Pre- Feasibility Report

for

Greenfield project for production of Sponge Iron 231,000 TPA; Mild Steel Billets 232,848 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 225,863 TPA (171,144 TPA through Hot Charging & 54,719 TPA through Billet Reheating Furnace); Captive Power of 25MW (16MW through WHRB and 9MW through AFBC); Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA from 9 MVA x 2 Nos SAF; and Fly Ash Bricks 36,700 TPA.

(January 2021, Rev.01- February 2022, Rev.02- March2022)

Project Proponent:

M/s. VAP Ispat Private Limited

Regd. Office: Pagariya Complex, Bus Stand, Pandri, Raipur (C.G.)
Proposed Site: Villages- Mudpar & Rampura, Tehsil- Nawagarh,
District- Bemetara (C.G.) Pincode 491 332

:: DPR Consultants ::

Indus Technical and Financial Consultants Pvt. Ltd.

205, Main Road, Samta Colony, Raipur (CG) 492001
Mo. 9301193400, Email: indusryp@gmail.com , Website : www.itfc.in

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1.0 EXECUTIVE SUMMARY

The company "**VAP ISPAT PRIVATE LIMITED**" is a newly incorporated private limited company registered under the Companies Act 2013 with an objective to set up an integrated mini steel plant along with Captive power plant.

The proposal is for a Greenfield project for implementation of new manufacturing facilities for production of Sponge Iron, MS Billets, Steel Rerolled products, Fly Ash products along with captive power generation plant comprising of Waste Heat Recovery Boilers (WHRB) and Atmospheric Fluidized Bed Combustion (AFBC) Boiler and Steam Turbine & Generator.

Following facilities are proposed in an area of 30.80 Ha.:

1. Two Nos. of 350 TPD DRI Kilns for producing 231,000 TPA Sponge Iron along with 16 MW WHRB boilers.
2. 20 MT each X 4 Nos. of Induction Furnaces along with CCMs and 20 MT x 1 nos. of LRF for production of 232,848TPA MS Billets.
3. Rerolling Mill for production of 225,863 TPA Rerolled Steel: out of which 171,144 TPA Rerolled Steel will be produced thru Hot Charging Facility and remaining 54,719 TPA Rerolled Steel will be produced through use of Billet Reheating Furnace along with coal gasifier.
4. Coal based AFBC based Captive power plant of 9 MW power generation capacity. Thus, total captive power generation will be 25 MW (16 MW WHRB + 9 MW AFBC).
5. Two Nos. of Submerged Arc Furnaces each with 9MVA input power capacity will be installed for production of Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA.
6. Fly Ash Bricks and other building material product manufacturing facility of 36,700 TPA will also be implemented.
7. Coal Producer gas plant will be of 2.2 Meter dia and capable to gasifie upto 1100 kg/Hour Coal to produce 1800 to 3600 NM3 per hour producer gas with Gas Composition of CO : 25-30% H_2 : 15-18% CH_4 : 3-6% CO_2 : < 6% N_2 : 45-50% having more than 1550 k Cal Thermal energy with more than 380 degree Celsius temperature. Hot PG gas will be fired in the Billet reheating furnace. Due to use of hot producer gas at temperature above condensation Tar will not be generated in Bulk. However Tar collected at Water seal points will be sold to Tar processing units. Phenolic waste water generated will be collected and combusted in DRI kiln ABC.

The salient features of the project are as follows:

Table 1 : SALIENT FEATURES OF THE PROJECT

<table>
<tr><th>S. No.</th><th>PARTICULARS</th><th colspan="4">DETAILS</th></tr>
<tr><td>A.</td><td>Nature of the Project</td><td colspan="4">Green Field Project</td></tr>
<tr><td>B.</td><td>Size of the Project</td><td>S. No</td><td>Product</td><td>Facility</td><td>Capacity (in TPA)</td></tr>
<tr><td></td><td></td><td>1</td><td>Sponge Iron</td><td>DRI Kilns,</td><td>231,000</td></tr>
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<table>
<tr><th>S. No.</th><th>PARTICULARS</th><th>DETAILS</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td>(350TPD X 2 Nos.)</td><td></td></tr>
<tr><td>2</td><td>MS Billet</td><td>Induction Furnace, (20 Tons X 4 Nos.)</td><td>232,848</td></tr>
<tr><td rowspan="3">3</td><td colspan="2">Rerolled Steel product (Wire Rod, TMT bar, Structure Steel etc.)</td><td>225,863</td></tr>
<tr><td>A</td><td>Hot Charging Rolling Mill</td><td>171,144</td></tr>
<tr><td>B</td><td>Billet Reheating Furnace (Fuel Fired)</td><td>54,719</td></tr>
<tr><td rowspan="2">4</td><td rowspan="2">Captive Power Plant (Air Cooled Condenser)</td><td>WHRB</td><td>16 MW</td></tr>
<tr><td>AFBC</td><td>9 MW</td></tr>
<tr><td>5a)</td><td>Silico Manganese</td><td>Submerged Arc Furnace (9MVA x 2 nos.)</td><td>36,000</td></tr>
<tr><td colspan="4">AND/OR</td></tr>
<tr><td>5b)</td><td>Ferro Manganese</td><td>Submerged Arc Furnace (9 MVA x 2 nos.)</td><td>46,000</td></tr>
<tr><td colspan="4">AND/OR</td></tr>
<tr><td>5c)</td><td>Ferro Silicon</td><td>Submerged Arc Furnace (9 MVA x 2 nos.)</td><td>20,000</td></tr>
<tr><td colspan="4">AND/OR</td></tr>
<tr><td>5d)</td><td>Pig iron</td><td>Submerged Arc Furnace (9 MVA x 2 nos.)</td><td>63,000</td></tr>
<tr><td>6</td><td>Fly Ash Bricks</td><td>Fly Ash Brick Making</td><td>36,700</td></tr>
<tr><td>7</td><td>Producer gas Plant (Based on Coal)</td><td>Producer gas</td><td>30,240 Thousand NM3</td></tr>
</table>
</td></tr>
<tr><td>C.</td><td>Category of the Project</td><td>As per EIA Notification dated 14th Sept. 2006 & as amended; this project falls under Category “A”; Project Activity ‘3(a)’ Metallurgical Industries and 1(d) Thermal Power Plant.</td></tr>
<tr><td>D.</td><td>Location30240</td><td>Village- Mudpar and Rampura, Tahsil- Nawagarh, District- Bemetara (Chhattisgarh) Pin Code – 491 332
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>21°55'24.38"N</td><td>81°44'36.04"E</td></tr>
<tr><td>B</td><td>21°55'25.17"N</td><td>81°44'41.71"E</td></tr>
</table>
</td></tr>
</table>

S. No.	PARTICULARS	DETAILS
		C 21°55'28.58"N 81°44'42.05"E D 21°55'28.34"N 81°44'45.63"E E **21°55'32.48"N** 81°44'46.21"E F 21°55'33.27"N 81°44'42.37" G 21°55'34.57"N 81°44'42.90"E H 21°55'34.24"N 81°44'48.69"E I 21°55'33.15"N 81°44'49.15"E J 21°55'33.11"N 81°44'52.63"E K 21°55'33.93"N 81°45'0.16"E L 21°55'28.12"N 81°44'59.27"E M 21°55'28.16"N 81°44'58.16"E N 21°55'22.16"N 81°44'58.19"E O 21°55'21.77"N 81°45'2.42"E P 21°55'14.44"N 81°45'0.96"E Q 21°55'15.59"N 81°44'56.21"E R 21°55'11.84"N 81°44'55.43"E S 21°55'14.64"N 81°44'50.99"E T 21°55'16.11"N 81°44'43.50"E U 21°55'17.41"N 81°44'39.81"E V 21°55'19.43"N 81°44'39.76"E W 21°55'19.87"N 81°44'38.00"E X 21°55'21.61"N 81°44'37.14"E Y 21°55'21.68"N 81°44'36.13"E Toposheet number: 64F/12, 64F/16, 64G/9 and 64G/13
	Registered Office	Pagariya Complex, New Bus Stand, Pandri, Raipur (C.G.)
E.	**Total Project Area**	30.80 Ha.
	Greenbelt/ Plantation Area (Ha.)	10.17 Ha. (33.03%)
F.	**Environmental Setting Details (with Approximate aerial distance & direction from the nearest boundary of plant site)**	
1.	**Nearest City**	Mungeli – 16.5 KMs/ NW
2.	**Nearest National Highway/ State Highway**	SH 10 – Adjacent/W NH 130 (SH 2) – 17.6 KMs/SE
3.	**Nearest Railway station**	Bhatapara Railway Station 28.6 KMs/SE
4.	**Nearest Airport**	Bilasa Devi Kevat Airport, Domestic Airport (Bilaspur Airport) 38.0 KM/ENE
5.	**National Parks, Wildlife sanctuaries, Biosphere reserves**	None

S. No.	PARTICULARS	DETAILS
	within 10 Km. radius	
6.	**Water bodies (within 10 Km radius)**	

S. No.	Name of the Water Body	Distance (KM)	Direction
1.	Agar River	10.1	N
2.	Tesua Nadi	5.5	NE
3.	Sunari Nala	2.6	ENE
4.	Nakti canal	5.0	SW
5.	Nakti Nala	2.0	W
6.	Rampur Pond	1.0	W

7.	**Seismic Zone**	Zone-II [As per IS :1893 (Part-I): 2002]	
8.	**COST OF PROJECT**	**(In Lakhs Rs.)**	

Estimated Cost of Project (excluding CER)	**:**	**32,500.00**
Estimated CER expenses	:	200.00
Total Cost of Project (including CER)		32,700.00

Cost details :

Particulars	Sponge Iron	Captive Power Plant	SMS Division	Rolling Mill Division	Ferro Alloy Division	Fly Ash Bricks	Amount (In Rs. Lakhs
Land and site development	250.00	100.00	50.00	25.00	300.00	30.00	755.00
Building and Civil	1,500.00	2,000.00	1,000.00	950.00	800.00	100.00	6,350.00
Plant and Machinery	6,000.00	6,500.00	2,500.00	2,300.00	2,700.00	300.00	20,300.00
Misc. Fixed Assets	500.00	350.00	250.00	250.00	300.00	20.00	1,670.00
Electrical Installation	350.00	850.00	350.00	150.00	300.00	20.00	2,020.00
Prel. & Pre operative	200.00	100.00	150.00	125.00	100.00	15.00	690.00
Contingencies	200.00	100.00	200.00	200.00	0.00	15.00	715.00
Project Cost	**9,000.00**	**10,000.00**	**4,500.00**	**4,000.00**	**4,500.00**	**500.00**	**32,500.00**
Proposed CER Exp.	55.38	61.54	27.69	24.62	27.69	3.08	200.00
Grand Total	**9,055.38**	**10,061.54**	**4,527.69**	**4,024.62**	**4,527.69**	**503.08**	**32,700.00**

H **MEANS OF FINANCE :**

Means of Finance	Sponge Iron	Captive Power Plant	SMS Division	Rolling Mill Division	Ferro Alloy Division	Fly Ash Bricks	Amount (In Rs. Lakhs
Equity –Equity & reserve and surplus	3,169.38	3,521.54	1,584.69	1,408.62	1,584.69	176.08	11,445.00
DEBT – Term Loan from Bank and other financial Institutes	5,886.00	6,540.00	2,943.00	2,616.00	2,943.00	327.00	21,255.00
Total ::	**9,055.38**	**10,061.54**	**4,527.69**	**4,024.62**	**4,527.69**	**503.08**	**32,700.00**

<table>
<tr><th>S. No.</th><th>PARTICULARS</th><th>DETAILS</th></tr>
<tr><td rowspan="4">I</td><td colspan="2">Basic Requirements of the project</td></tr>
<tr><td>Water Requirement</td><td>Requirement: 1500 KLD (Yearly: 495000 KLA)

Source: Surface water from Agar river and Collected Rain water

Total Yearly water requirement will be 1500 KLD * 330 days = 495000 KLA. The management had decided to implement a 75,000 KL Rain water collection Tank which will be enough to cater water requirement of 50 days, and in rainy day of 75 days water requirement will be met through rain water collections in it. Therefore, it is considered that about 75 days (1,12,500 KLA) water requirement will be met through rain water and rain water collection, and balance 255 days water (3,82,500 KLA) will be sourced from Surface Water i.e. from Agar River.</td></tr>
<tr><td>Power Requirement and source</td><td>Requirement: 47 MW
Source: 25 MW will be met through captive power plant and 22 MW will be sourced through State Grid (CSPDCL). In addition to this total 2 Nos of 3300 kVA DG sets are proposed for emergency backup.</td></tr>
<tr><td>Man power Requirement</td><td><table>
<tr><th>Particulars</th><th>Manpower (Nos.)</th></tr>
<tr><td>Administrative Staff</td><td>45</td></tr>
<tr><td>Production Staff</td><td>855</td></tr>
<tr><td>Total:</td><td>900</td></tr>
</table></td></tr>
<tr><td>J.</td><td>Schedule of Implementation</td><td>Physical work on ground for the proposed unit will be started after receipt of Environmental Clearance, CTE and all other permission from State and Central Government. It is estimated that project will be completed within 24 months from date of start of work.</td></tr>
<tr><td>K.</td><td>DPR Consultant</td><td>Indus Technical & Financial Consultants Pvt. Ltd.
CIN: U74220CT1990PTC006020
205 Samta Colony; City Raipur;
Chhattisgarh State. Post Code: 492001. India
(Mobile) +91 9301193400, (Land Line) +91-771-2255186
Email: indusryp@gmail.com; admin@itfc.in</td></tr>
<tr><td>J.</td><td>Environment Consulting</td><td>Anacon Laboratories Pvt. Ltd.
CIN: U73100MH1998PTC114169</td></tr>
</table>

S. No.	PARTICULARS	DETAILS
	Organization	**Accredited Consulting Organization for** Sector No. 8 (Metallurgical Industries) and Sector No. 4 (Power Plants) in Category - A Accreditation Certificate No.: *NABET/EIA/1922/RA 0150 dtd. 03 Feb 2020 Valid till September 30, 2022* *http://nabet.qci.org.in/Environment/Accreditation-Consultant.asp* **Head Office**: 60, Bajiprabhu Nagar, Nagpur - 440033, MH **Lab. & Consultancy**: FP-34, 35, Food Park, Five Star Industrial Zone, Butibori, MIDC,Nagpur – 441122; Ph.: (0712) 2242077, 9373287475; Fax: (0712) 2242077 Email: dattatraya.garway@anacon.in, ngp@anacon.in Website: www.anaconlaboratories.com

2.0 INTRODUCTION OF THE PROJECT

2.1 Identification of project and project proponent

The company "VAP Ispat Private Limited" is a company incorporated on under The Companies Act 2013 with an objective to set up an integrated mini steel plant. The title of the project is: "Greenfield project for production of Sponge Iron; Mild Steel Billets; Rerolled Steel Products; Captive Power (through WHRB and AFBC); Ferro Alloys (FeMn, FeSi & SiMn) and/or Pig Iron along with Fly Ash Bricks; by VAP Ispat Pvt Ltd at Village- Mudpar & Rampura, Tehsil- Nawagarh, District- Bemetara (C.G.)"

Table 2: LIST OF DIRECTORS

Sr. No.	Name	DIN
1	GAJRAJ PAGARIYA	00028592
2	DURGA DEVI PAGARIYA	01057489

The directors have vast experience in running the Educational Institute; Real Estate and Civil Construction and infrastructure projects.

The details of facilities to be implemented are as follows:

Table 3: DETAILS OF PRODUCT, FACILITY AND CAPACITY

S. No.	Process plant	Proposed configuration of the plant	Product Name	Capacity (in TPA)
1	DRI Kiln (Coal Fired)	350TPD X 2 No.	Sponge Iron	231,000
2	Induction Furnace along with CCM and LRF	Induction Furnace (20 MT X 4 Nos) and LRF (20 MT x 1 No)	MS Billet	232,848
3	Hot Rolling Mill			225,863
	a. Hot Charging Rolling Mill	Electrical driven Rolling Mill about 388 TPD	Rerolled Steel product (Wire Rod, TMT bar, Structure Steel etc.)	171,144
	b. Billet Reheating Furnace	Reheating Furnace based Rolling Mill about 124 TPD	Rerolled Steel products (Rerolled Structural Steel etc.)	54,719
4	Captive Power Plant (Boiler and TG based)	WHRB	Captive Power	16 MW
		AFBC		9 MW
5a)	Submerged Arc Furnace	2 Nos. of furnace with 9MVA as input power capacity	Silico Manganese	36,000
			And/ Or	
5b)			Ferro Manganese	46,000
			And/ Or	
5c)			Ferro Silicon	20,000
			And/ Or	
5d)			Pig iron	63,000

6	Fly Ash Bricks/ Block making unit	Fly Ash Brick/Block Making	Fly Ash Bricks/ Blocks	36700
7	Producer gas Plant (Based on Coal)	Coal Producer gas plant will be of 2.2 Meter dia and capable to gasifie upto 1100 kg/Hour Coal to produce 1800 to 3600 NM3 per hour producer gas	Producer gas	30,240 Thousand NM3 Producer Gas per annum

Table 4: LOCATION DETAILS

Villages	Mudpar and Rampura		
Tehsil	Nawagarh		
District	Bemetara		
State	Chhattisgarh		
Khasra number	439 (0.88Ha.), 440 (1.2Ha.), 441 (2.62Ha.), 639 (1.35Ha.), 640 (0.57Ha.), 641 (0.65Ha.), 644 (0.56Ha.), 645/2 (0.5Ha.), 650 (0.48Ha.), 651 (0.22Ha.), 652 (0.24Ha.), 655 (1.87Ha.), 646 (0.81Ha.), 653 (0.47Ha.), 654 (0.54Ha.), 658 (1.21Ha.), 384 (0.74Ha.), 152 (0.7Ha.), 155/2 (0.2Ha.), 645/1 (0.48Ha.), 642 (1.02Ha.), 648 (0.35Ha.), 647 (0.31Ha.), 649 (0.62Ha.), 149 (0.72Ha.), 150 (0.94Ha.), 151/2 (0.45Ha.), 151/1 (0.66Ha.), 153 (0.35Ha.), 154/1 (0.41Ha.), 154/2 (0.41Ha.), 155/1 (0.58Ha.), 155/4 (0.35Ha.), 155/5 (0.14Ha.), 155/6 (0.2Ha.), 156 (0.72Ha.), 385 (1Ha.), 396/1 (0.8Ha.), 396/3 (0.24Ha.), 387/1 (0.24Ha.), 398/1 (0.31Ha.), 398/2 (0.88Ha.), 397 (1.23Ha.), 399/1 (0.49Ha.), 399/2 (0.55Ha.), 400 (0.46Ha.), 158/2 (0.04Ha.) & 162/3 (0.04Ha.).		
Area	30.80 Hectare		
Toposheet No.	64F/12, 64F/16, 64G/9 and 64G/13		
Geo-coordinates	**Point**	**Latitude**	**Longitude**
	A	21°55'24.38"N	81°44'36.04"E
	B	21°55'25.17"N	81°44'41.71"E
	C	21°55'28.58"N	81°44'42.05"E
	D	21°55'28.34"N	81°44'45.63"E
	E	**21°55'32.48"N**	81°44'46.21"E
	F	21°55'33.27"N	81°44'42.37"E
	G	21°55'34.57"N	81°44'42.90"E
	H	21°55'34.24"N	81°44'48.69"E
	I	21°55'33.15"N	81°44'49.15"E
	J	21°55'33.11"N	81°44'52.63"E
	K	21°55'33.93"N	81°45'0.16"E
	L	21°55'28.12"N	81°44'59.27"E
	M	21°55'28.16"N	81°44'58.16"E
	N	21°55'22.16"N	81°44'58.19"E

	O	21°55'21.77"N	81°45'2.42"E
	P	21°55'14.44"N	81°45'0.96"E
	Q	21°55'15.59"N	81°44'56.21"E
	R	21°55'11.84"N	81°44'55.43"E
	S	21°55'14.64"N	81°44'50.99"E
	T	21°55'16.11"N	81°44'43.50"E
	U	21°55'17.41"N	81°44'39.81"E
	V	21°55'19.43"N	81°44'39.76"E
	W	21°55'19.87"N	81°44'38.00"E
	X	21°55'21.61"N	81°44'37.14"E
	Y	21°55'21.68"N	81°44'36.13"E
Source of water	Surface water along with Rain Water collected - Water Required 1500 KLD		
Nearest Airport	Bilasa Devi Kevat Airport, Domestic Airport (Bilaspur Airport) 38.0KMs /ENE		
Nearest Railway station	Bhatapara Railway Station 28.60 KMs/SE		

2.2 Brief description and nature of the project

The proposal is a Greenfield project involving implementation of facilities for production of Sponge Iron, MS Billet, Steel Rerolled products, Fly Ash products along with captive power generation plant comprising of Waste Heat Recovery Boiler (WHRB) and Atmospheric Fluidized Bed Combustion (AFBC).

The 2 No. of 350 TPD DRI Kiln along with 8 MW WHRB each boiler is proposed to be implemented. The MS Billets production facility will be based on 4 Nos. of Induction Furnaces each with 20 MT capacity crucible along with CCMs and LRFs to produce 232848 TPA Hot Billets.

It is proposed to implement a Hot Rolling Mill which will be able to produce in total 225863 TPA Rerolled Steel productions out of which 171144 TPA Rerolled Steel products will be produced using Hot Charging Facility and remaining 54719 TPA Rerolled Steel production is proposed through use of Billet Reheating Furnace along with Hot coal gasifier.

Coal based AFBC based Captive power plant of 9 MW will be also implemented

Total captive power generation capacity will be 25 MW (16 MW WHRB + 9 MW AFBC).

2 nos. of Submerged arc furnace will be installed with an input power capacity of 9MvA for the production of Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA.

Fly Ash Bricks and other product manufacturing facility of 36700 TPA will also be implemented.

2.3 Need for the project and its importance to the country and/or region.

India is the 2nd largest producer of steel in the world accounting for production more than 111 million tons of crude steel in 2019. It also holds the third position in consumption of steel. Per capita finished steel consumption in 2019 was 74.3 kg while for World is 229.3 kg.

Thus there is great potential in steel industry in India.

Honorable Prime Minister Shri Narendra Modi has envisaged the growth of steel sector to attain a production capacity of 300 Million Tonnes and increase the Per capita Steel consumption to 160 Kgs by 2030-31. Hence, in order to achieve this capacity, it is essential to create the facilities based on local resources to produce steel.

The Honorable Prime Minister has also proclaimed the global commitment to fight Climate Change; hence the importance of creating the facilities to achieve highest energy efficiency in core sector industries is also very essential.

In view of these facts the proposed project for production of steel becomes a project of national interest; also the proposed hot charging technology to produce steel would be one of the most energy efficient technology in which direct online finished steel production in the form of rerolled steel products. Also the WHRB power plant along with DRI Kiln will generate captive power without combustion of fossil fuel.

Due to which a substantial amount of GHG emission would be avoided or reduced than the baseline emission.

ADVANTAGES OF THE PROJECT

- It will lead to the development of Backward region in economically backward state of Chhattisgarh
- It will lead to GHG emission avoidance which is a Global priority.
- It will generate additional employment
- It will help the secondary steel producers more competitive in all terms including production cost and efficiency.
- Ready market for the finished products. Easy accessibility to the thriving markets of Chhattisgarh, Madhya Pradesh, Bihar, UP and Orissa from another major locational advantage factor.
- Technology is not new and it has already been successful tried in number of plants.

2.4 Demand-supply gap

Technology Development: Inception of new technologies in steel making has completely changed the steel making scenario in India which started with Coal based sponge iron kiln with a very low scale project by Sponge Iron India Ltd in Palwancha Andhra Pradesh with two numbers of 100 TPD each capacity Coal based Rotary kilns in around 1984. Subsequent to which the technology was indigenized by Jindal steel and Power, Raigarh in which Waste heat recovery boiler was later made possible and then melting of sponge iron

in Induction furnace crucibles changed the complete steel making scenario. Today in India secondary steel making based on Coal based DRI and Induction furnace looks to be the best choice due to several advantages endowed in it. The 24 Pulse Induction Crucibles have reduced the power consumption substantially too.

During past 12 years domestic steel demand has witnessed continuous growth. Since then the production of steel also has gone up by 75% while domestic steel demand has grown by around 80%.

Steel sector is one of the most vital sector for the economy of India therefore government of India has introduced the National Steel Policy in 2017. It gives the road map for growth of Indian steel industry till 2030–31.

The salient features of the policy are as follows:

- Steel-making capacity is expected to reach 300 million tonnes per annum by 2030–31.
- Crude steel production is expected to reach 255 million tonnes by 2030–31, at 85% capacity utilisation.
- Production of finished steel to reach 230 million tonnes, assuming a yield loss of 10% for conversion of crude steel to finished steel – that is, a conversion ratio of 90%.
- With 24 million tonnes of net exports, consumption is expected to reach 206 million tonnes by 2030–31.
- As a result, per capita steel consumption is anticipated to rise to 160 kg.
- An additional investment of INR 10 lakh crore is envisaged. While the National Steel Policy, 2017, is a vision document of the Indian government, it nevertheless emphasises the growth potential of the Indian steel industry.

As per data from the Joint Plant Committee, at the end of 2018-19, India produced 110.9 million tonnes of crude steel.

