

	Environmental Impact Assessment Report for the Proposed 2x660 MW Thermal Power Plant , Premnagar , District Sarguja, Chhattisgarh
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1.0 PROJECT DESCRIPTION

1.1 Identification of Project and Project Proponent

The joint venture company, **M/s. IFFCO Chhattisgarh Power Limited (ICPL)** proposes a mega thermal power station (TPS) of 1320 MW (2 x 660 MW) capacity power generation at Chandan nagar, Block Premnagar, Tehsil Surajpur, District Sarguja, Chhattisgarh State with an investment of Rs. 6416 crores.

Chhattisgarh State Government has promoted a joint venture company between M/s. Indian Farmers Fertilizer Cooperative Limited (IFFCO) and Chhattisgarh State Electricity Board (CSEB). In this joint venture company, IFFCO will have participation of 74 % and balance 26 % will be held by CSEB.

ICPL along with another State Government undertaking, Chhattisgarh Mineral Development Corporation (CMDC), a 100% Government of Chhattisgarh (GoCG) owned company, will form a joint venture company to undertake mining in Tara Central Coal Block in Sarguja District of Chhattisgarh. The coal block is allocated to GoCG. The State Government has planned to exploit these coal reserves for power generation purpose and has linked the Tara Central Coal Block with the proposed ICPL thermal power station. ICPL will be procuring the coal from Tara Central Coal Block located at about 6-km from the proposed plant site, which will facilitate assured availability of coal at lower transportation cost.

The power generated at the power station shall be shared between joint venture partners in ICPL viz. CSEB and IFFCO in 90:10 ratio. CSEB will arrange distribution of their share of power within state from the proposed EHV sub-station at Raipur. IFFCO will wheel their share of power to another beneficiary state through PGCIL (National) grid/Interstate transmission system to meet the criteria laid out for Mega Power status by GOI.

1.2 Environmental Setting of the Site

The proposed Coal based Thermal Power Plant will be located near Premnagar Block of Surajpur Tehsil in Sarguja district of Chhattisgarh state. The proposed plant site is located adjacent to Premnagar-Tara road, which is connecting to State Highway (Bilaspur-Ambikapur) passing at about 7.5-km from the plant site. The ash-pond area is proposed to be located near Raghunathpur and Premnagar village which is 4.6-km in North West direction. The 10-km radius study area of the project site is given in **Figure-1**.

1.3 Description of the Site

The land requirement of the proposed project is 748.21 ha and spreads over five revenue villages viz. Premnagar, Raghunathpur, Namana, Abahyapur and Chandan nagar. The proposed plant site involves mostly single crop agricultural land, barren land and forest land.

The proposed site involves Reserve Forest (Janardhanpur RF) area of 40 ha. Atem river, which is a source of water is flowing at a distance of 2.5-km from eastern plant boundary.

