

EXECUTIVE SUMMARY

OF

**1x120 MW Coal Based Thermal Power plant
at
Sri Ramachandrapur village, Chathrapur Tehsil,
Ganjam Dist, Odisha**



Dr Rama Krishna Prasad Power Private Limited

**103, Royal Court Apartments, Road No.11,
Banjara Hills, Hyderabad – 500 034 A.P.
Ph: +91 40-64547414 Email: info@rkppower.com**

EIA CONSULTANT

M/S KALYANI LABORATORIES PVT. LTD., BHUBANESWAR

M/S SUN CONSULTANCY & SERVICES, BHUBANESWAR

EXECUTIVE SUMMARY

1.0 IDENTIFICATION OF THE PROJECT

Rama Krishna Power Private Limited is planning to set up a 1 X 120 MW coal based power plant. The location for the site is in Sri Ramachandrapur-Mouja, Chatrapur Tehsil, Ganjam district, which is about 14 Km from Berhampur in Odisha and 133 Kms from Bhubaneswar.

2.0 BRIEF DESCRIPTION OF THE NATURE, SIZE, LOCATION OF THE PROJECT

Salient Features of the proposed project

Sl. No.	Particulars	Details
	Location	Village- Sriramchnadarpuram, Chatrapur Tehsil, District Ganjam, Odisha. Site is about 14 Km from Berhampur. The access road to the plant site will be taken from National Highway 5. The proposed site falls under seismic zone 2. 19° 19' 41"-N, 84° 56' 21"- E, 56 Mts (MSL) Figure 1
	Plot Area	87.7 acres
1.	Nature of product & annual production capacity	1x120 MW Coal based Thermal Power Plant
2.	Station configuration	One steam generator with turbine generator.
3.	Cost of the project	Rs.700 Crores
4.	Land Type	Mostly barren
5.	Fuel	Imported coal and Indigenous coal.
6.	Annual fuel requirement	920000 TPA @ 100% plant load factor (PLF) with 100% indigenous coal. 569210 TPA @ 100% PLF with 70% imported coal and 30% indigenous coal.
7.	Manpower	75 nos
8.	Daily water requirement	880 cum/day
9.	Nearest Airport	Bhubaneswar (133 km)
10.	Source of water	Bore wells inside the plant
11.	Nearest Habitat	Totapalli (1.0 km)
12.	Rail Connectivity	Chatrapur Railway station (8.0 km)
13.	Seaport	Gopalpur Port (4.0 km)
14.	Existing	Indian Rare Earths Ltd. (3.0 km)

	Industries	
15.	Water Bodies	Rushikulya canal (0.5 km) Tampara Lake (4.5 km) Tampara Tank (8.5 km) Rushikulya River (14.5 km)
16.	Archaeological/ Historical/ Ancient Monuments	None within the 10 km radius of the proposed plant site
17.	Forest	None within the 10 km radius of the proposed plant site
18.	Sanctuaries/National Parks	None within the 10 km radius of the proposed plant site

3.0 JUSTIFICATION OF THE PROJECT

At present the country is facing peak deficit of around 12.1%. Further, the gap between supply and demand of power is likely to widen by 2032 and beyond. Looking into the present and future power scenario of the country the proposed 1X120 MW thermal power project will be beneficial for the economy of the state.

4.0 SCOPE OF THE STUDY

To carry out the EIA study, the details mentioned in the approved TOR by MoEF, New Delhi.

5.0 DESCRIPTION OF THE ENVIRONMENT

The baseline study was conducted during the period of **March 2013 to May 2013**. Information on micro-meteorological data, ambient air quality, water quality, noise levels and soil quality has been generated by M/s Min Mec R&D Laboratory, New Delhi. Long-term meteorological data was collected from the nearest IMD station at Gopalpur and micrometeorological data generated at the site using an automatic weather monitoring station. The primary data was collected for Ecological status of the core and buffer zone and the Socio economic aspects of the area. Apart from these, secondary data have been collected from Statistical Handbook, Revenue Records, Statistical Department, Soil Survey and ORSAC, District Industries Centre, Forest Dept. etc.

