

DISASTER MANAGEMENT PLAN

1.1 RISK ASSESSMENT

A major accident in an industry has the potential to cause serious injury or loss of life and extensive damage to environment or property or serious disruption outside the plant. It may require the assistance of outside emergency services to effectively handle the situation. Accidents are normally caused by a number of different factors, e.g. plant failure, human error, earthquake, vehicle crash or sabotage. An important element of risk mitigation is emergency preparedness, which is recognizing the potential situations & consequences and prepare on site emergency plan.

M/s Shyam Sel & Power Ltd. (SSPL) has planned to expand its existing plant at village: Dasna, Jamuria, P.O: Bahadurpur, district: Burdwan in West Bengal. The Proposed Steel Plant has lower risk potential than those industries dealing with toxic and flammable chemicals. Off-site people are not exposed to any dangers, hence the societal risk is insignificant.

For hazard identification, maximum credible accident (MCA) scenarios have been assessed. The maximum credible accident has been characterized as an accident with a maximum damage potential and the occurrence of which is most probable. Based on MCA scenario, the following hazards were identified for this project.

- (a) Fire in coal storage yard
- (b) Mechanical injury to body parts

(a) Fire in coal yard: This is the most common accident known to occur in any plant storing and handling coal. Since such incident takes sufficient time to get widespread, enough response time is available for plant personnel to get away to safer distance. Appropriate fire fighting systems will be installed to mitigate the accidental risk. Water for fire fighting is available in the cooling water pond.

(c) Mechanical injury to body parts: In a steel plant, there are several places where workers are likely to be involved with accidents resulting in injury to body parts. The places are main plant, workshop, during mechanical repair work in different units, during construction work,

road accidents due to vehicular movement, etc. The plant machinery comprises of standard engineering designs meeting all quality specifications. Since most accidents occur due to human error and improper work practice, safety awareness workshop for the plant personnel are organized on regular basis. Workers are encouraged to wear and use appropriate safety devices like boots, gloves, helmets, aprons, goggles and safety belts.

1.2 DISASTER MANAGEMENT PLAN

A disaster is an unforeseen combination of circumstances that causes serious body injuries loss of life or extensive damage to the plant facilities or total.

Anyone or more of the following uncontrollable factors may cause disaster:

1. Reduction or failure of steam
2. Reduction or failure of cooling water
3. Failure of Power
4. Rupture or damage of the line, vessel or tank
5. Excessive leakage of inflammable or corrosive or toxic material
6. Cyclone
7. Earthquake
8. Fire or explosion
9. Sabotage
10. Riot
11. Air Raid

The Disaster Management Plan of the company is divided into two parts:

(i) Onsite Emergency Plan

In this plan, the company officers are given pre-designated responsibilities for dealing with the emergency.

(ii) Offsite Emergency Plan

In this, different Govt. agencies will be conformed about the emergency for necessary help from them.

1.3 ON-SITE EMERGENCY PLAN

A) The disaster control procedure lays down the efforts to be made to prevent fatal accidents, physical harm or injury to personnel and damage to equipment facilities materials. It requires coordinated efforts of all employees to control and eliminate a disastrous situation.

B) All efforts to control a disaster will be coordinated among the various co-ordinators and all actions, taken will be as directed by the chief co-ordinator. The co-ordinating members will be responsible to keep

him posted on the development and course of action will be followed by them (refer **Annexure-I**).

1.4 FACILITIES AVAILABLE WITH THE FACTORY

a) Fire Fighting Facility

The entire factory has been protected with fire extinguishing system from out side and inside the shop floor.

b) Material Handling

Heavy duty cranes including mobile cranes, fork lifts, trucks, trolleys are being used in the plant. The same could be used at time of emergency for handling the material.

c) Personnel Protective Equipments

Safety shoe, safety helmets, safety goggles, asbestos hand gloves, rubber hand gloves, acid proof aprons, earplugs, aprons, leg guards etc. are available in the Central store of the plant. At the time of emergency, the same can be made easily available by safety coordinator.

d) Medical Facility

The Plant will have the required emergency medical facilities and health check up for the workers will be done regularly by the visiting Doctors. In case of major accident, persons will be referred to nearest Hospital/Primary Health Centre.

