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 OCL India Ltd. has planned to expand the existing Cement Grinding Unit from 1.35 MTPA to 4.0 MTPA through optimizing the existing cement grinding unit and by installation of a new 2.25 MTPA Cement Grinding Unit at Village: Kulapachuria, P.S. Salboni, Dist.: Paschim Medinipur in West Bengal. The proposed Plant has lower risk potential than those industries dealing with toxic and flammable chemicals. Off-site people are not exposed to any danger; 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 water reservoir and cooling water pond.
(a) **Mechanical injury to body parts:** In a 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. Failure of Power
2. Cyclone
3. Earthquake
4. Fire & Explosion
5. Sabotage
6. Riot
7. 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.

### 1.2.1 ON-SITE EMERGENCY PLAN

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. All efforts to control a disaster will be coordinated among the various coordinators.
1.2.2 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.

1.2.3 FACILITIES AVAILABLE WITH THE FACTORY
a) Fire Fighting Facility
The entire plant will be protected with fire extinguishing system from outside and inside the shop floor.

b) Material Handling
Heavy duty cranes including mobile cranes, fork lifts, trucks, trolleys will be 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. will be 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 company doctors. In case of major accident, persons will be referred to the nearest Hospital/Primary Health Centre.

1.2.4 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.

The organisational structure of the On-site Disaster Management Cell will be as under:
1.2.5 HAZARDOUS CHEMICALS & ASSOCIATED HAZARDS
The plant will have the storage facilities for coal & the hazardous chemicals like HSD, which may result in the fire hazard within the plant. The relevant details of the chemicals along with the range of the consequences are given in Appendix–I.

1.2.6 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 Appendix - II.

1.2.7 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.
Appendix-I

CHEMICAL DATA SHEET

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

<table>
<thead>
<tr>
<th>Fire Hazardous Materials</th>
<th>Storage Facility</th>
<th>Nature of Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>Covered Yard</td>
<td>Fire</td>
</tr>
<tr>
<td>HSD</td>
<td>Drums/Tank segregated</td>
<td>Fire/Explosion</td>
</tr>
</tbody>
</table>

Likely occurrence of major accidents from:

a) Storage – Likely occurrence of accidents could only be fire and explosion.

b) Process – No likely occurrence of any major accident. Since process does not involve any toxic chemicals and hence, no chance of leakage of toxic gases.
### Appendix-II

**List of Key persons of Off Site Emergency Plan**

<table>
<thead>
<tr>
<th>No.</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>District Magistrate</td>
</tr>
<tr>
<td>02</td>
<td>Fire Officer</td>
</tr>
<tr>
<td>03</td>
<td>Controller of Explosive</td>
</tr>
<tr>
<td>04</td>
<td>District Informatics Officer</td>
</tr>
<tr>
<td>05</td>
<td>Superintendent of Police</td>
</tr>
<tr>
<td>06</td>
<td>District Health Officer</td>
</tr>
<tr>
<td>07</td>
<td>Assistant Labour Commissioner</td>
</tr>
<tr>
<td>08</td>
<td>SDO</td>
</tr>
</tbody>
</table>