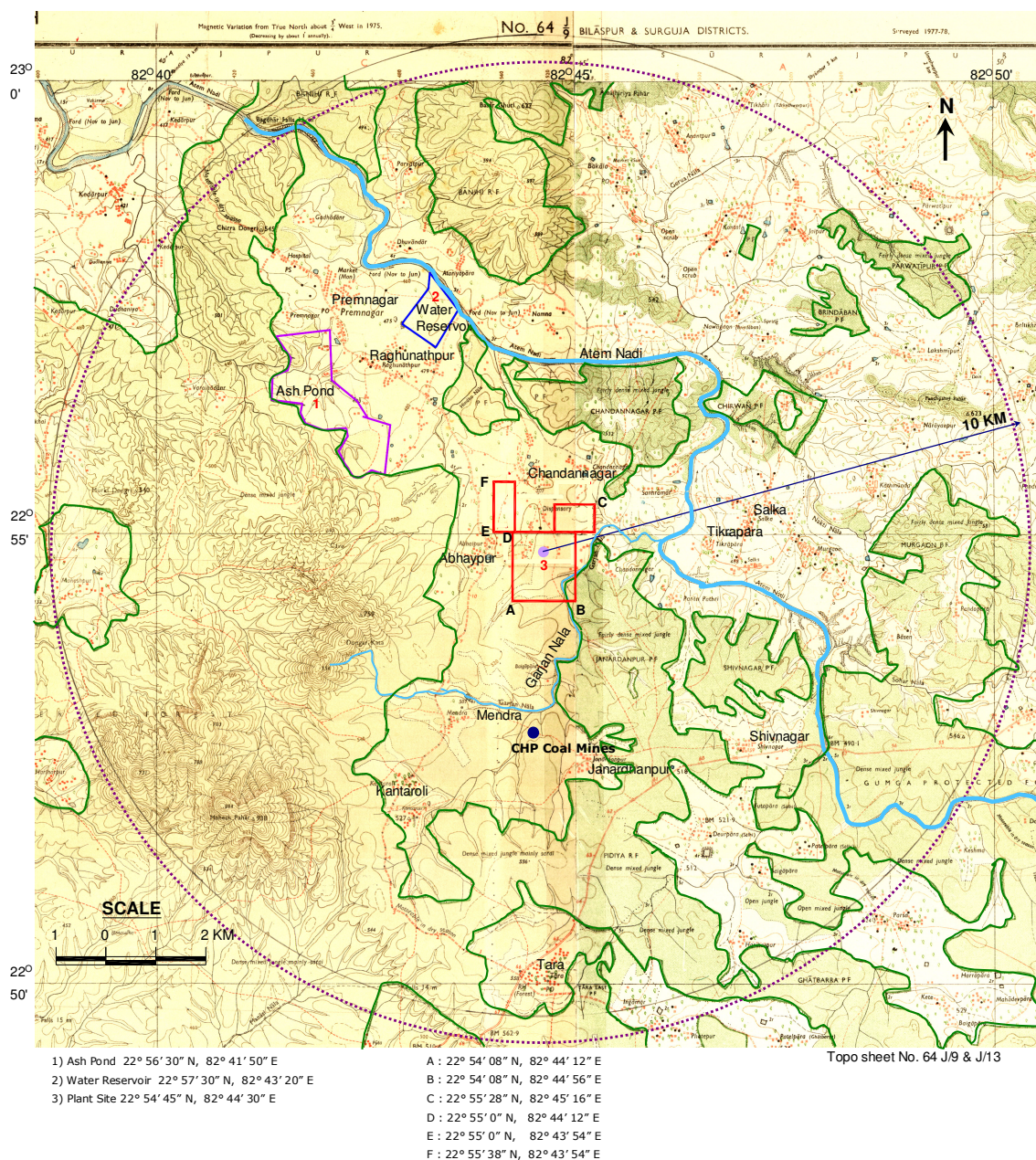


FIGURE-1
10-KM RADIUS STUDY AREA OF THE PROJECT SITE

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Proposed site involves 1386 affected families as defined in Rehabilitation and Resettlement Policy of Government of Chhattisgarh in which each male adult is considered as affected family and there will be about 517 khatedar losing the land. The Resettlement and Rehabilitation plan has been prepared based on Chhattisgarh Government R&R Policy and all the compensation will be paid to project affected people as per the policy.

There are no industries in study area of 10-km from the project site. There are no wild life sanctuaries and National Parks within 15-km radial distance from the plant.

1.4 Details of Proposed Project

The proposed power plant will be operated on coal as main fuel to generate 1320 MW of power. Supercritical boilers will be installed in the project, which are more efficient in operation. The details of the proposed power project are given in **Table-1**.

TABLE-1
SALIENT FEATURES OF THE PROPOSED PROJECT

Sr. No.	Parameters	Description
1	Plant capacity	1320 MW (2 x 660 MW)
2	Total area of the plant	748.21 ha
3	Fuel	Coal
4	Source of fuel	Tara Captive Coal Block
5	Fuel transportation	By conveyor system
6	Coal requirement	20000 TPD
7	Gross calorific value	3800 Kcal/kg
8	Ash content	35 – 40%
9	Sulphur content	0.3% - 0.6 %
10	Ash generation	8000 TPD
A	Bottom Ash	1600 TPD (20%)
B	Fly Ash	6400 TPD (80%)
11	Water requirement	
A	Requirement	Fresh water requirement will be 3650 m ³ /hr
B	Source of water	From river Atem and confluence point of Atem and Gej river.
C	Cooling water system	Semi-open re-circulating condenser cooling system
12	Total wastewater generation	30-m ³ /hr will be used in ash handling system.
13	Wastewater treatment	• Neutralization pond • Settling pond • Oil-water separator • Guard pond • Sewage Treatment Plant
14	Fire fighting system	Adequate fire fighting systems as per Tariff Advisory Committee (TAC), OISD and NFPA guidelines will be provided
15	Stack details	

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Sr. No.	Parameters	Description
A	No. of stacks	1 (with twin flues)
B	Stack height	275 m
C	Diameter of each flue at top	7.5 m

Electrostatic Precipitator (ESP) would be provided for efficient collection of fly ash in flue gas. ESP shall be designed to limit the outlet emission of particulate matter to less than 50 mg/Nm³. Stack of 275 m height will be provided for the quick and wider dispersion of gaseous pollutants in line with the norms of Central Pollution Control Board.