In order to reach 255 million tonnes of crude steel production by 2030–31, production needs to grow at a CAGR of about 7.2%.

This is easily achievable given crude steel production grew significantly in 2018-19, 2019-20. Therefore, the growth potential that the government has charted out in the National Steel Policy, 2017, is in sync with the industry's growth trajectory.

Overall, the demand prospects of steel-using sectors remain positive, with steel demand set to grow. Nevertheless, it is pertinent that India returns to a 7% plus GDP growth rate for steel demand to grow at more than 7%, which in turn would enable market-led conditions to increase steel-making capacity and production.

In addition to the local domestic demand the Indian Steel sector is likely to become a major exporter of steel in times to come as new technology to reduce the energy requirement is being developed and rapidly adopted by the industry.

India is the only nation in which direct hot charged based rerolling has become a common practice. Now with 24 Pulse Induction furnaces with 10 to 15 tonnes capacity are able to melt metal at much less power. More and more automation is making Indian Manufacturers more competitive than China who is the current global leader in steel production.

2.5 Imports vs. Indigenous production

Prior to implementation of these type of mini integrated steel plants the gap between demand and supply was being fulfilled by import of steel. The Chinese manufacturers were giving tough competition to Indian steel producers because of their cheaper production cost mainly due to abundantly available coking coal in their country.

Therefore, in order to face the competition being poised by the Chinese manufacturer it is important to reduce cost of product, as well as produce good quality of steel. Therefore this type of project is important to be implemented.

The Indian infrastructure sector is likely to see a massive growth due to increasing economic status thus in order to keep the supply ready to match the demand of construction steel the additional capacity of TMT steel Bars as well as structural steel is most immediate requirement of time.

The demand for Fabricated and Galvanized steel is to Cater to the needs of Transmission towers; Railways; Infrastructure projects where there is a rapid growth.

2.6 Export possibility

Export of Steel is always possible, the Government of India is also encouraging export of steel, however proposed quantity will be domestically consumed. The world steel market is for about 1500 Million Tonnes, out of which about 50% is being produced by China, the global demand even if increases by 2% per annum then it requires addition of 30 Million Tonnes additional production capacity. Since China has already reached to a saturation level of increasing the production; therefore India has better chance to share the world market by increasing it's production in an energy efficient manner. The unit being located in the eastern sector can export the steel to Bangladesh; Bhutan; Burma; Nepal and other nearby eastern developing countries.

2.7 Domestic/ export Markets.

Domestic market with real estate, infrastructure project, industrial projects are available for purchase of steel which is estimated to be around 80 million tonnes per annum. The estimated growth in infrastructure is likely to increase the demand of steel to more than 300 million tonnes by the year 2030. In view of this it is required to make advance planning for creating the facility and infrastructure to meet this demand. The domestic market as well as export market both will require good quality steel, produced with minimum energy consumption and minimum cost of production. In order to achieve these objectives the proposed project has been designed to high energy efficiency, with good quality products.

The project has potential to cater to the domestic demand as well as export demand of steel.

2.8 Employment Generation (Direct and Indirect) due to the project

The unit will need Technical qualified personals for organizing the production and then several skilled workers for operating the unit and for working in workshop, etc.

Besides all these type of workers a number of semiskilled and unskilled workers will also be required for peripheral activities like transport, logistics, engineering, Services, commercial services etc.

Also a large number of industries are already located in the region. Hence the region has slowly and steadily become a major centre for steel production. Thus all these skilled and trained local workers are easily available in the region.

Besides the production staff some more manpower shall be needed for administrative purposes. The local untrained manpower also will be trained to slowly take up to the Semiskilled and Skilled tasks. Initially the unskilled labor will be deployed from local area only. Subsequently they will be trained to take up higher responsibilities.

The list of likely employment due to the proposed project is given in table below, as per which following direct employment potential is likely to be generated:

Table 5: EMPLOYMENT DETAILS

Particulars	**Total**
Administrative Staff	45
Production Staff	855
Total	**900**

3.0 PROJECT DESCRIPTION

3.1 Type of project including interlinked and interdependent projects, if any.

The Sponge Iron, Steel Melting Shop (Induction Furnaces, with LRF) along with integrated Steel Rolling Mill, Ferro Alloys; falls under S.No. 3(a) of schedule EIA Notification 2006.

The AFBC and WHRB based power plant falls under falls under S.No. 1(d) of schedule EIA Notification 2006.

It is also proposed implement other facilitates like Hot Charging Rolling Mill, Billet Reheating Furnace and Fly Ash Brick making facility.

The overall project activity is categorized as category "A"

3.2 Location (map showing location, project boundary and project site layout) with coordinates.

Table 6: ENVIRONMENTAL SETTING OF THE SITE

Sr. No.	Particular	Details
1	Plant Location	Villages – Mudpar & Rampura, Tehsil - Nawagarh, District – Bemetara (CG)
2	Coordinates	

Point	Latitude	Longitude
A	21°55'24.38"N	81°44'36.04"E
B	21°55'25.17"N	81°44'41.71"E
C	21°55'28.58"N	81°44'42.05"E
D	21°55'28.34"N	81°44'45.63"E
E	**21°55'32.48"N**	81°44'46.21"E
F	21°55'33.27"N	81°44'42.37"E
G	21°55'34.57"N	81°44'42.90"E
H	21°55'34.24"N	81°44'48.69"E
I	21°55'33.15"N	81°44'49.15"E
J	21°55'33.11"N	81°44'52.63"E
K	21°55'33.93"N	81°45'0.16"E
L	21°55'28.12"N	81°44'59.27"E
M	21°55'28.16"N	81°44'58.16"E
N	21°55'22.16"N	81°44'58.19"E
O	21°55'21.77"N	81°45'2.42"E
P	21°55'14.44"N	81°45'0.96"E
Q	21°55'15.59"N	81°44'56.21"E
R	21°55'11.84"N	81°44'55.43"E
S	21°55'14.64"N	81°44'50.99"E
T	21°55'16.11"N	81°44'43.50"E
U	21°55'17.41"N	81°44'39.81"E

Sr. No.	Particular	Details
		V 21°55'19.43"N 81°44'39.76"E W 21°55'19.87"N 81°44'38.00"E X 21°55'21.61"N 81°44'37.14"E Y 21°55'21.68"N 81°44'36.13"E
3	Topo sheet no.	64F/12, 64F/16, 64G/9 and 64G/13
4	Elevation	285 m.
5	Nearest representative IMD station	Raipur 79.1 KM/SSW
6	Nearest highway	SH 10 – adjacent/W NH 130 (SH 2) – 17.6 KM/SE
7	Nearest railway station	Bhatapara Railway Station 28.6 KM/SE
8	Nearest airport	Bilasa Devi Kevat Airport, Domestic Airport (Bilaspur Airport) 38.0 KM/ENE
9	District Headquarters	Bemetara – 31.5 KMs/SW
10	Nearest State/National boundaries	Madhya Pradesh 66.6 KM/NW
11	Seismic Zone	Zone-II [As per IS :1893 (Part-I): 2002]
12	Nearest major city with 2,00,000 population	Mungeli – 16.5 KM/NW
14	Nearest village	Rampura – 0.5 KMs/W Mudpar – 0.97 Kms/E
15	Hills/valleys	None within 10 Kms
16	Nearest tourist place	Nil
17	Archaeologically important places	Chilpi Range 64.20 KMs/ WNW
18	Protected areas as per Wildlife Protection Act,1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation	Nil

<table>
<tr><th>Sr. No.</th><th>Particular</th><th>Details</th></tr>
<tr><td></td><td>reserves)</td><td></td></tr>
<tr><td>19</td><td>Forest's land</td><td>Nil</td></tr>
<tr><td>20</td><td>Defence Installations</td><td>Nil</td></tr>
<tr><td>21</td><td>Notified ECO-Sensitive Zone</td><td>Nil</td></tr>
<tr><td>22</td><td>Water Bodies</td><td>
<table>
<tr><th>S.No.</th><th>Name of the Water Body</th><th>Distance (KM)</th><th>Direction</th></tr>
<tr><td>1.</td><td>Agar River</td><td>10.1</td><td>N</td></tr>
<tr><td>2.</td><td>Tesua Nadi</td><td>5.5</td><td>NE</td></tr>
<tr><td>3.</td><td>Sunari Nala</td><td>2.6</td><td>ENE</td></tr>
<tr><td>4.</td><td>Nakti canal</td><td>5.0</td><td>SW</td></tr>
<tr><td>5.</td><td>Nakti Nala</td><td>2.0</td><td>W</td></tr>
<tr><td>6.</td><td>Rampur Pond</td><td>1.0</td><td>W</td></tr>
</table>
</td></tr>
<tr><td>23</td><td>Nearest Industries</td><td>None within 10KMs</td></tr>
<tr><td>24</td><td>Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, Universities, Community Hall etc.) and Vulnerable groups who could be possibly be affected.*</td><td>
<table>
<tr><td>1</td><td>Gov. Primary Hospital</td><td>0.90 KM</td><td>SSW</td></tr>
<tr><td>2</td><td>Primary Health Cente Mudpar</td><td>1.0 KM</td><td>SSW</td></tr>
<tr><td>3</td><td>Sub Health Center, Tendua</td><td>1.40 KM</td><td>NNE</td></tr>
<tr><td>4</td><td>Govt. Primary School, Tendua</td><td>1.40 KM</td><td>NNE</td></tr>
<tr><td>5</td><td>Primary & middle School khatai</td><td>1.9 KM</td><td>NW</td></tr>
<tr><td>6</td><td>Primary School Rampura</td><td>0.70 KM</td><td>NNW</td></tr>
<tr><td>7</td><td>Higher Secondary School, Sambalpur</td><td>1.0 KM</td><td>S</td></tr>
<tr><td>8</td><td>Primary & middle school sambalpur</td><td>1.10 KM</td><td>S</td></tr>
<tr><td>9</td><td>Govt.High School Kheda</td><td>3.2 KM</td><td>SE</td></tr>
<tr><td>10</td><td>Govt. Primary School Jarhapara</td><td>4.6 KM</td><td>S</td></tr>
<tr><td>11</td><td>Boharhi Mata Mandir,sambalpur</td><td>1.7 KM</td><td>SW</td></tr>
</table>
</td></tr>
</table>

*All environmental regulations will be followed in the proposed project. Hence no adverse impact on hospitals, children, elderly persons.

Location Map, Layout, Map is given below:

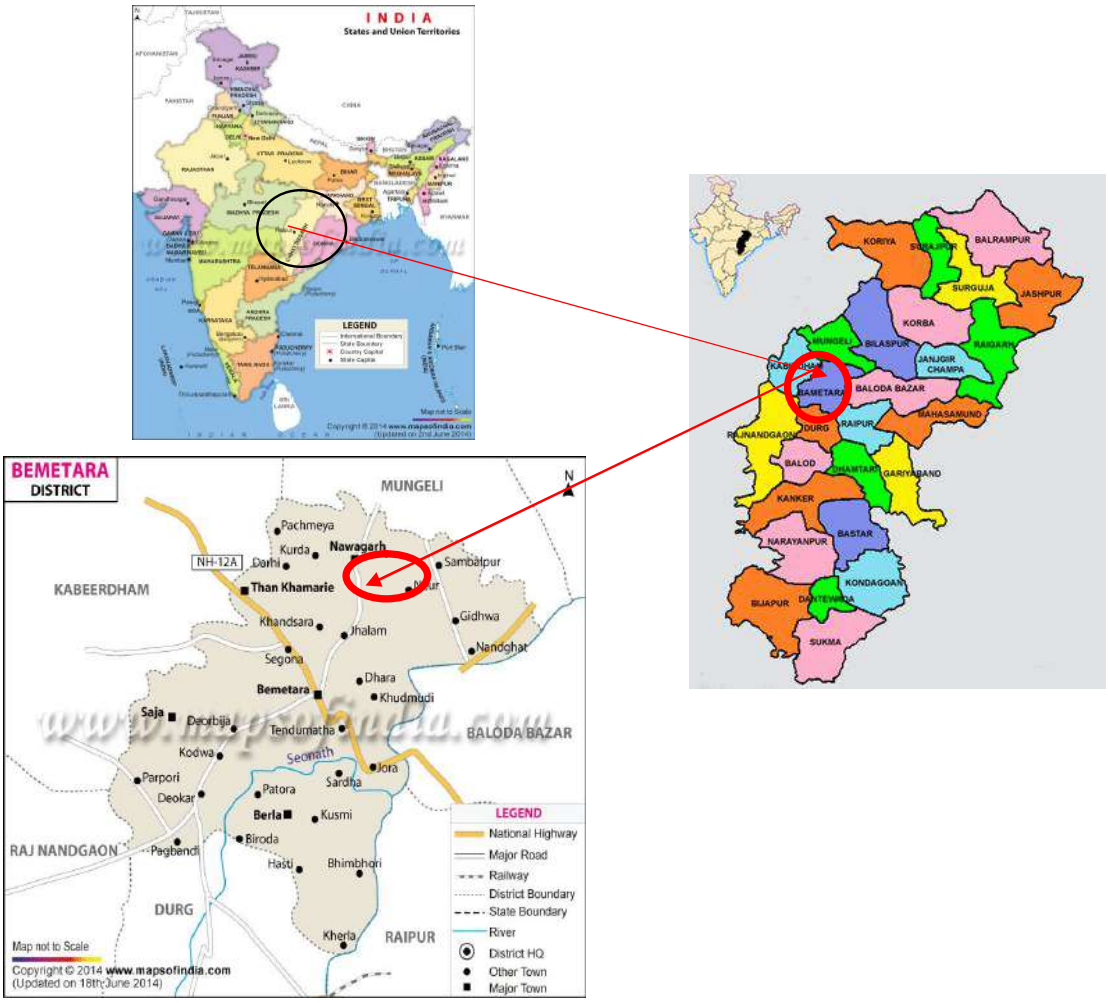
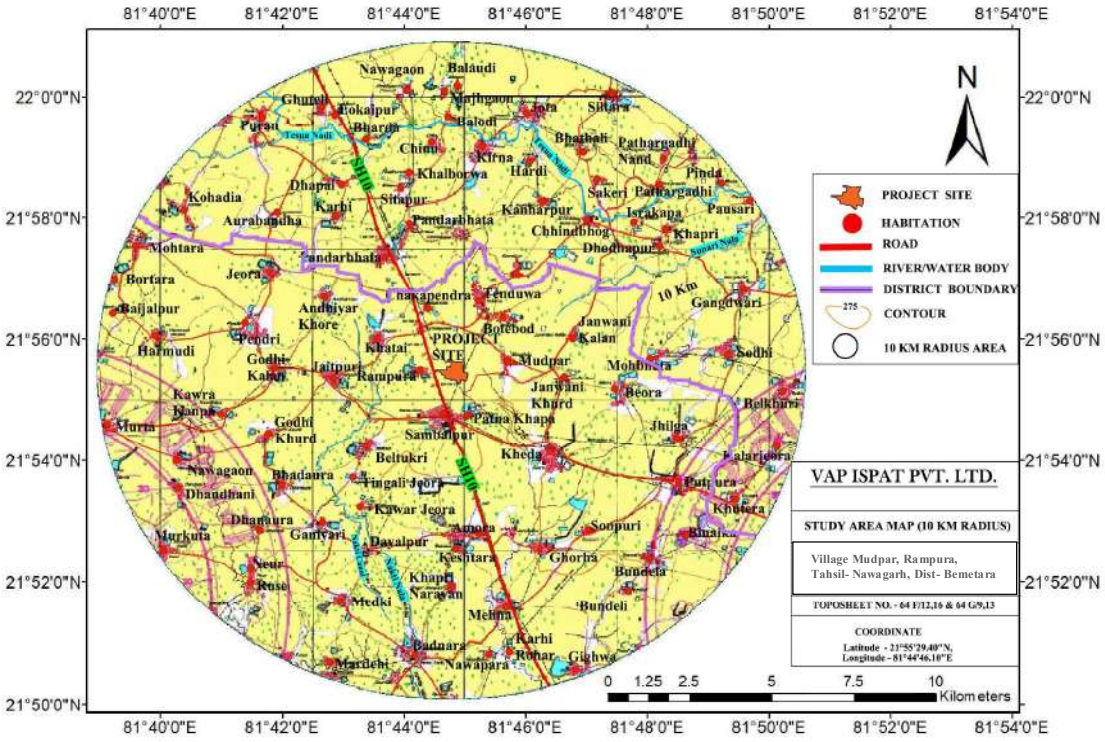


Figure 1: INDEX MAP DISTRICT AND TEHSIL LOCATION

Figure 2: PROJECT LOCATION AND APPROACH AND CONNECTIVITY IN GOOGLE MAP



TOPOGRAPHIC LOCATION OF PROJECT

Figure 4: LAYOUT PLAN SHOWING PROPOSED SITE

The internal land use area statement:

Table 7: PROPOSED AREA STATEMENT

[A]	Builtup Area	Area (In Ha.)	%
	(a) Main Building and shed	11.14	36.17%
	(c) Admin and Utilities	0.61	1.98%
	Sub Total ::	**11.75**	
[B]	**Road and Paved**		
	(a) Road and Pave	2.37	7.69%
	(b) Truck Parking	1.53	4.97%
	(c) Raw Material/ Finished Product storage	2.02	6.56%
	Sub Total ::	**5.92**	
[C]	**Greenbelt**		
	Greenbelt	10.17	33.02%
	Sub Total ::	10.17	
[D]	**Open Area**		
	Reservoir	1.2	3.90%
	Open Area	1.76	5.71%
	Sub Total ::	**2.96**	
		30.8	**100.00%**

3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

The proposed site to establish green field integrated steel plant with captive power plant at Village- Mudpar & Rampura, Tahsil- Nawagarh, District- Bemetara (C.G.), Chhattisgarh was selected after considering a number of alternative locations. A number of factors influence the feasibility of location for such projects in which availability of adequate area of land for which the land owners are willing to sell for industrial purpose, availability of adequate Surface water and access to power infrastructure and transport network and adequate manpower are important.

Thus the availability of Logistic Support; water; power; manpower; adequate land and safe distance from the habitat area as well as back ground existing pollution levels were some of the criteria of selecting the sites. While assessing these aspects due attention was also made to avoid all such sites which are close to any Environmentally sensitive zone like Wild life Sanctuary; National Park; etc and also Severally Polluted area or Critically polluted area.

The Industrial Policy of State Govt of Chhattisgarh were also taken into consideration to exclude in which a few Blocks are restricted for setting up Industry based on Coal.

Many locations which were offered nearer to densely populated area like Raipur; Durg; were primarily not considered. Some locations in Bastar region were also offered by the state Industry department but due to Naxalite problems and remote location etc these were not considered.

This location was also preferred as being classified as No Industrial Backward district classified in the (Category C) in which the State Govt of CG wants to promote rapid industrial growth for which it offers additional incentives..

Alternative sites :

a) The company was offered a number of locations near to Siltara, Raipur. But these sites were not found suitable as there was not enough source of water for the project requirement. Also these land was just within 30 Kilometre radius from Raipur City. Siltara region has been considered as severally polluted area hence the further sponge iron and coal based activity are restricted by state govt of CG.

   The promoters did not consider these locations due to its close proximity to the Raipur city and being near to Siltara Industrial area which is already considered to have a number of Sponge Iron plants .

b) A few sites were offered from land bank of CSIDC Chicholi (Tilda), Sarhar (Janjgir Champa) and Muswadih (Baloda Bazaar). But land in single patch was not available in those areas . Inadequate availability of required water supply along with road connectivity issues for transportation of raw and finished product.

c) The land in Bastar region was primarily owned by tribal people and also the area is affected by Naxalites problem, therefore land in Bastar region are not considered.

   The company did not considered the sites in Raigarh; Bilaspur districts due to logistical issues for transport of Iron Ore from NMDC mines to these areas.

d) The Government of Chhattisgarh is willing to develop industries in Bemetara District and announced special incentives to develop this Category C (Backward area) district.

e) With respect to the ease of management and availability of man power the lands located in Bemetara district were preferred.

   Thus the company had to choose the available land near to Bemetara region which is a newly formed district. Further, as per Chhattisgarh State Industrial Policy 2019-24, the area is categorised under Backward Area and the State is promoting investments in the said District.

   Looking at the development prospect and economic prosperity these kinds of projects will bring and villagers will also welcome the industrialization in this area. So looking at the adequate land availability as well as infrastructure availability this land was selected.

The company has considered 7 alternative sites. The details of evaluated sites are given below

Table 8: DESCRIPTION OF ALTERNATIVE SITES

Sr. No	Particulars	Site-1 (Vill. - Kusmi, Tehsil – Berla Bemetara	Site-2 (Muswadih, Balodabazar)	Site-3 (Darchuda Tilda, Raipur)	Site-4 (Khudmudi, Bemetara)	Site-5 (Sarhar, Janjgir-Champa)	Site-6 (Chicholi) Tilda, Raipur	Site-7 (Nawagarh, Bemetara)
RESULT		**(REJECTED)**	**(REJECTED)**	**(REJECTED)**	**(REJECTED)**	**(REJECTED)**	**(REJECTED)**	**(SELECTED)**
1	Location	Village - Kusmi, Tehsil - Berla Bemetara	Village- Muswadih, Tahsil and District- Balodabazar	Village- Darchuda, Tahsil- Tilda, District- Raipur Chhattisgarh	Village Khudmudi, Distt. Bemetara, Chhattisgarh	Village- Sarhar Distt. Janjgir Champa , Chhattisgarh	Village- Chicholi, Tahsil- Tilda, District- Raipur Chhattisgarh	Village- Mudpar & Rampura, Tahsil- Nawagarh, District- Bemetara Chhattisgarh
2	Geographical Coordinates	21°30'40.5"N 81°31'33.3"E	21°28'48.60"N 81°59'25.42"E	21°41'43.0"N 81°48'16.1"E	21°23'36.2"N 81°37'14.2"E	22° 1'33.31"N 82°47'56.76"E	21°28'15.1"N 81°52'06.7"E	21°55'29.40"N, 81°44'46.10"E
3	Areas falling under the critically / severally polluted areas	**Yes; falls within 15Kms radius of Severally polluted area**	No	No	**Yes, falls within the 10 Kms radius of severally polluted area**	No	No	No
4	National Parks / Wild life Sanctuaries / Bird Sanctuaries / Tiger reserve / Elephant corridors / Migratory routes for Birds.	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius

Sr. No	Particulars	Site-1 (Vill. - Kusmi, Tehsil – Berla Bemetara	Site-2 (Muswadih, Balodabazar)	Site-3 (Darchuda Tilda, Raipur)	Site-4 (Khudmudi, Bemetara)	Site-5 (Sarhar, Janjgir-Champa)	Site-6 (Chicholi) Tilda, Raipur	Site-7 (Nawagarh, Bemetara)
5	Reserve Forest / Protected Forest	Not present in 10 KM radius	Not present in 10 KM radius	Mohrenga RF & Bilari RF	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius	Not present in 10 KM radius
6	Nearest habitat village	**0.4 KMs Close to habitat so not suitable**	**0.10 Kms**	0.7 KMs close to habitat	**0.25 KM Close to habitat so not suitable**	0.50 KM	0.25 KMs	0.50 KMs
7	Road Connectivity	**No proper approach road to the site.**	Not well connected to Road but road connectivity is Possible	**No proper approach road to the site.**	**No proper approach road to the site.**	**Not well connected to Road** but road connectivity is Possible	Not well connected to Road but road connectivity is Possible	Well connected through State Highway.
8	Land Availability	**Land was available in fragmented patches and discontinuous. No patch to make a single block.**	**Land was available in fragmented patches and discontinuous. No patch to make a single block.**	**Land was available in fragmented patches and discontinuous. No patch to make a single block.**	**Land was available in fragmented patches. No patch to make a single block.**	**Land in single patch not available**	Require land is not available in single patch	Required land area was available in single and contiguous patch in proper shape was possible to procure.
9	Water Source	**Kharun River, 17Kms approx. and reqd. qty of water was**	**Mahanadi River, 25Kms approx.**	**Shivnath River water point is 20 KMs approx.**	**Kharun River is 1.0 Kms from the site and quantity restrictions on**	**Hasdev River water point is 16 KMs approx. and no**	**Shivnath River water point is 22 KMs approx.**	Surface water available from Agar river.

Sr. No	Particulars	Site-1 (Vill. - Kusmi, Tehsil – Berla Bemetara	Site-2 (Muswadih, Balodabazar)	Site-3 (Darchuda Tilda, Raipur)	Site-4 (Khudmudi, Bemetara)	Site-5 (Sarhar, Janjgir-Champa)	Site-6 (Chicholi) Tilda, Raipur	Site-7 (Nawagarh, Bemetara)
		not available from source.			**allocation from State Govt..**	**water available for allocation from State Govt.**		
10	Villagers willingness for industry	**Village Panchayat have objection on implementation of industry**	**Village Panchayat have some reservation on implementation of industry**	**Village Panchayat have objection on implementation of industry**	**Village Panchayat have some reservation on implementation of industry**	Village Panchayat and Villagers do not have objection on implementation of industry	Village Panchayat have objection on implementation of industry	Village Panchayat and Villagers are welcoming and promoting the implementation of industry
11	Area Categorization as per State Industrial Policy	Category C (Backward Area)	**Category B (Developing Area)**	**Category A (Developed Area)**	Category C (Backward Area)	Category C (Backward Area)	**Category A (Developed Area)**	Category C (Backward Area)

Out of these 7 locations 6 locations were not found suitable, it was found difficult to set up the proposed plant in these 6 locations due to

a) Nearness from habitat.
b) non-availability of sufficient land ;
c) Lack of willingness of Villagers.
d) Surface water non availability
e) Road connectivity was also observed to be inadequate.
f) Further, area categorisation as per Chhattisgarh State Industrial Policy, 2019-24 was also a factor, and the promoters were willing to invest in such area which is backward and state govt promotes economic activities in those areas.

