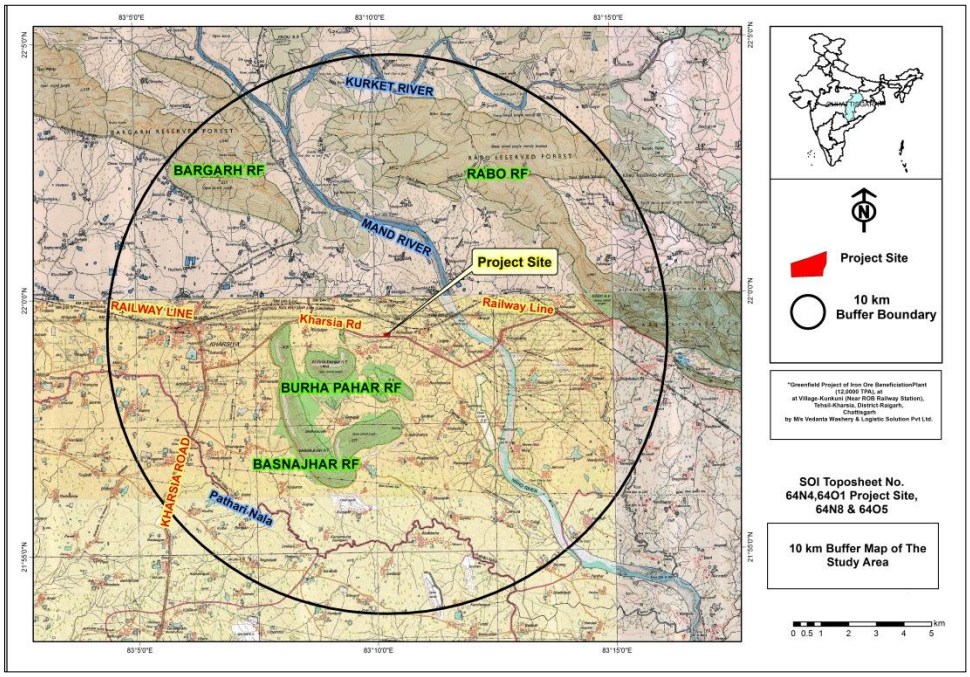
SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PUBLIC HEARING

IRON ORE BENEFICIATION PLANT (1.2 MTPA)

At

Village- Kunkuni (Near Rob Railway Station),

Tehsil-Kharsia, District-Raigarh, Chhattisgarh-496661



Submitted By

M/s Vedanta Washery & Logistics Solutions Pvt. Ltd.

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November-2021

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1.0 PROJECT DESCRIPTION

M/s Vedanta Washery & Logistic Solutions Pvt Ltd. (referred to as 'VWLSPL') is a Private Limited Company which is promoted by Mr. Sushil Kumar Singhal, Mr. Anubhav Singhal and Mr. Suryakant Agrawal. The Company was promoted by a renowned business family.

Company has proposed Iron Ore Beneficiation Plant of 1.2 MTPA capacity located at Village Kunkuni (Near ROB Railway Station), Tehsil-Kharsia, District-Raigarh, Chattisgarh-496661. Total land available for the proposed project is 15.630 Ha including railway siding area.

"The project falls under Category 'A' of Schedule 2 (b) Mineral beneficiation, as per the EIA Notification, 2006 & its amendment till date and will be appraised by EAC (Industry-1), MoEF&CC, New Delhi.

The project site is located at Village-Kunkuni, Tehsil-Kharsia, District-Raigarh, Chattisgarh. Project Site is abutting the Raigarh-Kharsia road is The nearest Railway Station is Robertson Railway Station, which is located about 0.5 km distance from the project site towards East direction. Raigarh city is located at about 24.0 km distance from the Project site towards SE direction. The nearest important Airport is Veer Surendra Sai Airport, Jharsuguda, Odisha, which is situated at about 85 km distance in East direction from the project site. Mand River is flowing at a distance of 2.8 km from the Project site towards NE direction and Kurket River is at approx. 8.5 km towards NE direction. There is no River in the existing plant area but seasonal Nalla is lies adjacent to the project site (Dantar Nalla). Company has its own private railway siding within project site, which will be used as transportation of final product. No village or human settlement in the plant area. No National Park/sanctuary falls within 5 km of the plant area. The project area falls in Seismic Zone III Which is under engineering and construction shall comply with the code.

