ENVIRONMENTAL IMPACT ASSESSMENT

FOR

THE PROPOSED 1200 MW COAL BASED THERMAL POWER PLANT AT HEDASPUR VILLAGE OF JANJGIR -CHAMPA AND VILLAGES KATSIRA, DARRI, BHARAKUNDA OF KORBA DISTRICT,CHHATTISGARH

EXECUTIVE SUMMARY

Sponsored by

Aryan Chhattisgarh Power Generation Pvt Ltd, A subsidiary of ACB (INDIA) LTD
(Formerly Aryan Coal Benefications (P) Limited)

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1.0 PROJECT DESCRIPTION

1.1 Identification of Project and Project Proponent

M/s Aryan Chhattisgarh Power Generation Pvt Ltd is a subsidiary of M/s. ACB (I) Limited (formerly Aryan Coal Benefications Pvt Ltd) is proposing to install 1200 MW coal based thermal power plant at Hedaspur village of Janjgir-Champa District and Villages Darri, Bharakunda and Katsira of Korba Dist of Chhattisgarh State. The cost of the total project is Rs. 5045 Crores which includes about Rs. 107 Crores for environmental protection measures. The project will be commissioned in 42 months from zero date.

1.2 Environmental Setting of the Site

The environmental setting of the proposed plant site is given in **Table-1.** The study area map of 10-km radius around the proposed site is given in **Figure-1**.

TABLE-1
ENVIRONMENTAL SETTING

Sr. No.	Particulars	Details
1	Plant Location	Project area falls in Hedaspur, Katsira, Darri, Bharakunda villages, of Janjgir-Champa/Korba district of Chhattisgarh State.
2	Plant site coordinates	Latitude Longitude A: 22° 15' 58" N 82° 36' 30" E B: 22° 14' 48" N 82° 37' 40" E C: 22° 15' 21" N 82° 38' 45" E D: 22° 16' 36" N 82° 37' 58" E
3	Ash pond coordinates	Latitude Longitude 1: 22° 16' 19.8" N 82° 36' 53" E 2: 22° 16' 4.6" N 82° 36' 41.7" E 3: 22° 15' 50" N 82° 37' 10" E 4: 22° 16' 16.4" N 82° 37' 04" E
4	Colony coordinates	22° 16' 25" N 82° 37' 51.4" E
5	Climatic conditions (IMD, Champa)	
a)	Temperature Mean maximum Mean minimum	 43.1°C (May) 13.8 °C (January)
b)	Mean Annual Rainfall	1388.2 mm
c)	Relative Humidity	Maximum-88.0 minimum-19.0%
d)	Predominant wind directions	Pre-monsoon: N ,W and NW Annual: N, W and NW
6	Climatic conditions at Site	From 1st March to 31st May 2009
a)	Temperature	Max: 42.1 °C and Min:19.6 °C
b)	Relative humidity	Max:39.6% and Min: 18.8%
c)	Predominant wind directions	N, W and NW

Sr. No.	Particulars	Details
7	Plant site Elevation above MSL	304.8-m above MSL
8	Plant site Topography	Generally flat
9	Present land use at the site	Barren land & unused and partly agricultural land
10	Nearest highway	State Highway-5, (23.0-Km,NW) National Highway-200 (23.6-Km, S)
11	Nearest railway station	Urga (around 10-Km)
12	Nearest Airport	Raipur, 150-Km,SW
13	Nearest major water bodies	River Hasdeo (2.8-Km,SE) Hadeo Right bank canal (1.4-Km,SSE)
14	Water source for the project	Hasdeo river (2.8-km,SE)
15	Nearest town/City	Korba, 11.0-Km, SE
16	Nearest village	Katsira (0.5-km W), Bhatikura (0.5-Km,E)
17	Hills/valleys	No hills and valleys with in 10 km radius
18	Archaeologically important places	None in 15-km radius
19	Protected areas as per Wildlife Protection Act,1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	None in 15-km radius
20	Reserved / Protected Forests	1. Protected Forest near village Bareli (8.3-km,NW) 2. Protected Forest near village Junadih (9.3-km,NW) 3. Protected Forest near village Ponri (6.8-km,NW) 4. Protected Forest near village Relriya (5.4-km,NW) 5. Protected Forest near Kurariyapara (6.2-km,SE)
21	Seismicity	Seismic Zone-II as per IS 1893 (Part I): 2002
22	Defence Installations	None in 15-km radius area

Note: All distances mentioned are aerial distances; Source: EIA studies, Vimta Labs Limited, Hyderabad

1.3 Description of the Site

The land identified for the proposed project site is 950-acre (384.5-ha). The land is barren uncultivable waste land. The project site is generally plain with an average site elevation of about 304.8-m AMSL.