5.1 STUDY AREA

The study area covers 5 km radius from the plant boundary named as core zone and 10 km radius named as buffer zone. The project site is located at an average elevation of about 58.0 m above MSL. The site is well connected to NH-5 (1.0 km) by a black topped internal road (100 mts). The nearest human habitation is at a distance of 1.0 km (Totapalli village).

Core zone is devoid of any water body and dense vegetation. The land is barren with few bushes and small shrubs. Buffer zone comprises of water bodies and forests.

There is no seasonal or perennial nala passing through the project site. Rushikulya canal is at a distance of 0.5 km. Soil type is lateritic. These soils are red to reddish yellow in color and low in N, P, K, lime and magnesia.

5.2 GROUND WATER LEVEL

Pre-monsoon Depth to Water Level in project area ranges between 7.5 to 8.0 m bgl. Post monsoon Depth to Water Level varies from 2.0 to 6.5 m bgl in the wells monitored.

5.3 LAND USE & LAND COVER

The land use/ land cover map has been generated on 1:50,000 scale using digital classification of IRS-P6 LISS III data and Toposheets 74 A/15 and 74 E/3.

The satellite imagery data on the land use pattern it is observed that the major land use is contributed by agricultural land i.e 61% of the total land use pattern in core zone and 50% of the buffer zone and water bodies covered about 32% in the buffer zone and 17% in the core zone. Other land use type found in the core and buffer zone are waste land, forest plantation and built up area. Natural and man made coastal wet land contribute about 5% of the total land use pattern in core zone and 2% in buffer zone.

5.4 WATER ENVIRONMENT

The quality of surface and ground water was assessed by taking samples from 10 different locations. From the water quality results it can be inferred that all the parameters analyzed are under the prescribed limit and the water does not contain any pollutant which would be hazardous for human, animal or crop health. Turbidity of the ground water sample ranges from 0 to 14.3, pH ranges from 6.17 to 6.74, Total hardness ranges from 48 to 240 mg/l, dissolved solid ranges from 128 to 560 mg/l. The iron content of the water is found to be upto 0.4mg/l and the fluoride content

of the ground water ranges from 0.04 to 0.27. The ground water analysis result shows that the water is suitable for consumption and human use.

5.5 CLIMATE

The district is characterized by an equitable temperature all through the year, particularly in the coastal regions. May is the hottest month, with maximum temperature being 38° Celsius and January is the coldest month with a minimum temperature of 9° Celsius. The average annual rainfall of the district is 1251.5mm. The relative humidity is high through out the year specifically in coastal areas. Winds are strong particularly in coastal regions and monsoon months.

5.6 AIR ENVIRONMENT

The ambient air quality monitoring for PM₁₀, SO_x, NO_x was conducted during summer season from March to May 2013 for eight sampling stations in core and buffer zone. The concentrations of PM₁₀ and PM_{2.5} in the study locations varies from 52.1 to 88.1 µg / m³ and 28.4 to 52.8 µg / m³ respectively. The particulate matter in the sampling loactions is contributed due to local phenomena viz. unpaved roads, vehicular traffic on roads & agricultural activities leading to generation of dust rather than industrialization. The 24 hourly average values of PM₁₀ and PM_{2.5} were compared with the national ambient air quality standards and it was found that all the sampling stations recorded values lower than the applicable limit of 100 µg/m³ and 60 µg/m³ respectively. Presently there is no such source of SO₂ generation. The levels of SO₂ concentrations in the sampling locations are below 13.9 µg/m³. The 24 hourly average values of SO₂ when compared with the national ambient air quality standards and it was found that most of the sampling stations recorded values are much lower than the applicable limit of 80 µg/m³. The concentrations of NO_x values varies between 7.8 to 16 µg/m³ in the sampling areas. This mainly contributed by the vehicular emission. The 24 hourly average values of NO_x when compared with the National Ambient Air Quality standards and it was found that all the sampling stations recorded values much lower than the applicable limit of 80 µg/m³.