The site is bounded by coordinates 21°59'18.12"N to 21°59'15.97"N and 83° 10'19.88"E to 83° 10'10.72"E.

Earlier project was granted ToR vide F. No:-lA-J-11011/164/2019-IA.ll (I), dated:-20.05.2019 from MoEF&CC for 1.2 MTPA Iron Ore Beneficiation Plant.

Meanwhile, project proponent had changed its planning and added the facility for Pelletization additionally along with beneficiation. So, the ToR amendment form was obtained from MoEF&CC Vide File No- lA-J-11011/164/2019-IA.ll (I), Dated:-8.10.2020.

Thereafter, again the project planning has been changed and the facility for Pellet Plant was proposed to be removed making the final configuration as Iron Ore Beneficiation Plant of 1.2 MTPA in an area of 5.13 Ha.

Accordingly, Second ToR amendment form was obtained from MoEF&CC Vide File No- lA-J-11011/164/2019-IA.ll (I), Dated:-06.08.2021.

Accordingly, Draft environment impact assessment report is prepared and submitting the same to SPCB for conducting public hearing. The summary in English and Hindi and the DEIA report is submitted for conducting Public Hearing. The comments and suggestions received during the public consultation process will be incorporated in the final EIA Report. Final EIA Report will be submitted to MOEF&CC for appraisal after public hearing.

Total land available with company is 15.63 Ha and company has its own operational railway siding within project site on land measuring 10.50 Ha. So thereafter balance land will be used for the proposed project, which is 5.13 Ha.

The estimated water requirement for the proposed plant is 450 KL per day. The source of water requirement will be ground water for which permission has been obtained vide NOC CGWA/NOC/IND/ORIG/2020/8118 dated 08.06.2020. The NOC is valid from 01.06.2020 upto 31.05.2022. The storm water drains will be segregated and channelized to water harvesting area.

Total Raw material requirement along with approx. quantity is given in below table.

S.No	Raw Material	Quantity (TPA)	Sources	Distance w.r.t Site	Mode of Transport
1	For Iron Ore Beneficiation Plant (12,00,000 TPA) – Throughput Capacity)				
a	Low Grade Iron Ore Fines	12,00,000	Chhattisgarh / Orissa	500-600 km	By rail & road (through covered trucks)

b	Flocculants	75	Local Market	50-100 km	By Tankers

Total power requirement for the project will be 2 MW will be source from Chhattisgarh State Electricity Board. During power failure, 250 kVA DG set will be operated for the emergency use.

The total estimated project cost for the proposed unit is 70 Cr.

2.0 DESCRIPTION OF BASELINE ENVIRONMENT

Baseline data was generated during winter-season from 1th October 2020 to 31st December 2020. 10 km area around the site was considered as study area. Data was generated by following the standard/ approved procedures of the Ministry of Environment Forests and Climate Change and the Central Pollution Control Board. Meteorological data of wind speed, wind direction, relative humidity and temperature was generated at the project site. Ambient air quality was generated at 8 locations. Noise levels were measured at 8 locations. Surface water quality was collected and analysed at 8 locations; Groundwater quality was analysed at 8 locations. Soil quality was analysed at 4 locations. Data on plants and animals present in the study area was collected from the District Forest Department. Data on land use, demography, occupation pattern, cropping pattern, Infrastructure facilities were collected from District Statistics Handbook and the Tehsil records.

The normal annual rainfall of Raigarh district is 1240 mm. From the beginning of March to early June, when the monsoon sets in, hot westerly winds prevail. The westerly winds die down around sunset and allow cool winds to blow from the south. The climate of the district is of tropical dry sub humid. The mean daily minimum temperature ranges from 8.4°C to the maximum of 24.5°C during study area. March to May is dry summer intervened by tropical cyclonic storms. June to September is wet summer while October is autumn. Winter season starts from about the middle of November and continues till the end of February.

