan is prepared to set out the way in which designated people at the site of 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 complex site, the plan includes the full sequence of key personnel to be called in from other sections or from off site.

The following management systems at various stages of process will be followed:

10.5.2 Alarm Systems

On receiving the message of ‘Disaster’ from Disaster Controller, fire station control room attendant sounds SIREN WAILING TYPE FOR 5 MINUTES.

On receiving the message of “Emergency Over ” from Emergency controller the fire station control room attendant gives All Clear Signal by sounding siren straight for two minutes.

The feature of the alarm system is explained to one and all to avoid panic or misunderstanding during disaster.

Action to be taken on hearing the warning signal

On receiving the message of “Disaster” the following action takes place.

- All the co-ordinator report to the Disaster Control Room, even if, not contacted by the cell
- The commanding officer and sub-commanding officer report to the place of the accident
- The process unit persons remain ready in their respective units for crash shut down on the instruction from the co-ordinator
- The person from other selection reports to the respective officer
- The concerned section (Civil Engineering services, Mechanical project etc) take immediate action to remove contractors personnel outside the plant gate
- The resident of action of the township will remain alert

10.6 APPOINTMENT OF PERSONNEL AND DEFINITION OF DUTIES

Functions of Health Safety and Environment Officer

- To declare “ Disaster Emergency ” after consulting the Sr. Officer available and inform Fire Station Control Room to sound the sirens accordingly and arrange to convey the message in public address system
- To report to DCD immediately
- To receive message from the Central Control Room
- To take decision in consultation with the commanding Officer of different services and convey them to the disaster point
- To be responsible for planning and provision of assistance from township and from local authorities
- To keep decision of the Disaster Controller on any matter to met the objective of disaster control plan will be final

Function of Officer In-charge:

Disaster Controller will entrust this officer whose functions are be as follows:

- To be responsible for the operation of DCD and for the dispatch of messages.
- To decide on the priority of dispatch of messages.
- To keep liaison with all activities and give up to date and accurate appreciation of the situation.
- To be responsible for the efficient organization of the Disaster Control Room.

Functions of Disaster / Emergency controller of Various Services:

The commanding officers of the various services and their functions are:

- To report to the control post immediately on hearing “Disaster Siren”.
- To report Disaster Controller posted with the up-to dated information regarding manpower and material available concerning their respective services.
- To advise Disaster Controller on all matters arising out of disaster.
- To assist Disaster Controller for provision of material and man power concerning his services.
- To convey message to his services team through communication centre after consulting Disaster Controller.
- To consult between them selves on matters related to more than one services and to decide on the action to be taken.

Casualty Services

The commanding officer of casualty services will be medical officer.

Functions:

- First services by first-aid parties on the spot.
- Ambulance services for transport of casualties from the spot to the township hospital and from township hospital to outside, if required.

10.7 PROCEDURE FOR TREATMENT

On getting a signal from the Disaster Control Desk or information on telephone or hearing siren, the sub- commanding officer of the casualty services will report to the clinic and doctors on call duty and first aid personnel will report to disaster control room. The Ambulance with driver will report to the Disaster Control Room. First aid parties will render first aid to casualties at the place of occurrence and those requiring further treatment would be transported to the nearest hospital by ambulance.

In case of extra help from outside or within Company medical officer would contact Co-ordinator (Planning) for help in areas such as:

- Extra medical helps from neighboring hospital or main hospital.
- Evacuating the casualties.
- Essential assistance in first aid.

First Aid

It is necessary to give first aid to the persons injured in the disaster. There are two first aid posts to meet the workload, one post is near the Disaster Control Room and the other post is in the township hospital. At each post, first-aid parties shall be kept in rotating shifts of 8 hours.

Rescue Services

The responsibility of effective working Rescue and Repair services are with Co-ordinator (Services) and Sub-emergency controlling officer.

Repair Services

- To take up quick repairs of the damaged machinery
- To take up repair of damaged building roads and culverts.
- To maintain essential public utility services viz. water, electricity and sewages system.

Fire Fighting Services

Fire officer will be the commanding officer of the fire fighting services.

Additional strength for fire fighting which is beyond the control of the station will come from security and maintenance personnel and if required from outside fire stations.

Functions

- To co-ordinate fire fighting activities.
- To enforced all regulations for prevention of fire
- To request neighboring industries and District Authority for rendering services of their fire fighting crew under mutual aid schemes, if necessary.

10.8 TRAFFIC CONTROL

The free movement of the fire vehicle and ambulance at the scene of fire / emergency is very important and therefore, the security personnel on the duty ensures that all the roads at the scene of fire /emergency are kept clear and free from obstruction. Persons arriving by motor transport at the scene of fire / emergency are not allowed to park their vehicle within 100 meters of fire, near fire hydrants, at road junction and at access roads. The ignition key should be left in the vehicles.

10.9 SUPPLY SERVICES.

A senior person heads supply services from stores department.

Functions:

- Responsible for planning, organizing and procuring necessary Equipment/ material.
- Responsible for storage of equipment / materials at accessible location and for quick distribution on demand.
- Obtain the requirement of equipments / materials from commanding officers of various services for their respective services.
- Co-coordinator with commanding officer of Depot and Transport services for transport required for distributing of equipments / materials in consultation with DCR.

Salvage service

The salvage services are under charge of a group under guidance of emergency control officer.

Welfare Services

Management of plant is having a senior manager who acts as the Commanding Officer of all support services. Vacant building will be used for housing those injured. For this purpose necessary material will be brought from near by market also if situation warrants.

Security Services

Chief security officer acts as central officer for securities services.

Functions:

- Security services are primarily responsible for the security of the plant.

- Emergency Controller in consultation with co-ordinator (external services) will keep a close liaison with local police and district authorities.
- Controls the vehicular traffic inside the plant.
- Assists fire fighting services in fighting fire.
- Assists in transporting injured people.
- Assists local police in patrolling in township and work out adequate arrangement for protection of property.

One jeep and motorcycle are always kept as reserve to cope up with emergency demand and for any further aggravate disaster.

Functions

To shut down the unit (s) affected and which may cause further disaster.

10.10 PUBLIC RELATION SERVICES

The officer-in-charge of public relation services looks after this job.

Function

- To consult Emergency controller before communication, if required with outside agencies.
- PRO acts as the official spokesman for the plant with outside agencies.
- PRO arranges for photography and filming of the whole disaster as photographer and filming of such incident are of immense value for the purpose of investigation, training and education.

10.11 CONTINGENCY PLANS

The following plan shall be followed.

Fire and Explosion

- Plant fire fighting is activated
- Disaster Controller along with Commanding Officer takes overall charges of the situation
- Emergency controller assesses the situation for possible after effect of the fire in the plant and the surrounding areas likely to get affected
- Emergency controller Informs local authority to send fire tenders if required
- Emergency controller Informs the people of likely affected area through communication system to leave the area and move to other area earmarked, if necessary
- Controls the traffic and law and order
- Arranges medical aid and for the affected people
- Emergency controller arranges inspection of affected area to get the first hand knowledge of damages occurred.