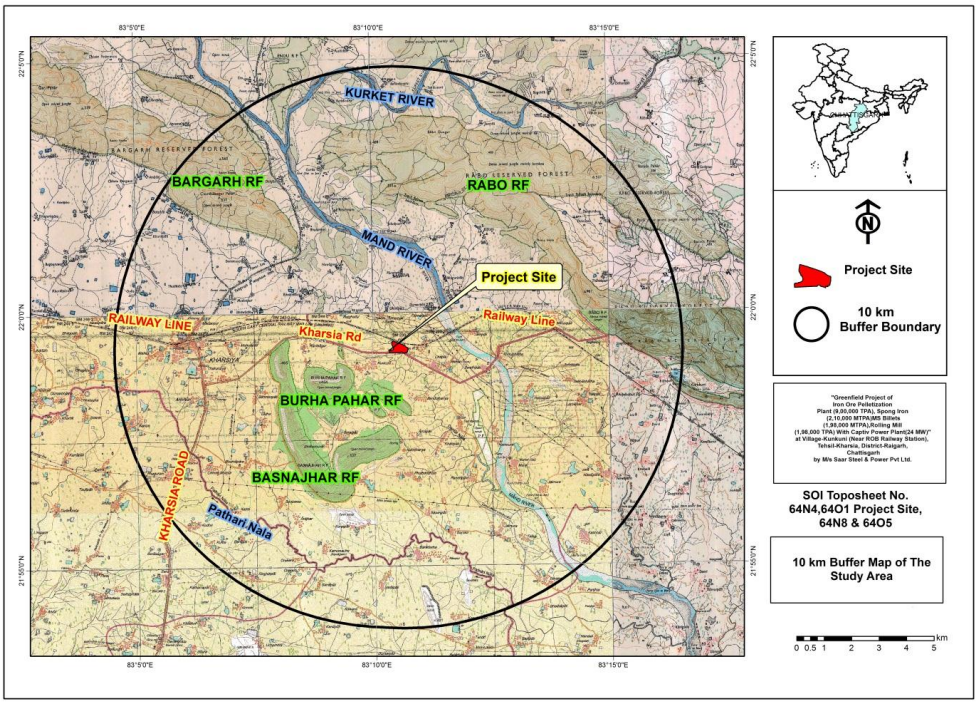
SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT

FOR PUBLIC HEARING

Greenfield Project of Iron Ore Pelletization Plant, DRI Plant, MS Billets, Rolling Mill with Captive Power Plant

At

Village Kunkuni (Near ROB Railway Station), Tehsil-Kharsia, District-Raigarh, Chhattisgarh



Submitted By

M/ s Saar Steel & Power Private Limited

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1.0 PROJECT DESCRIPTION

M/s Saar Steel & Power Plant Pvt. Ltd, has proposed Greenfield project for installation of Iron Ore Pelletization Plant, DRI, SMS with caster, Captive Power Plant and Rolling Mill Unit at Village-Kunkuni, Tehsil-Kharsia, District-Raigarh, Chhattisgarh.

Application was submitted to MOEF&CC for obtaining Terms of References (TOR) for conducting the EIA studies. Accordingly, the project proponents have submitted prescribed application along with Pre-Feasibility Report to the MOEF&CC, New Delhi on dated 19.06.2021 vide proposal No:- IA/CG/IND/215867/2021 for seeking terms of references for conducting the EIA Study. Expert Appraisal Committee (Industry-1) deliberated the project during its 39th meeting held on 30th June-01st July, 2021. MoEF&CC granted TOR for the project on 15th July, 2021 vide F. No. J-11011/257/2021-IA.II .The Expert Appraisal Committee (Industry-1) at MOEF&CC shall appraise the project.

"The project falls under Category 'A' of Schedule 3 (a), as per the EIA Notification, 2006 & its amendment till date and will be appraised by EAC (Industry-I), MoEF&CC, New Delhi"

Total land required for the project is 20.28 Ha and 6.70 Ha will be reserved for development of green belt and plant will be planted 2500 trees/ha as per the MoEFC&CC requirement.

Environment monitoring was done during post monsoon season during 1 st October 2021 to 31st December 2021.