Thus, in view of the above study of alternative sites, Site no. 7 at Village Mudpar & Rampura, Tahsil- Nawagarh, District- Bemetara (C.G.) has been selected as it meets all the criteria.

Justification for selection of Site no. 7: The site no.1 at Village- Mudpar & Rampura is selected because of following reasons:

1. Availability of surface water from Agar River which is at 14.0Kms distance.
2. Land available in single block and is Contiguous. The land also has proper shape.
3. No forest land involved in the project
4. Nearby Rail connectivity is at 28.0 Kms at Bhatapara Railway Siding which is good
5. Nearby Road connectivity with State Highway is good.
6. State Govt. signed MOU with the Industry for facilitating the diversion of the land to Industrial Use.
7. Willingness of villagers to implement industry to generate better employment opportunity.
8. The area is categorized as “Backward” as per the State Industrial Policy 2019-24.
9. No tree cutting involved in the project
10. The site is located in backward block with low crop productivity.

3.3.1 Clarifications towards possible impact on agriculture and livelihood of farmers and evaluation of an alternative better suitable site as an alternative to this project in past layout and proposal:

S. No.	Concerns Observed and expressed	Justification for the selection of this site and assessment of possible impact on agriculture
i.	The proposed plant site is located in an agriculture area. The pollution from the proposed plant is likely to have adverse impact on productivity of agriculture crop and livelihood of farmers	In proposed plant site has no defined land use by Government of Chhattisgarh Department of Town a and Country Planning. Hence at present the land is recorded in revenue records as agricultural land. The Government of CG has amended the Land Revenue Code 1959 in the year 2013 as per which the land located outside the Master Plan area can be diverted for Industrial purpose by just submitting an information to the competent authority of the district. As per which the promoters have already applied for change in land use for 23.78 hectare land which is already acquired by them from land owners. The

		copy of the application submitted is enclosed herewith as **Appendix-I.** In addition to the above, the State Industrial Promotion Board Government of Chhattisgarh has also signed MOU with the company for promoting to setup the sponge iron plant on the above land. The proposed unit is based on the popularly common technology to produce Sponge through rotary kiln and Power from WHRB as well as AFBC. The existing units experiences reveal that there has not been any adverse impact on agriculture and livelihood of farmers around such similar projects. The proposed project is now planned on much more stringent emission control technology and much better energy efficiency. Thus the proposed project will not have any adverse impact on productivity of agricultural crops due to the following reasons: **No significant impact on Air Quality** : a. The particulate matter emission will be controlled less than 30 mg/Nm^3 as compared to permitted 50 mg/Nm^3, SOx and NOx will be kept below 100 mg/Nm^3. b. The PM and SOX and NOX contribution due to the project is not likely to add any significant contribution to AAQ. **No significant impact on Water Quality** c. There will be Zero Discharge. d. There will be atleast 15 meter thick green belt all along the boundary of the plant which will arrest the fugitive dust spread as well as noise from the plant. e. There will be no ground water extraction from the ground. Surface water will be used. So there will be no impact on competing users. **No impact on Surrounding Soil Quality** f. 100% Solid waste will be utilized for gainful purposes. It would not be let out on any agriculture land. So there

		will be no impact on Soil quality of surrounding area. g. AAQ will be maintained very well within NAAQS standards. h. The unit will install on line CEMS as well as well EQMS which will be connected to the CPCB and CECB servers. i. Unit will strictly comply with all the conditions of Environment clearances and all the conditions of Consents. Looking at these most stringent environment management practices proposed no adverse impact on surrounding agriculture is expected. In addition to the above the publicly known experience of operation of many much larger plants with more than 3 to 4 times capacity in the state of Chhattisgarh and elsewhere also reveals that these plants which are also located in Prime agriculture area of the country have also not caused any adverse impact on agricultures. There are more than 15 cement plants and more than 165 sponge iron plant and more than 30 power plant operating in the State of Chhattisgarh; Orissa and MP which are all located in Rural Agricultural area. But no losses of crop was ever reported nor any loss of farmers livelihood was reported. A list of Thermal power plants operating in the state of Chhattisgarh; UP and MP etc. are attached as **Appendix- II**. Rather with the inception of this unit in agricultural rural area farmers will have ready market for their penchant cast crops like vegetable, fruits and milk, egg etc. The company will provide substantial training support for the growth of farmers by helping them to increase production. The district Bemetra has 4 Blocks out of which **NAWAGARH** Block is most poor in agriculture. As per district records the whole district has around 225 thousand hect sown area out which net irrigated area is only 72 thousand hectare most of which fall in other

		Blocks like Saja; Bemetra and Berla. The district has Paddy as main crop which is almost in 155 thousand hectares out of which 95 thousand hectare is rain fed and rest also has irrigation only in monsoon and there is almost no Paddy grown in Rabi Season. The **NAWAGARH** Block has very poor agriculture conditions The Government of Chhattisgarh has signed MOU with 130 new units for setting up greenfield projects as well as for expansion of existing unit, most of the projects has been proposed as rural areas. List of MOUs is enclosed as **Appendix-III**. Out of which 12 number of units are located in Bemetara district few of which have already been granted TOR and also public hearing has been conducted for a few and EC also has been granted to one of them. VAP Ispat is the only unit proposed in Nawagarh block where as many other sponge iron and power projects coming up in the district are located in Saja, Bemetara, and Berla Block which has higher agriculture intensity as compared to Nawagarh block.
ii.	All the four corners of the site are surrounded by agriculture fields	All the four corners of the plant will be isolated with atleast 15 meters thick green belt and at least 4 to 5 meters height boundary wall will be provided which will also protect any fugitive dust out spread to the adjoining fields. Green Belt will be three tier dense green belt with tall and large shady plants. As discussed above the PM emission as well as gaseous emissions will be under strict control and monitored on line. So no impact on surrounding crops will be caused. So no impact will be caused to agricultural fields due to the proposed plant.
iii.	Land for the plant is not contiguous and the layout is jig-jag and highly complicated. This kind of	The land area is revised; and additional adjoining land is also acquired to make it more compact and contiguous; now about 30.80 hectare land is obtained out of which

	layout is not suitable for environment friendly steel plant. PP suggested to relook for alternative site.	23.78 hectare land has been registered in the name of the company and the same has also been applied to be diverted for industrial purpose. The remaining area is under purchase contract from land owners. The prepared layout is perfectly in order as all the Individual process bocks are independently placed in their respective rectangular blocks, which are in most symmetrical in order. Every process block is sequentially connected as per proper process obligation for most efficient operations Now the required adjoining land area has been acquired. In addition to this all the possible alternative locations have again been revisited. The availability of land in other areas in not adequate also there are no better location also possible with respect to the agriculture area vicinity. Rather this area is one of the very poorly cultivated agriculture area and with much more backwardness. Due to Which even Govt of CG is giving highest priority to Industrialize this area. This site was selected very carefully after considering a number of project sites which is discussed in details at PFR under para 3.3. All other possible sites were again evaluated and it was found that this site is the only best available site. Thus this site is finalized .
iv.	4 sites have been studied and site selected one not seem to be the right one in light of the adverse impact on the ongoing agriculture activity.	We have studied more than 15 sites in State of Chhattisgarh. The biggest problem today for setting up any industrial project is to get enough land which is technically suitable for the viable operation of the plant. We have discussed at length all the sites inspected and evaluated for the selection of this project which is discussed in details at PFR under para 3.3. It would be found that this site is most suitable for the proposed project. In addition to the above we would also like to submit that: a) Bemetara District is not having

		enough rainfall as compared to other district of CG State. So it is considered as "**RAIN SHED**" (**Vrishty Chhaya**) District. b) Most of the crops in the project surrounding area grown are rainfed and single cropped. c) There is no canal irrigation facility in the surroundings of the proposed area for irrigation, d) There is not enough ground water for irrigation in the surroundings of the proposed plant area. e) The electricity supply network is also poor with frequent shutdowns in the surroundings of the proposed. f) The Paddy crops is not much remunerative e to the farmers as the average yields is less than 2.3 Tones per hectare. The district agriculture plan as attached reveals that there is no area irrigated for cultivation during rabi season and autumn season. The irrigation available only during monsoon period to support Kharif crop that is also only in a limited area. (See **Appendix-IV and V**) g) The Govt of India as well as State Govt is not able to purchase the 100% of Paddy produced in the area. So farmers are not able to fetch remunerative prices for Paddy so most of the farmers don't prefer to cultivate with intensive farming technics. h) Since there are no perennial irrigation sources in surrounding 5 KM of the project site. So most of the farmers are cultivating on rain fed condition. i) The **Nawagarh** Block has almost no Canal system in the area so the agriculture conditions are quite poor.

3.4 Size and Magnitude of Operation

Table 9: SIZE AND MAGNITUDE OF OPERATION

S. No.	Process plant	Proposed configuration of the plant	Product Name	Capacity (in TPA)
1	DRI Kiln (Coal Fired)	350TPD X 2 No.	Sponge Iron	231,000
2	Induction Furnace along with CCM and LRF	Induction Furnace (20 Tons X 4 Nos) and LRF (20ton x 1 No)	MS Billet	232,848
3	Hot Rolling Mill			225,863
	a. Hot Charging Rolling Mill	Electrical driven Rolling Mill about 388 TPD	Rerolled Steel product (Wire Rod, TMT bar, Structure Steel etc.)	171,144
	b. Billet Reheating Furnace	Reheating Furnace based Rolling Mill about 124 TPD	Rerolled Steel products (Rerolled Structural Steel etc.)	54,719
4	Captive Power Plant (Boiler and TG based)	WHRB	Captive Power	16 MW
		AFBC		9 MW
5a)	Submerged Arc Furnace	2 nos of furnace with 9MVA as input power capacity	Silico Manganese	36,000
			And/ Or	
5b)			Ferro Manganese	46,000
			And/ Or	
5c)			Ferro Silicon	20,000
			And/ Or	
5d)			Pig iron	63,000
6	Fly Ash Bricks/ Block making unit	Fly Ash Brick/Block Making	Fly Ash Bricks/ Blocks	36700
7	Producer gas Plant (Based on Coal)	Coal Producer gas plant will be of 2.2 Meter dia and capable to gasifie upto 1100 kg/Hour Coal to produce 1800 to 3600 NM3 per hour producer gas	Producer gas	30240 Thousand NM3 Producer Gas per annum

3.5 Project description with process details:

3.5.1 Manufacturing Process of Sponge Iron (DRI)

In the direct reduction of iron ore, the main furnace used is Rotary kiln. The rotary kiln is a refractory lined vessel on which several air blowers are mounted. From the blowers, air pipes go thru the shell and refractory, vertically and axially deliver the required amount of air, required for the process. The Horizontal rotating kiln has conical out let and inlet which allows it to holds the material fed in the kiln. Kiln is placed in a slope from feed end side at a slope of 2.5%.

Iron ore, coal, dolomite/limestone is fed in the weighed quantity in the kiln and the kiln is rotated at a rotational speed of about 0.5 RPM . A temperature between 1000^0C to $1050\ ^0$C is maintained in about 70% of the kiln length towards discharge end side; for required reduction reaction.

After the reduction reaction, the product (reduced iron) is taken into an indirect cooling drum cooler. The product is cooled to 100 deg. C and taken for product separation. The product is separated by way of magnetic attraction from the coal ash and coal char and then taken for final use.

The waste gas from the kiln contain lot of combustibles like coal volatiles, unused CO, about 10 to 12% carbon particles and lot of other dust. The gas is taken to an after burner chamber and the Combustibles are burnt and passed to WHRB in which it gets cooled to about 160 deg. C. The cool flue gas are then taken to ESP for final dust separation, before going to stack via ID Fans. The construction of kiln and cooler is made in such a way that no outside air is allowed to go into the system. The outside air if goes to the kiln, re-oxidizes the product ultimately upsetting the temperature profile. To avoid this, ID Fan damper is throttled to Maintain +ve pressure in the kiln. The pressure of about +5mm water column is maintained at kiln firing hood. However, checking the sponge iron fracture sample checks the setting of pressure parameter. If the sample shows a re-oxidized periphery the pressure may be increased.

The rotational speed of the kiln is adjustable as per the feed rate and percentage of metallization. The % of inclination, rotational speed, the length of time the material is exposed to atmosphere, the kiln temperatures are all to be taken into consideration. So the kiln has three functions**:**

A. It is a heat exchanger

B. It is a vessel for chemical reaction (in which combustion and reduction both takes simultaneously in different zones)

C. It is a conveyor of solids.

REACTION VESSEL

The kiln is also a reaction vessel. The following reaction takes place inside the kiln:

$3\ Fe_2O_3$	$2\ Fe_3O_4$	6 FeO	6 Fe

The degree of reduction in each step is as follows:

$3\ Fe_2O_3$	11%	$2Fe_3O_4$	22%	6 FeO	67%	6Fe

The bye product of the above reaction is CO_2. This carbon-dioxide reacts with carbon from coal to produce Carbon-mono oxide**:**

$CO_2 + C = 2\ CO$

The above reaction is known as Boudouard reaction. So the complete reaction is:

$CO_2 + C = 2\ CO$

$3Fe_2O_3 + CO = 2\ Fe_3O_4 + CO_2$

$CO_2 + C = 2\ CO$

$Fe_3O_4 + CO = 3\ FeO + CO$

$CO_2 + C = 2\ CO$

$FeO + C = Fe + CO_2$

The hydrocarbon of coal breaks down to hydrogen and carbon. Some believe that Hydrogen also is used in Rotary Kiln as reductant. Since most of the kiln operates at +1000 deg. C the hydrogen being the lighter gas goes up quickly to the vacant space above the burden and helps in creating temperature.

The process of rate of reduction to final stage involved three main factors viz **:**

A. Quantity and quality of reductant

B. Temperature

C. Residence time

A. QUANTITY AND QUALITY OF REDUCTANTS

From the chemical reactions, it is seen that as the percentage of O_2 reduces in the ore, the percentage of carbon requirement increases. If there is a shortfall of carbon, the reaction proceeds in a reverse way i.e. from reduction to oxidation. The reduction reaction is endothermic (absorbs heat) while the oxidation reaction is exothermic. In the absence of reductant, the temperature goes up for sinter formation, ball formation and accretion starts.

For safe operating of the kiln about 0.45 to 0.50 MT of fixed carbon is required per ton of total Fe input. Out of this, 0.50 MT, 0.27 to 0.29 MT is given from feed end side and rest is given from kiln discharge end side. For safe operation and consistent quality, the carbon output per ton of Fe from kiln discharge is checked hourly and keeping this value at 0.10, final coal adjustment is done.

B. TEMPERATURE

As the coal is mixed with iron ore, it passes from feed end side and air is blown from the blowers into the kiln, the liberated CO reacts with oxide material. This reaction lowers the temperature of the bed due to its endothermic nature. It is necessary to generate sufficient heat before the bed temperature falls. The gases coming out from the bed are the mixture of decomposed and partially oxidized fuels. By adding air to these mixtures of gases, combustion and heat generation takes place and the heat is radiated to the bed, the mechanism of which has already been discussed. As regards the temperature profile, the first 20 – 25% is preheating zone where the material is heated up to 850^0C and then to reduction temperature of about 1000^0C to 1050^0C. Iron ore once reaches 850^0C, the surface gets reduced and generates less fines. So it is required to heat up the ore to 850^0C as quick as possible and 70% of the kiln is taken to 1000^0C to 1050^0 C for reduction purpose.

C. RESIDENCE TIME

The total residence time of the material in the kiln is a function of the feed rate and kiln rpm with each increment in feed rate, the kiln speed is increased to maintain a constant bed loading in the kiln.

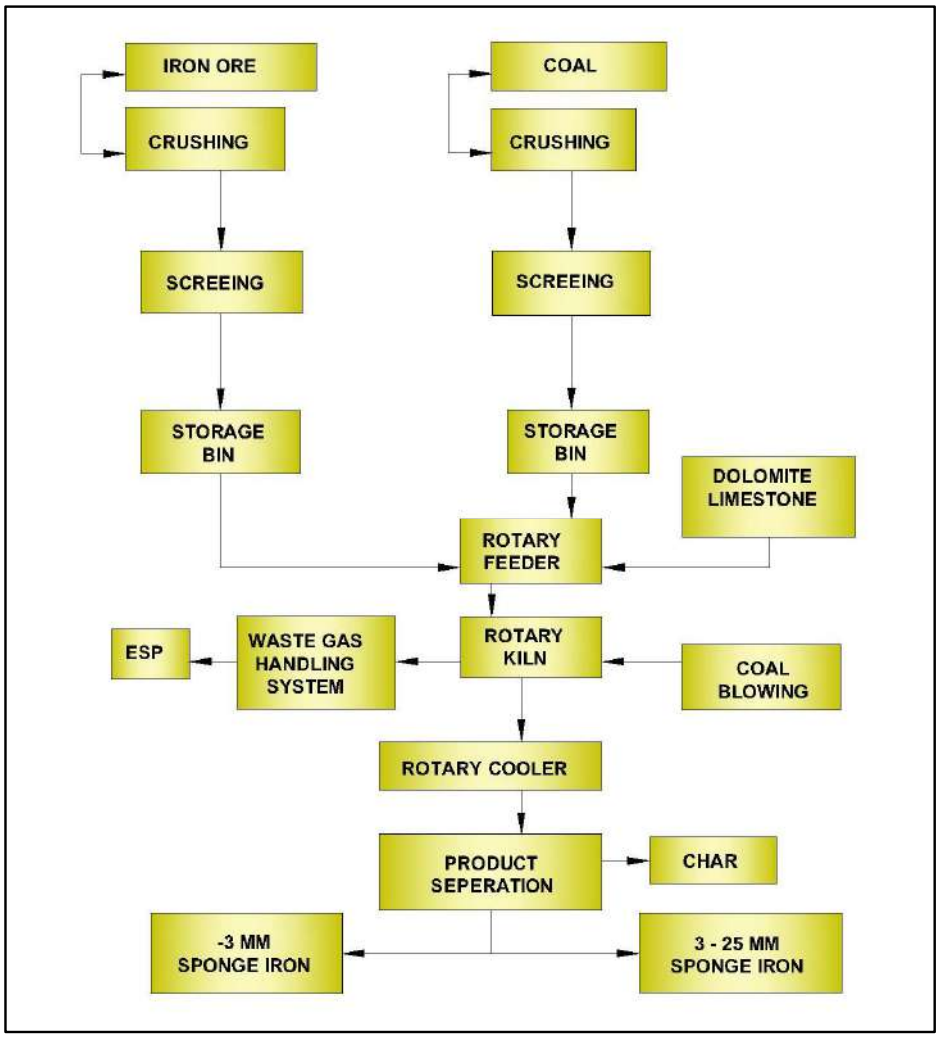


Figure 5: PROCESS FLOW DIAGRAM SPONGE IRON PLANT

3.5.2 Manufacturing process of Steel Melting Shop with CCM and Hot Charging Rolling Mill

INDUCTION FURNACES:

The manufacturing process proposed in the unit is one which is well established and proven technology presently being followed by majority of similar manufacturing units mostly in small or medium scale sector.

In order to achieve high energy efficiency 4 numbers of Induction Furnaces (each 15 MT capacity) with medium power input capacity of 7.5 to 6.5 MVA each will be setup with automatic charging facility. Electronic software will be installed to monitor the input power and maintaining power factor to almost unity level.

The melting process involves taking sample of Sponge Iron & Pig Iron; Iron Powder and mild steel scrap, end cutting from rolling mills or scrap from user units is taken from raw material storage. This is than tested for its chemical composition and noted. Before preparation of charge necessary ingredients like Ferro Manganese, Ferro Silicon etc. are added by weight, Flux is taken up in crucible and then charge is put into it. Melting of steel along with other alloying element is accomplished in the crucible of coreless M.F. Induction Furnace. The high A.C. Current is passed through the copper Coil wrapped around the outer periphery of crucible. By transformer action the A.C. Current induces much higher secondary current at 1000 hertz in the charge fed into crucible through the coil. Enormous heat it thus developed by resistance which causes the melting of charge. As soon as the molten pool is formed very pronounced stirring action in the molten metal takes place which helps in accelerating the melting. Deoxidizing agents and sometimes specific alloying elements are also added at suitable intervals during melting. Melting of homogenous mass occurs at 1600 C. If necessary superheating up to 1650 C as done for specific time. After completion of melting cycle of an hour the homogeneous molten mass is poured hydraulically into the ladle.

LRF (Ladle Refining Furnace):

Subsequent to the production of molten steel the production of quality requires refining of the same for which one Ladle Refining Furnace with 20 MT ladle will be setup with three electrode arcing facility with complete provision to carry out desulphurization and de-phosphorization if required.

The liquid steel containing in the ladle will be brought to LRF and after due processing of the liquid steel the ladle will be transferred to CCM.

The slag generated during the melting as well as refining is normally removed manually through BELCHAS (Steel Spatulas) Accumulated slag is used for land fill. But in some systems slag is also poured out by tilting the furnace into slag pots.

CCM:

The ladle containing liquid steel is placed on the CCM platform and continuous casting of hot billet is carried out in the same.

The cooling and casting will be done through a highly automated controlled cooling software governed mechanism by which the casted billet will be so cooled that the temperature of billets will not fall below 1050^0C. The case formation in the CCM mould starts with drop in surface temperature below 1520^0C, the liquid metal inside the case contains enough energy for maintaining the overall temperature of billet for hot online rolling. In the CCM section hot billet shearing machines will be installed with each casting strand, so as to facilitate the cutting of billets to proper length for feeding in to the rolling mill.

Hot Billets are will be directly transferred from CCM to Rerolling Mill / Wire Rod Mill through conveyor.

The billets in hot form are sized by the Hot Sharing Machine or Gas cutters and then its directly transferred to wire rod making section without being cooled down and maintain required temperature for rolling.

The Billets are rolled through the roughing stands and intermediate stands and then through the finishing stands for cooling. In cased required to be rolled in wire Rod then fed to Block mill. Then it goes to coiler/bending machine. The cold Wire rod is then sold to market by loading on trucks.

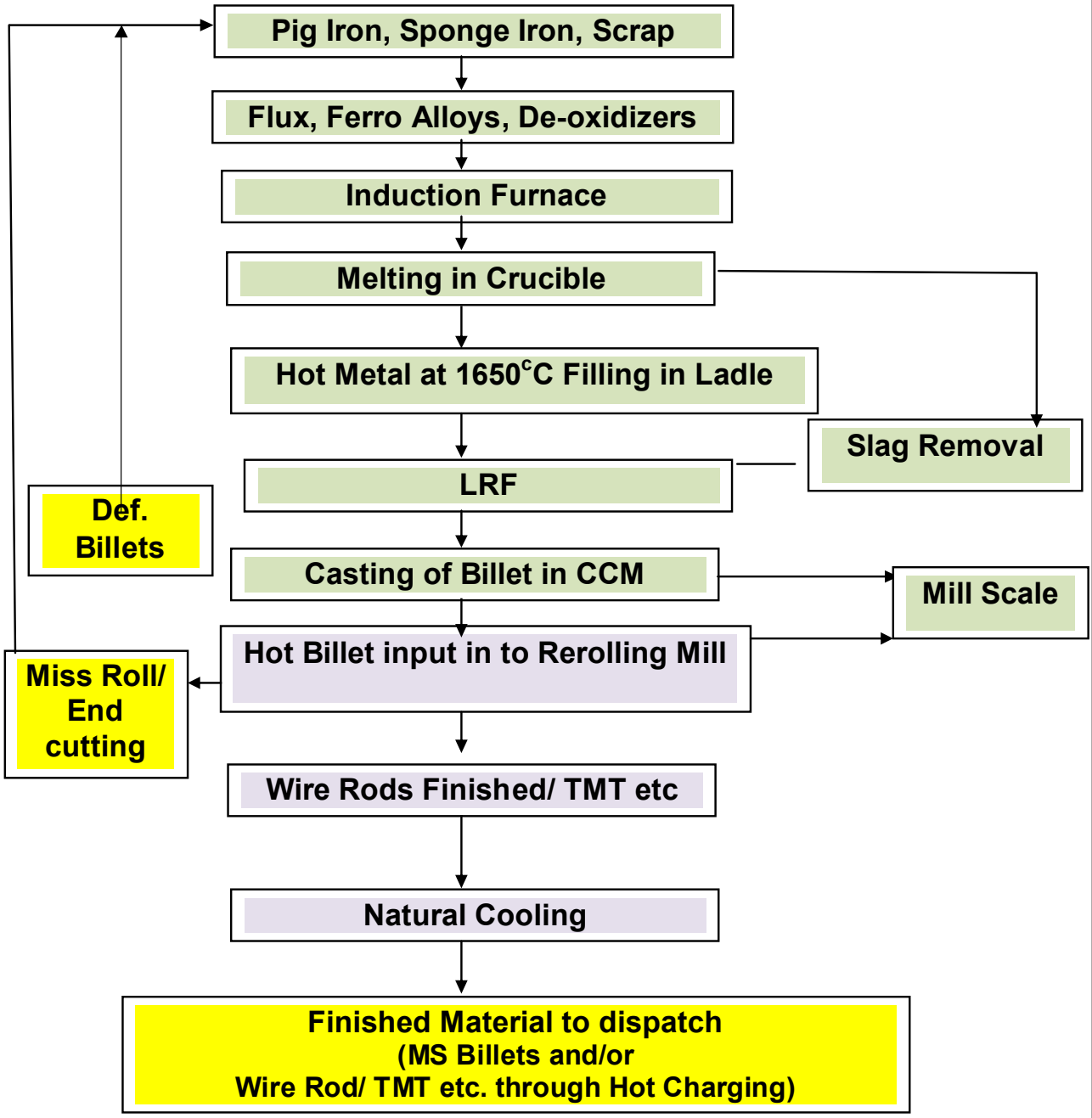


Figure 6: MANUFACTURING PROCESS STEEL MELTING SHOP ALONG WITH HOT CHARGING ROLLING MILL TO PRODUCE WIRE ROD/ TMT

3.5.3 Manufacturing process of Rolling Mill

1. Raw Material i.e. Billet procured from outside is cut to size; either by Gas Cutting .
2. The sized billets are then Pushed into Billet reheating furnace; fired with Coal Producer Gas
3. After the Billet is Red Hot then pushed out to rolling stands for re-rolling. Steel Pieces are rolled through all stands in order to get required shape of finished goods i.e. MS Channel, Structures and other rerolled product are produced .

