M/s CPCBL STEELS & POWER PVT. LTD.

EXECUTIVE SUMMARY

For

Proposed installation of Iron Ore Beneficiation Plant (1x1.0 MTPA), Pelletization Plant (1x0.6 MTPA) with Coal Gasifier (5x7000 m^3/hr), Sponge Iron Plant (2x350 TPD DRI Kilns), Induction Furnaces (3x20T) with matching LRF & CCM, Hot Rolling Mill (0.2 MTPA) with 1x15 TPH oil fired Re-heating Furnace (optional) along with 34 MW Capacity Captive Power Plant (16 MW WHRB based + 18 MW AFBC based)

At

Village Newra, Mouza : Takhatpur, Dist.: Bilaspur, Chhattisgarh

Envirotech

Envirotech East Pvt. Limited

An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Company
Inhouse Laboratory Recognised by Ministry of Environment, Forest & Climate Change, Govt. of India
Accreditated by NABET, Quality Council of India as an EIA Consultant
NABET Certificate No.: NABET/EIA/2124/SA 0145
Baseline Monitoring Period: 1st December, 2021 – 28th February, 2022.
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EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s CPCBL Steels and Power Pvt. Ltd., was incorporated in the year 2020, having its registered office at Agrawal Bhawan, Vidya Nagar, Sib Mandir Road, Bilaspur, Chhattisgarh, PIN-495001. The company is promoted by Shree Shikhar Agrawal.

Encouraged by the anticipating better future market, the company is planning to set up a Steel Plant by installation of Iron Ore Beneficiation Plant (1X1.0 MTPA), Pelletization Plant (1X0.6 MTPA) with Coal Gasifier (5x7000 m^3/hr) (4 in operation and 1 as standby), Sponge Iron Plant (2X350 TPD DRI Kilns), Induction Furnaces (3X20 T) with matching LRF & CCM, Rolling Mill (0.2 MTPA) with 1x15 TPH oil fired Re-heating Furnace (optional) for production of TMT Bars, Rods, Structural etc. along with 34 MW Capacity Captive Power Plant (16 MW based on WHRB and 18 MW based on AFBC) at Village Newra, Mouza: Takhatpur, District Bilaspur, Chhattisgarh.

The proposed project scenario with rated capacity per annum are presented in **Table-1.1**.

TABLE-1.1
PROPOSED PROJECT SCENARIO

Sl. No.	Unit Description	Project Configuration	Total Capacity (MTPA)	Product
01	Iron Ore Beneficiation Plant	1X1.0 MTPA	1.0	Iron Ore Concentrate
02	Pelletization Plant	1X0.6 MTPA	0.6	Iron Ore Pellet
03	Sponge Iron Plant	2X350 TPD	0.21	Sponge Iron
04	Induction Furnaces with matching LRF & CCM	3X20 T	0.20	Billets
05	Rolling Mill with 1x15 TPH Reheating Furnace	1X600 TPD	0.20	TMT Bars, Rods, Structural

06	Coal Gasifier	5x7000 m^3/hr (4 in operation and 1 as standby)	5x7000 m^3/hr (4 in operation and 1 as standby)	Producer Gas
07	Captive Power Plant	34 MW (16 MW WHRB based & 18 MW AFBC based)	34 MW	34 MW Power

M/s Envirotech East Pvt. Ltd. have conducted an Environmental Impact Assessment (EIA) for the proposed project and formulated an appropriate Environmental Management Plan (EMP) for such project.

2.0 SITE LOCATION

The proposed Steel Plant is located at village Newra, Mouza : Takhatpur, Dist.: Bilaspur, Chhattisgarh. Its geo-graphical coordinates are Latitude: 22°12'17.13"N to 22°12'37.83"N & Longitude: 82°01'17.75"E to 82°01'49.39"E with Above Mean Sea Level 294 meters.