1.4.1 Pipeline and Transmission Line

Buried raw water pipeline with suitable protection for corrosion shall be laid from river water intake point to water reservoir. Similarly ash pipeline also shall be laid above ground along the side of the road from plant site to ash pond.

Power from the proposed station would be available at 400 KV level in the switchyard bus bar and would be evacuated through one (1) no. 400 kV double circuit line to the proposed 400 kV CSEB sub-station at Raipur.

1.4.2 Ash Handling System

The ash handling system for the proposed 2 x 660 MW station would comprise dry extraction/conveying system for both bottom ash and fly ash up to respective silo and subsequent disposal to ash dump yard employing High Concentration Slurry Disposal (HCSD) system. The ash dump yard is located at about 7-km from the plant site.

1.4.3 In-Plant Facilities

In the proposed power plant, excellent working facilities will be provided to attract and sustain competent workforce. Some of the major facilities to be provided inside the power station premises would include administrative building, technical office, canteen, first aid centre, fire control and time office, vehicle parking and cycle sheds, toilets, wash rooms, change rooms etc., to facilitate smooth operation of power plant.

1.4.4 Water Requirement

Water will be used for condenser cooling, cooling of steam generator and turbine generator auxiliaries and various other requirements such as steam and water cycle make-up. The total water requirement of the power plant will be 3650 m³/hour.

Water requirement for the proposed power plant will be met from Atem river and confluence point of Atem and Gej river, which is a tributary of Hasdeo river. Water would be pumped from the intake pump house and received in a raw water reservoir located at Raghunathpur. The required water (54 MCM) has been allocated by Water Resources Department, Government of Chhattisgarh.

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Recirculating cooling water system using wet type cooling tower is considered for the station. In plant raw water reservoir will be provided which will have a total storage capacity of about 7 days water requirement.

1.4.5 Township

A township for Power Plant has been planned, which will be self contained and equipped with all the amenities. About 600 employees will be house in the township.

1.4.6 Proposed Schedule for Approval and Implementation

The first phase of 660 MW will be operational within 3.5 years from the date of obtaining all the necessary approvals. The second phase of 660 MW will be commissioned within six months from the first phase commissioning.

2.0 DESCRIPTION OF ENVIRONMENT

The 10-km radial distance from the plant boundary has been considered as study area for Environmental Impact Assessment (EIA) baseline studies. Environmental monitoring for various attributes like meteorology, ambient air quality, surface and ground water quality, soil characteristics, noise levels and flora & fauna have been conducted at specified locations and the secondary data collected from various Government and Semi-Government organizations.

2.1 Land Use

The land use pattern of the study area has been studied by analyzing the available secondary data published in the District Primary Census abstract of the year 2001.

The total geographical area under the study consists 1077 ha (7.0%) of the forest land and 9647 ha land (62.2%) of agriculture land.

2.2 Soil Quality

A total of *ten* samples within 10-km radius of the plant site were collected for the assessment of soil quality. The sampling was carried out during winter season and Pre-Monsoon season.

The pH of the soil extracts varied from 6.8 to 7.9 indicating neutral to moderately alkaline in nature. Based on the results, the soil samples in the region are neutral to slightly alkaline in nature with very less to less quantity of Organic Carbon, Nitrogen and Potassium levels.

2.3 Meteorology

On site monitoring was undertaken for various meteorological variables in order to record the site specific data. Data was recorded every hour continuously from 4th October 2005 to 31st May 2006 to cover Post monsoon, winter and Pre-Monsoon seasons.