Project Promoters:

M/s Saar Steel & Power Pvt. Ltd. will be managed by Directors Mr. Rishabh Agrawal, Mr. Anubhav Singhal and Mr. Aman Agrawal. They are experienced and knowledgeable employees for the respective areas of operation. They are already successfully running many iron & steel manufacturing units in Chhattisgarh. The details of the above listed Directors are given below. The following are the Board of Directors of the company:-

S. No.	Name of the Directors	Work Experience

1	Mr. Rishabh Agrawal Agrawal	All promoters have several years of experience in the field of Steel industry. The company is promoted by technically qualified and professionally experienced technocrats who crave for innovation and value addition.
2	Mr. Anubhav Singhal	
3	Mr. Aman Agrawal	

2.0 PROJECT CAPACITY

S. No.	Specification	Description	Total Capacity
1	**Iron Ore Pellet Plant**	2,727 TPD x 330 Days	**9,00,000 TPA**
2	**Sponge Iron Production**		
	➢ No of Rotary Kiln	02 No's	**2,31,000 TPA**
	➢ Capacity of Rotary Kiln	350 TPD	
	➢ Production capacity per day	700 Ton	
	➢ No. of days operation per day	330	
3	**Billets Production**		
	➢ No of Induction Furnace	3 No.	**2,04,000 TPA**
	➢ Melting Capacity of IF	20 Ton Each	
	➢ No of Heat per Day	10	
	➢ Production capacity per day	618 Ton	
	➢ No. of days operation per day	330	
4	**Rolling Mill**		
	➢ Production capacity per day	600 TPD	**1,98,000 TPA**
	➢ No. of days operation per day	330	
5	**Captive Power Plant**		
	➢ WHRB Boiler (2 x 36 TPH) ➢ CFBC Boiler (35 TPH)	16 MW 8 MW	**24 MW**

3.0 LOCATION OF THE PROJECT

The project site is located at Village-Kunkuni, Tehsil-Kharsia, District-Raigarh, Chattisgarh. Project Site is abutting the Raigarh-Kharsia road. 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 distance of SH-1 is about 19.6 km from the Project site towards West 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 plant area. The climate in the area is dry with extreme temperature variation. No National Park/sanctuary falls within 5 km of the plant area. The location is in Seismic Zone-III.

4.0 RESOURCE REQUIREMENT

Land	20.28 Ha.
Power	38 MW (24 MW power will be sourced from CPP and remaining will be sourced from State Electricity Board) During power failure, 600 kVA DG set will be operated for the emergency use.
Water	1776.5 KLD (Source: Ground water)
Manpower	400 persons

5.0 RAW MATERIAL REQUIREMENT

Total Raw material requirement along with approx. quantity for the Proposed Project are given in below table:-

A. Pellet Plant (900000TPA)				
S. No	**Raw Material**	**Quantity (TPA)**	**Sources**	**Mode of Transport**
1	Iron ore Concentrate	956250	Mines/Local Market	By Rail & Road (through covered trucks)
2	Bentonite	11,813	Gujarat	By Rail & Road (through covered trucks)
3	Lime Powder	5907	Local Market	By Road (through covered trucks)
4	Coal for Gasifier	55556	CG	By Rail & Road (through covered trucks)
5	LDO	1534 KL/Annum	IOCL	By Road through tanker
6	Anthracite Coal for Pulverized coal injection	14881	Paradeep	By Rail & Road (through covered trucks)
B. DRI Plant (231000 TPA)				
1	Iron Pellet	334950	In house	Internal Movement
2	Coal Indian	300300	CG	Road through covered trucks
3	Dolomite	10,395	Local	Road through covered

			Purchase	trucks
C.	**SMS Unit (2,04,000TPA)**			
1	Sponge Iron	195840	In-house	---
2	Pig Iron	24,480	Local Purchase	Road through covered trucks
3	Scrab	24,480	Local Purchase	Road through covered trucks
4	Ferro Alloys	271	Local Purchase	Internal Movement
D.	**Rolling Mill (1,98,000TPA)**			
1	M.S billets	201960	In-house Production	---

6.0 WATER REQUIREMENT

The total water requirement for proposed project steel project including domestic water will be 1776.5 KLD. This includes Make-up water Pellet plant, DRI Kiln, Induction Furnace, Rolling Mill and Power Plant. Air cooled condensers will be provided in Captive power plant. Hence the net water requirement will be substantially reduced. Industrial water will be sourced from ground water supply and permission obtained vide letter No CGWA/NOC/IND/ORIG/2020/8118, which is valid till 31.05.2022.