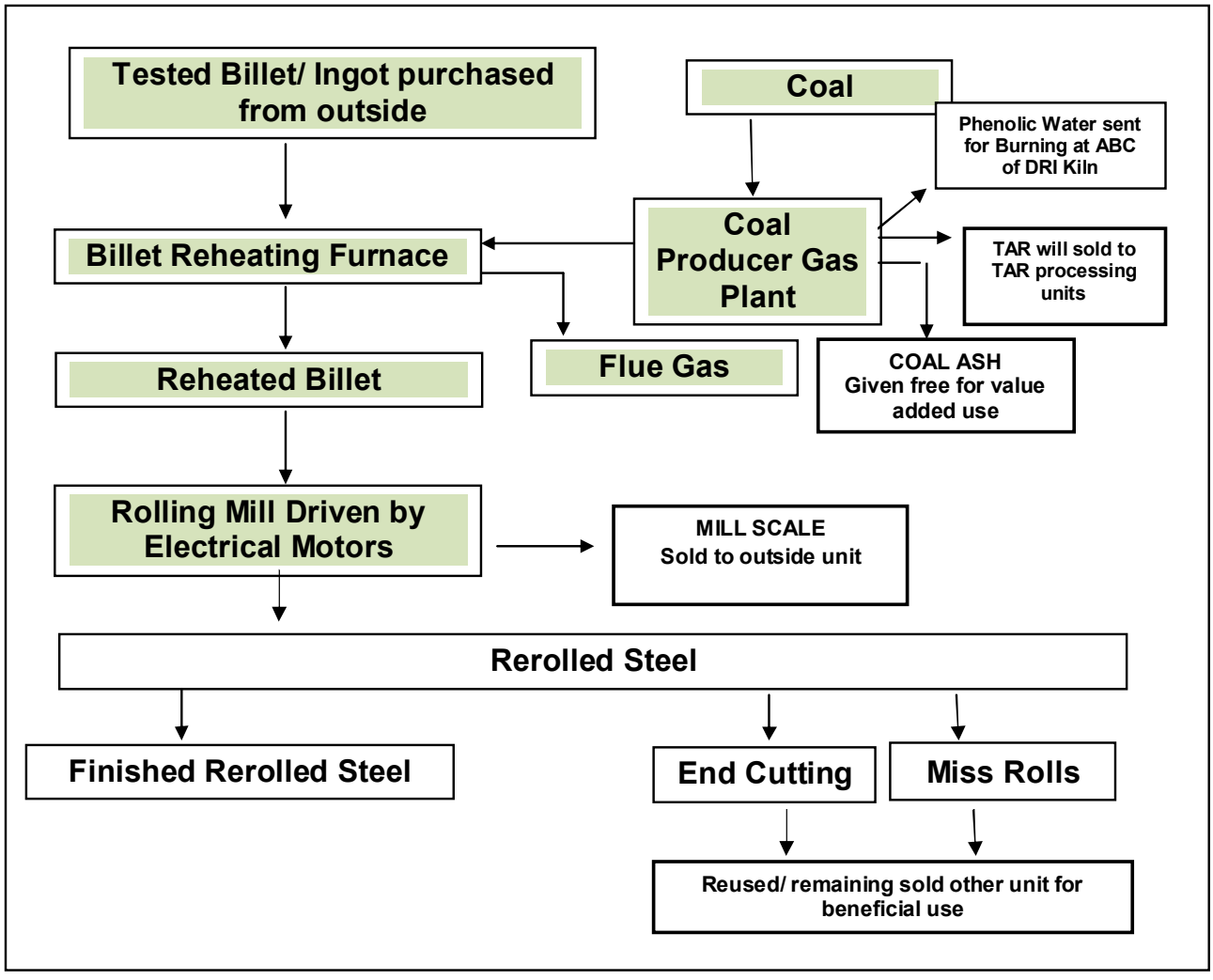


Figure 7: MANUFACTURING PROCESS FOR STRUCTURE ROLLING MILL WITH BRF

3.5.4 Process of Power Generation

3.5.4.1 WHRB based Power Generation

The Waste heat Recovery boilers are attached with DRI Kiln. The flue gases released from DRI Kilns will be passed through Waste Heat Recover Boiler, where waste heat will be recovered and steam will be generated in required temperature and pressure. The source of energy is the heat content in waste flue gases released from DRI Kilns.

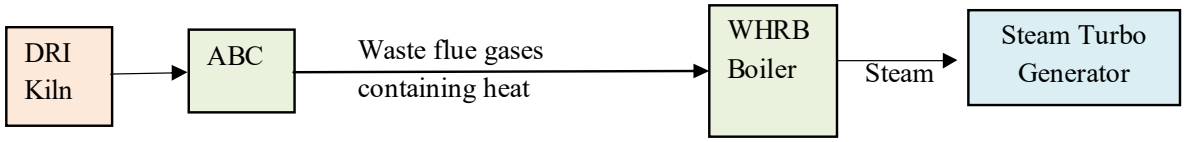


Figure 8: PROCESS FLOW FOR WHRB

3.5.4.2 AFBC Based Power Generation:

Mechanism of AFBC

In the AFBC boiler the furnace has the sand or refractory grogs are used as a fluidizing media, which are kept in a Fluidized state and are heated to the ignition temperature of the fuel and fuel is injected continuously into the bed, the fuel will burn rapidly and the bed attains a uniform temperature due to effective mixing.

While it is essential that the temperature of the bed should be at least equal to the injection temperature of the fuel, it must never be allowed to approach adiabatic combustion temperature to avoid melting of ash. The combustion must be carried out essentially at a temperature below ash fusion temperature. This is achieved by extracting heat from the bed through heat transfer tubes immersed in the bed.

If the gas velocity becomes too high, the particles are entrained in the gas system. Hence, to sustain stable operation of the bed, it must be ensured that, gas velocity is maintained between minimum fluidization velocity and particle entrainment velocity.

BOILER SYSTEM DESCRIPTION

PRESSURE PARTS

The boiler pressure part consists of water wall system, bed coil section, super heater, de-super heater, economizer, steam drum, risers and down comers. The boiler furnace is of membrane wall construction made of tubes with fins welded between tubes to ensure leak tightness.

The economizer is a plain tubular counter flow and drainable type construction. In the economizer, the feed water is heated to a temperature close to the saturation temperature, by the outgoing flue gas.

In the steam drum, the water is received from the economizer outlet header. The steam drum is sized to have adequate steam space and water space. The steam drum is equipped with internals, which remove the water particles from the saturated steam, before it enters into the super heater.

The furnace is designed to operate under a negative of –5mmwc. The furnace is adequately protected for over pressure by a set of buck stays, which strengthen the furnace walls and transfer the load due to furnace puff, to the structures. The steam generated in the furnace water walls is taken to the steam drum through a series of riser tubes. The water wall bottom headers receive the water from the mud drum through a set of down comers. The entire super-heater area is arranged in the convection and radiant zone. The super-heater heats the saturated steam from the steam drum by absorbing the heat from the flue gas to the required temperature of 510+/-5°C. The de-super-heater sprays water on the steam, to maintain the outlet steam temperature to the required level.

MULTI TUBULAR AIR PREHEATER

The last stage of the heat recovery unit is multi tubular air pre-heater. The tubes are made up of ERW construction. In the air heater, the outgoing flue gas heats the fresh air.

AIR SYSTEM

The forced draught fan supplies the combustion air required for the boiler operation. The cold air from forced draught fan is let into the multi tubular air pre-heater, where the air is heated by the flue gas and the hot air from the multi tubular air pre-heater is distributed to the bed compartments by means of the air distributor nozzles. This is the air which keeps the bed fluidised. Some portion of the air from multi tubular air pre-heater is pressurized by primary air fans and this air is used to transport the fuel particles into the combustion chamber.

FIRING SYSTEM

The distributor plate is the heart of FBC system. It is made up of carbon steel base plate with air nozzles to distribute the Fluidized air from air box uniformly over the entire bed. Bed coils are immersed in the bed to maintain the bed temperature of 850-900°C, by absorbing the heat through them. Sufficient free board volume is available above the bed to ensure complete combustion of fuel.

DRAFT SYSTEM

The boiler draft system consists of 1x100% ID fan, 1x100% FD fan and 1x100% PA fan with its drives. The boiler is desired for balanced draft. A control system will be implemented to keep the furnace pressure negative always. The FD fan flow will be varied according to the fuel flow by a combustion control system.

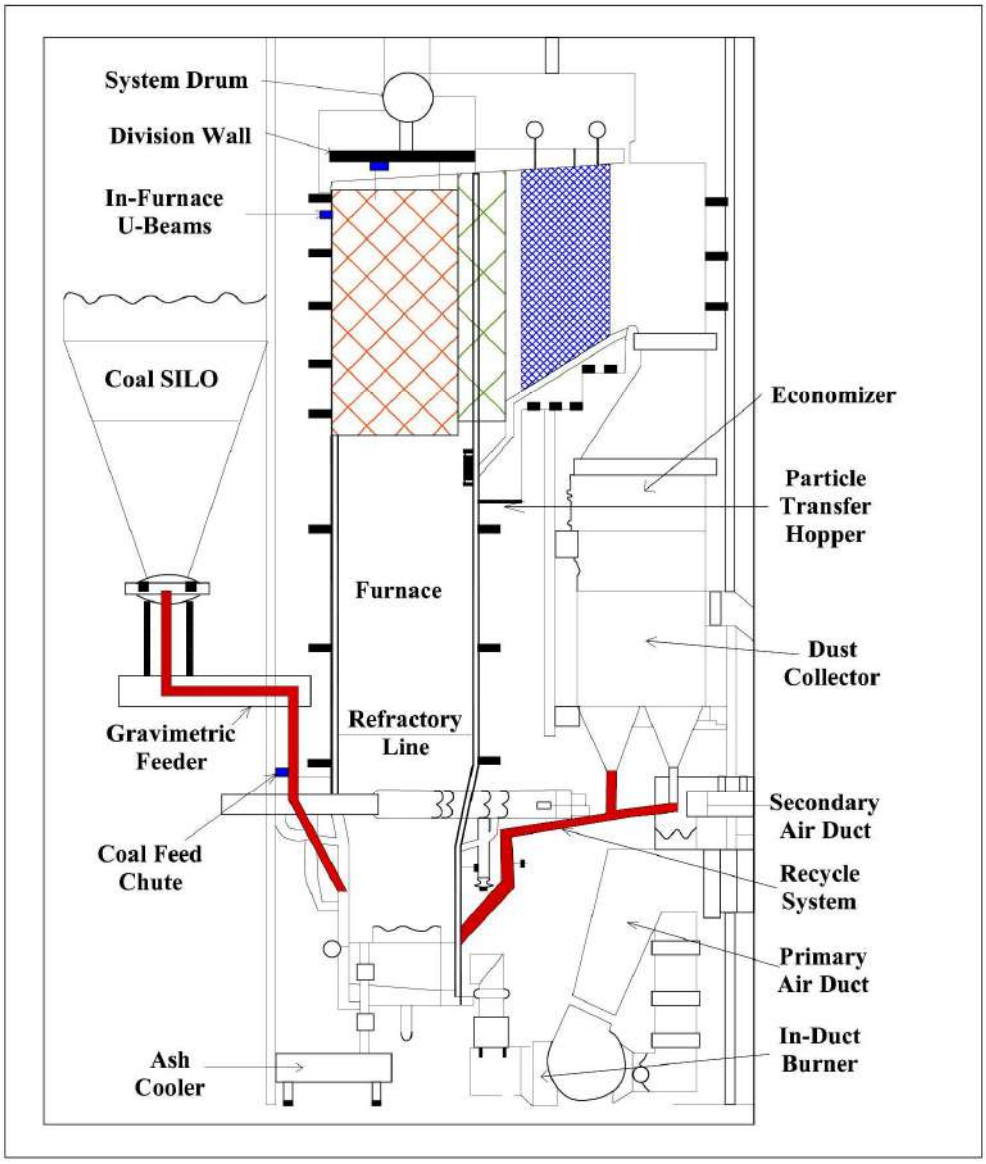


Figure 9: PROCESS FLOW DIAGRAM FOR POWER GENERATION

3.5.5 Manufacturing process of Ferro Alloys Plant

High Carbon Ferro/Silico Manganese :Standard High Carbon Ferro/Silico Manganese is smelted at about 1600-1700^{0}C. A conventional Submerged Arc Electric Furnace achieves this. The three carbon electrodes, partially submerged in the charge, are supported on hydraulic cylinders for upward and downward movements to maintain the desired electrical conditions in the furnace.

The body of the furnace is cylindrical in shape, and is lined with firebricks, silicon carbide bricks and carbon tamping paste. Two tap-holes are provided at 120^{0}C. Apart for draining out both the molten alloy and the slag. During the repair works of one of the tap holes the other will function as standby.

The raw materials are thoroughly mixed in the proper proportion before being charged into the furnace. Manual poking rods or stroker car are used for stoking the charge on the furnace top. As the charge enters the smelting zone, the metal alloy formed by chemical reactions of the oxides and the reductant, being heavy gradually settles at the bottom. The slag produced by the unreduced metal oxides and the flux, being relatively lighter, floats on the metal alloys surface.

At regular intervals the furnace is tapped. The tap hole is opened by oxygen lancing pipe and after tapping is completed, it is closed by clay plug. The liquid Silicon manganese and the slag flow the C.I. Pan. The slag being lighter overflows from the C.I. pan and is taken into the sand mould. The alloy cake from C.I. pan is removed and broken manually with hammer to required lump size. The slag produced in the process is generally free from metal thus after cooling the slag is shifted to slag dump.

PIG IRON:

It is also proposed in future to try to produce Pig Iron from Submerged Arc Furnace by using lower grades Iron ore and Magnetite Iron ores and take the liquid Iron (Hot Metal) to Induction Furnaces for production of steel. This when implemented would bring additional energy efficiency in the Induction Furnaces, by reduced electricity consumption. Since the exact qty is still not finalized hence the Pig Iron production is considered as an alternative product at this point for the sake of impact assessment on environment . The fundamental process and equipments are same. The basic difference is only in Raw material in place of Alloys metal Oxide minerals the Iron Ore will be used. The Power consumption in case of Pig Iron smelting will be less than half than that of Ferro Alloys production. So the proportionate production of Pig Iron Possible has been considered.

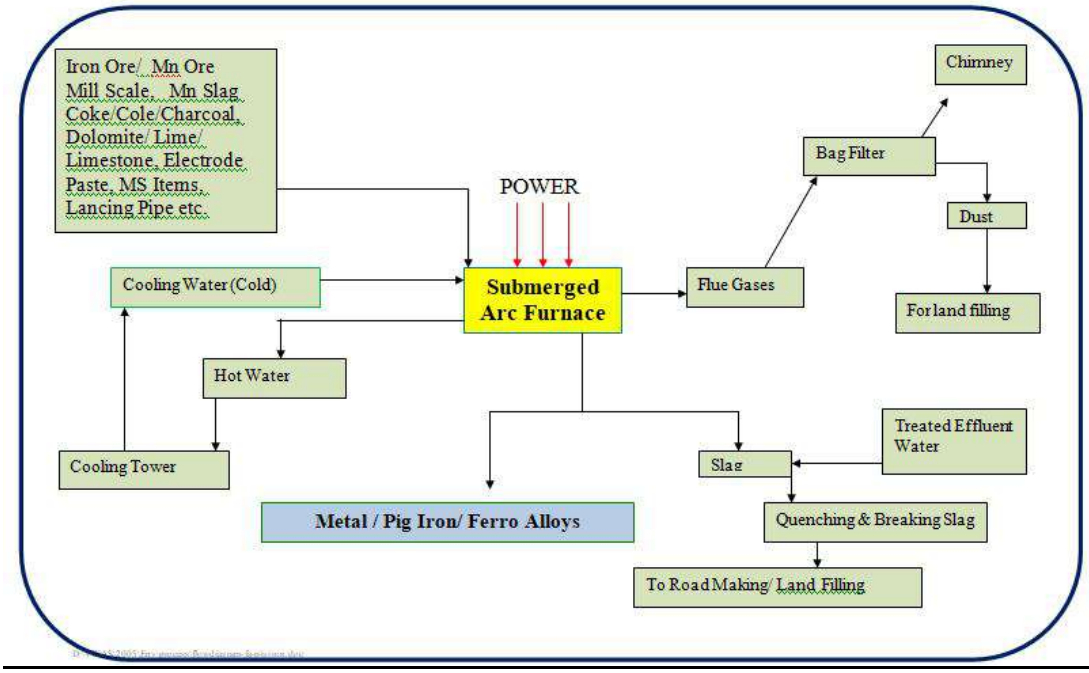


FIGURE 9: PROCESS FLOW DIAGRAM OF FERRO ALLOY AND/OR PIG IRON MAKING

3.5.6 Process and flow diagram of Brick making from waste

Fly ash, Lime sand (or Grounded Slag) and Gypsum or Cement are manually fed into a pan mixer, where water is added in the required proportion for intimate mixing. It is proposed to mix Fly Ash, Grounded Slag from Induction Furnace; Lime; Gypsum and Cement and if required River Sand in small portion.

After mixing; the Mortar mixture is shifted to hydraulic/ mechanical presses for brick moulding. Then molded bricks are carried on wooded pellets to the open area where they are dried and cured by autoclave machine. The bricks are tested and sorted before dispatch.

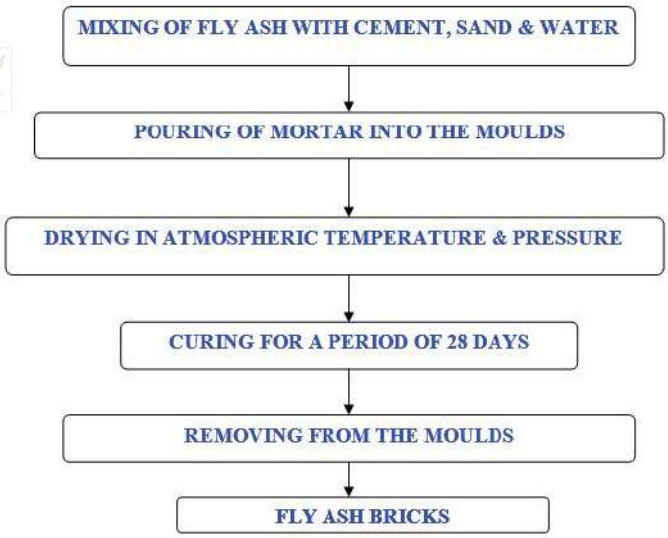


Figure 10: PROCESS FLOW DIAGRAM FOR BRICKS MANUFACTURING

POLLUTION CONTROL MEASURES:-

The proposed process in Hot Charging Rolling mill and Induction Furnaces does not involve any fuel.

Induction Furnaces, LRF will be set up with Suction Hood and Bag Filters of adequate capacity.

In rerolling mills with Billet reheating Furnace pollution control equipment; Waste heat recuperator with Wet scrubbers will be installed.

The following air pollution control equipment will be installed:

- In Sponge Iron Plant and Power Plant ESP with Dust Collectors with Bag Filters will be installed.
- In Induction Furnace; LRF and Sponge Iron Material handling area, Dust Collector along with the Bag Filter Will be installed.
- In Billet reheating Furnace Waste heat recuperator with Wet Scrubbers with Cyclone will be installed.
- Water spraying will be used to control the fugitive emissions in the internal open storage yards.

List of Air Pollution Control Equipment:

The following air pollution equipment will be installed in propose project activity:

Table 10: PROPOSED AIR POLLUTION CONTROL DEVICES

S. No.	Facilities	Air Pollution Control equipment	Emission Level
1.	DRI Kiln with WHRB	i. Dust extraction system, Electro Static Precipitators (ESP) with a Chimney ii. Bag Filters for Product house; Kiln discharge end and transfer points.	PM <30 mg/Nm^3
2	Steel Melting Shop with hot charging rolling mill	Movable suction hood along with Bag Filters with a chimney	PM <30 mg/Nm^3
3	Billet Reheating Furnace based Rerolling Mill	Waste heat recuperator with Wet Scrubber/Bag Filter with a Chimney	PM <30 mg/Nm^3
4	AFBC based power plant	Electro Static Precipitators (ESP) with a Chimney and Bag Filters at Coal conveyors	PM <30 mg/Nm^3
		Lime Dosing will be done at first stage .Space for FGD will be provided and If required FGD will be installed.	SOx <100 mg/Nm^3

		Low NOx burners with 3-stage combustion, flue gas recirculation and auto combustion control system will be provided	NOx <100 mg/Nm^3
5	Ferro Alloys and/or Pig Iron	2 Sets of Bag Filter with Chimney	PM <30 mg/Nm^3

Additional measures proposed to be adopted to reduce fugitive dust emission and pollution control:-

- Dust Suppression System will be installed within plant premises along internal roads.
- Water sprinkling will be carried out at approach road.
- Most of the materials will be stored under covered shed.
- In case of storage of Sponge Iron/ Carbon Powder; Coal in open, it will be covered by tarpaulins to prevent spread of dust from it during transportation.
- Regular maintenance of vehicles and machineries will be carried out in order to control emissions.
- Green belt development would be taken up all along the roads, plant premises etc.
- Green belt will also be developed on the sides of approach road.
- Protective appliances will be provided to all the workers exposed in dusty atmosphere.
- Avoiding overloading of the trucks.
- Workers will be equipped with all personal protective devices like Gum Boot; hand gloves; Safety helmet; Safety goggles, earplugs at work place.
- By controlling the speed of the truck.
- Proper gradient of approach roads to reduce cumulative noise.
- Transportation of materials will be in covered truck and limited to day hours.
- Periodical maintenance of process machinery.

Medical and Health:-

The project proponent shall provide facilities for medical check-up of its workers and employees through a visiting Physician. management will also provide with first-aid facilities at plant time office. If necessary and in case of emergency, the medical aid will also be provided by hospitals situated at Mungeli District (Phone Number 07755264065) which is nearly 21 Kms from plant. Work related health hazards have been identified.

Measures for respiratory disease will be taken by providing goggles; mask and earplugs. Awareness for malaria and health Hazard due to dust emission has been created among plant workers.

Worker health check-up program will be carried out on Six monthly basis.

Socio Economic Objectives:-

The company will formulate its corporate environment responsibility plan as per the priorities of villagers to improve the surrounding environment of the villages located around the proposed plant. Hence the priority will be given on the following:

i. Installation of Solar Lights in Schools.

ii. Providing community toilets in the villages.

iii. Supporting green belt development in schools and rain water harvesting.

iv. Providing water shed management support.

v. Augmentation of green cover in the village community areas.

vi. Support to Gauthan (Cow and Animal community Shed management)

The company will also participates and supports the various social; community sports and cultural activities, held in the nearby villages of the plant.

It will support education quality improvement in the surrounding village youth and female population. Promote agro forestry and organic farming. Promote skill development to take up self-employment.

It shall take active part in the social upliftment program like Swachchta Abhiyaan, skill development program, construction of toilets in schools, colleges, panchayats, supply of good quality drinking water, and women empowerment programmers.

The company will maintain good environmental atmosphere in the plant premises and taking steps to make further improvement in this area.

The company will provide the employment facility to the local villagers.

3.6 Raw material required along with estimated quantity, likely source, marketing area of final product/s, Mode of transport of raw Material and Finished Product.