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The maximum and minimum temperatures recorded during the study period are 43.1°C and 6.3°C. The relative humidity found varying from 26 to 82%. Summary of wind pattern at site is given as under:

Season	First Predominant Wind Direction	Second Predominant Wind Direction	Predominant Wind Speeds (kmph)	Calm (%)
Post Monsoon (2005)	N (7.5%)	NNE (5.4%)	1 - 19	60.1
Winter (2005-06)	N (9.3%)	NNE (4.4%)	1 - 19	66.6
Pre-Monsoon (2006)	N (25.5%)	W (14.1%)	1-19	16.3

2.4 Ambient Air Quality

To establish the baseline status of the ambient air quality in the study area, the air quality was monitored at 8 locations. The monitoring was carried out from 4th October 2005 to 31st May 2006 to represent post – Monsoon, winter and Pre-Monsoon seasons respectively. The summary of the Ambient Air Quality monitored is given in Table-2.

TABLE-2
SUMMARY OF AMBIENT AIR QUALITY IN THE STUDY AREA

Season	TSPM	RPM	SO ₂	NO _x
Post Monsoon 2005	82.0 – 106.3	28.0 – 36.1	5.0 – 7.0	5.3 – 8.0
Winter 2005-06	78.1 - 94.5	27.6 – 34.6	5.2-7.7	5.7-9.1
Pre monsoon 2006	83.3-108.5	29.9-39.4	5.0-7.1	5.2-8.9

Concentrations are expressed in µg/m³

The results of the monitored data indicate that the ambient air quality of the region in general is in conformity with respect to rural/residential norms of National Ambient Air Quality standards of CPCB, with present level of activities.

2.5 Water Quality

Six ground water samples and four surface water samples within the study area were considered for assessment. The water samples were collected during Post-Monsoon (2005), winter (2005-2006) and Pre-Monsoon Season (2006) respectively.

• Surface Water Quality

Based on the results it is evident that most of the parameters of the samples comply with IS:2296 (Class C) standards indicating their suitability for drinking and other purposes after conventional treatment followed by disinfection.

• Ground Water Quality

Most of the villages in the project area have bore well and tube well facilities, as most of the residents of these villages make use of this water for drinking, bathing and other domestic uses. Therefore, bore well samples have been considered for sampling.

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Based on the above results it is evident that most of the parameters in ground waters fairly meet the desirable standard limits of IS: 10500 except a few cases with respect to dissolved solids that are acceptable in absence of other alternative choice.

2.6 Ambient Noise Levels

The main objective of noise monitoring in the study area is to establish the baseline noise levels and assess the impact of the total noise expected to be generated by the construction and operation of the proposed plant. The noise monitoring has been conducted at 10 locations in the study area.

Day time and night time noise levels at residential areas found varying from 49.1 to 53.9 dB(A) and 36.7 to 43.9 dB(A) respectively, which is well below the prescribed limits. Similarly, in commercial area, Day time and night time noise levels found 57.2 dB(A) and 48.7 dB(A) respectively.

2.7 Flora and Fauna

An ecological survey of the study area was conducted particularly with reference to listing of species and assessment of the existing baseline ecological (Terrestrial and Aquatic ecosystem) conditions during winter and pre-monsoon seasons of 2005-06.

2.7.1 Forest Blocks in Study Area

There are 11 Reserve Forest blocks in the study area. Nearest Reserved forest is Janardhanpur, which is about 0.2 km on north and mainly composed of *Shorea robusta*.

As per Ministry of Environment Notifications and local forest notifications reveals that no Wildlife sanctuaries, National parks/biospheres in 25 km radius from plant boundary.

2.7.2 Flora

Detailed studies conducted at 10 locations near to villages, forest blocks and along the highways to identify the common plant species and to identify presence of any threatened, medicinal and rare plant species in study area.

During field survey, maximum 327 number of plant species (except algae, fungi and bryophytes) were recorded from the study area.

The study area did not record the presence of any critically threatened species. The records of Botanical Survey of India and Forest department also did not indicate presence of any endangered and or vulnerable species in this area.

2.7.3 Fauna

52 birds species, 7 species of reptiles, 5 species butterflies, 2 species of Amphibians and 16 species of mammals are recorded, out of which 2 species belongs to

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Schedule-I, 4 species belongs to Schedule-II animals and rest belongs to Schedule-III and IV and V of Wildlife (Protection) Act,1972.

2.7.4 Aquatic Ecosystems

Aquatic ecological studies were conducted to assess the biological resources in study area. Two sampling locations were identified for sampling. Samples were collected during the winter season. Plankton diversity Index for phytoplankton and zooplankton varies from 3.21 to 3.05 and 2.69 to 2.56.