5.7 NOISE ENVIRONMENT

The noise level as measured varies from 41.70 to 54.80 dB Leq during day time and 39.30 to 44.70 dB Leq during night time. It is, therefore, concluded that the noise levels within the study area are well within the specified standards prescribed by CPCB Noise Rule, 2000.

5.8 BIOLOGICAL ENVIRONMENT

The project site is mainly lateritic without any large vegetation and tree species. The vegetation of the project site includes small saplings of *Azadirchta indica* and *Morinda pubescens*, shrubs like *Jatropha pubesches*, *Ageratum conyzoides*, *Calotropis procera*, *Lantena camara* etc and herb species of *Evolvulus alsinoides*, *Cleome viscosa*, *Andrographis paniculata* etc.

The buffer zone of the project site does not include any reserved or protected forest. The major vegetation within the buffer zone includes grass land, Planted casew and Casuarina vegetation, Coastal Kewda belt, Aquatic and semi aquatic vegetation and degraded scrub vegetation. The most common species *Pandanus fascicularis*, grows abundantly in the coastal areas of Ganjam district in between the rivers Rushikulya on the north and Bahuda on the south. This zone is known as the Kewda belt, which covers an area of approximately 45 km × 15 km along the coast of the Bay of Bengal.

5.9 THREATENED PLANT SPECIES

No plant species in the study area found to be included under any category of threat (Critically Endangered, Endangered and Threatened) as per the guideline of International Union for Conservation of Nature and Natural Resources (IUCN).

5.10 ECOLOGICALLY SENSITIVE ZONE IN THE AREA:

The study area within 10 Km of the project site is devoid of any national parks, sanctuaries, Biosphere reserves, wild life corridors, tiger/elephant reserves etc. The area is also devoid of any kind of vulnerable, endangered and critically endangered flora and fauna.

5.11 FAUNAL COMPOSITION

In the core zone of the project i.e. inside the M.L. area 13 species of wild animals found which includes 3 species of mammal, 2 species of reptiles and 8 species of birds. In the buffer zone a total of 47 species of wild animals recorded which includes 9 species of mammal, 8 species of reptile and 30 species of birds.

5.12 SOCIOECONOMIC PROFILE

There are 56 no of village present in the buffer zone. Total house hold of the area is 29754 nos. with total population of 136407. Out of the total population within the study area,

85209 persons are literate which contribute about 62.4 % of total population within the buffer zone. As per the baseline survey in the household it has been found that the major sources of drinking water in the villages are dug wells and hand pumps. The major health problem of the area are Eisonophillia, Fileria, Common Cold, Chicken pox, Typhoid, Diarrhoea, Dysentery, Malaria, T.B., Diabatis, Skin problem, Stomach infection etc.

The major problem area identified during the baseline survey is as follows:

- Sanitation has been emerged as a big problem among the villagers. Open defecation is common and only 19% of the households are having toilet facility.
- Drainage pattern is very poor in the villages and villagers suffer during the rainy season due to absence of drainage and water logging.

6.0 ANTICIPATED ENVIRONMENTAL IMPACTS

6.1 Ambient Air Quality

6.1.1 Impact during construction phase

The sources of air emission during construction phase will include site clearing, vehicles used for transportation and operation of construction equipments/machineries. Nature of emission from such activities is mainly fugitive dust. Gaseous emission like SO₂, NO_x, PM 10 are also anticipated as a result of machineries /equipments/traffic movement.

6.1.2 Impact during operation phase:

The main source of the pollution from the operation of coal based thermal power plant is the combustion of coal. Anticipated pollutants are particulate matter, sulphur dioxide (SO₂), oxides of nitrogen (NO_x) and carbon monoxide (CO). The fuel considered for the station is a mixture of imported coal (70%) and indigenous coal (30%).