Table 11: RAW MATERIAL REQUIREMENT AND SOURCE

For Sponge Iron Plant

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Iron Ore	3,69,600	Odisha Iron Ore Mine and NMDC	500 Kilometers	By Road through covered vehicles
2	Coal	2,77,200	SECL Coal mines	200 KMs	
3	Limestone/ Dolomite	8,085	Open Market	50 KMs	
4	Refractory Material	347	Open Market	100 KMs	
	Total	**6,55,232**			

For Induction Furnace (Steel Melting Shop)

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Sponge Iron	2,37,600	Captive production/ Local market	0.1 KMs	By Internal Conveyor belts
2	Pig Iron / CI Scrap	29,393	Local market	100 KMs	By Road through covered vehicles Pig Iron – Captive Production
3	Melting Scrap	4,900	Captive generation/ Local market	100 KMs	Internally available/ By Road through covered vehicles
4	Ferro Alloys	2,376.00	Local market	100 KMs	By Road through covered vehicles
5	Aluminum	237.60	Open Market/BALCO	150 KMs	By Road through covered vehicles
6	Ramming Mass	594.00	Open Market	100 KMs	By Road through covered vehicles
7	Steel Sheet Former	60.00	Open Market	100 KMs	By Road through covered vehicles
8	LSHS/LDO for Laddle Preheating	460.94	Open Market	70 KMs	By Road through Tankers
9	Calcined Lime for Refining of Liquid Steel	11,880.00	Open Market	250 KMs	By Road through covered vehicles
10	Flurospar and other additives for de phos	2,376.00	Open Market	300 KMs	By Road through covered vehicles
11	Electrode for Laddle refining furnace	475.20	Open Market	500 KMs	By Road through covered vehicles
	Total	**2,90,352.74**			

For Hot Charging Rerolling Mill

S. No.	Raw Material	Qty (in TPA)	Source	Distance (in Kms)	Mode of Transportation
1	Hot Billets	1,74,636.00	Captive Production in Steel Melting shop	Internal Transfer	
	Total	1,74,636.00			

For Reheating Furnace based Rerolling Mill

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Cold Billets	58,212.00	Captive production/ Local market as per requirement	Within 100 Kms	Internal Transfer/ By Road through covered vehicles
2	Coal	5,822.00	SECL Mines/ Local Market		By Road through covered vehicles
	Total	**64,034.00**			

Captive AFBC Power Plant (9 MW)

S. No.	Raw Material	Qty (in TPA)	Source	Mode of Transportation
1	Char Dolochar	57,750.00	captive generation in SID	Internally available.
2	Coal	30,086.00	SECL Mines (200 KM)	By Road through covered vehicles
3	Fluidizing Bed Media	150.00	Open Market; (100 KMs)	By Road through covered vehicles
	Total	**87,986.00**		

From Submerged Arc Furnace:
Option A : For producing 100% Silico Manganese – 36000TPA :

S. No.	Raw Material	Qty (in TPA)	Source	Mode of Transportation
1	Manganese Ore	75,600.00	Mines at Orissa and Madhya Pradesh and Vidarbha region	By Road through covered vehicles
2	High Manganese Ore Slag	14,400.00	Open Market	
3	Quartz	2,880.00	Mines in Raigarh	
4	Coke/Coal/Charcoal	21,600.00	Open Market	
5	Dolomite	1,080.00	Mines in Bilaspur	
6	Electrode Paste	1,080.00	Local Industries	
7	M.S. Item.	360.00	Local Industries	
8	Lancing Pipe and Canister Sheet	540.00	Local Industries	
	Total	**1,17,540.00**		

And/or

Option B : For producing 100% Ferro Manganese – 46000TPA:

S. No.	Raw Material	Qty (in TPA)	Source	Mode of Transportation
1	Manganese Ore	82,800.00	Mines at Orissa and Madhya Pradesh and Vidarbha region	By Road through covered vehicles
2	Coke/Coal/Charcoal	27,600.00	Open Market	

3	Dolomite	13,800.00	Mines in Bilaspur	
4	Electrode Paste	1,152.00	Local Industries	
	Total	**1,25,352.00**		

And/or

Option C : For producing 100% Ferro Silicon – 20000TPA:

S. No.	Raw Material	Qty (in TPA)	Source	Mode of Transportation
1	Quartz	36,000.00	Mines in Raigarh	By Road through covered vehicles
2	Coke/Coal/Charcoal	21,800.00	Open Market	
3	Mill Scale/ Iron Ore	8,000.00	Local Industries	
4	Electrode Paste	1,000.00	Local Industries	
	Total	**66,800.00**		

And/or

Option D : For producing 100% Pig Iron (63000TPA) :

S. No.	Raw Material	Qty (in TPA)	Source	Mode of Transportation
1	Iron Ore & Mill Scale	94,500.00	Mines at Chhattisgarh Orissa and nearby factories for mill scale	By Road through covered vehicles
2	Coke/Coal/Charcoal	37,800.00	Open Market	
3	Dolomite/Lime/Limestone	6,300.00	Mines in Bilaspur	
4	Electrode Paste	945.00	Local Industries	
5	M.S. Item.	441.00	Local Industries	
6	Lancing Pipe	189.00	Local Industries	
	Total	**1,40,175.00**		

Fly Ash Brick Plant

S. No.	Raw Material	Qty (in TPA)	Source & Mode of Transportation
1	Fly Ash/ Coal Ash etc.	23,855.00	Internally available.
2	Gypsum and Cement	3,670.00	Local market & through road by covered vehicles.
3	Granulated slag from Induction Furnace	9,175.00	Internally available.
	Total ::	**36,700.00**	

Marketing area of final product/s, Mode of transport of Finished Product

Table 12: MARKETING AREA, PRODUCT, MODE OF TRANSPORT

S. No.	Name of finished product	Net quantity available for sale (IN TPA)	Marketing area	Mode of Transportation
1	Sponge Iron	231,000	This quantity is primarily be used for captive consumption.	Internal transfer
2	MS Billet (Intermediate)	232,848	This quantity will primarily be consumed in hot condition to produce Wire Rods/TMT.	On Line transfer in the system.
3	Rerolled Steel	225,863	All over Chhattisgarh, Jharkhand, Odisha and Madhya Pradesh etc. The demand of Wire Rod and Rerolled Steel products are huge. The major market places are All over Chhattisgarh, Jharkhand, Madhya Pradesh and Odisha etc.	By road through trucks
	a) Wire Rod/ TMT etc.	171,144		
	b) Structural steels etc.	54,719		
4	Captive Power	25 MW (16 MW WHRB + 9MW AFBC based)	This will primarily use for captive purpose.	Captive use
5	Silico Manganese	36000	Primarily for Captive Consumptions and remaining to be sold to other Iron & Steel Industries.	Through covered trucks.
	AND/OR			
	Ferro Manganese	46,000		
	AND/OR			
	Ferro Silicon	20,000		
	AND/OR			
	Pig Iron	63,000		
6	Fly Ash Bricks/ Block	36,700.00	This will be sold to local market	Through covered trucks.

3.7 Resource optimization/ recycling and reuse envisaged in the project, if any, should be briefly outlined.

- The water is mainly required for cooling purposes in Sponge Iron Kiln, Steel Melting Shop, Rerolling Mill and submerged arc furnace.
- The controlled cooling of liquid metal from 1500 degree to 1200 -1050 degree Celsius instead of forcing large water to cool down to ambient level.
- The water will be used in closed cooling circuit where 100% water will be recycled.
- 100% of waste water is and will be recycled and Zero discharge condition will be maintained.

- Melting Scrap generated in the rolling mill will be used in own Induction Furnace as raw material thus practically there is no solid waste generation.
- Mill scale will be sold to Ferro Alloys plants, Mill Scale is no more a waste.
- Direct hot charging will save the Coal consumption @ 100 kg tonne per tonne which works out to above 17114 tonnes per year which would have occurred in the traditional rerolling mill if it was done through a new Billet reheating furnace.
- Similarly, the Power consumption to operate Coal handling; Coal Crusher; Screen, Gasifiers; Billet reheating Furnace Air Blower; Cold Billet handling system; Furnace Pusher, Air Pollution Control ID/FD fan etc would have consumed @ 30 units per tonnes of power in the otherwise creation of reheating furnace based WR Mill. Thus, this power will be indirectly saved for the Nation. In additional due to homogenous heat available in the hot Billets the rolling power also will get reduced by at least 5 to 6 units (kWh).

3.8 Availability of water its source, Energy/ Power requirement and source:

The water will be sourced from surface water, project proponent will conduct a detailed Hydrological survey to source the nearest point of Surface water.
The water requirement for the project will be as follows:

Table 13: Water Requirement

Products/ facilities	Annual production capacity (TPA)	Daily water requirement (in KLD)
Sponge Iron	2,31,000.00	350.00
MS Billet	2,32,848.00	212.00
Steel Rerolled products	2,25,863.00	185.00
Captive Power	**1,98,000.00 MWH**	570.00
Ferro Alloys/Pig Iron	46000 TPA	12.00
Fly Ash Bricks	36,700 TPA	126.00
Domestic Usage	LS	41.00
Miscellaneous/ Gardening	LS	4.00
Total		**1,500.00**

Table 14: HYDROLOGICAL DETAILS

Geomorphology	
Major Physiographic Units	Plateau
Topography of Area	Flat
Geomorphic unit	Plateau Moderately Dissected
River Basin	Mahanadi River Basin
Major Drainages	Shivnath River (7.1 km ENE Direction)
Nearest Nala	Karua Nala (0.6km NE Direction)
Drainage Pattern	Dendritic to sub- Dendritic Pattern
Drainage Density	Low
Average Elevation of the Area	317 m Above msl
Major Soil Types	Red Soil (Bhata) Entisols; Sandy loams (Matasi) Inceptisols; Dorsa (Alfisols); Black (Kanhar) vertisols;

	Alluvial Soil (Kachhar)
Geology	
Predominant Geological Formations	Rocks of Meso to Neo-Proterozoic sequence: Chhattisgarh Supergroup; Raipur Group Maniyari Formation (limestone, shale, dolomite & Sandstone)
Rock Type	Sedimentary rocks
Nature of formations in the area	Formations in the area is highly porous & permeable in nature.
Surface run-off	Low surface run-off
Hydrogeology*	
Major Water Bearing Formation	Proterozoic Sedimentaries (Limestone, Shale and Dolomites of Chhattisgarh Supergroup)
Pre-monsoon Depth to Water Level During 2011 (mbgl)	2.10 to 12.25, Avg.: 6.70
Post-monsoon Depth to Water Level During 2011 (mbgl)	0.40 to 8.50, Avg.: 3.00
Stage of ground water development	78.06%
Category as per CGWB	**"SEMI CRITICAL"**

*Bemetara District is a newly formed district, earlier it was a part of Durg District. Therefore, Durg District data is used.

Power Requirement

Total power requirement will be 47 MW out of which 25 MW will be met through captive power plant and 22 MW will be sourced through State Grid (CSPDCL) In addition to this total 2 Nos of 3300 kVA DG sets are proposed for emergency backup.

3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their Management/disposal:

- 100% of waste water will be recycled and Zero discharge condition will be maintained.

The details of Waste generation and its dispose will be as follows:

Table 15: Details of Solid Waste generation and its disposal

Name of Waste generated	Qty (TPA)	Proposed Disposal Plan
Char Dolochar	57,750.00	Used in own captive power plant
Bottom Flue Dust Ash	46,200.00	Used in Brick making
Kiln Accretion and Refractory waste	400.00	Sold to metal recovery units and to refractory recycling units.
Defective Billets	2,376.00	Used as melting scrap in own plant or sold to rerolling mills
Mill Scale (CCM and RM)	4997.00	Used in Ferro Alloys Plants as raw material, therefore sold to Ferro Alloys / Pellet Plants.
Slag from Induction Furnace	43,065.00	Given/ Sold to metal recovery units.

		And also used in own plant to make Bricks
Refractory and Ramming Mass waste	297.00	Given to refractory recycling units / used in Fly ash brick making unit / landfill.
Slag from Ferro Alloys Plant	36000	Used for Road making and Land filing.
Defective and Miss Roll	4,366.00	Reused in own Induction furnace
Ash from Coal firing in Mill	2,038.00	Used in own Fly Ash Brick making unit
Fly Ash from Char Dolo char	43,313.00	Used in own Fly Ash Brick making unit
Ash from Coal	13,539.00	Used in own Fly Ash Brick making unit
Fluidized Bed Material	150.00	Used in own Fly Ash Brick making unit
Total	**254,491.00**	

The waste generation/ disposal disposed as follows:

- Char/ Dolochar will be used in own captive power plant at raw material.
- In the Induction furnace slag will be given to units for metal recovery or in case used internally for the same then the ground slag will be used to making bricks.
- Refractory waste like Silica lining will be sold to the refractory recycling units.
- The waste water generated from reverse osmosis system will be used in Slag quenching, dust suppression.
- Mill Scale will be sold to other Ferro Alloy/ Pellet Plants.
- Fly Ash and Coal Ash generated will be used in own Fly Ash brick/ block making unit.
- Grounded Induction Furnace slag will be used in own fly Ash brick/ block making unit.
- Defective Billets, Miss Roll, End Cutting will be sold or used own induction furnace.
- The generated used oil and waste oil estimated to be around 6 KL/year will be given to authorized recycler having authorization from competent authority.
    - The lead acid battery or dry battery will be given to authorized recycler having authorization from competent authority.
    - E-waste generated from the plant will be given to authorized recycler having authorization from competent authority.
    - The domestic sewage outflow from toilets will be provided with septic tank followed with Sewage Treatment Plant; the treated water will be used for green belt irrigation and dust suppression.
    - Plastic waste will be collected and sold to Plastic recyclers.
    - Domestic waste will be collected and composted in the plant and then applied in green belt.

There is no other liquid or solid waste likely to be generated.

3.10 Schematic representations of the feasibility drawing which give information of EIA purpose

Table 16: Schematic representation of information of EIA purpose.

S. No.	Process Aspect	Environment regime affected	Remediation/Mitigation proposed
1	Change in land use.	the land is also low fertile single cropped agriculture land which was cultivable rain fed land which is being acquired for the project from the land owners who bought it for investment purposes.	The land is presently not having any defined land use as per Master Plan prepared for the region. Thus as per prevailing practice all land which are not having defined land use are considered as Agricultural land. However now the land use will be permanently diverted to industrial purpose. Since all these lands are located outside the master plan area and have no land use assigned to it by the State Govt. Hence as per land Revenue amendment Code 2013; to promote the industrialization in the state; the state Govt allows to divert it easily. Also, MOU with State Govt. is also signed by the company for facilitation of all such clearances. 33% area will be covered under green Belt. The promotion of Modern Agriculture will help the farmers to increase the productivity as well as increase the cropping intensity.
2	Transportation of material	The existing network of transport gets pressurized	The infrastructure available is enough to cater the requirement of transportation. There is not going to be substantial addition in the existing transportation load.
3	Land oustee	The occupational resource due to transfer of land is affected.	Land owners who had bought the land for investment purposes. The farm yields and produce prices are also not attractive for continuing activities. Thus, they have decided to sell the land and company will pay the good market price. As well as give employment to the dependents in the Project. Proper R& R plan will be prepared and implemented as per Govt guidelines before implementation of the project.
4	Gaseous and particulate Emission to the atmosphere	Air quality	All the mitigation measure will be taken to control air pollution and national standards will be complied with all the time. In addition to this all the steps are proposed to minimize the emission from point sources as well as fugitive sources.

S. No.	Process Aspect	Environment regime affected	Remediation/Mitigation proposed
			Thus, the standards of ambient air quality will be maintained.
5	Discharge of effluent	Impact of water quality.	Zero discharge is proposed.
6	Withdrawal of ground / surface water	Availability of ground water is affected.	The main source will be surface water from Agar River and collected rain water. The Area falls under SEMI CRITICAL zone as CGWB guidelines. Also, we have proposed to maximum recharge of rain water and two number of rain water collection ponds.
7	Operation of equipment and vehicles likely to generate noise.	Noise regime	All the process equipments will be installed on anti-vibration pad with sufficient provisions to minimize generation of noise. Acoustic enclosures and barriers will be provided to control the spread of noise to outside. The buildings, tall boundary wall and green belt will ensure the attenuation of noise outside the boundary within the prescribed limits.
8	Fire Hazard due to storage of fuel etc.	Risk to the surrounding habitation.	The project site is well isolated and there are no nearby habitats. However, all the precautions to prevent fire and all the provisions to fight fire shall be provided.
9	Employment to outsiders	Socio-economic disparity with local community	Priority of employment will be given to local people, as already sufficient qualified and trained local youth area available.
10	Cultural impact	Local population feels isolated	The promoters proposed to employ local masses in the project hence no such impact on cultural diversity is likely to take place.

4.0 SITE ANALYSIS

4.1 Connectivity

The area is located in the lands belonging to three Villages- "Mudpar & Rampura", Tahsil- Nawagarh, District- Bemetara (C.G.), Bhatapara Railway station is the nearest railway station which is about 28.6 KMs in in SE direction and Nearest Airport is Bilaspur Airport which is about 38 KMs in ESE direction.

The project site can be reached from nearest City Mungeli through SH-10 which is just 0.2Kms from the site and from District headquarters Bemetara through National highway namely NH-130. The project is well connected to all weather road.

4.2 Land Form, Land use and Land ownership.

The project is proposed on the land of 30.80 Hectare. The company is in process for procurement of the land from the locals. Total 33.03% area will be developed as Greenbelt area. The land will be diverted to industrial purpose

4.3 Topography (along with map)

The topography of the land is almost flat without undulations. The general slope of the district is towards the north-east in which direction the major streams of the district flow.

Geomorphology	
Major Physiographic Units	Plateau
Topography of Area	Flat
Geomorphic unit	Plateau Moderately Dissected
River Basin	Mahanadi River Basin
Major Drainages flowing in the district	Shivnath River
Nearest Nala	Nakti Nala (2.0 km WDirection)
Drainage Pattern	Dendritic to sub- Dendritic Pattern
Drainage Density	Low
Average Elevation of the Area	317 m Above msl
Major Soil Types	Red Soil (Bhata) Entisols; Sandy loams (Matasi) Inceptisols; Dorsa (Alfisols); Black (Kanhar) vertisols; Alluvial Soil (Kachhar)
Geology	
Predominant Geological Formations	Rocks of Meso to Neo-Proterozoic sequence: Chhattisgarh Supergroup; Raipur Group Maniyari Formation (limestone, shale, dolomite & Sandstone)
Rock Type	Sedimentary rocks
Nature of formations in the area	Formations in the area is highly porous & permeable in nature.
Surface run-off	Low surface run-off
Hydrogeology	
Major Water Bearing ormation	Proterozoic Sedimentaries (Limestone, Shale and Dolomites of Chhattisgarh

	Supergroup)
Pre-monsoon Depth to Water Level During 2011 (mbgl)	2.10 to 12.25, Avg.: 6.70
Post-monsoon Depth to Water Level During 2011 (mbgl)	0.40 to 8.50, Avg.: 3.00

The topographical location of 10 KM radius study area is provided as below:

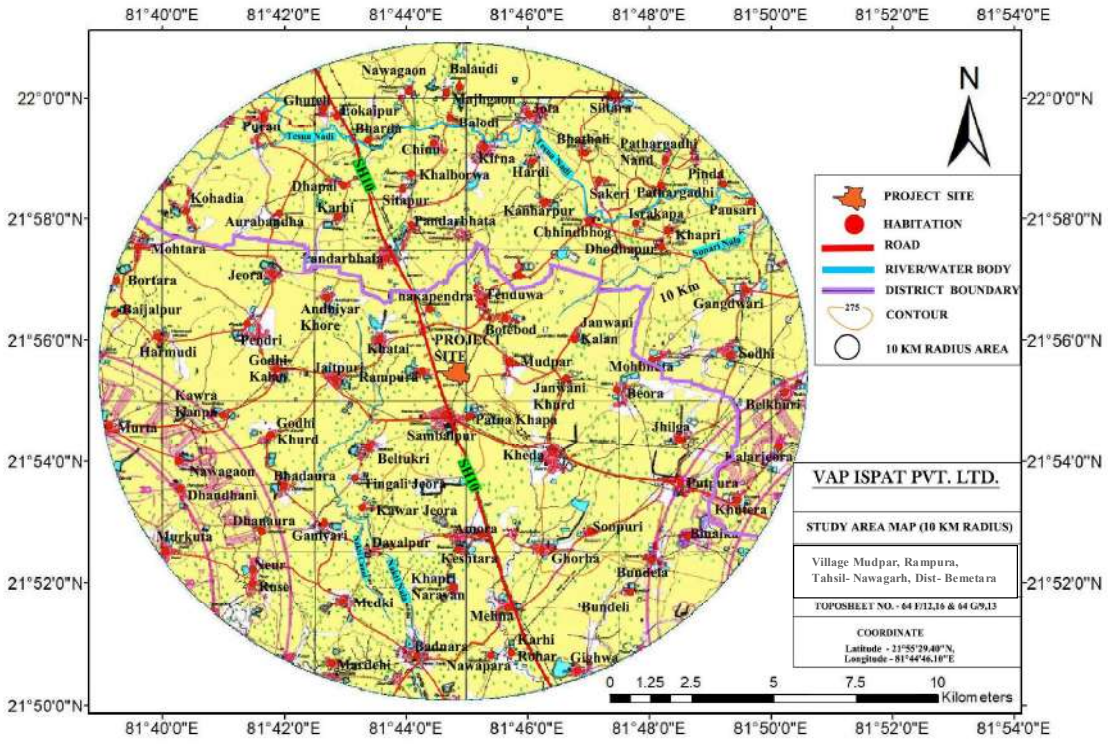


Figure 11: STUDY AREA MAP (10 KM Radius from the Project Site)

4.4 Existing land use pattern (agriculture, non agriculture, forest, water bodies (distance from HFL to the river), CRZ. In case of notified industrial area, a copy of Gazette Notification should be given:-

The project is a green field project. The proposed land 30.8 Ha will be permanently diverted to industrial use.

Land-use Pattern

The area is primarily an agricultural cultivation based rural area. No major industries are observed within 10 Km radius. The Village Population also is quite sparse.

4.5 Existing Infrastructure

- The proposed project is Greenfield project
- The project site can be reached from SH-10 which is just adjacent from the site and through National highway namely NH 130 Road. The project is well connected to all weather road. Nearest Railway station Bhatapara is about 28.6 KMs in South East Direction and Nearest Airport is Bilaspur Airport is about 38.0 Km ESE.
- Proposed source of water is Surface water i.e. from Agar River and collected rain water. Recharge of the ground water through rain water collection ponds and wells will be developed. The area is Semi Critical zone according to guidelines of CGWA.
- The power requirement of 47 MW will be met through a 25MW captive power plant consisting of 16MW (8 MW X 2 Nos) of WHRB plant and 9 MW of coal fired AFBC power plant, remaining power requirement will be meet through CSPDCL (State Grid), for its surplus power, approach road for connecting to the nearest National highway and sufficient laboratory facilities as well as all the amenities required for future manpower utilities requirement will be created.

4.6 Soil Classification

Bemetara district is situated in fertile plains of Chhattisgarh region.

Major soil types are

1. Red Soil (Bhata) Entisols;
2. Sandy loams (Matasi) Inceptisols;
3. Dorsa (Alfisols);
4. Black (Kanhar) vertisols and
5. Alluvial Soil (Kachhar).

4.7 Climatic data from secondary sources

Bemetara's climate is classified as tropical. In winter, there is much less rainfall than in summer. The climatological data from District Survey Report of Bemetara District is given as below:

Table 17: CLIMATOLOGICAL DATA FOR BEMETARA (Year: 2018)

Month	Temperature (^{0}C)		Monthly Rainfall (mm inches)
	Max	Min	
January	27	13	0.0
February	32	19	3.4
March	37	24	0.17
April	41	28	5.9
May	43	32	2.2
June	38	30	28.5
July	33	27	54.7
August	31	25	47.9
September	31	24	12.1
October	33	22	0.0
November	32	19	0.0
December	26	16	6.3
Range	**16-43**		**161.17**

(**Source**: District Survey Report Bemetara)

District wise detail of river or stream and other sand source:

Table 18: DETAILS OF RIVERS AND ITS FLOW IN DISTRICT

S. NO.	Name of River or Stream	Total length in district (in km)	Place of Origin
1	Shivnath River	115	Panabaras (Dist- Rajnandgaon)
2	Kharun River	42	(Petachuwa) (Dist-Raipur)
3	Haff River	51	Kukdur hills Pandariya (Dist-Kabirdham)
4	Sakari River	20	Near Bhoramdev, (District Kabirdham)
5	Surahi River	30	Saroudi hills (Dist- Rajnandgaon)
6	Phonk	5	Badola hills (District Kabirdham)

Source : District Survey Report, Bemetara

4.8 Social Infrastructure available

Table 19: GENERAL PROFILE OF DISTRICT

S.No.	Particulars	Statistics
1.	**Headquarter**	Bemetara
2.	**Geographical data (Sq.KM.)**	
	(i)Latitude	21°22' to 22°03'N
	(ii)Longitude	81°07':81°55'E
	(iii)Geographical area	2854.81
3.	**Administrative units**	
	(i)Subdivisions	5
	(ii)Tahsil	5
	(iii)Nagar Nigam	1

S.No.	Particulars	Statistics
	(iv)Nagar Panchayat	**07**
	(v)Gram Panchayat	**387**
4.	**Population (In 2011 Scenario)**	
	(i)Total Population	797,759
	(ii)Male	397,650
	(iii)Female	398,109
	(iv)Sex ratio	1001
	(v)Literacy	**69.87%**
5.	**Land utilization (in Hect) (In 2017)**	
	(i) Agricultural land	232710
	(ii)Non-Agricultural Land	52771
	(iii)Cultivable barren Land	-
6.	**Forest (In Hect.)**	89.20 (Fully reserved)
7.	**Average annual Precipitation**	1330mm (52.36 inches)
8.	**Major Highways**	NH-30, NH-12A, NH 130

5.0 PLANNING BRIEF

5.1 Planning concept (type of industries, facilities transportation Town and Country Planning Development authority Classification.