1.4 Details of Proposed Project

The proposed power plant will be operated on coal as main fuel to generate 1200 MW (Phase-I: 2X300 MW & Phase-II: 1X600 MW) of power. Pulverized coal fired boilers with sub critical technology will be installed in the project. The details of the proposed power project are given in **Table-1.**

TABLE-1
SALIENT FEATURES OF THE PROPOSED PROJECT

Sr. No.	Features	Description
1	Capacity	1200MW
2	Configuration	Phase-I:2X300 MW Phase-II: 1X600 MW, sub-critical technology
3	Type of boilers	Pulverized coal fired boilers
4	Power evacuation	Power will be evacuated into PGCIL's grid and CSEB's grid through 400KV level
5	Fuel	Coal
6	Source of Coal	Coal for the plant would be linked to SECL coal mines
7	Coal Requirement	6.18 MTPA (PLF 85%)
8	Sulphur content	0.3 to 0.4%
9	Ash Content in Coal	45% (max)
10 A B	Ash generation Bottom Ash Fly Ash	2.781 MTPA 0.556 MTPA 2.225 MTPA
11	ESP efficiency	99.9%
12	Stack	Two 275-m height multi- flue stacks
13	Water Requirement	3500 m^3/hr

Source: M/s ACB (INDIA) LTD (Formerly Aryan Coal Benefications (P) Limited), DPR

1.4.1 Technology and Process Description

The power generating units operate on super-critical technology steam parameters. The primary fuel to be used for the power generation will be coal. It is proposed to construct a railway siding line for transporting coal to plant site.

Steam is generated in the boiler of the Thermal Power Plant using the combustion heat of the fuel (coal) burnt in the combustion chamber. The steam generated is passed through steam turbine where part of its thermal energy is converted in to mechanical energy. This mechanical energy is further used for generating electric power. The steam coming out of steam turbine is condensed in the water cooled condenser and condensate is supplied back to the boiler with the help of the boiler feed pumps and cycle is repeated.

The plant heat rate with performance coal, design ambient conditions and cooling water temperature, is estimated to be 2450 kcal/kWh on GCV basis. The Steam Generator would be of forced circulation, sub-critical, once through type, single reheat arrangement for firing 100% domestic coal (pulverized firing). The Steam Generator would be of two pass, water tube, radiant super heater, single reheat, balanced draft, semi outdoor type with low NOx burners.