Emission details

Parameters	Details
Particulate emission at ESP outlet	7.34 g/s
Sulphur dioxide	12.1 g/s
Oxides of Nitrogen	7.39 g/s
Stack Height	100 mts

6.1.3 Impact prediction through Dispersion Modeling

The results of the modeling study indicate that the maximum increase of GLC for the proposed project is $0.3661 \mu\text{g}/\text{m}^3$ with respect to the PM₁₀, $0.33924 \mu\text{g}/\text{m}^3$ with respect to the SO₂ and $0.3686 \mu\text{g}/\text{m}^3$ for NO_x which is minimal. The GLC predicted at all receptor locations after the proposed expansion are well within the PM₁₀, SO₂ and NO₂ limit prescribed in NAAQS (National Ambient Air Quality Standard) stipulated by CPCB.

6.2 Noise Environment

6.2.1 Impact during Construction Phase

Major source of noise is due to construction equipments which may go up to 85 to 90 dB (A) at source during day time. Noise generated is expected to be intermittent and short term in nature.

6.2.2 Impact during operation phase

Some areas inside the plant will have noisy equipments that includes;

- Steam generators and auxiliaries;
- Boilers and auxiliaries,
- Crushers;

6.2.3 Noise Modeling

During operation phase the major source of noise will be steam turbine which is likely to generate 85 dB (A) noise. Maximum noise level of 88 dB (A) will be experienced at a distance of 0.5 mts from the source. Beyond 2.2 meters noise level will be less than 70 dB (A). Distance of sensitive receptors i.e. plant residential area and villages are beyond 425 mts from the source. Beyond 200 mts distance noise emanating from source is negligible.

6.3 Water Resources & Quality

6.3.1 Impact during construction phase:

The quantity of water required during construction is very less since most of the installation are of fabrication in nature excepting the foundation concreting. The wastewater generated during construction phase shall be mainly from worker colonies. Since most of the workers will be from local area, wastewater generated will be minimum. Waste water generated during this phase will be disposed off to septic tank via soak pit.

6.3.2 Impact during operation phase

Major source of water pollution in thermal power plant are thermal discharges, Cooling tower blow down, Ash handling wastewater, Material storage runoff, Sanitary wastewater, Oily waste water, Boiler blow down during start-up / maintenance , ESP washing and storm water.

Storm water generated considering maximum rainfall of 0.05 m is being tabulated below;

Storm Water Generation

Sl. No	Storm Water Generation Area	Area in Sq. M	Volume of Storm Water In Cu. M
01	Ash Disposal area	7736.6	193.4
02	Coal Stock Yard & CHP area	16980	424.5
03	Workshop	501	12.5
04	LDO Loading/ Unloading & storage	834.8	20.8
05	Crusher area	671.5	16.78
06	Parking area	343.8	8.6
07	Transformer area	105	2.62
Total		27172.7	679.2

6.4 Land Issues and Waste Management

6.4.1 Impact during construction phase

Some earthworks will be carried out specifically land raising/grading and excavation for foundations during construction. The area is devoid of any significant vegetation except some grasses and bushes. Therefore further clearing of vegetation is not required for site preparation.

6.4.2 Solid waste generation

The station will generate around 90306.84 TPA ash with proposed blended coal. As indicated earlier area of approx. 11 Acres is considered for emergency dumping of ash generated from the station. The plot is adequate for dumping of ash for the initial years with the provision of green belt around. Proximity to ash pond will ensure short ash transportation route and cost thereof. Bed Ash will be carried up to bed ash silo by dry extraction and Fly ash will be carried up to fly ash silo by dry extraction.

6.5 Impacts on Social Environment

Local skilled, semi skilled and unskilled labourers will get direct and indirect employment during the construction phase. This results in a rise in economic status of the area in terms of wages. Hence, short-term positive impacts on socio-economic conditions of the area are anticipated during the construction phase. Impact on forestry/ plantation is minimal as the area comprises of no such resources. There shall be safety risks related to transportation of machineries and materials through public roads due to increase in the local traffic and also, there is a requirement for warning signs to minimize damage to the third-party vehicles.