The project site already has proper road linkage for transport of materials and equipment. The nearest and important Railway Station is Usla Pur Railway Station, which is located about 14.7 km in South-east direction from the project site. However, a small railway station named as Kalimitar Railway Station is located at an approx distance of 4.6 km in NE direction w.r.t the project site. The State Highway-8 is passing close to the project site in E direction.

The nearest city is Bilaspur which is located at around 16.7 km in south - east direction w.r.t. the project site. Arpa River is passing about 6.0 km distance in east direction w.r.t the project site. The nearest Airport - Bilaspur Airport, Bilaspur is situated about 25.4 km in SSE direction w.r.t. the project site.

3.0 PROJECT HIGHLIGHTS

The principal features or highlights of the proposed project of M/s CPCBL Steels and Power Pvt. Limited, under study are as follows:

Location	Village Newra, Mouza Takhatpur, District Bilaspur, Chhattisgarh.
Land requirement	The proposed project will be installed on the total 24.28 hectares (60 acres) of land.
Raw water requirement & source	The daily makeup water requirement for the proposed project will be 2007 m^3/day. Source: Water supply system of Water Resources Department, Kota through River Arpa, which is around 6 km from the project site in east direction.
Power requirement	The power requirement for the proposed project is around 33 MW. Source: Captive Power Plant of 34 MW capacity and Chhattisgarh State Power Distribution Company Limited (CSPDCL).
Effluent generation & disposal	The plant will be designed as a zero discharge plant. The water will be recirculated through cooling and treatment. The entire wastewater will be recycled for various purposes inside the plant. Domestic waste water will be treated in Sewage Treatment Plant (STP).
Air pollution control	Adequate control measures like installation of Electrostatic precipitator (ESP), bag filters, dust suppression system and stacks of adequate height at relevant points.
Solid Waste Management	➢ Tailing from I/O Beneficiation plant will be used for Brick manufacturing/ Paver block making, aggregate in concrete, road construction purpose. No tailing pond has been proposed inside the plant premises. ➢ Dolo-char from the DRI unit will be used in AFBC boiler. ➢ Slag from Induction Furnaces after metal recovery in metal recovery plant (slag crusher) will be used for Construction purpose. ➢ Solid wastes that will be generated from SMS with continuous caster units are the scales. The scales are collected from the drain and transferred to IF for reuse. ➢ The solid wastes from the rolling mill are end cuts and miss rolls, which will be re-used in

	induction furnace. ➢ The fly ash generated from Captive Power Plant will be sold as a raw material for cement plants and brick manufacturing. ➢ The bottom ash from CPP will be used as land filling. ➢ Solid waste of domestic/commercial origin that would be generated in the plant will be disposed off suitably in consulation with the concerned Civic body.
Manpower	Total during Operational Phase: 750 (Permanent: 150 & Contractual: 600)
Project cost	Rs. 455 Crores.

4.0 BASELINE ENVIRONMNETAL SCENARIO

The area falling within the radius of 10 km around the project site at Village Newra, Mouza Takhatpur, District Bilaspur in Chhattisgarh has been considered as study area. On-site environmental quality monitoring was carried out from 1st December, 2021 – 28th February, 2022.

4.1 Meteorology

The monthly maximum and minimum temperatures recorded on-site during the aforesaid Study period varied between (28.5 - 32.5)°C and (9.0 - 12.5)°C respectively with overall maximum and minimum temperatures being 32.5°C and 9.0°C respectively.

The monthly maximum and minimum relative humidity recorded on-site during the said Study period varied between (57 - 73)% and (33 - 49)% respectively, the overall maximum and minimum being 73% and 33% respectively.

The maximum wind speed 3.5 Km/hr was recorded in the month of February, 2022 while the overall mean wind speed during the whole monitoring period was 3.2 Km/hr.. The predominant wind direction during the winter season was observed as North-East & North.

4.2 Ambient Air Quality

Ambient air quality was monitored at eight (8) locations around the project site.