S. No	Description	Water Requirement (m^3 per Day)
01	Pelletization Plant	365
02	DRI Unit	1008
03	SMS with Caster	40
04	Captive Power Plant	320
05	Re-Rolling Mill	30
06	Domestic Use	13.5
Total		**1776.5 KL/day**

7.0 DESCRIPTION OF BASELINE ENVIRONMENT

The baseline study was conducted during 1st October to 31st December, 2021 during post monsoon season.

Summary of Ambient Air Quality

- During the study PM_{10} was observed in the range of 64.1 to 86.8 µg/m^3.
- $PM_{2.5}$ was observed in the range of 37.3 to 49.9 µg/m^3
- SO_2 concentration was observed in the range of 6.0 to 10.8 µg/m^3, which is well within the standard limit.
- NO_x concentration in was observed in the range of 10.3 to 20.7 µg/m^3, which is well within the standard limit.

Ground Water and surface water was analysed at eight locations within study area

Summary of Ground Water Quality

- pH was observed in the range of 7.43 to 7.72 which meets with desirable norms.
- Total dissolved solid were recorded in the range of 670 to 770 mg/L site.
- Total hardness was in the range of 236-281 mg/L.
- Total Alkalinity was found in the range of 224-281 mg/L
- Iron was found in the range of 0.46-0.58 mg/L

Summary of Surface Water Quality

The following description is based on the analysis of the samples:

- During the analysis pH of the samples was found in the range of 7.22 to 7.82
- TDS analysis was also carried out for surface water sample and it was found in the range of 326 to 880 mg/L.
- DO measured during analysis was found in the range of 1.1 to 6.7 mg/L.
- COD measured during analysis was found in the range of 19 to 45 mg/L.
- BOD measured during analysis was found in the range of 3.1 to 10.1 mg/L.

Soil samples were collected from 05 sampling locations. The analysis results show that soil is acidic & alkaline in nature as pH value ranges from 6.78 to 7.56, Iron ranges from 0.3 to 1.8 mg/kg, Bulk Density is 1.39 to 1.43 gm/cc, Water Holding Capacity is 29.8 to 31.9%, Total Nitrogen (as N) is 135.63 to 195.96 kg/Ha, Total Phosphorus (as P2O5) is 18.77 to

24.60 Kg/Ha and Available Potassium (as K) kg/ha is 382.93 to 448.45 Kg/Ha. Soil texture is sandy clay at project site.

Assessment of day noise levels around the study area are ranging between 43.2 to 69.5 dB (A) during study period. Whereas the night equivalents were in the range of 35.5 to 58.7 dB (A). From the results it can be seen that the Day equivalents and the Night equivalents were within the Ambient Noise standards of residential areas standards.

There are 72 identified settlements in the study area of which 71 are villages and one town. Of 71 villages 67 are located in district Raigarh. Kharsia is the only town located in district Raigarh.

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.

8.0 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.

9.0 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 wastewater quality (inlet and outlet).
- Checking the ground water quality near the project area, and surrounding villages.
- Water quality of Damodar 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.

10.0 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.

CER will be done as per CER norms. Generally, the CER amount use to spent for making classrooms in local schools, providing teaching aids, making community centres, develop drinking water facility in nearby villages, making rainwater harvesting structures like anicuts and check dams in the area, developing infrastructure facilities and equipment in primary health centres.

As per MoEF&CC Office Memorandum vide F.No.22-65/2017-IA.III dated. 30th September 2020, following is budgetary allocation (Rs. 1.9 Cr) for commitment made by Project Proponent to address the activities for CER.

11.0 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.

About 100-150 people on daily wages basis will get employment during the construction stage. Approx. 400 persons (For Admin staff –25, for Production –275 and Contractual-100) persons are expected to be employed during operational phase, for the skilled, semi-skilled and unskilled category. The preference will be given to local population for employment in the semi-skilled and unskilled category; this will increase the employment opportunity in the surrounding area. More revenue will be generated by the way of GST to the State & Central exchequers.

12.0 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. 16.8 Cr capital expenditure has been made and Recurring annual expenditure will be Rs 3.66.

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.

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