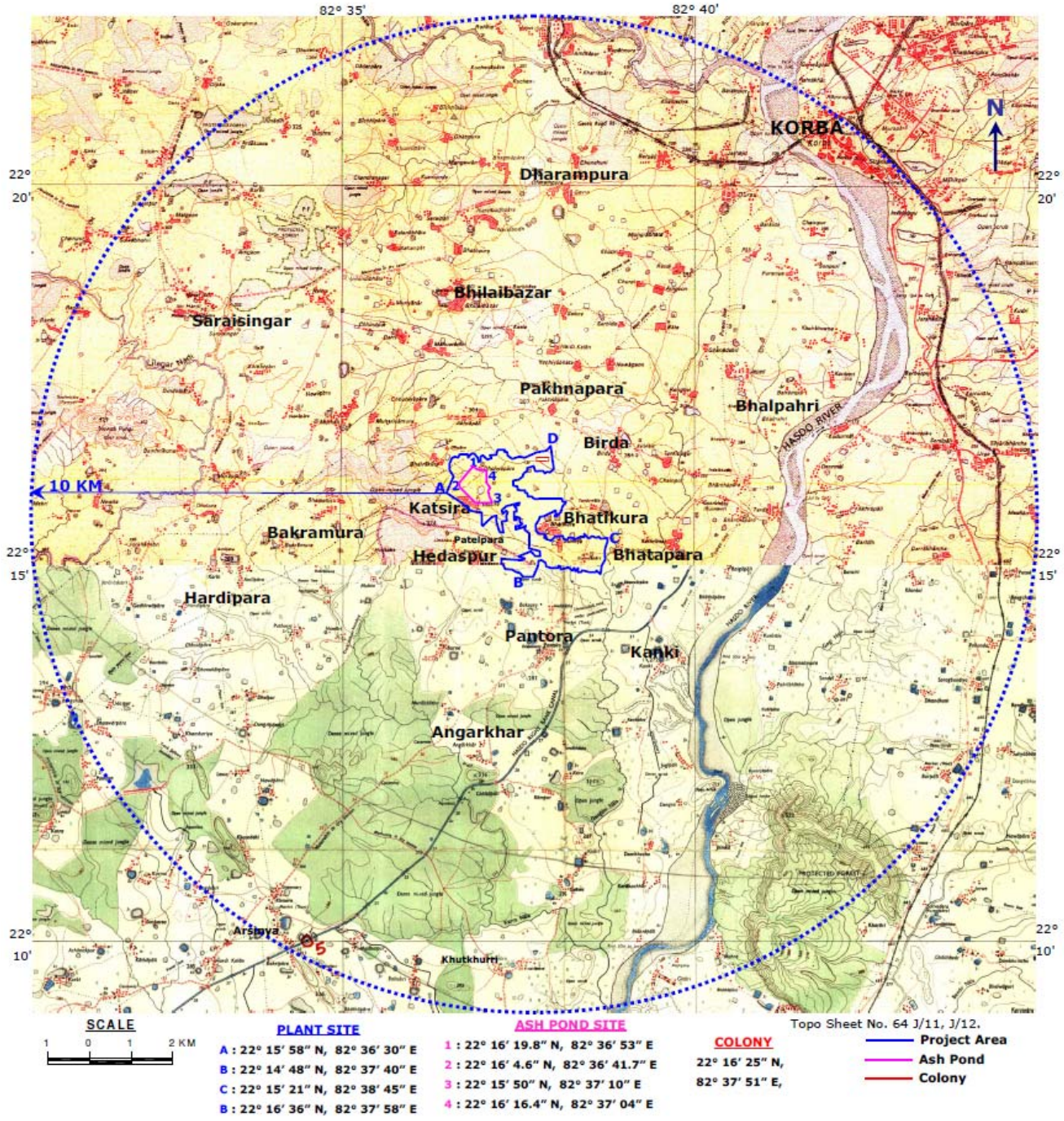

FIGURE-1
10-KM RADIUS STUDY AREA OF THE PROJECT SITE

1.4.2 Power Evacuation

For evacuation of power generated from the station, it is envisaged to use the PGCIL's grid and CSEB's grid. Two numbers of outgoing lines have been considered from 400 kV switchyard to evacuate 30 % of power to state electricity board. Balance power will be evacuated by two no. of outgoing lines to PGCIL's 400 kV nearest substation

1.4.3 Fuel Requirement

Maximum total annual coal consumption for the 1200 MW power plant at 85% PLF will be about 6.18 MTPA. Apart from coal, HFO/LDO will be used as auxiliary fuel. The estimated annual requirement of HFO/LDO is about 8000 KL.

1.4.4 Water Requirement

The total water requirement of entire project will be 3500 m^3/hr. This water shall be made available from Hasdeo river by obtaining permission from irrigation department. Raw water would be pumped from Hasdeo River and raw water would be conveyed through the underground conduits to the plant site. Closed circuit re-circulation type of cooling system using clarified water as make-up with induced draft cooling towers has been proposed for the condenser cooling.

1.4.5 Manpower

The proposed power plant will require skilled and semi-skilled personnel during operation, maintenance and administration of the proposed plant of 1200 MW. People from neighbouring villages, if found suitable, shall be employed during construction and operational phases. The total manpower of power plant during operational period is about 200 persons.

1.4.6 Township

Township will be constructed for the employees of the power plant. The township will include the residential quarters for all the technical and non-technical personnel, guest house, recreation and health facilities.

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. Data was collected from 1st March to 31st May 2009, representing pre monsoon season.

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.
As per the Census records, the 10-km study area admeasure to about 37254-ha. In that total area consists of irrigation land of 1372-ha (3.69%), un-irrigated land about 18407-ha (49.4%), cultivable waste land of 5605-ha (15.05%), land not available for cultivation is about 8664-ha (23.26%).

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 study period. The pH of the soil extracts varied from 6.8 to 7.8 indicating neutral to slightly alkaline. The electrical conductivity was observed to be in the range of 90 µS/cm to 215 µS/cm. The nitrogen values range between 21.7 kg/ha to 82.5 kg/ha. The nitrogen content in the study area falls in very less to less category. The phosphorus values range between 35.5 kg/ha to 156.6 kg/ha, indicating that the phosphorus content in the study area falls in medium to more than sufficient category. The potassium values range between 40.5 kg/ha to 417.6 kg/ha, which indicate that the soils have very less to more than sufficient category. The chlorides were found to be in the range of 70.9 mg/kg to 212 mg/kg of soil.