The overall mean values of PM_{10}, $PM_{2.5}$, SO_2, NO_2 and CO in the area (mean of all the 8 locations) were 65.7 μg/m^3, 27.5 μg/m^3, 8.9 μg/m^3, 18.6 μg/m^3 and 0.261 mg/m^3 respectively.

4.3 Water Quality

Water samples were collected and analyzed at ten (10) locations to assess the surface water quality in the study area. Water samples were collected from nine (9) locations to assess the baseline status of the ground water quality of the study area.

The pH values of the collected two water samples (SW3, SW4) from Ghongna Nadi water were found pH 6.67 - 6.75 Value of Dissolved Oxygen were observed (6.5-6.8) mg/lit. Total Dissolved Solids were found (278-312) mg/lit while value of total Hardness (as $CaCO_3$) & total Alkalinity (as $CaCO_3$) were found (154-162) mg/lit & (153-160) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found (41-44) mg/lit and (12-13) mg/lit respectively. Sulphate (as SO_4), Nitrate (as NO_3) and Chloride (as Cl) were observed (31 - 34) mg/lit, (2.8 - 3.1) mg/lit and (50 - 57) mg/lit respectively. Iron (as Fe) contents were found (0.15 - 0.17) mg/lit and BOD were found (2 - 3) mg/lit respectively.

The pH values of the collected two water samples (SW8, SW9) from river Arpa water were found pH 7.27-7.36 Value of Dissolved Oxygen were observed (7.2-7.3) mg/lit. Total Dissolved Solids were found (158-163) mg/lit while value of total Hardness (as $CaCO_3$) & total Alkalinity (as $CaCO_3$) were found (96-102) mg/lit & (90-94) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found (26-28) mg/lit and 8 mg/lit respectively. Sulphate (as SO_4), Nitrate (as NO_3) and Chloride (as Cl) were observed (14-15) mg/lit, (2.9-3.2) mg/lit and (27-28) mg/lit respectively. Iron (as Fe) contents were found (0.08-0.09) mg/lit and BOD were found 2 mg/lit respectively.

The pH values of the collected pond water samples were found in the range of (6.75 – 7.32). Dissolved Oxygen was observed in the ranges of

(6.3-7.2) mg/lit. Total Dissolved Solids were found in the ranges of (224–303) mg/lit while total Hardness (as $CaCO_3$) & total Alkalinity (as $CaCO_3$) were found (132-164) mg/lit & (109-141) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found varying in the ranges of (34–49) mg/lit and (5–13) mg/lit respectively. Sulphate (as SO_4), Nitrate (as NO_3) and Chloride (as Cl) were observed varying in the ranges of (12–38) mg/lit, (1.8–3.5) mg/lit and (35–73) mg/lit respectively. Values of Iron (as Fe) were found in the ranges of (0.11–0.15) mg/lit .

The pH values of collected ground water samples were found in the range of (6.36 – 8.24) with an average of 7.08. Total Dissolved Solids (TDS) was found in the range of (215 – 467) mg/lit with an average of 321.33 mg/l, while Total Hardness (as $CaCO_3$) was found in the ranges of (114 – 237) mg/lit with an average of 165.33 mg/l. Alkalinity (as $CaCO_3$) was found in the ranges of (121 – 211) mg/lit with an average of 165.22 mg/l. Calcium (as Ca) and Magnesium (as Mg) were found varying in the ranges of (33 – 68) mg/lit and (7 – 17) mg/lit respectively. Sulphate (as SO_4), Nitrate (as NO_3) and Chloride (as Cl) were observed in the ranges of (12 – 41) mg/lit, (2.2 – 12.5) mg/lit and (36 – 120) mg/lit respectively. Iron (as Fe) content was found in the range of (0.12 – 0.24) mg/lit.

4.4 Noise

A total of 10 locations around the proposed project were selected for the measurement of ambient noise levels.

During the day time, the equivalent noise levels were found to vary in the range of (55.1 - 65.1) dB (A) while in the night time, the equivalent noise levels were observed to be varying in the range of (43.7-48.9) dB (A).