2.8 **Socio-Economic Environment**

As per 2001 census, the study area consists of 31127 persons inhabited in 155 km² of area. The males and females constitute 51.1% and 48.9% of the study area population respectively. The average household size of the study area is 5 persons. The density of population reveals that the study area has an overall density of 200 persons per km². The configuration of male and female indicates that the males constitute to about 50.27% and females to 49.73% of the total population. In the study area, 3.4% of the population belongs to Scheduled Castes (SC) and 62.7% of the population belongs to Scheduled Tribes (ST). The study area experiences a very poor literacy rate of 45.1%. As per 2001 census records, altogether the main workers works out to be 32.3% of the total population. The marginal workers and non-workers constitute to 19.1% and 48.6% of the total population respectively.

3.0 **ANTICIPATED ENVIRONMENTAL IMPACTS**

The environmental impacts during construction and operation phases of the proposed project have been assessed and adequate management plan has been evolved to mitigate the impacts.

3.1 **Impacts during Constructional Phase**

The environmental impacts during the construction stage will be short term, temporary in nature and will be confined very close to project sites. The manpower required for these activities should preferably be employed from nearby villages.

3.1.1 Land Environment

Total 748.21 ha of land is needed for the project. Prior to construction, land will be developed by leveling and grading. During construction, the vegetation cover may be disturbed. Present land use of the selected site is mostly single crop agricultural, barren land and forest land. There will be change in land use of the area and the selected site will be categorized as industrial area.

After the acquisition of land, the affected persons will be eligible for employment in the proposed plant depending on their suitability. Some people may opt for cash compensation along with training for the self employment. This will improve the income level of the affected population.

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Further, construction of water pond covering an area of 57-ha after commissioning of the plant will help in recharging of sub-soil water level and change the single crop agricultural area to double crop irrigated area in the study area. The increased power availability will help farmers to enhance their agricultural activities and will result in increased annual income.

The displaced population will be shifted to Rehabilitation colony, which will be equipped with necessary amenities and will improve the living style of the population.

3.1.2 Impact on Soil

The construction activities will result in loss of vegetation cover (grasses and shrubs) and topsoil to some extent in the plant area. Apart from localized construction impacts at the plant site, no adverse impacts on soil in the surrounding area are anticipated.

3.1.3 Impact on Air Quality

The main sources of emission during the construction period are the movement of equipment at site, construction activities and exhaust emissions from vehicles and equipment deployed during the construction phase. The impact will be for short duration and confined within the project boundary and is expected to be negligible outside the plant boundaries.

3.1.5 Impact on Terrestrial Ecology

The initial construction works at the project site involves land clearance. During construction, vegetation may be disturbed including tree cutting. However, tree cutting will be kept at bare minimum. Greenbelt will be developed during construction to improve the aesthetic value in the area and to screen out the fugitive dust generated during construction.

The project site will be extensively landscaped with the development of green belt consisting of a variety of taxa, which would enrich the ecology of the area and add to the aesthetics.

3.1.6 Socio-Economic Impacts

The project will provide either direct or indirect job opportunities to the local population as far as possible.

3.2 **Impacts during Operational Phase**

3.2.1 Impact on Soil

Most of the impacts of power plant project on soils are restricted to the construction phase, which will get stabilized during operational phase. The impact on the topsoil will be confined to the proposed main plant area.

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3.2.2 Impact on Air Environment

The impact on air quality is assessed based on emissions of the proposed power plant. Being coal based power plant, Suspended Particulate Matter (SPM), Sulphur dioxide (SO₂) and Oxides of Nitrogen (NO_x) will be the important pollutants emitting from the proposed power plant.

In order to estimate the incremental impact on air quality, modelling scenarios have been considered with sources of emissions.

The incremental concentrations when superimposed over the existing baseline concentrations, the resultant concentrations will be within the permissible levels for residential/rural conditions.

3.2.3 Impact on Water Environment

The total effluent (plant) generation would be 30 m³/hr and will be collected in the guard pond and will be used in ash handling system. About 24 m³/hr sanitary wastewater will be generated, which will be used in greenbelt development after adequate treatment.

The storm water in the project area will be collected through storm water drains and collected in the storm water reservoir. The stored storm water will be utilized in the plant operation resulting in conservation of fresh water.