2.3 Meteorology

On-site monitoring was undertaken for various meteorological variables in order to generate the site-specific data. Data was collected every hour continuously during study period. The maximum and minimum temperatures recorded during the study period are 42.1°C and 19.6°C.The relative humidity found varying from 39.6% to 18.8%. The predominant winds are mostly from north (21.6%), west (16.0%) and Northwest (13.4%) directions. No rainfall was recorded during study period.

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 10 locations. The summary of the Ambient Air Quality monitored is given in **Table-3**.

TABLE-3
SUMMARY OF AMBIENT AIR QUALITY IN THE STUDY AREA

TSPM	RPM	SO_2	NO_x	CO
45.2-148.6	12.5-52.6	4.6-11.1	5.8-13.8	132-280

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. Mercury and Ozone concentrations were found to be below detectable limits.

2.5 Water Quality

Six (6) ground water samples and four (4) surface water samples within the study area were considered for assessment.

- ***Surface Water Quality***

The results of analysis indicate that the pH ranges in between 6.6 to 6.9. The Total Dissolved Solids concentrations (TDS) were found to be ranging in between 56 mg/l to 71 mg/l. The Chlorides and Sulphates were found to be in the range of 5.7 mg/l to 7.1 mg/l and 2.5 mg/l to 4.0 mg/l respectively. It is observed that Chlorides and Sulphates are well within the permissible limits. Heavy metals in very low concentration and are well within the prescribed limits.

- ***Ground Water Quality***

The results of analysis indicate that the pH ranges in between 6.5 to 7.1, which is well within specified standard of 6.5 to 8.5. The hardness was observed to be ranging from 14 mg/l to 288 mg/l. Chlorides were found to be in the range of 19.5 mg/l to 105.2 mg/l. Sulphates were found to be in the range of 2.3 mg/l to 21.0 mg/l. The Total Dissolved Solids concentrations (TDS) were found to be ranging in between 64 mg/l to 536 mg/l. Heavy metals are in very low concentration and are well within the prescribed limits.

2.6 Ambient Noise Levels

a) Day time Noise Levels (L_{day})

Residential Zone

The daytime (L_{day}) noise levels at all the residential locations are observed to be in the range of 49.1 dB (A) to 53.9 dB (A). It is observed that the day time noise levels at all the sampling locations are within limits compared to the prescribed limit of 55 dB(A).

b) Night time Noise Levels (L_{night})

Residential zone

The nighttime (L_{night}) noise levels at all the residential locations was observed to be in the range of 36.7 dB (A) to 43.9 dB (A). It has been found that the night time noise levels at all the locations are well within the limits when compared to the standard limit of 45 dB(A).

2.7 Flora and Fauna

Based on the primary data collected by field visits and based on the secondary data collected as per the records of forest department of Janjgir-Champa and Korba districts and literature survey, there are no endangered, threatened and protected plants and animal species in the study area.

2.8 Socio-Economic Environment

As per 2001 census the study area consists of 144002 persons inhabited in the study area of 10 km radial distance from the periphery of the proposed plant. The males and females constitute 51.12% and 48.88% 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 152 persons per km^2. In the study area, 18.55% of the population belongs to Scheduled Castes (SC) and 28.02% of the population belongs to Scheduled Tribes (ST). The study area experiences average literacy rate of 55.86%. As per 2001 census records, altogether the main workers works out to be 26.99% of the total population. The marginal workers and non-workers constitute to 13.22% and 59.79% 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 deployed from nearby villages.

3.1.1 Land Environment

The land identified for the proposed 1200 MW power plant is about 384.5 ha. About 80.9 ha of the land will be used for ash disposal. The proposed plant land is mostly barren land and partly single crop agriculture land.

The earth generated during excavation of water reservoir and ash pond within the project premises will be used for grading the plant area. Hence, no major impact is envisaged on land use pattern of the project site or buffer zone.

3.1.2 Impact on Soil

The construction activities will result in loss of some vegetation cover, topsoil and earthen material to some extent in the plant area. However, it is proposed to use the soil and earthen material for greenbelt development and levelling of project site. Greenbelt will be developed in phased manner from construction stage onwards in the peripheral boundary of the project site.