Project concept:

The proposal is a green field project for implementation of integrated steel plant along with captive power plant. The project will be operating on Road transport facilities. The Town Country planning of CG state has not defined any land use or not planned any development of the villages in the Project area. The state Government has notified to allow the conversion of agricultural land outside the investment zone or planning area for industrial purposes just by intimation to District Collectors.

The proposal involved implementation of Sponge Iron Plant (231000 TPA) Steel Melting Shop (232848 TPA), Steel Rerolling Mill (Hot Charging (171,144 TPA) and Billet Reheating Furnace (54,719TPA), Two Nos. of Submerged Arc Furnaces each with 9MVA input power capacity will be installed for production of Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA and Fly Ash Brick/ Block Making Plant (36,700 TPA) along with Captive Power Plant 30 MW (8 MW WHRBx2 Nos + 9 MW AFBC).

i. The 2Nos. of 350 TPD DRI Kilns along with 2Nos. of 8 MW each WHRB boilers is proposed to be implemented
ii. The MS Billets production facility (20 MT X 4Nos. of Induction Furnaces along with CCMs and LRFs) of 232,848TPA.
iii. It is proposed to implement total 225,863TPA Rerolled Steel productions out of which 171,144TPA Rerolled Steel products are proposed to be produce using Hot Charging Facility and remaining 54,719TPA Rerolled Steel production is proposed through use of Billet Reheating Furnace along with coal gasifier.
iv. Coal based AFBC based Captive power plant of 9 MW will be also implemented. Total captive power generation capacity will be 25 MW (8 MW WHRB x 2 Nos + 9 MW AFBC).
v. Two Nos. of Submerged Arc Furnaces each with 9MVA input power capacity will be installed for production of Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA.
vi. Fly Ash Bricks and other product manufacturing facility of 36,700 TPA will also be implemented.
vii. Coal Producer gas plant will be of 2.2 Meter dia and capable to gasifie upto 1100 kg/Hour Coal to produce 1800 to 3600 NM3 per hour producer gas with Gas Composition of CO : 25-30% H_2 : 15-18% CH_4 : 3-6% CO_2 : < 6% N_2 : 45-50% having more than 1550 k Cal Thermal energy with more than 380 degree Celsius temperature. Hot PG gas will be fired in the Billet reheating furnace. Due to use of hot producer gas at temperature above condensation Tar will not be generated in Bulk. However Tar collected at Water seal points will be sold to Tar processing units. Phenolic waste water generated will be collected and combusted in DRI kiln ABC.

Town and Country Planning Development authority Classification

The land currently has Agricultural use, which will be diverted to Industrial Use. The state Government of Chhattisgarh under ease of doing business has notified that agricultural land outside the investment zone or planning area will be deemed to have been diverted NON Agriculture purpose if any industrial unit is proposed on it by the owner of the land . The diversion of land for the industrial purposes would be allowed just by intimation to District Collectors to do so.

5.2 Employment Projection

The industry will provide employment to about 900 peoples . Since the plant is located in the Bemetara district in which trained manpower are already available in Bemetara District and nearby Raipur and Durg District. Therefore, the employment will be mostly given to the local people and will be further trained to make them more skilful. Hence there is not going to be any substantial increase in the population of local villages. However, due to increase economic growth the local youth will get employed. And additional population influx of around 1000 people in the 10 KM radius of plant can at best be estimated, which includes the addition of persons dependent on the job seeking persons.

5.3 Land use planning (breakup along with green belt etc).

Around 33.03 % (i.e. 10.17 Hect) of total land will be used for green belt development. The details of land use planning is as below:

Table 20: LAND USE PLANNING

[A]	**Builtup Area**	**Area (In Ha.)**	**%**
	(a) Main Building and shed	11.14	36.17%
	(c) Admin and Utilities	0.61	1.98%
	Sub Total ::	**11.75**	
[B]	**Road and Paved**		
	(a) Road and Pave	2.37	7.69%
	(b) Truck Parking	1.53	4.97%
	(c) Raw Material/ Finished Product storage	2.02	6.56%
	Sub Total ::	**5.92**	
[C]	**Greenbelt**		
	Greenbelt	10.17	33.02%
	Sub Total ::	10.17	
[D]	**Open Area**		
	Reservoir	1.2	3.90%
	Open Area	1.76	5.71%
	Sub Total ::	**2.96**	
		30.8	**100.00%**
[A]	**Builtup Area**	**Area (In Ha.)**	**%**

5.4 Assessment of Infrastructure Demand:

- The proposed project Greenfield integrated steel plant activity for which no substantial additional infrastructure is required. The available road network, and natural sources of water supply and drainage system are adequate.
- The proposed source of Water is surface water from Patharia Barrage, Agar River as the area is Semi Critical zone as per guideline of CGWA. It is proposed to adopt rain water harvesting practice industrial premises and surrounding villages. Rain water collection pond will also be created.
- The company will lay down water pipe line from the nearby point from Agar River,
- Power will be sourced with CPP in combination with from State Grid (CSPDCL) which is power surplus grid.
- There will be 2 nos. of DG sets with about 3300 kVA will be installed for emergency backup supply to meet the contingencies of power cut and power failure. Thus, no additional emergency arrangement is required.
- There is no other major infrastructural requirement for the project.

5.5 Amenities/Facilities:

- The necessary arrangement for proposed project for meeting water supply for drinking purposes, toilet facilities for workers as well as inward/outward transport operators, parking facilities, as well as small canteen for workers and guests will be created. ETP will be built to treat the waste water originating from Boiler Blow down; Cooling Tower Blow down; DM water Back wash etc process. One 150 KLD per day Capacity ETP will be built for the purpose to treat the water for the recyclable standard. 45 KLD STP will be built for disposal of domestic effluent treatment. A canteen with rest room will also be available for the supply of tea; snacks; food to the workers and drivers, visitors etc. Sufficient parking space will be created for the parking of Trucks; cars etc.

6.0 PROPOSED INFRASTRUCTURE

6.1 Industrial Area (Processing Area)

Out of the total 30.80 Ha. area, about 11.75 ha. land will be under shed, the remaining area will be for open space as well as road development, water storage and green belt development etc as given in land use statement.

6.2 Residential Area (Non-Processing Area)

There is no residential area proposed in the plant area; as the existing villages have adequate facilities accommodate the additional manpower residential requirements. Most of the local people will only be employed so the need of the additional residential colony in the plant is not there.

6.3 Green Belt

A greenbelt in around 10.17 ha (33.03%) area will be planted with local species with broad leaves and higher canopy. The ever green plants will be selected for the purposed of green belt.

6.4 Social Infrastructure

The project area lies within the Tahsil- Nawagarh and District of Bemetara. The infrastructure for amenities to the workers such as kitchen, canteen, rest room etc is proposed to be provided.

6.5 Connectivity (Traffic and Transportation Road, Rail/Metro/Water ways etc)

The project site can be reached from SH-10 which is adjacent from the project site and District headquarters at Bemetara through National highway namely NH-130 Road and nearest city Mungeli through State Highway namely SH-10. The project is well connected to all weather road. Nearest Railway station Bhatapara is about 28.6 KM in East Direction.

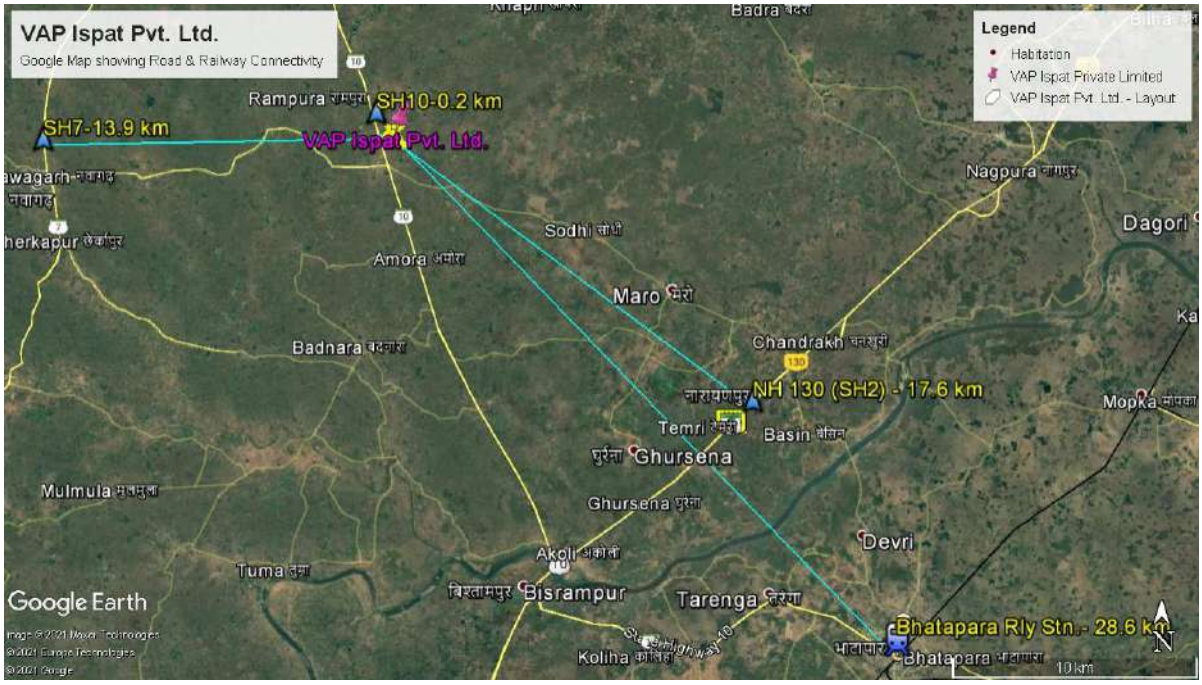


Figure 12 : Map for Road Connectivity

6.6 Drinking Water Management (Source & Supply of water)

The drinking water will be sourced from Ground Water. The water purifier will be provided for the purpose. The maximum demand of drinking water is assessed to be 41 KL/day.

6.7 Sewerage system

The project will involve about 900 people employment on three shift basis however around 600 people additionally may be visiting in project site as truck drivers or cleaners or visitors etc. thus considering 1500 people daily disposing the domestic effluent a septic tank with soak pit of suitable capacity will be built. A separate 45 KL per day capacity sewage treatment system will be built, the treated water will be used for irrigation in green belt, dust suppression.

6.8 Industrial Waste/ Solid Waste Management.

100% of Industrial Solid waste will be used in the following manner, the details of Waste generation and its dispose will be as follows:

Table 21: INDUSTRIAL WASTE/ SOLID WASTE MANAGEMENT

Name of Waste generated	Qty (TPA)	Proposed Disposal Plan
Char Dolochar	57,750.00	Used in own captive power plant
Bottom Flue Dust Ash	46,200.00	Used in Brick making
Kiln Accretion and Refractory waste	400.00	Sold to metal recovery units and to refrctory recycling units.
Defective Billets	2,376.00	Used as melting scrap in own plant or sold to rerolling mills

Mill Scale (CCM and RM)	4997.00	Used in Ferro Alloys Plants as raw material, therefore sold to Ferro Alloys / Pellet Plants.
Slag from Induction Furnace	43,065.00	Given/ Sold to metal recovery units. And also used in own plant to make Bricks
Refractory and Ramming Mass waste	297.00	Given to refractory recycling units / used in Fly ash brick making unit / landfill.
Slag from Ferro Alloys Plant	36000	Used for Road making and Land filing.
Defective and Miss Roll	4,366.00	Reused in own Induction furnace
Ash from Coal firing in Mill	2,038.00	Used in own Fly Ash Brick making unit
Fly Ash from Char Dolo char	43,313.00	Used in own Fly Ash Brick making unit
Ash from Coal	13,539.00	Used in own Fly Ash Brick making unit
Fluidized Bed Material	150.00	Used in own Fly Ash Brick making unit
Total	**254,491.00**	

6.9 Power Requirement & Supply/source:

The project is a power intensive, total power requirement will be 47 MW out of which 25MW will be met through captive power plant and 5 MW will be sourced through State Grid (CSPDCL) In addition to this total 2 Nos of 3300 kVA DG sets are proposed for emergency backup.

The state of Chhattisgarh is safe and surplus in Power. Hence the emergency DG sets are required only to run the emergency loads like Water, Air, Light and emergency supplies.

7.0 REHABILITATION AND RESETTLEMENT (R&R) PLAN

7.1 Policy to be adopted (Central/ State) in respect of the project affected persons including home oustees, land oustees and landless laborers (a brief outline to be given)

The proposed greenfield project contains land purchased from landowners who bought it for investment purposes. Thus, the land does not have any directly displaced persons as land oustee who is totally dependent on this land. Land is being purchased at fair market price and there is no compulsory acquisition of land. The land was under single cropping. There is not enough water available for 2nd and 3rd crop in this area. So, rain fed single cropping is not found viable. The present farm produce prices are also not remunerative. Thus, the land owners have decided to sell these lands at good market price. They are likely to buy a better cultivable land or adopt to alternative locations. Hence the land owners will not be significantly affected for their livelihood of the persons. Thus, practically there are no land oustees or project affected persons also there are no home oustees.

Thus R&R plan is not separately prepared for this purpose for the present land as the land is not being acquired by compulsion.

However R & R plan will be prepared in future for the farm labourers and other people who were dependent for livelihood due to agriculture on these lands. This R&R plan will be prepared as per Govt of CG policy and shall be implemented. The priority for employment will be given to those who would have sold such lands and to those non land owner peasant and workers whose livelihood was dependent on these farming lands and to local persons living in the adjoining villages. In addition to this promoter will also contribute for the welfare of the people of local surrounding.

8.0 PROJECT SCHEDULE & COST ESTIMATES

8.1 Likely date of start of construction and likely date of completion:

The project construction work is likely to be started immediately after receive of Environment Clearance and completed it will take about One half year to complete it. It is hoped that environment clearance/ CTE will be granted by December 2022, and the construction will thus be began from January 2023. However, the dates cannot be forecasted thus the schedule of implementation is worked out from Zero date to progressive time required in months.

The implementation schedule of facilities is as given below:

Table 22: IMPLEMENTATION SCHEDULE

		Commencement (Month and year)	Completion (Month and year)
(i)	Acquisition of land	0000	acquired
(ii)	(a) Development of land	0	3
(iii)	Civil works -		
	Factory building	2	6
	Machinery foundation	6	12
	Miscellaneous civil works	6	9
(iv)	Plant and Machinery :		
	Imported -placement of order		
	-delivery at site		
	Indigenous-Placement of order:	6	10
	-delivery at site :	7	12
(v)	Arrangements for power:	10	12
(vi)	Arrangements for water:	4	8
(vii)	Erection of equipment	6	12
viii)	Commissioning :	12	15
(ix)	Procurement of raw material	15	17
(x)	Training of personnel :	16	18
(xi)	Trial runs :	17	18
(xii)	Commercial production:	18	

8.2 Estimated project cost, along with analysis in terms of economic viability of the project.

The following items are included in the above cost of Project.

Table 23: ESTIMATION OF COST OF PROJECT

(In Rs. Lakhs)

Particulars	Sponge Iron	Captive Power Plant	SMS Division	Rolling Mill Division	Ferro Alloy Division	Fly Ash Bricks	Amount (In Rs. Lakhs
Land and site development	250.00	100.00	50.00	25.00	300.00	30.00	**755.00**
Building and Civil	1,500.00	2,000.00	1,000.00	950.00	800.00	100.00	**6,350.00**
Plant and Machinery	6,000.00	6,500.00	2,500.00	2,300.00	2,700.00	300.00	**20,300.00**
Misc. Fixed Assets	500.00	350.00	250.00	250.00	300.00	20.00	**1,670.00**
Electrical Installation	350.00	850.00	350.00	150.00	300.00	20.00	**2,020.00**
Prel. & Pre operative	200.00	100.00	150.00	125.00	100.00	15.00	**690.00**
Contingencies	200.00	100.00	200.00	200.00	0.00	15.00	**715.00**
Project Cost	**9,000.00**	**10,000.00**	**4,500.00**	**4,000.00**	**4,500.00**	**500.00**	**32,500.00**
Proposed CER Exp.	55.38	61.54	27.69	24.62	27.69	3.08	**200.00**
Grand Total	**9,055.38**	**10,061.54**	**4,527.69**	**4,024.62**	**4,527.69**	**503.08**	**32,700.00**

MEANS OF FINANCE:

The means of finance for the above is given as follow:-

Table 24: ESTIMATION OF MEANS OF FINANCE

(In Rs. Lakhs)

Means of Finance	Sponge Iron	Captive Power Plant	SMS Division	Rolling Mill Division	Ferro Alloy Division	Fly Ash Bricks	Amount (In Rs. Lakhs
Equity –Equity & reserve and surplus	3,169.38	3,521.54	1,584.69	1,408.62	1,584.69	176.08	11,445.00
DEBT – Term Loan from Bank and other financial Institutes	5,886.00	6,540.00	2,943.00	2,616.00	2,943.00	327.00	21,255.00
Total ::	**9,055.38**	**10,061.54**	**4,527.69**	**4,024.62**	**4,527.69**	**503.08**	**32,700.00**

The above finance mix is based on the following assumptions:

1. The promoters shall contribute about 35% of the total cost of project, the promoters will contributing around Rs.11445 lakhs as Equity.
2. It is proposed to seek a sum of Rs. 21255 Lakhs as Term Loan from Bank or Financial Institution.
3. Debt Equity ratio : 1.86 : 1
4. Debt Service Coverage Ratio: 2.81
5. Internal Rate of Return (IRR): 31.65%
6. Break Even Point (BEP) : 32.32%
7. Corporate Tax Rate – 17.4% (as new company formed)
8. State GST of 9% will be credited as per state government policy (As Falling under C category area)

9.0 ANALYSIS OF PROJECT (FINAL RECOMMENDATION)

9.1 Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.

The proposed integrated steel plant project involving WHRB and hot charging based Rolling Mill will result in energy efficient and highly environment friendly development of industry. Similarly the energy efficient in Billet reheating furnace based rolling mill also will save fossil fuel as well as save GHG emission.

The location is ideally suited. The project is not likely to cause any significant impact on the existing environment settings.

a. The company will be paying more than Rs 11 Crores towards Salary and wages per annum which will partially add to local economy.

b. More than 500 people from surrounding area will get direct jobs and in total 900 people will be employed.

c. With more than Rs. 750 Crores as expected annual turnover, the company will likely contribute more than Rs. 135 Crores per annum in the form of GST.

d. The company will be paying almost Rs 20 Crores as Power Bill to the grid. It will help the grid to get good revenue.

e. The project will involve transportation of more than 13.46 lakh tonnes of goods for inward and outward. Which will require more than 195 trucks per day. This will offer opportunity for many local transporters.

f. The company will be buying Dolomite from local mines within 50 KM radius of the project these mines will get better revenue.

g. The local small and medium industries engaged in manufacture of various inputs will be benefitted due to additional market created by the plant.

h. There will be several opportunities for development of Small-Scale Industries for local people.

i. The Local farming population will have better market for their fruits; vegetables, Milk and allied products, since the paying capacity of the local people will be increased

The project will result in increase in employment by way of direct and indirect employment. It is estimated that 900 people will get direct employment due to this, the priority of management will be to fulfill the requirement through local people. The local pollution likely to be benefitted by way of direct and indirect employment, and CER activities undertaken by the management for the project.

Looking in to the Technological and Financial Strength of the Promoters, Financial viability of the Project; the project is worthy for promotion and implementation.

The proposal is to seek Environment clearance for Sponge Iron and Power Plant as a green field project based on energy efficient as well as modern technology process. So, company feels that it will be grant to it soon.

In view of the stated facts the Project is feasible from all angles. All concerned are requested to extend their whole hearted support to the company.

* * *

Appendix-I

Diversion Application under

Ease of Doing Business

VAP ISPAT PVT. LTD.

VAP ISPAT PVT. LTD.

Site Address :
Village - Mudpar,
Tahsil & Block - Nawagarh
Dist.- Bemetara, (C.G.) 491 337

Office Address :
Pagariya House, New Bus Stand,
Pagariya Complex
Pandri, Raipur (C.G.) 492 004
Ph: 0771-4078990, 4078999
Email: vapispat@gmail.com

संदर्भ : 2022 / VAP Ispat / 287 / दिनांक 25 फरवरी, 2022

प्रति
श्रीमान कलेक्टर महोदय
द्वारा श्रीमान सब–डिवीजन आफीसर
कलेक्टर कार्यालय
बेमेतरा (छ.ग.)

विषय : **ईज आफ डूइंग बिजनेस अधिसूचना के अंतर्गत प्रस्तावित उद्योग के भूमि उपयोग परिवर्तन हेतु।**

माननीय महोदय,

आवेदक कम्पनी ने छत्तीसगढ़ शसन के औद्योगिक नीति 2019–24 के अंतर्गत जिला बेमेतरा, ग्राम मुड़पार में कोयला आधारित स्पंज आयरन उद्योग एवं कैप्टिव पॉवर प्लांट सहित इंडक्शन फर्नेस, फेरो एलाय प्लांट आदि क्षमता स्थापित करने हेतु छत्तीसगढ़ राज्य शासन के साथ दिनांक 09.11.2020 को एमओयू हस्ताक्षरित किया है।

कम्पनी के द्वारा छत्तीसगढ़ शासन के "ईज आफ डूइंग बिजनेस" अधिसूचना दिनांक 25 अप्रैल 2016 के अनुरूप आपके समक्ष भूमि के उपयोग को औद्योगिक प्रयोजन हेतु डायवर्ट करने हेतु आवेदन प्रस्तुत किया है। हमारे द्वारा भारत शासन पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय के समक्ष पर्यावरण स्वीकृति प्राप्त करने हेतु आवेदन प्रस्तुत करने हेतु भूमि उपयोग के व्यपवर्तन प्रमाण पत्र की अपेक्षा है।

हमारे द्वारा क्रय किए जा चुके एवं प्रस्तावित उद्योग के भूखंड की सूची व्यपवर्तन सूचना आवेदन पत्र के साथ अनुसूची 'अ' में संलग्न प्रस्तुत कर रहे हैं (**संलग्नक–1**)। कृपया इस भूभाग को व्यपवर्तित मान्य करने की कृपा करें।

तदैव, आपसे आग्रह है कि कृपया उक्त भूखंड के औद्योगिक प्रयोजन हेतु डीम्ड डायवर्सन हेतु प्रमाण पत्र जारी करने की कृपा करें।

सधन्यवाद,

भवदीय
मेसर्स, **वी.ए.पी. इस्पात प्रायवेट लिमिटेड**

28.2.2022

(संचालक)

संलग्नः उपरोक्तानुसार संलग्नक–1

प्रतिलिपि :

1. श्रीमान कोआर्डिनेटर, छत्तीसगढ़ शासन, राज्य निवेश प्रोत्साहन बोर्ड, उद्योग भवन, रिंग रोड–1, रायपुर (छ.ग.)

VAP ISPAT PVT. LTD.