$PM_{2.5}$ values were found between 35.6 μg/m^3 to 50.9 μg/m^3. PM_{10} was found between 65.4 μg/m^3 to 88.9 μg/m^3. SO_2 was found between 5.1 μg/m^3 to 10.6 μg/m^3. NO_2 was found between 11.1 μg/m^3 to 23.6 μg/m^3. CO was found between 320 μg/m^3 to 710 μg/m^3. The ambient air quality is well within the national standards.

Day time noise level was found between 34.80 to 52.70 dB (A). Night time noise levels was found between 67.1 to 71.3 dB (A). The noise quality is well within the national standards. Analysis results of ground water reveal the following:-

Analysis results of ground water reveal the following;

- pH varies from to 7.51 to 7.72.
- Total Hardness varies from 251 to 281 mg/L.
- Total Dissolved Solids varies from 660 to 763 mg/L.

Analysis results of Surface Water reveal the following;

- pH varies from to 7.22 to 7.82.
- Dissolved Oxygen varies from 1.1 to 6.7 mg/L.
- COD varies from 19 to 45 mg/L.

The analysis results show that soil is basic in nature as pH value ranges from 6.98 to 7.55 with Nitrogen of 5 to 7 mg/kg. The concentration of Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is Sandy at project site.

Flora and Fauna: No national park or wildlife sanctuary or biosphere reserve is present in the study area. No endangered species of flora and fauna is found in the study area. No migratory corridor of wild animals is present in the study area.

According to 2011 Population Census the study area has a total population of 97649. Of this 83.3 percent are male and the remaining 16.7 percent are female. Again, of the total population 50.4 percent is rural and the remaining 49.6 percent is urban. Further, 12.5 percent of the total population belongs to 0-6 age group. About 52.0 percent of them are male and the remaining 48.0 percent are female. The overall sex ratio in the study area has been worked out to 985 females per 1000 males, which is much higher than the national average of 943 females per 1000 males. In the rural area the sex ratio is 996 females per 1000 males and in the urban area it is 942 females per 1000 males. the total number of persons belonging to Scheduled Caste community is 14188 which is 14.5 percent of the total population. The gender wise distribution of schedule caste population is male 49.6 percent and female 50.4 percent, registering a sex ratio of 1015 females per one thousand males. facilities like road, rail, school and hospital facility is satisfactory.

3.0 ANTICIPATED ENVIRONMENTAL IMPACT & MITIGATION MEASURES

Raw material Dust is the main pollutant generated during ore handling. Water sprinklers will be used to reduce dust generation during coal handling. Wet dust suppression system will be installed to reduce the dust generation.

All belt conveyors will be covered. Internal roads shall be concreted.

Industrial vacuum cleaners will be used in workshops and other work areas. Mechanical road sweeping machines will be deployed for daily cleaning of all internal roads.

There will be no industrial wastewater discharge as the plant will be designed on zero effluent discharge principle. Septic tanks followed by soak pits will be provided for sewage treatment and disposal. Zero effluent discharge will be practiced.

100% of waste water will be recycled and Zero discharge condition will be maintained.
Low noise emitting plant and machinery will be selected. 33% land area will be developed as greenbelt. The noise level at plant boundary will be maintained below 70 dBA.

The existing truck movement pattern will not undergo any significant change. Appropriate traffic management plan will be implemented in consultation with the transport authorities.

4.0 ENVIRONMENTAL MONITORING PROGRAM

Environmental Management Cell (EMC) will be set up to undertake routine environmental monitoring. Monitoring will be done to ensure compliance with the prescribed laws and standards. The Head of EMC will report to the Plant Head. Qualified staff will be recruited in EMC. Environmental monitoring of ambient air, stack emission, fugitive dust emission, noise levels, groundwater quality, surface water quality and soils will be carried out as per norms. EMC will be responsible for the following functions:-

Regular monitoring of:-

- Measuring fugitive emissions, measuring $PM_{2.5}$ and PM_{10} in work environment and report any abnormalities for initiating corrective and preventive actions.
- Measuring the ambient air quality at upwind and downwind direction of crusher, at plant boundary.