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 sources of emission during the construction period are from the movement of equipment at site and dust emitted during the levelling, grading, earthwork, foundation works. Exhaust emissions from vehicles and equipment deployed during the construction phase are also likely to result in marginal variation in the levels of SO_2, NOx, SPM and CO. The impact will be for short duration and confined to the project boundary and the same is expected to be negligible outside the plant boundaries. The impact will, however, be reversible, marginal and temporary in nature. Proper maintenance of vehicles and construction equipment will help in controlling the gaseous emissions. Water sprinkling on roads and construction site will prevent the fugitive dust.

3.1.4 Impact on Terrestrial Ecology

The initial construction works at the project site involves land clearance. Greenbelt will be developed phase wise during construction to improve the aesthetic value in the area and to screen out the fugitive dust generated during construction.

The removal of vegetation from the soil and loosening of the topsoil generally causes soil erosion. However, such impacts will be confined to the project site and will be minimized through paving and water sprinkling.

There are no existing matured wooded and useful trees in the site. However, greenbelt will be developed surrounding the plant facilities. Thus, no major adverse impacts are envisaged on terrestrial ecology.

3.1.5 Socio-Economic Impacts

Services of skilled and unskilled workers of different trades are required in large numbers. The project will provide either direct or indirect job opportunities to the local population as far as possible. These earnings are likely to change the economic status of local people.

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 as all the activities are limited in the project site boundary only.

5.2.2 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 (SO_2) and Oxides of Nitrogen (NOx) will be the important pollutants emitting from the proposed power plant. The maximum incremental ground level concentrations of SPM, SO_2 and NOx are given in **Table-4**

TABLE-4
PREDICTED 24-HOURLY SHORT TERM INCREMENTAL CONCENTRATIONS

Season	Maximum Incremental GLCs ($\mu g/m^3$)			Distance (km)	Direction
Pre-monsoon season, 2009	**SPM**	**SO_2**	**NOx**		
	1.2	30.4	18.1	2.0	South

The maximum resultant 24 hourly concentrations for SPM, SO_2 and NOx after implementation of the proposed project (1200 MW power project) are 149.8 $\mu g/m^3$, 41.5 $\mu g/m^3$ and 31.9 $\mu g/m^3$ respectively.

3.2.3 Impact on Water Environment

About 561-m^3/hr of wastewater will be generated. This will be re-used for Ash handling system, Coal handling and horticulture after proper 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.

3.2.4 Impact of Solid Waste Generation

Ash is the major solid waste to be generated from the proposed coal based power plant. Coal consumption of 6.18 MTPA at 85% PLF was considered for estimation of ash generation. Fly ash about 2.225 MTPA and bottom ash of 0.556 MTPA will be generated.

It is proposed to collect fly ash from ESP hoppers in dry form and provide/supply to potential ash users depending on the demand. The balance unutilized ash will be disposed off using High Concentrated Slurry Disposal (HCSD) technology. An area of about 200 acre has been identified for ash pond within the project premises.

The sludge from sewage treatment plant will be dried, vermi-composted and used as manure for greenbelt maintenance. Canteen/sanitary waste will be composted and used as manure for greenbelt development.

3.2.5 Impact on Aquatic Ecology

Runoff water of the project site is diverted in to storm water storage reservoir. Spillages and fugitives are prevented in reaching the down stream water bodies. The effluents are not envisaged to be discharged into any streams. Hence, no impact is envisaged from the proposed power plant on aquatic bodies.

3.2.6 Impact on Reserve/Protected Forest

The incremental gaseous concentrations and noise generated during operation of the proposed power plant are not likely to cause any adverse impact on ecology of five protected forests within 10-Km radius of the project site.

3.2.7 Impacts of Noise Levels

The noise generating sources are pumps, compressors, cooling towers and boilers. The predicted incremental noise levels at plant boundary will be in the range between 80 to 90 dB (A) and the same will recede further as the distance increases. Hence, the impact of the noise levels on the surroundings 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 will be within the prescribed ambient air quality limits set forth by CPCB.

3.2.9 Impact on Public Health and Safety

The impact from the discharge of waste products on public health and safety is not expected to be significant since, the adverse impacts on ambient air, water and soil quality are predicted to be low. Utilization of superior quality machinery and equipment and deployment of work force with adequate knowledge in operation and maintenance of different units shall avoid failures and accidents.

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 activities like site development, grading and vehicular traffic contribute to increase in SPM and NOx concentrations. The mitigation measures recommended to minimize the impacts are:

- Water sprinkling in construction area;
- Asphalting the main approach road;
- Proper maintenance of vehicles and construction equipment; and
- Tree plantation in the area earmarked for greenbelt development.