6.6 Ecology

6.6.1 Impact during construction phase:

Potential ecological effects during construction phase of the proposed project may include the following:

- Vegetation clearance and habitat loss;
- Disturbance of wildlife; and
- Habitat contamination.

The area affected is small as the construction and operation impact is not likely to extend beyond core zone. The proposed site is devoid of any vegetation except some bushes of *Jatropha*, *Ageratum*, *Calotropis*, *Lantena* etc. Faunal diversity is negligible as the area is open land devoid of any water body and dense vegetation. The land is barren with few bushes and small shrubs. The overall impact is therefore considered to be of minor significance.

6.7 Occupational health and safety:

6.7.1 Impact during construction and operation phase:

Occupational health problem may arise from worker exposure to dust from ash and coal. Prolonged exposure to noise may also pose as a critical occupational health concern.

- Respiratory diseases due to exposure to coal dust, SO_x, NO_x.
- Noise induced hearing loss
- Potential exposure resulting from boiler leaks including SO₂, SO₂ reaction products (Sulphates, sulphites), CO, NO, NO₂, fly ash, unbrunt hydrocarbons, PAH including benzo- α -pyrene and aldehydes.

- Particulates in the form of fly ash containing trace elements. Fly ash (0.2 – 10 µm dia) is responsible and preferentially deposited in lungs.

6.8 Impact on Existing Traffic:

Traffic to the site during construction will be intensive and more than at present in normal operating conditions. Increased congestion on the main roads to the power plant may arise due to construction vehicles. In turn, it will subject existing roads to marginal stress. These impacts will only occur during the peak construction phase and during peak hours. These are predicted to be insignificant.

7.0 ENVIRONMENTAL MANAGEMENT PLAN

7.1 Land Environment

- Excavated topsoil will be used for backfilling and leveling of the area as the area is undulating in nature.
- Waste oil shall be collected through the drain ports and stored in leak proof steel drums.
- Proper plan to collect and dispose off the solid waste generated onsite.
- Garland drain(s) around the stockpiles and other process areas will be provided to collect and carry the contaminated water to the settling ponds.

7.1.1 Solid waste Generation:

Major waste generated from coal fired thermal power plant is flyash and bottom ash. Fly ash shall be sent to nearby cement plants and bricks manufacturer for further utilization. Proponent is having MoU with Building Material Manufacturer Association for utilization of 250 TPD of flyash.

7.2 Water Environment

Total fresh water requirement for the project is 880 cum/d. Waste water estimated to be generated from various units is 624 cum/d. RO reject will be neutralized and mixed with boiler blow down and cooling tower blow down. Effluent treatment plant of capacity 1200 will be commissioned. Treated water meeting with G.S.R 422(E) will be utilized in process, dust suppression and greenbelt development.

7.2.1 Runoff management

Run-off water is likely to be generated from storage areas, stockpiles and waste dumps to the tune of approximately 679.2 cum/d. This runoff will be taken through peripheral drains and

discharged into settling ponds. There will be 4 no. of settling ponds. One neutralization pit near DM plant, oily water collection pits (2 nos.) near transformer yard and work shop are and settling pond near coal handling plant area.

7.2.3 Rain water harvesting structure

Proposal for rain water harvesting at the project site is proposed to conserve the rainwater for reuse and thus reducing the overall raw water consumption requirements during construction as well as commissioning stage.

7.3 Air Environment

To reduce particulate emission ESP will be installed. The design of ESP will be such that the outlet dust-burden does not exceed 50 mg/Nm³. The maximum flue gas velocity through the ESP shall not exceed 0.7 m/sec to ensure efficient collection without re-entrainment losses.

7.3.1 CO₂ reduction through Greenbelt Development

1400 Nos. of Broad leaf trees will be planted as green belt around the boundary wall which is effective of fixing substantial CO₂ from the atmosphere.