- Checking the ground water quality near the project area, and surrounding villages.
- Water quality of Mand River and Kurket River at upstream and downstream of site.
- Noise monitoring at plant boundary, nearest habitation, near highway, and work areas.
- Development and maintenance of greenbelt and greenery within the plant boundary.

5.0 ADDITIONAL STUDIES

Adequate fire mitigation measures will be ensured for handling fire in project area in care of emergency. Disaster Management Plan has been prepared to take care of public health and safety during any accident.

Various additional studies such as Risk Assessment & Risk Management were carried out for the proposed project during the study as per TOR conditions; Risk assessment and disaster management plan, with reference to water availability and quality of sewage, impact of underground mining, traffic study, subsidence study, hydrological study, cumulative impact study etc. Due care shall be taken for the safety of person and material in accordance with the applicable rules and various rules laid down. Proper risk assessment and management of will be done. Disaster Management Plan will be implemented. There is no impact on the availability and quality of water of Kurket River and Mand River due to the proposed project. The project will have negligible impact on traffic/traffic throughout the day as well as at peak hours of the site.

6.0 PROJECT BENEFITS

The proposed project is expected to yield a positive impact on the socio-economic environment within the study area. It helps to sustain the development of this area including further development of physical infrastructural facilities.

During construction stage of project, about 50-100 people on daily wages basis will get employment and about 80 persons are expected to be employed directly during operational phase. The preference will be given to local population of project site for employment in the semi-skilled and unskilled category as per their qualification and potential. This will increase the employment opportunity in the surrounding area. Apart

from direct employment opportunity various indirect opportunities for around 100-150 persons shall also be generated due to project. Indirect employments shall include opportunities in service such as Shops, Transportation Facilities, Health Care Facilities, etc. Construction and operation phase due to opening of proposed project, improve the socio-economic opportunities. Due to the operation of proposed project will contribute towards revenue to the Central & State government shall be envisaged which shall be used for making various public development and welfare schemes. The area shall be developed.

Due to commissioning of project, the project proponent shall execute various programs under the Corporate Social responsibility in and around the site. Under the companies Act 2013, the overall CSR budget of company shall be 2% average profit of last three years.

7.0 ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management Plan for effective management of environmental impacts and ensuring overall protection of the environment through appropriate management procedures has been developed. In order to implement the recommended mitigation measures and institutionalize the EMP, budgetary provision of Rs. 190 Lakhs capital expenditure has been made. Recurring annual expenditure will be Rs 56.1 lakhs of the capital expenditure.

Environment Management Cell (EMC) will ensure that all air pollution control device, effluent treatment plants and water re-circulating systems function effectively. EMC will also supervise disposal of spent oil and lubricants and used batteries to the authorized vendors. Plantation will be started during the construction phase by following the guidelines issued by the Central Pollution Control Board. Schemes for resource conservation (raw materials, water, etc), rainwater harvesting and social forestry development will be taken up by EMC. Regular environmental awareness programs for the employees will be conducted.

Workers will be periodically subjected to health check-up. EMC will ensure cleanliness and industrial hygiene in the plant. EMC in association with the safety department will undertake full review of the potential hazard scenarios during plant commissioning. The review will ensure enforcement of the proposed safeguards for pollution abatement,

resource conservation, accident prevention and waste minimization. The implementation of EMP would ensure that all elements of project comply with relevant environmental legislation throughout its life cycle.

8.0 CONSULTANTS

The consultant engaged for the preparation of the EIA/EMP of the Iron Ore Beneficiation Plant is M/s GRC India Pvt Ltd. GRC India is an ISO 9001:2015, 14001:2015 & ISO 45000:2018 certified pioneer environmental consultancy in India. It has been accredited by National Accreditation Board of Education & Training (NABET), Quality Council of India (QCI), which is the highest accreditation authority in India. The GRC India Pvt Ltd established a modern R&D Laboratory, which is compliant to IS/ISO 9001:2015, IS/ISO 14001:2015 and IS/ISO 45001:2018. All the project sampling and analysis with various studies are done by the GRC labs. Laboratory received accreditation from NABL which has been renewed as per procedure (current certificate no. TC-7501 valid till 25.04.2023) and is recognized by MoEF&CC (Gazette Notification No. S.O. 388 (E) dated 10.02.2017).