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 camp; 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 greenbelt development having vegetation density of 2000 trees/ha will be taken up at construction stage itself.

4.2 Environment Management Plan during Operation Phase

4.2.1 Air Pollution Management

Fugitive and stack emissions from the power plant will contribute to increase in concentrations of SPM, SO_2, and NOx pollutants. The mitigative measures proposed to be taken up in the plant are:

- Installation of ESP of efficiency of more than 99.9% to limit the SPM concentrations below 50 mg/Nm^3;
- Provision multi-flue stack of 275-m height for wider dispersion of gaseous emissions;
- Provision of water sprinkling system at coal and ash handling areas etc.,
- 33% of total plant area will be developed in to green belt and green cover to arrest fugitive dust

4.2.2 Water Pollution Management

Adequate treatment of wastewater in ETP 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 will 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 shall attenuate the noise levels.

4.2.4 Solid Waste Management

Solid waste in the form of ash will be generated in a coal based thermal power plant solid sledges are also generated from ETP and STP operations. The following measures shall be taken for solid waste management:

- In general ash will be given to potential ash users;
- The excess ash will be disposed off using high concentrated slurry disposal system to ash pond
- The generated waste oil shall be explored to be used in boiler furnace with HFO or shall be given to authorized recyclers;
- The organic portion of solid waste generated in the Sewage Treatment Plant (STP) will be used as manure in greenbelt development; and
- Maintaining the data base on solid waste generation such as quantity, quality, and treatment/management.

4.2.5 Ash Utilization

Fly ash will be utilized in brick plants, cement industries, as micro-nutrient in fertilizer, road construction and backfilling of mines. The fly ash will be utilized in various construction materials to the maximum extent and 100% utilization will be achieved in phases by 3 years of operation.

4.2.6 Greenbelt Development

Greenbelt of suitable trees of wooded and foliage species with a width of 50-m to 100-m will be developed around the plant site. The total greenbelt around the power plant complex will be about 165.91-ha. The green belt having vegetation density of 2000 trees/ha will be developed.

4.2.7 Cost Provision for Environmental Measures

It is proposed to invest about Rs. 107 crores on pollution control, treatment and monitoring systems for proposed power plant. In addition, recurring cost about Rs. 1.15 crores per annum will be spent on environmental protection measures.

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 air, noise, surface water and ground water sampling and location of sampling will be as per the directives of Chhattisgarh Environment Conservation Board.

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 1200 MW Thermal Power Plant will result in improvement of infrastructure as well as upliftment of social structure in the surrounding villages. 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 over42 months.

During the construction phase about 2000 people on an average per day will be employed for a period of about three years. The manpower of power plant during operational period is estimated to be about 200 persons.

Implementation of the power project will result in the following benefits

- Employment will be provided to eligible project affected persons both during construction and operational phase
- Temporary employment for people from the neighboring villages during construction phase.
- Community development activities such as training of local unemployed youth in various construction skills, English speaking, personality development, development of self help groups for women, providing drinking water facility, strengthening of rural roads, deepening of ponds etc.,
- State will get revenue from payment towards taxes and water cess etc.,
- Providing dispensary with a medicine bank to cater to the health care needs of the surrounding villages.
- Providing vocational training to women in areas for their self employment.
- Utilizing the services of ex-servicemen for providing training to youth in areas of personality development, security etc.,

8.0 REACHING OUT TO THE COMMUNITY

Various socio economic development activities will be taken up under the aegis of ACBPL. Social responsibility begins with good governance, efficient utilization of resources and protection of stakeholder and consumer interests. It is for a successful corporate to take initiatives for socially relevant activities and causes.

NPPL will strive to achieve the following objectives.

- To provide basic amenities for rural poor
- To develop integrated programmes for the disabled
- To encourage fresh talents in the areas of sports
- To take up other humanitarian activities

9.0 COMMUNITY DEVELOPMENT PLAN

ACB (I) LTD is committed to develop the surrounding area in a well coordinated and balanced manner while safeguarding the environmental and social aspects. ACB (I) LTD policy towards Corporate Social Responsibility (CSR) includes community initiatives like revival of Arts & Crafts, Primary health centers for surrounding villages, flood relief camps, repair of roads/drains in nearby villages, rural sports & adult education, construction of community centre, hand pumps, farmers training program, publicity awareness camps of HIV, Pregnant women, repair/construction of primary school centers, bus shelters, rural welfare, eco restoration and eco development etc.,