7.3.2 Control of Fugitive Dust around the Plant Site

Water or Water mixed chemical shall be sprayed at conveyors, loading and unloading points etc. Water sprinkling by using fine atomizer nozzels arrangement shall be provided on the following points;

1. Adjacent to internal roads: 6 nos.
2. Near Raw material stack yard: 3 nos.
3. Near administrative building: 2 nos
4. Reject storage area: 2 nos.
5. Crushing area: 4 nos.

7.4 Noise Environment

Sources of Noise Generation, Intensity and Predicted Noise Reduction

Noise Sources		Source Intensity dB(A)	Controlling Measures	Noise amount lowered dB(A)
Boilers	Security	114	Mufflers	30
Valves				
Discharging Devices				

Power generator	90	Mufflers, Damping Materials, Sound-isolation	30
Each De-dusting Ventilators	92	Mufflers, Sound-isolation	30
Air compressor	91	Mufflers	30
Water pump	90	Damping, Sound-isolation	25

7.5 Biological Environment

The proposed plant site does not fall within the boundaries of any ecologically sensitive areas. No loss of forest cover is envisaged due to the project. However conservation of wild plant species naturally existing within the site will be undertaken as far as possible. An extensive green belt program is being proposed for maintaining better environment.

7.6 Green Belt Development

7.6.1 Proposed Plant species for Plantation:

Sl. No	Location	Species Proposed
01	Near the Ash Dyke and coal storage yard	<i>Azadirachta indica</i> , <i>Cassia siamea</i> , <i>Tectona grandis</i> , <i>Dalbergia sisoo</i> , <i>Acacia nilotica</i> ,
02	Residential area & road side	<i>Azadirachta indica</i> , <i>Cassia siamea</i> , <i>Tectona grandis</i> , <i>Dalbergia sisoo</i> , <i>Morinda tinctoria</i> , <i>Alstonia scholaris</i> , <i>Acacia nilotica</i> , <i>Casuarina equisetifolia</i> , <i>Anthocephalus kadamba</i> , <i>Ceaslpinea pulcherima</i> , <i>Cassia fistula</i> , <i>Cassia auriculata</i> , <i>Garden Palm</i> , <i>Ornamental Bamboo</i> , <i>Duranta repens</i> , <i>Gardenia jaminoides</i> , <i>Hibiscus rosa – sinensis</i> , <i>Murraya exotica</i> , <i>Murraya koengii</i>
03	Open space	<i>Azadirachta indica</i> , <i>Cassia siamea</i> , <i>Tectona grandis</i> , <i>Dalbergia sisoo</i> , <i>Cassia fistula</i> , <i>Albizzia lebbeck</i> , <i>morinda tinctoria</i> , <i>Phylanthus emblica</i> , <i>Aegle marmelos</i> , <i>Nyctanthes arbor-tristis</i> , <i>Annona squamosa</i> ,
04	Near Raw water reservoir and Raw water pump area	<i>Azadirachta indica</i> , <i>Cassia siamea</i> , <i>Tectona grandis</i> , <i>Dalbergia sisoo</i> , <i>Anthocephalus kadamba</i> , <i>Syzygium cuminii</i> , <i>Alstonia scholaris</i> <i>Cassia fistula</i> , <i>Delonix regia</i> etc.
05	Near southern & Suth-east Boundary of the Project site	<i>Azadirachta indica</i> , <i>Cassia siamea</i> , <i>Tectona grandis</i> , <i>Dalbergia sisoo</i> , <i>Cassia fistula</i> , <i>Albizzia lebbeck</i> , <i>morinda tinctoria</i> , <i>Saraca asoca</i>
06	Green Belt	<i>Azadirachta indica</i> , <i>Cassia siamea</i> , <i>Tectona grandis</i> , <i>Dalbergia sisoo</i> , <i>Morinda tinctoria</i> , <i>Alstonia scholaris</i> , <i>Delonix regia</i> , <i>Gmelia arborea</i> , <i>Bauhinia purpurea</i> , <i>Mimosusps elengii</i> , <i>Syzygium cuminii</i>

7.7 Occupational Health & Safety

General health check up for employees is being conducted once in a year. The company will maintain Occupational safety & health of the employees with well defined procedures, as per ISO- 14001 and OSHA-18001. A well defined On site emergency plan, monitoring and mock drills will be conducted regularly. Ambulance will be kept ready for the plant.