Site Address :
Village - Mudpar,
Tahsil & Block - Nawagarh
Dist.- Bemetara, (C.G.) 491 337

Office Address :
Pagariya House, New Bus Stand,
Pagariya Complex
Pandri, Raipur (C.G.) 492 004
Ph: 0771-4078990, 4078999
Email: vapispat@gmail.com

आवेदन पत्र
(अंतर्गत धारा 172(1) छ.ग. भू.रा.सं. 1959)

प्रति,

श्रीमान कलेक्टर महोदय,
जिला – बेमेतरा
कलेक्टर कार्यालय
बेमेतरा (छत्तसगढ़)

विषय :– **व्यपवर्तन की सूचना ।**

एतत् द्वारा मैं सूचित करता हूँ कि मैंने **ग्राम मुड़पार,** प.ह.नं. 29, रा.नि.मं. मारो, तहसील नवागढ़ एवं **ग्राम रमपुरा,** प.ह.नं. 15, रा.नि.मं. नवागढ़, तहसील नवागढ़ की भूमि, **कुल खसरा नं. 34** कुल रकबा **23.78 हैक्टेयर** (विवरण अनुसूची 'अ' में संलग्न है) का औद्योगिक प्रयोजन हेतु व्यपवर्तन कर लिया है।

मैं यह भी घोषित करता हूँ कि ग्राम मुड़पार एवं ग्राम रमपुरा विकास योजना के बाहर स्थित है तथा संलग्न अनुसूची 'अ' में दर्शित भूमि मेरे स्वामित्व की है।

अतः उक्त भूमि पर औद्योगिक प्रयोजन हेतु पुनर्निर्धारण करने का कष्ट करें।

संलग्न :– उपरोक्तानुसार

स्थान : बेमेतरा
दिनांक : 25.02.2022

प्रार्थी
वी.ए.पी. इस्पात प्रायवेट लिमिटेड

(गजराज पगारिया)
संचालक
पिता : स्व. श्री मांगीलाल पगारिया
निवास का पता 28, विवेकानंद नगर, रायपुर (छ.ग.)
मो.नं. 9993521944

अनुसूची 'अ'

वी.ए.पी. इस्पात प्रायवेट लिमटेड
जिला –बेमेतरा
खसरा, रकबा विवरण

क्र	ग्राम का नाम	प.ह.नं.	रा.नि.मं.	तहसील	खसरा नं.	रकबा (हे.)
1	मुड़पार	29	मारो	नवागढ़	439	0.880
2	मुड़पार	29	मारो	नवागढ़	440	1.200
3	मुड़पार	29	मारो	नवागढ़	441	2.620
4	मुड़पार	29	मारो	नवागढ़	639	1.350
5	मुड़पार	29	मारो	नवागढ़	640	0.570
6	मुड़पार	29	मारो	नवागढ़	641	0.650
7	मुड़पार	29	मारो	नवागढ़	644	0.560
8	मुड़पार	29	मारो	नवागढ़	645/2	0.500
9	मुड़पार	29	मारो	नवागढ़	650	0.480
10	मुड़पार	29	मारो	नवागढ़	651	0.220
11	मुड़पार	29	मारो	नवागढ़	652	0.240
12	मुड़पार	29	मारो	नवागढ़	655	1.870
13	मुड़पार	29	मारो	नवागढ़	646	0.810
14	मुड़पार	29	मारो	नवागढ़	653	0.470
15	मुड़पार	29	मारो	नवागढ़	654	0.540
16	मुड़पार	29	मारो	नवागढ़	658	1.210
17	मुड़पार	29	मारो	नवागढ़	384	0.740
18	मुड़पार	29	मारो	नवागढ़	152	0.700
19	मुड़पार	29	मारो	नवागढ़	155/2	0.200
20	रमपुरा	15	नवागढ़	नवागढ़	149	0.720
21	रमपुरा	15	नवागढ़	नवागढ़	150	0.940
22	रमपुरा	15	नवागढ़	नवागढ़	151/2	0.450
23	रमपुरा	15	नवागढ़	नवागढ़	151/1	0.660
24	रमपुरा	15	नवागढ़	नवागढ़	153	0.350
25	रमपुरा	15	नवागढ़	नवागढ़	154/1	0.410
26	रमपुरा	15	नवागढ़	नवागढ़	154/2	0.410
27	रमपुरा	15	नवागढ़	नवागढ़	155/1	0.580

28	रमपुरा	15	नवागढ़	नवागढ़	155/4	0.350
29	रमपुरा	15	नवागढ़	नवागढ़	155/5	0.140
30	रमपुरा	15	नवागढ़	नवागढ़	155/6	0.200
31	रमपुरा	15	नवागढ़	नवागढ़	156	0.720
32	रमपुरा	15	नवागढ़	नवागढ़	385	1.000
33	रमपुरा	15	नवागढ़	नवागढ़	396/1	0.800
34	रमपुरा	15	नवागढ़	नवागढ़	396/3	0.240
कुल खसरा 34 कुल रकबा						**23.780**

Appendix-II

List of Power Plant established in Rural Agriculture areas.

Appendix-A

LIST OF THERMAL POWER STATIONS AS ON 31.03.2021

Sl. No.	Region/State/UT	Sector	Owner	Name of Project	Prime Mover	Unit No.	Installed Capacity	Year of Comm.
							MW	
	Uttar Pardesh	Central Sector	NTPC	RIHAND STPS	Steam	2	500.000	1989
	Uttar Pardesh	Central Sector	NTPC	RIHAND STPS	Steam	3	500.000	2005
	Uttar Pardesh	Central Sector	NTPC	RIHAND STPS	Steam	4	500.000	2005
	Uttar Pardesh	Central Sector	NTPC	RIHAND STPS	Steam	5	500.000	2012
	Uttar Pardesh	Central Sector	NTPC	RIHAND STPS	Steam	6	500.000	2013
45	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	1	200.000	1982
	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	2	200.000	1982
	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	3	200.000	1983
	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	4	200.000	1983
	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	5	200.000	1984
	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	6	500.000	1986
	Uttar Pardesh	Central Sector	NTPC	SINGRAULI STPS	Steam	7	500.000	1987
46	Uttar Pardesh	Central Sector	NTPC	TANDA TPS	Steam	1	110.000	1988
	Uttar Pardesh	Central Sector	NTPC	TANDA TPS	Steam	2	110.000	1989
	Uttar Pardesh	Central Sector	NTPC	TANDA TPS	Steam	3	110.000	1990
	Uttar Pardesh	Central Sector	NTPC	TANDA TPS	Steam	4	110.000	1998
	Uttar Pardesh	Central Sector	NTPC	TANDA TPS	Steam	5	660.000	2019
	Uttar Pardesh	Central Sector	NTPC	TANDA TPS	Steam	6	660.000	2021
47	Uttar Pardesh	Central Sector	NTPC	UNCHAHAR TPS	Steam	1	210.000	1988
	Uttar Pardesh	Central Sector	NTPC	UNCHAHAR TPS	Steam	2	210.000	1989
	Uttar Pardesh	Central Sector	NTPC	UNCHAHAR TPS	Steam	3	210.000	1999
	Uttar Pardesh	Central Sector	NTPC	UNCHAHAR TPS	Steam	4	210.000	1999
	Uttar Pardesh	Central Sector	NTPC	UNCHAHAR TPS	Steam	5	210.000	2006
	Uttar Pardesh	Central Sector	NTPC	UNCHAHAR TPS	Steam	6	500.000	2017
48	Uttar Pardesh	Central Sector	MUNPL	MEJA STPP	Steam	1	660.000	2018
	Uttar Pardesh	Central Sector	MUNPL	MEJA STPP	Steam	2	660.000	2021
49	Uttar Pardesh	Central Sector	NTPC	DADRI CCPP	GT-Gas	1	130.190	1992
	Uttar Pardesh	Central Sector	NTPC	DADRI CCPP	GT-Gas	2	130.190	1992
	Uttar Pardesh	Central Sector	NTPC	DADRI CCPP	GT-Gas	3	130.190	1992
	Uttar Pardesh	Central Sector	NTPC	DADRI CCPP	GT-Gas	4	130.190	1992
	Uttar Pardesh	Central Sector	NTPC	DADRI CCPP	ST-Gas	5	154.510	1994
	Uttar Pardesh	Central Sector	NTPC	DADRI CCPP	ST-Gas	6	154.510	1994
50	Uttar Pardesh	Central Sector	NTPC	AURAIYA CCPP	GT-Gas	1	111.190	1989
	Uttar Pardesh	Central Sector	NTPC	AURAIYA CCPP	GT-Gas	2	111.190	1989
	Uttar Pardesh	Central Sector	NTPC	AURAIYA CCPP	GT-Gas	3	111.190	1989
	Uttar Pardesh	Central Sector	NTPC	AURAIYA CCPP	GT-Gas	4	111.190	1989
	Uttar Pardesh	Central Sector	NTPC	AURAIYA CCPP	ST-Gas	5	109.300	1989
	Uttar Pardesh	Central Sector	NTPC	AURAIYA CCPP	ST-Gas	6	109.300	1990
	Total Central Sector (Northern Region)						**15544.060**	
	Northern Region Total						**50340.260**	
	2. Western Region							
51	Chhattisgarh	State Sector	CSPGCL	DSPM TPS	Steam	1	250.000	2007

Appendix-A

LIST OF THERMAL POWER STATIONS AS ON 31.03.2021

Sl. No.	Region/State/UT	Sector	Owner	Name of Project	Prime Mover	Unit No.	Installed Capacity	Year of Comm.
							MW	
	Chhattisgarh	State Sector	CSPGCL	DSPM TPS	Steam	2	250.000	2007
52	Chhattisgarh	State Sector	CSPGCL	KORBA-WEST TPS	Steam	1	210.000	1984
	Chhattisgarh	State Sector	CSPGCL	KORBA-WEST TPS	Steam	2	210.000	1983
	Chhattisgarh	State Sector	CSPGCL	KORBA-WEST TPS	Steam	3	210.000	1985
	Chhattisgarh	State Sector	CSPGCL	KORBA-WEST TPS	Steam	4	210.000	1986
	Chhattisgarh	State Sector	CSPGCL	KORBA-WEST TPS	Steam	5	500.000	2013
53	Chhattisgarh	State Sector	CSPGCL	MARWA TPS	Steam	1	500.000	2014
	Chhattisgarh	State Sector	CSPGCL	MARWA TPS	Steam	2	500.000	2016
54	Chhattisgarh	Private Sector	Vandana Energy & Steel Pvt Ltd	KATGHORA TPP	Steam	1	35.000	2012
55	Chhattisgarh	Private Sector	Lanco Amarkantak Power Ltd	PATHADI TPP	Steam	1	300.000	2009
	Chhattisgarh	Private Sector	Lanco Amarkantak Power Ltd	PATHADI TPP	Steam	2	300.000	2010
56	Chhattisgarh	Private Sector	ACB (India) Ltd	KASAIPALLI TPP	Steam	1	135.000	2011
	Chhattisgarh	Private Sector	ACB (India) Ltd	KASAIPALLI TPP	Steam	2	135.000	2012
57	Chhattisgarh	Private Sector	ACB (India) Ltd	CHAKABURA TPP	Steam	2	30.000	2014
58	Chhattisgarh	Private Sector	Jindal Power Limited	TAMNAR TPP	Steam	1	600.000	2014
	Chhattisgarh	Private Sector	Jindal Power Limited	TAMNAR TPP	Steam	2	600.000	2014
	Chhattisgarh	Private Sector	Jindal Power Limited	TAMNAR TPP	Steam	3	600.000	2015
	Chhattisgarh	Private Sector	Jindal Power Limited	TAMNAR TPP	Steam	4	600.000	2015
59	Chhattisgarh	Private Sector	Jindal Power Limited	OP JINDAL TPS	Steam	1	250.000	2007
	Chhattisgarh	Private Sector	Jindal Power Limited	OP JINDAL TPS	Steam	2	250.000	2008
	Chhattisgarh	Private Sector	Jindal Power Limited	OP JINDAL TPS	Steam	3	250.000	2008
	Chhattisgarh	Private Sector	Jindal Power Limited	OP JINDAL TPS	Steam	4	250.000	2008
60	Chhattisgarh	Private Sector	Spectrum Coal and Power Ltd	RATIJA TPS	Steam	1	50.000	2013
	Chhattisgarh	Private Sector	Spectrum Coal and Power Ltd	RATIJA TPS	Steam	2	50.000	2016
61	Chhattisgarh	Private Sector	S V Power Private Limited	SVPL TPP	Steam	1	63.000	2011
62	Chhattisgarh	Private Sector	Wardha Power Co Ltd	AKALTARA TPS	Steam	2	600.000	2018
	Chhattisgarh	Private Sector	Wardha Power Co Ltd	AKALTARA TPS	Steam	3	600.000	2013
	Chhattisgarh	Private Sector	Wardha Power Co Ltd	AKALTARA TPS	Steam	4	600.000	2014
63	Chhattisgarh	Private Sector	Korba West Power Co Ltd	AVANTHA BHANDAR	Steam	1	600.000	2014
64	Chhattisgarh	Private Sector	DB Power Corp. Ltd	BARADARHA TPS	Steam	1	600.000	2014
	Chhattisgarh	Private Sector	DB Power Corp. Ltd	BARADARHA TPS	Steam	2	600.000	2015
65	Chhattisgarh	Private Sector	GMR Chhattisgarh Energy Ltd	RAIKHEDA TPP	Steam	1	685.000	2015
	Chhattisgarh	Private Sector	GMR Chhattisgarh Energy Ltd	RAIKHEDA TPP	Steam	2	685.000	2016
66	Chhattisgarh	Private Sector	Vandana Vidhyut Ltd	SALORA TPP	Steam	1	135.000	2015
67	Chhattisgarh	Private Sector	ACB (India) Ltd	SWASTIK KORBA TPP	Steam	1	25.000	2015
68	Chhattisgarh	Private Sector	RKM Powergen Pvt Ltd	UCHPINDA TPP	Steam	1	360.000	2015
	Chhattisgarh	Private Sector	RKM Powergen Pvt Ltd	UCHPINDA TPP	Steam	2	360.000	2016
	Chhattisgarh	Private Sector	RKM Powergen Pvt Ltd	UCHPINDA TPP	Steam	3	360.000	2017
	Chhattisgarh	Private Sector	RKM Powergen Pvt Ltd	UCHPINDA TPP	Steam	4	360.000	2019
69	Chhattisgarh	Private Sector	Maruti Clean Coal & Power Ltd	BANDAKHAR TPP	Steam	1	300.000	2015
70	Chhattisgarh	Private Sector	Bharat Aluminium Co Ltd	BALCO TPS	Steam	1	300.000	2015
	Chhattisgarh	Private Sector	Bharat Aluminium Co Ltd	BALCO TPS	Steam	2	300.000	2016

Appendix-A

LIST OF THERMAL POWER STATIONS AS ON 31.03.2021

Sl. No.	Region/State/UT	Sector	Owner	Name of Project	Prime Mover	Unit No.	Installed Capacity	Year of Comm.
							MW	
71	Chhattisgarh	Private Sector	TRN Energy Private Limited	NAWAPARA TPP	Steam	1	300.000	2016
	Chhattisgarh	Private Sector	TRN Energy Private Limited	NAWAPARA TPP	Steam	2	300.000	2017
72	Chhattisgarh	Private Sector	SKS Power Generation Ltd	BINJKOTE TPP	Steam	1	300.000	2017
	Chhattisgarh	Private Sector	SKS Power Generation Ltd	BINJKOTE TPP	Steam	2	300.000	2018
	Total (Chhattisgarh)						**16008.000**	
73	Gujarat	State Sector	GSECL	GANDHI NAGAR TPS	Steam	3	210.000	1990
	Gujarat	State Sector	GSECL	GANDHI NAGAR TPS	Steam	4	210.000	1991
	Gujarat	State Sector	GSECL	GANDHI NAGAR TPS	Steam	5	210.000	1998
74	Gujarat	State Sector	GSECL	KUTCH LIGNITE TPS	Steam	3	75.000	1997
	Gujarat	State Sector	GSECL	KUTCH LIGNITE TPS	Steam	4	75.000	2009
75	Gujarat	State Sector	GSECL	SIKKA REP. TPS	Steam	3	250.000	2015
	Gujarat	State Sector	GSECL	SIKKA REP. TPS	Steam	4	250.000	2015
76	Gujarat	State Sector	GSECL	UKAI TPS	Steam	3	200.000	1979
	Gujarat	State Sector	GSECL	UKAI TPS	Steam	4	200.000	1979
	Gujarat	State Sector	GSECL	UKAI TPS	Steam	5	210.000	1985
	Gujarat	State Sector	GSECL	UKAI TPS	Steam	6	500.000	2013
77	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	1	210.000	1982
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	2	210.000	1983
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	3	210.000	1984
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	4	210.000	1986
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	5	210.000	1986
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	6	210.000	1987
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	7	210.000	1998
	Gujarat	State Sector	GSECL	WANAKBORI TPS	Steam	8	800.000	2019
78	Gujarat	State Sector	GMDCL	AKRIMOTA LIG TPS	Steam	1	125.000	2005
	Gujarat	State Sector	GMDCL	AKRIMOTA LIG TPS	Steam	2	125.000	2005
79	Gujarat	State Sector	Bhavnagar Energy Co. Ltd	BHAVNAGAR CFBC TPP	Steam	1	250.000	2016
	Gujarat	State Sector	Bhavnagar Energy Co. Ltd	BHAVNAGAR CFBC TPP	Steam	2	250.000	2017
80	Gujarat	State Sector	GSEGL	HAZIRA CCPP	GT-Gas	1	52.000	2001
	Gujarat	State Sector	GSEGL	HAZIRA CCPP	GT-Gas	2	52.000	2001
	Gujarat	State Sector	GSEGL	HAZIRA CCPP	GT-Gas	3	52.100	2002
81	Gujarat	State Sector	GSEGL	HAZIRA CCPP EXT	GT-Gas	1	351.000	2012
82	Gujarat	State Sector	GPPCL	PIPAVAV CCPP	GT-Gas	1	351.000	2014
	Gujarat	State Sector	GPPCL	PIPAVAV CCPP	GT-Gas	2	351.000	2013
83	Gujarat	State Sector	GSECL	DHUVARAN CCPP	GT-Gas	1	67.850	2003
	Gujarat	State Sector	GSECL	DHUVARAN CCPP	GT-Gas	2	38.770	2003
	Gujarat	State Sector	GSECL	DHUVARAN CCPP	GT-Gas	3	72.000	2006
	Gujarat	State Sector	GSECL	DHUVARAN CCPP	GT-Gas	4	40.000	2007
	Gujarat	State Sector	GSECL	DHUVARAN CCPP	GT-Gas	5	376.100	2014
84	Gujarat	State Sector	GSECL	UTRAN CCPP	GT-Gas	5	240.000	2009
	Gujarat	State Sector	GSECL	UTRAN CCPP	GT-Gas	6	134.000	2009
85	Gujarat	Private Sector	Torrent Power Ltd	SABARMATI (D-F STATIONS)	Steam	1	120.000	1978

Appendix-III

List of MOU signed by CG Government for setting up indsutries

राज्य निवेश प्रोत्साहन बोर्ड

वर्ष 2019 से अब तक (06.08.2021) निष्पादित प्रभावशील एमओयू की सूची

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
1	मे. विंडसर एसेक्स इकानामिक डैव्लपमेंट कार्पो व केनेडियन एसोसियेशन ऑफ कामर्स, विंडसर, कनाडा	10.06.2019	—	क्लस्टर डेव्हलपमेंट एंड फेसिलिटेट टेक्नालाजी टाइअप	-	-	——
2	मे. विंडसर एसेक्स रीजनल चेंबर ऑफ कामर्स, विंडसर कनाडा	10.06.2019	—	एग्रीकल्चर एंड फुॅड प्रोसेसिंग्र एंड रिलेटेड टेक्नालाजी, ट्रेड एंड इन्वेस्टमेंट	-	-	——
3	मे. श्री सीमेंट लिमिटेड, बेवार, जिला अजमेर	23.09.2019	2 वर्ष	क्लिंकर – 8.3 एमटीपीए, सीमेंट–13.5 एमटीपीए, केप्टिव पावर प्लांट – 170 मेगावाट	2000.00	450	बलौदाबाजार – भाटापारा
4	मे. आर.आर.इस्पात (गोदावरी पावर एंड इस्पात लि.)	23.09.2019	2 वर्ष	मेन्युफेक्चरिंग ऑफ अदर फेब्रीकेटेड मेटल प्रोडक्ट्स	19.85	100	रायपुर
5	मे. मॉ कुदरगढ़ी एल्युमिना रिफायनरी प्रायवेट लिमिटेड, रायपुर	28.02.2020	2 वर्ष	एल्युमिना हाइड्रेट– 4 लाख टीपीए	1146.71	700	सरगुजा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
6	मे. गोपाल स्पंज एंड पावर लिमिटेड, रायपुर	28.02.2020	2 वर्ष	स्पंज आयरन–2.30 एलटीपीए, इलेक्ट्रिक पावर जनरेशन (कोल बेस्ड)– 6 मेगावाट, इलेक्ट्रिक पावर जनरेशन (नान कन्वेंशनल सोर्स)– 18 मेगावाट, इनगाट/ बिलेट– 2 एलटीपीए, रिरोल्ड प्रोडक्ट्स– 2 एलटीपीए, फेरो एलाय– 45000 टीपीए	300.00	1300	जगदलपुर
7	मे. रामा पावर एंड स्टील प्रा. लि., रायपुर	28.02.2020	2 वर्ष	इंटीग्रेटेड स्टील प्लांट– 7.20 एलटीपीए, केप्टिव पावर प्लांट– 40 मेगावाट	184.50	515	रायपुर
8	मे. फिल इस्पात प्रायवेट लिमिटेड, रायपुर	28.02.2020	2 वर्ष	स्पंज आयरन–115500 टीपीए, इलेक्ट्रिक पावर जनरेशन (कोल बेस्ड)– 6 मेगावाट, इलेक्ट्रिक पावर जनरेशन (नान कन्वेंशनल सोर्स)– 12 मेगावाट, इनगाट/ बिलेट– 1.53 एलटीपीए, रिरोल्ड प्रोडक्ट्स– 1.53 एलटीपीए, फेरो एलाय– 45000 टीपीए	180.00	200	बिलासपुर
9	मे. बजरंग एलायंस लिमिटेड, रायपुर	28.02.2020	2 वर्ष	रेडी टू इट फ्रोजन फूड एंड स्नेक्स– 1500 टीपीए, रेडी टू कुक फ्रोजन फूड– 4000 टीपीए, रेडी टू इट हॉट डेजर्ट– 500 टीपीए	36.00	110	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
10	मे. रियल इस्पात एंड पावर लि., रायपुर	17.06.2020	2 वर्ष	आयरन ओर बेनीफिकेशन प्लांट– 2 एमटीपीए, पैलेट प्लांट– 1.60 एमटीपीए, स्पंज आयरन प्लांट– 7.60 एलटीपीए, पावर प्लांट– 106 मेगावाट, स्टील मेल्टिंग शाप– 7.50 एलटीपीए, लेडल रिफायनिंग फर्नेस– 7 एलटीपीए, रोलिंग मिल– 7 एलटीपीए, कोल गैसीफायर– 80000 एनएम3, फेरो एलायस प्लांट– 18 एमव्हीए	918.00	1350	बलौदाबाजार – भाटापारा
11	मे. व्रज मेटालिक्स प्रायवेट लिमिटेड, रायपुर	29.06.2020	2 वर्ष	स्पंज आयरन– 4 एलटीपीए, इले.पावर जरनेशन बाय कोल– 15 मेगावाट, इले. पावर जेनरेशन बाय अदर– 30 मेगावाट, इनगाट बिलेट– 3.5 एलटीपीए, रिरोल्ड प्रोडक्ट– 3.50 एलटीपीए, फेरो एलायज– 30000 टीपीए, आयरन ओर पेलेटाइजेशन– 6 एलटीपीए, आर्क फर्नेस– 50000 टीपीए, क्लिंकर ग्राइंडिंग – 9 एलटीपीए	765.00		––
12	मे. एटमास्टको लिमिटेड, दुर्ग	17.08.2020	2 वर्ष	बुलेट प्रूफ जैकेट– 1 लाख नग, बैलेस्टिक हेलमेट– 1 लाख नग वार्षिक	87.50	150	दुर्ग