1.5 OBJECTIVES

The objective of the On-site Emergency Plan shall be to make maximum use of both the internal as well as the external resources:

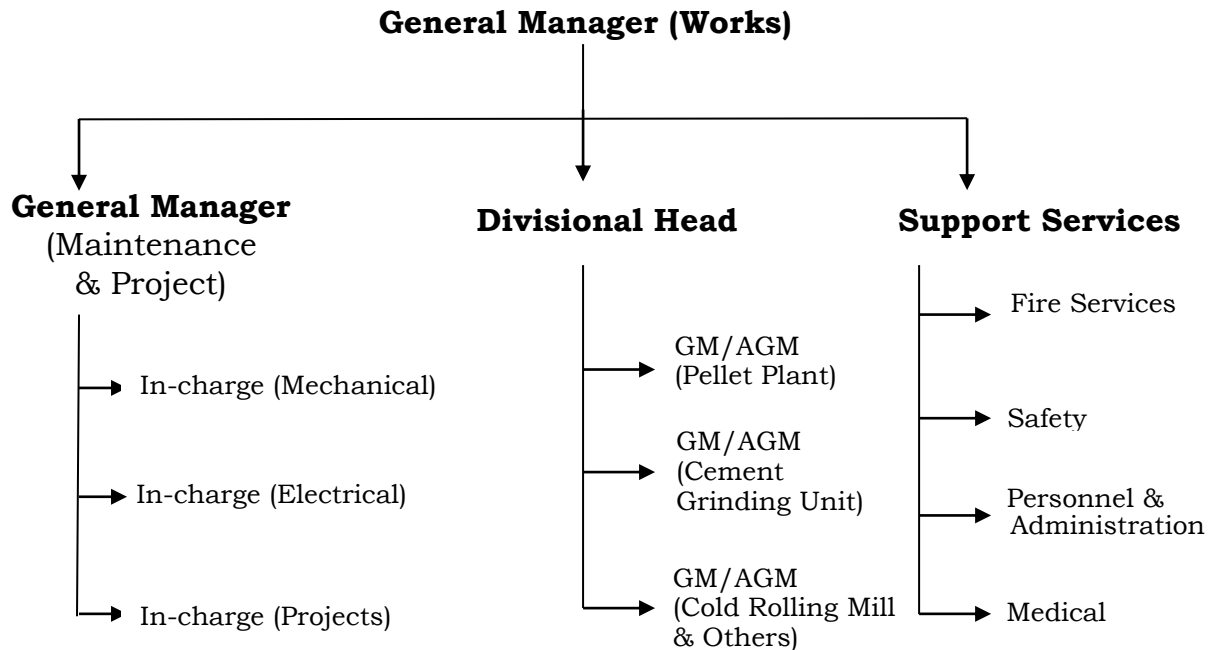
- For rescue and treatment of casualties and safeguard personnel in the premises.
- To minimize damage to property and environment.
- To initially contain and ultimately bring the incident under control.
- To ensure safe rehabilitation of affected areas.
- To provide authoritative information to the news media.
- To preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of emergency.

1.6 KEY PERSONNEL AND RESPONSIBILITIES

The actions necessary in an emergency will clearly depend upon the surrounding circumstances. Nevertheless, it is imperative that the required actions will be initiated and directed by nominated people, each having specified responsibilities as part of coordinated plan. Such nominated personnel will be known as Key Personnel.