7.8 Fire Safety

The entire built up area of the proposed unit will be covered by pressurized water supply pipe network for supply of firewater. Sprinkler system shall be provided for following items/area of the plant:

- Lube oil tanks, Lube oil and Diesel storage room and Turbine governing oil system equipment, tank, pipe work etc.
- Cable galleries in main control/electrical building and cable tunnel, if any.
- Fuel oil pumping units.
- Turbine generator lube oil and BFP lube oil equipment, tank, pipe work etc.
- Diesel engine driven fire pump
- Emergency diesel generators

8.0 ENVIRONMENTAL MONITORING PROGRAM

8.1 Monitoring Schedule and Parameters

Sl. No.	Environmental Attributes	Location	Description of Parameters	Schedule & Duration of Monitoring
1.	Air quality	<ul style="list-style-type: none"> • Inside Plant site • Plant boundary • Offsite monitoring in villages • Sensitive receptors according to air quality modeling 	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x CO, HC	24 hour average samples; Once in a month

2.	Water & Waste water <ul style="list-style-type: none"> • Effluent • Surface water • Ground water 	On-site <ul style="list-style-type: none"> • Rushikulya Canal (0.5 km) • Ground water in villages 	pH, coliform, Oil and grease, total suspended solids, turbidity, Iron, Copper, Magnesium, Lead and conductivity , other heavy metals	every 3 months for onsite sampling for effluents and every 6 months for offsite sampling. (if no discharge)
3.	Ecology	In nearby villages	Qualitative and quantitative survey	Annual
4.	Landscape	Inside and outside the premises	Monitoring tree health and replanting if necessary	Annual
5.	Risk management	Inside the premises	Checking accidents Records/procedures Six monthly check of storage facilities General housekeeping Repair/upgrade as required	6 monthly

9.0 DISASTER MANAGEMENT PLAN

In order to be ready to face the adverse effect of accidents caused by hazardous substance, a Disaster Management Plan (DMP) has to be prepared which include on-site and off-site emergency plans by the industry as required under Acts and Rules. This Disaster Management DMP is formulated with a view to create an effective procedures so that the people will get maximum benefit. The purpose of the present document is meant for ensuring quick approach for rescue.

10.0 PROJECT BENEFITS

This proposal for CSR is formulated for implementation of need-based programmes based on baseline socioeconomic survey and interactions with community representatives.

10.1 Education

- Consultation will be done with teachers, Parent Teachers' Associations (PTA), village panchayats, government education departments and NGOs for taking educational initiatives and its effective implementation.

- Computer Education: Project to provide computer education in schools will be undertaken which include Computer Aided Learning (CAL) in the teaching and learning process.
- Summer Vacation Computer Coaching Program: About 15-20 students will be provided with a 15 days Summer Vacation Computer Training Certificate Course.
- Infrastructure development in existing school as per requirement

10.2 Health

- In association with the Government Health Department, health camps will be conducted in remote villages to minimise health related deaths through timely check-ups and awareness on prevalent diseases
- One van will be provided for villages within 5 km radius to serve as ambulance for emergency services to Hospital at Chatrapur.
- Safe Drinking Water: Rehabilitation of hand pumps and bore wells in villages to provide safe drinking water.

10.3 Sanitation

- Providing Toilet facility to 3 no. of villages if not available. Awareness for sanitation to be given.

10.4 Infrastructure Development

- Construction of gathering hall in village Sri Ramchandrapur
- Solar street lighting
- Fly ash bricks to be provided to the people in need in free of cost. Low laying areas to be filled up with fly ash.