The bottom and sides of ash pond will be adequately compacted to prevent leaching. The pond will be provided with garland drain to collect the run-off water and also to prevent entry of run-off water in the pond.

3.2.4 Impact of Solid Waste Generation

Ash (8000 TPD) will be collected by dry extraction and stored in silos for supplying to potential users. The ash generated in the plant will be utilized to maximum extent possible and balance will be stored in the ash pond using High Concentrate Slurry Disposal method. The ash will be transported in the form of high concentrate slurry to ash pond through dedicated pipeline.

The total water required in ash handling unit will be 730-m³/hr. The cooling water blow down of 500 m³/hr and water collected in guard pond of 30 m³/hr shall be used in ash handling system. The clarifier wastewater will be routed to sludge settling pond and supernatant will be utilized in ash handling system. Therefore no fresh water will be used in ash handling system.

In high concentrate slurry, water content will be very less and there will not be pounding of the water in ash pond. There will not be any water left for leaching into ground water. The run-off water during rainy season will be diverted by constructing bunds and the garland drain along ash pond to prevent water entering into ash pond. Greenbelt will be developed along the periphery of the ash pond.

Hence, the impact of the ash pond on ground or surface water will be insignificant.

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Clarifier sludge (5 TPD) will be disposed along with bottom ash. The Sludge from sewage treatment plant will be dried and used as manure for greenbelt maintenance. Canteen/sanitary waste will be composted and used as manure for greenbelt development.

3.2.5 Noise Environment

The main noise generating sources from the proposed power plant will be pumps, compressors along with cooling tower and boilers. The noise levels at the source for these units will be in the range of 80-90 dB(A).

3.2.6 Impact on Aquatic Ecology

There are no significant aquatic bodies within the 10-km radius study area. The effluents are not envisaged to be discharged into any streams. Hence, no impact is envisaged from the proposed Power plant on aquatic bodies.

3.2.7 Impact on Reserve Forest

The impacts on the ecology will be due to the incremental gaseous concentrations and noise generated during operation of the proposed power plant.

Impacts of Air Emissions on Reserve Forests

The impacts on the reserve forests have been computed based on the SO₂ and NO_x incremental concentration over the reserved forests. The computed incremental concentrations over the reserved forests states that there will be minor impact on the reserve forests in the study area.

Impacts of Noise Levels Fauna

The predicted incremental noise levels at plant boundary will be in the range between 30 to 36 dB(A) and will recede further as the distance increases. Hence, the impact of the noise levels on the surrounding fauna will be insignificant.

3.2.8 Impact on Human Health

The impact from the air emissions is not expected to be significant since the stack design and the atmospheric conditions are such that the ambient air quality at present as well as in future after the proposed facility comes up well within the prescribed ambient air quality limits set forth by CPCB.

3.2.9 Impact on Public Health and Safety

The discharge of waste materials (stack emission, wastewater and solid wastes), from process operations can have potential impact on public safety and health. The impact from the discharge of waste products is not expected to be significant since, the adverse impacts on ambient air, water and soil quality are predicted to be low.

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It is predicted that the impacts on public safety will be very low, due to the effective safety system and safety management available in the plant.

Overall, the impact on public safety and health from the proposed project activities will be insignificant.

4.0 ENVIRONMENT MANAGEMENT PLAN

4.1 Environment Management Plan during Construction Phase

4.1.1 Air Quality Management

The mitigation measures recommended to minimize the impacts include water sprinkling in construction area and asphaltting the main approach road. Proper maintenance of vehicles and construction equipment will be done. Tree plantation in the area earmarked for greenbelt development will be done.

4.1.2 Water Quality Management

The mitigation measures recommended to minimize the impacts are sedimentation tank to retain the solids from run-off water; oil and grease trap at equipment maintenance centre; septic tanks to treat sanitary waste at labour colony; and utilizing the wastewater in greenbelt development.

4.1.3 Noise Level Management

Operation of construction equipment and vehicular traffic contribute to the increased noise level. Recommended mitigation measures include good maintenance of vehicles and construction equipment and restriction of construction activities to day time only. Plantation of trees around the plant boundary will be done to attenuate the noise. Provision of earplugs and earmuffs to workers will be made.

4.1.4 Ecological Management

During construction, vegetation in the plant premises is required to be cleared. The felling of trees will be kept at minimum. Transplantation of existing matured trees will be undertaken and transplanted in the area earmarked for greenbelt development. The greenbelt having vegetation density of 1600 trees/ha will be developed.