1.7 ORGANIZATION

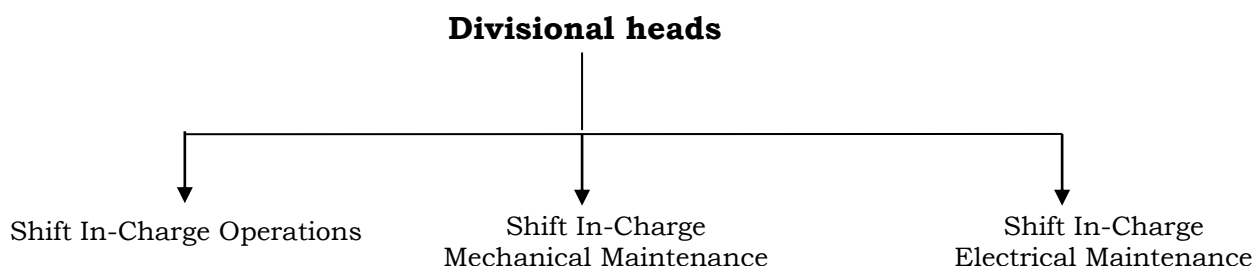
The Central Disaster Management Cell (DMC) will be set up under the direct charge of General Manager (Works). Organizational structure is as below-



General Manager (Works) will be empowered to declare emergency and he would be in charge of all operations in such situations. He will be supported by GM (Maintenance & Projects), Divisional Head of Pellet Plant, Security and Fire Fighting, Administration, Medical Officer, In-charge Safety and In-charge Environment in handling such a situation.

Disaster Control Cell will operate from the Administrative block during emergency.

There will be shop level Disaster management cell in each division. Divisional heads will be nominated as controllers for their respective divisions. They will support central team as required. Organizational structure is as below-



1.8 HAZARDOUS CHEMICALS & ASSOCIATED HAZARDS

The plant will have the storage facilities for the hazardous chemicals like Furnace oil, HSD etc., which may result in the fire or explosion hazard within the plant. The relevant details of the chemicals along with the range of the consequences are given in **Annexure – II.**

1.9 OFF SITE EMERGENCY PLAN

Type of emergency facilities/ actions required from outside bodies:

- a) Fire fighting facilities required: Factory will have its own fire fighting facilities but during emergency, fire brigade may be called.
- b) Police help required during emergency for evacuation of the people, traffic control security arrangements etc. shall be available.
- c) Medical help required: seriously injured personnel may be referred to the Hospital/Primary Health Centre depending upon the gravity and type of injuries.
- d) People living within the influence zone should be educated on the emergency in a suitable manner. This can be achieved only through the Local and District Authorities. However, necessary information can be extended to the Authorities.

List of Key persons of Off- Site Emergency Plan has been given in **Annexure - III.**

1.10 EDUCATION OF PUBLIC

People living within the influence zone should be educated on the emergency in a suitable manner. This can be achieved only through the Local and District Authorities. However, necessary information can be extended to the Authorities.

ANNEXURE - I

List of Key persons of on Site Emergency Plan

Sl. No.	Emergency Co-ordinator
01	Executive Director
02	General Manager (Works)
03	General Manager (Maintenance & Projects)
04	General Manager/ Asstt. General Manager (Pellet Plant)
05	General Manager/ Asstt. General Manager (Cement Plant)
06	General Manager/ Asstt. General Manager (Rolling Mill)

ANNEXURE-II**CHEMICAL DATA SHEET**

The factory will have only fire hazardous chemicals as shown below:

Fire Hazardous Chemicals	Handling	Storage Facility	Nature of Hazardous
LSHS/ Furnace Oil	Pumping system provided	In the tank	Fire hazard
HSD	Storage Tanks	Drums/Tank segregated	Fire hazard

Likely occurrence of major accidents from:

- a) Storage – Likely occurrence of major accidents could only be a fire and explosion.
- b) Process – From Processes also likely occurrence of major accident could be fire. Since processes does not involve any toxic chemicals and hence no chance of leakage of toxic gases.
- c) Leakage / Splashing of liquid metal.

Physical range of consequences propagating:

- a) From storage – Entire process plant
- b) From process – Localize to affected area

ANNEXURE - III**List of Key persons of Off Site Emergency Plan**

01	Collector of District
02	Asst. Director I & II
03	Fire Office
04	Controller of Explosive
05	District Informatics Officer
06	Superintendent of Police
07	District Health Officer
08	Assistant Labour Commissioner
09	SDO