4.5 Ecology

The study area is found to have a good vegetation cover due to helpful climatic conditions and good soil quality in the area. There are good number of plantation patches in the study area and dense vegetation cover around settlement areas. The overall floral composition in the whole study area is quite rich.

Identically the terrestrial fauna of the area are also fairly rich. The richness and bio-diversity of aquatic flora and fauna is also quite high in the study area.

4.6 Demography and Socio-economy

The study area is mainly rural in nature and Moderate populated with the total population of 1,73,904 (as per 2011 Census). Scheduled Caste (SC) and Scheduled Tribe (ST) population in the study area is about 24.69% and 13.19% w.r.t. the total population respectively. The sex ratio in the study area is about 952 females per 1,000 males. The overall literacy rate is about 59.5% of the total population. The principal language is Hindi and the principal staple food is rice and wheat.

5.0 ENVIRONMENTAL IMPACTS OF PROPOSED PROJECTS

5.1 Impacts on Air Quality

The Stack emissions from the proposed plant will be mostly Sulphur dioxide (SO_2), Nitrogen Oxides (NOx) and Particulate matters (PM). The major source of continuous emission from the proposed project will be total four (4) stacks.

As recommended by CPCB, GLCs at various receptor locations within 10 km radius have been computed for the three months' period (1st December, 2021 – 28th February, 2022) representing the winter season, based on the hourly meteorological data of this period. The computation has been made applying Industrial Source Complex (ISC3) model, developed by United States Environmental Protection Agency (USEPA), which is most widely used and also recommended by CPCB (PROBES/70/1997-98).

The maximum incremental value of SO_2, NOx & PM would be about 2.488 µg/m^3, 2.488 µg/m^3 & 1.493 µg/m^3 respectively, which will occur at a distance of 0.8 km in "SW" direction.

The predicted maximum GLCs of SO_2, NOx & PM due to the operation of the proposed project is well within the prescribed limits. Therefore, there will not be any significant impact on the Air Quality of the area due to the operation of the project.

5.2 Impacts on Water Quality

Company will follow "the zero wastewater discharge concept" and the entire wastewater will be recycled to the plant for various uses. As no wastewater will be discharged outside the plant premises, there will be no impact on the water quality of any surface water body of the area.

5.3 Impacts on Soil

All solid waste that would be generated during the plant operation, will be managed in the proper manner. This will ensure that there will not be any impact on soil quality due to the disposal or deposition of solid wastes.

5.4 Impacts on Land Use

The proposed development will take place inside the acquired land area, so there will not be any impact on the land use pattern outside the plant area.

5.5 Impacts on Biological Environment

The surrounding area has substantial vegetation in the form of village orchards, roadside trees and agriculture. If the gaseous emission is controlled properly, there will not be any significant impact. There will be sufficient plantation of trees at the plant site in addition to the existing plantation. All these measures, if implemented properly will ensure that no significant impact is there on the local vegetation from the proposed project and may improve the vegetation scenario of the area.

No waste water will be discharged outside the plant premises. Therefore, no impact on the aquatic ecology of the water bodies.

5.6 Impacts on Socio-Economic Environment

The project will offer considerable direct and indirect employment potential during construction phase and operation phase, which will have beneficial impact.

6.0 ENVIRONMENTAL MANAGEMENT PLAN

M/s CPCBL Steels and Power Pvt. Limited, will develop various management activities for the Environmental Management Programme which will meet all statutory requirements and also help to improve environmental quality.

In order to improve the aesthetic look of the area and enhance the land use as well as to compensate for any loss in ecology during construction, adequate plantation programmes in and around the project site have been planned and will be implemented. Development of green belt will include plantation of trees along boundary of the factory, roads, raw material yard and in other available spaces in and around the plant. 33% of factory area will be covered under green cover.

A detailed monitoring for different environmental parameters will be carried out as per direction of State Pollution Control Board and statutory requirements. An environmental management group will be established to implement and monitor the management plan.