4.2 Environment Management Plan during Operation Phase

4.2.1 Air Pollution Management

ESPs to limit the SPM concentrations below 50 mg/Nm³ will be installed. 275-m high stack for wider dispersion of gaseous emissions will be provided. Provision of water sprinkling system at raw material storage yard will be made. Dust extraction systems at dust generating source will be provided.

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4.2.2 Water Pollution Management

Recycling of complete wastewater generated in cooling tower into process and ash disposal will be done. Adequate treatment of wastewater prior to recycle / reuse to maximum extent will be done. Provision of separate storm water system to collect and store run-off water during rainy season and utilization of the same in the process to reduce the fresh water requirement will be made. Suitable rainwater harvesting structures to be constructed.

4.2.3 Noise Pollution Management

Equipments will be designed to conform to noise levels prescribed by regulatory authorities. Provision of thick greenbelt to attenuate the noise levels will be made.

4.2.4 Solid Waste Management

The total ash generated in the plant will be 8000 TPD out of which 20% will be bottom ash i.e. 1600 TPD and balance will be fly ash of 6400 TPD. Ash will be disposed off by using high concentrated slurry disposal system. The used waste oil shall be used in boiler furnace with HFO or given to authorized recyclers.

4.2.5 Ash Utilization

Ash will be utilized in brick plants, cement industries, as micro-nutrient in fertilizer, road construction and backfilling of mines. The ash will be utilized in various construction materials to the maximum extent and 100% utilization will be achieved.

1.4.7 Greenbelt Development

Greenbelt with a width of 50-m will be developed around the plant site. The total greenbelt around the power plant complex will be about 74.21 ha.

1.4.8 Cost Provision for Environmental Measures

It is proposed to invest about Rs. 197.2 crores on pollution control, treatment and monitoring systems for proposed power Plant. In addition to this, Rs. 4.0 crores per annum will be spent on greenbelt development in and around the proposed power plant.

5.0 **POST PROJECT ENVIRONMENT MONITORING PROGRAMME**

Post project environmental monitoring is important in terms of evaluating the performance of pollution control equipments installed in the project. The sampling and analysis of the environmental attributes will be as per the guidelines of CPCB/CECB. The frequency of sampling and location of sampling will be as per the directives of Chhattisgarh Environment Conservation Board.

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6.0 RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN

The hazard potential of oil and estimation of consequences in case of their accidental release during storage, transportation and handling has been identified and risk assessment has been carried out to quantify the extent of damage and suggest recommendations for safety improvement for the proposed facilities. Risk mitigation measures based on MCA analysis and engineering judgments are incorporated in order to improve overall system safety and mitigate the effects of major accidents.

An effective Disaster Management Plan (DMP) to mitigate the risks involved has been prepared. This plan defines the responsibilities and resources available to respond to the different types of emergencies envisaged. Training exercises will be held to ensure that all personnel are familiar with their responsibilities and that communication links are functioning effectively.

7.0 PROJECT BENEFITS

The proposed 1320 MW Thermal Power Plant will result in improvement of infrastructure as well as upliftment of social structure in the area. The people residing in the nearby areas will be benefited indirectly.

The major benefit due to the proposed project will be in the sphere of generating temporary employment for substantial number of personnel. The construction phase of Power Plant is expected to span over 36 months. Approximately 4000 persons are working would be required for the construction work, most of whom would be unskilled workers.

As part of the Corporate Social Responsibility ICPL proposes to take steps in developing Education, Health, Infrastructure development, women empowerment, sports and vocational training facilities. These will be taken as a part of social development of the neighboring villages.

7.1 Rehabilitation and Resettlement Plan

The total land requirement of the proposed power project is 748.21 ha and the area falls in five revenue villages and 40 ha of land falls in reserved forest.

The proposed project involves displacement of population and land losers. There are about 517 Khatedars and the total affected families are 1386 as defined by Rehabilitation and Resettlement policy of Government of Chhattisgarh. Each male adult has been counted as independent affected family. The survey indicates that the most of the affected population belongs to weaker section.

ICPL has prepared comprehensive Rehabilitation and Resettlement Plan for the Project Affected Families. The major portion of the affected families is illiterate and has been considered during the preparation of R&R plan. The Plan is in line with Rehabilitation and Resettlement Policy of the Chhattisgarh State Government.