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
13	मे. चिरंजीवनी रियलकॉम प्रायवेट लिमिटेड, बिलासपुर	07.09.2020	2 वर्ष	फ्यूल एथेनॉल– 1.8 करोड़ लीटर, ईएनए– 1.8 करोड़ लीटर, डीडीजीएस– 14400 टन	130.00	118	मुंगेली
14	मे. श्री श्याम एथेनॉल एंड स्पीरिट प्रायवेट लिमिटेड (श्री श्याम वेयरहाउसिंग एंड पावर प्रायवेट लिमिटेड), जांजगीर चांपा	07.09.2020	2 वर्ष	एथेनॉल– 30000 केएलपीए	98.00	93	जांजगीर चांपा
15	मे. क्यूबिको केमिकल्स प्रायवेट लिमिटेड, भिलाई	07.09.2020	2 वर्ष	एब्सलूट एल्कोहल / फ्यूल एथेनॉल – 33000 केएलपीए	122.32	222	बेमेतरा
16	मे. छत्तीसगढ़ डिस्टलरीज लिमिटेड, कुम्हारी	07.09.2020	2 वर्ष	एथेनॉल एवं ईएनए – 36500 केएलपीए, अशुद्ध स्पिरीट– 1825 केएलपीए	157.50	150	महासमुन्द
17	मे. वरदा एनर्जी एंड इंजीनियरिंग प्रायवेट लिमिटेड	08.09.2020	2 वर्ष	स्टार्च, ए.पी.सी.– 63360 केएलपीए	107.00	1000	बेमेतरा
18	मे. सुविधि इस्पात प्रायवेट लिमिटेड (पुष्प स्टील्स एंड पावर प्रायवेट लिमिटेड) दिल्ली	08.09.2020	2 वर्ष	(संशोधित–) पैलेट प्लांट– 0.60 एमटीपीए, स्पंज आयरन 1300 टीपीडी, केप्टिव पावर प्लांट– 40 मेगावाट, इण्डक्शन फर्नेस– 90 टीपीडी, रोलिंग मिल 250000 टीपीए, फेरो एलायज– 48 एमव्हीए	520.00	525	कांकेर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
19	मे. सुविधि इस्पात प्रायवेट लिमिटेड (पुष्प स्टील्स एंड पावर प्रायवेट लिमिटेड) दिल्ली	08.09.2020	2 वर्ष	स्पंज आयरन– 2,97,000 मे.टन, स्टील बिलेट– 1,20,000 मे.टन, केप्टिव पावर प्लांट– 20 मेगावाट	306.00	800	दुर्ग
20	मे. हरिओम क्वाइल्स प्रायवेट लिमिटेड, दुर्ग	08.09.2020	2 वर्ष	स्पंज आयरन– 3,00,000 एमटीपीए, एमएस बिलेट– 2,60,000 एमटीपीए, रोलिंग मिल– 3,00,000 एमटीपीए, एचबी वायर– 90,000 एमटीपीए, केप्टिव पावर प्लांट– 25 मेगावाट	440.50	650	दुर्ग
21	मे. 9एम इंडिया प्रायवेट लिमिटेड, रायपुर	13.10.2020	2 वर्ष	एक्सटर्नल आइनमेंट / क्रीम– 15 मिलियन ट्यूब, एक्सटर्नल लोशन / लिक्विड– 15 मिलियन बाटल, ओरल पावडर– 72 मिलियन शैसे, ओरल लिक्विड– 15 मिलियन बाटल, टेबलेट– 300 मिलियन पीसेस	17.32	126	महासमुन्द
22	मे. एस.पी.इण्डस्ट्रीज, रायपुर	13.10.2020	2 वर्ष	बायसिकल– 6,75,000, रिक्शा– 15000, हैण्डीकप्ड सायकल– 15000, टूल किट– 300000	13.43	305	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
23	मे. रियल इस्पात एंड इनर्जी लिमिटेड, रायपुर	26.10.2020	2 वर्ष	आयरन ओर बेनीफिकेशन प्लांट– 2 एमटीपीए, पैलेट प्लांट– 1.60 एमटीपीए, स्पंज आयरन प्लांट– 6.90 एमटीपीए, पावर प्लांट– 90 मेगावाट, स्टील मेल्टिंग शाप– 6.80 एमटीपीए, रोलिंग मिल– 6 एमटीपीए, कोल गैसीफायर– 50000 एनएम3, फेरो एलायस 18 एमव्हीए	695.00	1200	जगदलपुर
24	मे. एरोएवन एविओनिक्स प्रायवेट लिमिटेड, बिलासपुर	26.10.2020	2 वर्ष	अनआर्म्ड काम्बेट एरियल व्हीकल– ओवर 1000, अनआर्म्ड एरियल व्हीकल– ओवर 3000, सिविलियन ड्रोन– ओवर 10000, डिफेंस/मिलिटरी	383.00	4137	रायपुर
25	मे. आकृति सुपर स्नेक्स प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	बिस्किट– 30000 मे.टन, रस्क– 6000 मे. टन, कन्फेक्शनरी– 12000 मे.टन, जूस– 7500 मे.टन	112.00	300	रायपुर
26	मे. अनिमेश इस्पात प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 241500 टीपीए, इण्डस्क्शन फर्नेस– 396000 टीपीए, रोलिंग मिल– 525000 टीपीए, केप्टिव पावर प्लांट– 40 मेगावाट, फेरोएलायज– 18 एमवीए	411.00	750	बलौदाबाजार – भाटापारा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
27	मे. अविनाश इण्डस्ट्रीज प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 3 एलटीपीए, पैलेट प्लांट– 6 एलटीपीए, केप्टिव पावर प्लांट– 40 मेगावाट, स्टील मेल्टिंग शाप– 3 एलटीपीए, रोलिंग मिल– 3 एलटीपीए, फेरो एलायज / पिग आयरन– 50000 टीपीए	470.00	600	बलौदाबाजार – भाटापारा
28	मे. बासुदेव ट्रेड लिंक, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 28500 मे.टन, केप्टिव पावर प्लांट– 13 मेगावाट, इण्डस्क्शन फर्नेस एंड रोलिंग मिल– 90000 मे.टन, वायर ड्राइग एउंड बाइंडिंग वायर मिल– 90000 मे.टन, सोलर पावर प्लांट– 3 मेगावाट	151.00	710	मुंगेली
29	मे. ग्रेविटी आयरन एंड पावर प्रायेवट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 315000 टीपीए, एमएस बिलेट– 315000 टीपीए, स्टील रिरोल्ड प्रोडक्ट्स– 282252 टीपीए, केप्टिव पावर प्लांट– 32 मेगवाट, फेरो एलायज– 31920 टीपीए, पिग आयरन– 63840 टीपीए, फ्लाई एश ब्रिक्स– 105000 नग	352.00	969	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
30	मे. मॉ कुदरगढ़ी एनर्जी एंड इस्पात प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 4.20 एलटीपीए, केप्टिव पावर प्लांट– 30 मेगावाट, स्टील मेल्टिंग शाप– 1300 टीपीडी, स्टील रोलिंग मिल– 4.0 एलटीपीए, **सोलर पावर प्लांट (केप्टिव यूज)– 150 मेगावाट**	899.42	346	जशपुर
31	मे. मॉ दन्तेश्वरी पैलेट एंड स्टील प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	पैलेटाइजेशन प्लांट– 1600000 मे.टन, स्पंज आयरन– 165000 मे.टन, इण्डक्शन फर्नेस– 180000 मे.टन, रोलिंग मिल– 165000 मे.टन, फेरो एलायज– 18 एमव्हीए, केप्टिव पावर प्लांट– 20 मेगावाट	482.50	515	जगदलपुर
32	मे. महेन्द्रा स्पांज एंड पावर प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 327000 मे.टन, एमएस इनगाट बिलेट– 396000 मे.टन, टीएमटी बार / स्ट्रक्चरल स्टील – 396000 मे.टन, फेरो एलायज– 32400 मे.टन, फेरो मेगनीज– 32400 मे.टन, फेरो सिलिकॉन– 15600 मे.टन, केप्टिव पावर प्लांट– 46 मेगावाट	325.00	1000	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
33	मे. नचिकेता पावर एंड स्टील प्रायवेट लिमिटेड, बिलासपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 4.50 एलटीपीए, एमएस बिलेट– 3.10 एलटीपीए, रोल्ड प्रोडक्ट्स– 1.00 एलटीपीए, केप्टिव पावर प्लांट– 32 मेगावाट, ऑक्सीजन प्लांट– 19800 टीपीए	796.00	794	बिलासपुर
34	मे. नीरगंगा इस्पात प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 3.5 एलटीपीए, स्टील मेल्टिंग शाप– 3.5 एलटीपीए, स्टील रिरोलिंग मिल– 3.5 एलटीपीए, आरन ओर पैलेट– 8 एलटीपीए, फेरो एलायज– 18 एमव्हीए, सिलिको मैगनीज– 36000 टीपीए, फेरो मैगनीज– 60000 टीपीए, फेरो सिलिकॉन– 1800 टीपीए, पिग आयरन– 42000 टीपीए, कोल वाशरी– 12 एलटीपीए, केप्टिव पावर प्लांट– 45 मेगावाट	405.00	500	बेमेतरा
35	मे. सुनील इस्पात एंड पावर लिमिटेड, कोलकाता	04.11.2020	2 वर्ष	स्पंज आयरन– 571000 टीपीए, इण्डक्शन फर्नेस– 356000 टीपीए, रोलिंग मिल– 350000 टीपीए, फेरो एलायज– 96000 टीपीए, केप्टिव पावर प्लांट– 62 मेगावाट, गेल्वेनाइजिंग ऑफ स्टील – 72000 टीपीए	490.00	600	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
36	मे. वासवानी स्टील प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 3.5 एलटीपीए, पैलेट प्लांट– 6 एलटीपीए, केप्टिव पावर प्लांट– 55 मेगावाट, स्टील मेल्टिंग शाप– 3.5 एलटीपीए, रोलिंग मिल– 3.5 एलटीपीए, फेरो एलायज / पिग आयरन– 50000 टीपीए	550.00	545	जगदलपुर
37	मे. रघुनंदन स्पंज एंड पावर प्रायवेट लिमिटेड, रायपुर	04.11.2020	2 वर्ष	स्पंज आयरन– 3 एलटीपीए, पैलेट प्लांट– 6 एलटीपीए, केप्टिव पावर प्लांट– 40 मेगावाट, स्टील मेल्टिंग शाप– 3 एलटीपीए, रोलिंग मिल– 3 एलटीपीए, फेरो एलायज / पिग आयरन– 50000 टीपीए	490.00	545	बेमेतरा
38	मेसर्स बालाजी स्पंज एंड पावर प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 3 एलटीपीए, केप्टिव पावर प्लांट– 47 मेगावाट, इण्डक्शन फर्नेस विथ कास्टर– 2 एलटीपीए, फेरो एलायज– 24 एमवीए, रोलिंग मिल– 2 एलटीपीए	540.00	400	बलौदाबाजार – भाटापारा
39	मेसर्स विकास मेटालिक्स एंड इनर्जी लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 1.20 एलटीपीए, स्टील इनगाट / बिलेट– 1.35 एलटीपीए, रोलिंग मिल– 90000 टीपीए, पावर प्लांट– 16 मेगावाट	155.00	300	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
40	मेसर्स जेडी स्टील इण्डस्ट्रीज प्रायवेट लिमिटेड, नागपुर	09.11.2020	2 वर्ष	स्टील मेल्टिंग शाप– 1 एलटीपीए, रोलिंग मिल– 2 एलटीपीए, एचबी वायर– 2 एलटीपीए, गैल्वेनाइजिंग आफ स्अील– 1 एलटीपीए	110.00	400	दुर्ग
41	मेसर्स बासुदेव स्टील इण्डस्ट्रीज, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन प्लाट– 350 टीपीडी, सीपीपी– 20 मेगावाट, इण्डस्क्शन फर्नेस– 120000 एमटी, रोलिंग मिल– 120000 एमटी, फेरो एलायज– 8 एमवीए, सोलर पावर प्लांट– 5 मेगावाट	408.00	1065	रायपुर
42	मेसर्स रामा मेटालिक्स प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन प्लाट– 2.4 एलटीपीए, इण्डक्शन फर्नेस– 2.7 एलटीपीए, रोलिंग मिल– 2.4 एलटीपीए, आयरन ओर पेलेटाइजिंग– 16 एलटीपीए,फेरो एलायज– 9 एमवीए, केप्टिव पावर प्लांट– 55 मेगावाट	490.00	840	दन्तेवाड़ा
43	मेसर्स एमएसएम एंड एसएनडीबी इस्पात एंड पावर प्रा.लि., रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 200000 टीपीए, पावर प्लांट– 25 मेगावाट, स्टील मेल्टिंग शाप– 200000 टीपीए, रालिंग मिल– 200000 टीपीए, फेरो एलाजय/ पिग आयरन– 50000 टीपीए	250.00	250	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
44	मेसर्स हयाती ब्रेवरेज प्रायवेट लिमिटेड, बेमेतरा	09.11.2020	2 वर्ष	एथेनॉल / ईएनए – 36,300,000 लीटर	140.00	100	बेमेतरा
45	मेसर्स सारडा इनर्जी एंड मिनरल्स लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 4.50 एलटीपीए, स्टील मेल्टिंग शाप– 3 एलटीपीए, केप्टिव पावर प्लांट– 45 मेगावाट, रोलिंग मिल– 2.80 एलटीपीए	495.00	1119	जगदलपुर
46	मेसर्स सारडा इनर्जी एंड मिनरल्स लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 5.40 एलटीपीए, स्टील मेल्टिंग शाप– 3 एलटीपीए, केप्टिव पावर प्लांट– 50 मेगावाट, रोलिंग मिल– 2.80 एलटीपीए	710.00	1119	बेमेतरा
47	मेसर्स संभव स्पंज पावर प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	इण्डक्शन फर्नेस– 180000 एमटीपीए, रोलिंग मिल– 150000 एमटीपीए, पाइप मिल ि– 150000 एमटीपीए	133.00	150	रायपुर
48	मेसर्स संभव ट्यूब्स प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	पैलेट प्लांट– 0.6 एमटीपीए, स्पंज आयरन– 210000 एमटीपीए, इण्डस्क्शन फर्नेस– 300000 एमटीपीए, केप्टिव पावर प्लांट– 25 मेगावाट	461.00	375	––

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
49	मेसर्स श्री नाकोडा पाइप इम्पेक्स प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 1.20 एलटीपीए, केप्टिव पावर प्लांट डब्ल्यूएचआरबी– 10 मेगावाट, केप्टिव पावर प्लांट कोल बेस्ड– 15 मेगावाट, इण्डक्शन फर्नेस– 1.20 एलटीपीए, रालिंग मिल– 1.20 एलटीपीए, फेरो एलायज– 26400 टीपीए, आयरन ओर पेलेटाइजिंग– 6 एलटीपीए, एमएस ब्लेक पाइप / जीआई पाइप– 1.20 एलटीपीए	414.16	900	रायपुर
50	मेसर्स बस्तर मेटालिक्स प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 250000 टीपीए, इलेक्ट्रिकल पावर जनरेशन– 30 मेगावाट, इनगाट/बिलेट– 210000 टीपीए, रिरोल्ड प्रोडक्ट्स–200000 टीपीए, पैलेट प्लांट– 0.6 मिलियन टीपीए	345.00	300	––
51	मेसर्स बी.एस.स्पंज प्रायवेट लिमिटेड, रायगढ़	09.11.2020	2 वर्ष	स्पंज आयरन– 495000 टीपीए, इण्डक्शन फर्नेस– 396000 टीपीए, फेरो एलायज– 45000 टीपीए, रोलिंग मिल– 330000 टीपीए, केप्टिव पावर प्लांट– 49 मेगावाट	348.00	555	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
52	मेसर्स शौर्य इस्पात उद्योग प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 420000 एमटीपीए, केप्टिव पावर प्लांट– 40 मेगावाट, फेरो एलायज– 45 एमवीए / इण्डक्शन फर्नेस– 400000 एमटीपीए, पैलेट बेनीफिशियेशन प्लांट– 0.60 एमटीपीए	474.80	750	बेमेतरा
53	मेसर्स कोफर्स स्टील एंड पावर प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 350000 टीपीए, केप्टिव पावर प्लांट– 48 मेगावाट, स्टील मेल्टिंग शाप– 350000 टीपीए, रोलिंग मिल– 350000 टीपीए, फेरो एलायज– 50000 टीपीए, गेल्वेनाइज्ड / ब्लैक पाइप– 200000 टीपीए	395.00	450	बलौदाबाजार – भाटापारा
54	मेसर्स वीएपी इस्पात प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 165000 एमटीपीए, केप्टिव पावर प्लांट– 20 मेगावाट, इण्डक्शन फर्नेस– 150000 एमटीपीए, रोलिंग मिल– 200000 एमटीपीए	345.00	275	बेमेतरा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
55	मेसर्स इसको आयरन एंड स्अील प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 165000 एमटीपीए, केप्टिव पावर प्लांट– 20 मेगावाट, इण्डक्शन फर्नेस– 150000 एमटीपीए, रोलिंग मिल– 200000 एमटीपीए, पाइप मिल विथ गेल्वेनाइजिंग यूनिट– 200000 एमटीपीए, पैलेट बेनीफिशियेसन प्लांट– 600000 एमटीपीए	499.75	275	रायपुर
56	मेसर्स निसर्ग इस्पात प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 420000 एमटीपीए, केप्टिव पावर प्लांट– 50 मेगावाट, इंडक्शन फर्नेस– 180000 एमटीपीए, रोलिंग मिल– 200000 एमटीपीए, आयरन ओर बेनीफिशियेशन– 1.2 मिलि.टीपीए, पैलेट प्लांट– 0.6 मिलि.टीपीए	920.00	675	दन्तेवाड़ा
57	मेसर्स व्रजेश स्टील्स प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 400000 टीपीए, केप्टिव पावर प्लांट– 25 मेगावाट, इण्डक्शन फर्नेस– 400000 टीपीए/ फेरो एलायज– 42 एमवीए, रोलिंग मिल– 400000 एमटीपीए, आयरन ओर बेनीफिशियेशन प्लांट– 0.60 मिलि.टीपीए, पैलेट प्लांट– 0.6 मिलि.टीपीए	497.50	250	––

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
58	मेसर्स लाला पाइप्स प्रायवेट लिमिटंड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 231000 टीपीए, स्टील मेल्टिंग शाप– 200000 टीपीए, रोलिंग मिल– 200000 टीपीए, फेरो एलायज– 50000 टीपीए, केप्टिव पावर प्लांट– 32 मेगावाट, गेल्वेनाइज्ड पाइप / ब्लेक पाइप– 100000 टीपीए	300.00	400	रायपुर
59	मेसर्स बीआरके स्पंज एंड पैलेट प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 300000 टीपीए, सीपीपी– 48 मेगावाट, एसएमएस– 300000 टीपीए, रोलिंग मिल– 300000 टीपीए, फेरो एलायज– 50000 टीपीए, बेनीफिशियेशन एंड पेलेटाइजेशन ऑफ आयरन ओर– 600000 टीपीए	470.00	450	जगदलपुर
60	मेसर्स भारत स्पंज एंड पैलेट प्रायवेट लिमिटेड	09.11.2020	2 वर्ष	स्पंज आयरन– 300000 टीपीए, सीपीपी– 48 मेगावाट, एसएमएस– 300000 टीपीए, रोलिंग मिल– 300000 टीपीए, फेरो एलायज– 50000 टीपीए, बेनीफिशियेशन एंड पेलेटाइजेशन ऑफ आयरन ओर– 600000 टीपीए	470.00	450	जगदलपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
61	मेसर्स रिजुवेनेट रिकंसट्रक्शन प्रायवेट लिमिटेड, कोलकाता	09.11.2020	2 वर्ष	पैलेट प्लांट– 8 एलटीपीए, स्पंज आयरन– 4 एलटीपीए, केप्टिव पावर प्लांट– 50 मेगावाट, स्टील मेल्टिंग शाप– 4 एलटीपीए, रोलिंग मिल– 4 एलटीपीए, फेरो एलायज / पिग आयरन– 72000 टीपीए	490.00	450	––
62	मेसर्स अग्रसेन स्टील एंड पावर प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	आयरन ओर पैलेट प्लांट– 1200000 एमटीपीए, स्पंज आयरन– 345000 एमटीपीए, केप्टिव पावर प्लांट– 45 मेगावाट, रिरोल्ड प्रोडक्ट्स– 360000 एमटीपीए, गेल्वेनाइज्ड प्रोडक्ट्स– 360000 एमटीपीए, इनगाट / बिलेट– 360000 टीपीए	534.86	453	दन्तेवाड़ा
63	मेसर्स बस्तर बिल्डकॉन प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 210000 टीपीए, केप्टिव पावर प्लांट– 26 मेगावाट, आयरन ओर पेलेटाइजेशन– 1600000 टीपीए, इण्डस्क्शन फर्नेस / स्टील मेल्टिंग शाप– 200000 टीपीए, रोलिंग मिल / वायर राड मिल– 200000 टीपीए	499.41	471	जगदलपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
64	मेसर्स भाटिया इनर्जी एंड मिनरल्स प्रायवेट लिमिटेड, रायपुर	09.11.2020	2 वर्ष	स्पंज आयरन– 210000 टीपीए, केप्टिव पावर प्लांट– 26 मेगावाट, आयरन ओर पेलेटाइजेशन– 1600000 टीपीए, इण्डस्क्शन फर्नेस / स्टील मेल्टिंग शाप– 200000 टीपीए, रोलिंग मिल / वायर राड मिल– 200000 टीपीए	499.41	471	रायगढ़
65	मेसर्स आदिनाथ स्पंज प्रायवेट लिमिटेड, रायपुर	12.11.2020	2 वर्ष	स्पंज आयरन– 262500 एमटीपीए, केप्टिव पावर प्लांट– 25 मेगावाट, इण्डक्शन फर्नेस– 210000 टीपीए / फेरो एलायज– 6 एमवीए, रोलिंग मिल– 105000 एमटीपीए	340.00	525	––
66	मेसर्स अग्रसेन स्टील एंड पावर प्रायवेट लिमिटेड, रायपुर	12.11.2020	2 वर्ष	आयरन ओर पैलेट– 1200000 एमटीपीए, स्पंज आयरन– 345000 एमटीपीए, इण्डक्शन फर्नेस– 360000 एमटीपीए, रोलिंग मिल– 360000 एमटीपीए, गेल्वेनाइज्ड प्रोडक्ट्स आफ आयरन एंड स्अील– 360000 एमटीपीए, केप्टिव पावर प्लांट– 45 मेगावाट	430.63	460	जांजगीर चांपा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
67	मेसर्स गुरूकृपा एंड कंपनी स्टील एंड पावर प्रायवेट लिमिटेड, धमतरी	12.11.2020	2 वर्ष	स्पंज आयरन– 62700 टीपीए, केप्टिव पावर प्लांट– 10 मेगावाट, स्टील मेल्टिंग शाप– 60000 टीपीए, रोलिंग मिल– 60000 टीपीए, जीआई वायर / एचबी वायर– 60000 टीपीए	110.00	400	बलौदाबाजार – भाटापारा
68	मेसर्स इनलैण्ड स्पेशियलिटी मेटल प्रायवेट लिमिटेड, कोलकाता	12.11.2020	2 वर्ष	कोबाल्ट मेटल– 1260 एमटीपीए, कोबाल्ट मेटल पावडर– 180 एमटीपीए, कोबाल्ट साल्ट– 720 एमटीपीए	59.00	207	महासमुन्द
69	मेसर्स करणीकृपा पावर प्रायवेट लिमिटेड, रायपुर	12.11.2020	2 वर्ष	स्पंज आयरन– 5 एलटीपीएण, स्टील मेल्टिंग शाप– 4 एलटीपीए, रोलिंग मिल– 4 एलटीपीए, फेरो एलायज– 50000 टीपीए, केप्टिव पावर प्लांट– 50 मेगावाट, बेनीफिसियेशन ऑफ आयरन ओर– 15 एलटीपीए, पेलेटाइजेशन प्लाट– 10 एलटीपीए, क्लिंकर ग्राइंडिंग विथ फ्लाई एश मिक्सिंग– 5 एलटीपीए	804.00	550	महासमुन्द

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
70	मेसर्स कुसुम स्मेल्टर्स प्रायवेट लिमिटेड, बिलासपुर	12.11.2020	2 वर्ष	स्पंज आयरन – 245000 टीपीए, एमएस बिलेट– 179550 टीपीए, रोल्ड प्रोडक्ट्स– 174163 टीपीए, फेरो एलायज– 75000 टीपीए एंड आर पिग आयरन– 150000 टीपीए, केप्टिव पावर प्लांट– 28 मेगावाट, फ्लाई एश ब्रिक्स– 150000 नग, बायो एथेनाल– 35000 केएलए	470.42	755	मुंगेली
71	मेसर्स लक्ष्मीरूप स्टील्स प्रायवेट लिमिटेड रायपुर	12.11.2020	2 वर्ष	आयरन ओर पैलेट– 12 एलटीपीए, स्पंज आयरन– 4.20 एलटीपीए, केप्टिव पावर प्लांट– 50 मेगावाट, इण्डक्शन फर्नेस– 4. 20 एलटीपीए, रोलिंग मिल– 4.20 एलटीपीए, गेल्वेनाइज्ड प्रोडक्ट्स ऑफ आयरन एंड स्टील– 4.20 एलटीपीए	431.13	348	बेमेतरा
72	मेसर्स मॉ दन्तेश्वरी इण्डस्ट्रीज प्रायवेट लिमिटेड, रायपुर	12.11.2020	2 वर्ष	स्पंज आयरन– 405000 एमटीपीए, केप्टिव पावर प्लांट– 68 मेगावाट, इण्डक्शन फर्नेस– 285000 टीपीए, रोलिंग मिल– 250000 एमटीपीए, फेरो एलाजय– 24 एमवीए, पैलेट प्लांट– 0.6 मिलि. टीपीए, ऑक्सीजन प्लांट– 150 क्यूबिक मीटर	855.00	950	––

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
73	मेसर्स रामा स्टील इंजीनियरिंग प्रायवेट लिमिटेड, बिलासपुर	12.11.2020	2 वर्ष	बेनीफिशियेशन ऑफ आयरन ओर– 10 लाख टीपीए, पैलेट प्लांट– 8 लाख टीपीए, स्पंज आयरन– 250000 टीपीए, केप्टिव पावर प्लांट– 45 मेगावाट, स्टील मेल्टिंग शाप– 250000 टीपीए, रिरोल्ड प्रोडक्ट्स– 250000 टीपीए, सबमर्ज्ड आर्क फर्नेस– 50000 टीपीए, ऑक्सीजन प्लांट– 4 टीपीए	477.00	300	रायपुर
74	मेसर्स श्री बाबा बैदनाथ इनवायरो कंसलटेन्सी एंड लेबोरेटरीज प्रा.लि., रायपुर	12.11.2020	2 वर्ष	स्पंज आयरन– 210000 टीपीए, केप्टिव पावर प्लांट– 32 मेगावाट, स्टील मेल्टिंग शाप– 700 टीपीडी, स्टील रोलिंग मिल– 200000 टीपीए	162.69	317	रायपुर
75	मेसर्स रायसेन इण्डस्ट्रीज प्रायवेट लिमिटेड, रायपुर	12.11.2020	2 वर्ष	स्पंज आयरन– 200000 टीपीए, केप्टिव पावर प्लांट– 30 मेगावाट, स्टील मेल्टिंग शाप– 200000 टीपीए, रोलिंग मिल– 200000 टीपीए, फेरो एलायज / पिग आयरन– 50000 टीपीए	290.00	450	बेमेतरा
76	मेसर्स स्वदेश मेटालिक्स प्रायवेट लिमिटेड, रायपुर	12.11.2020	2 वर्ष	इंटीग्रेटेड स्टील प्लांट– 4 एलटीपीए, डक्टाइल आयरन पाइप प्लांट– 1.20 एलटीपीए, केप्टिव पावर प्लांट– 52 मेगावाट	427.42	350	बलौदाबाजार – भाटापारा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
77	मेसर्स वजरॉन इण्डस्ट्रीज प्रायवेट लिमिटेड, रायगढ़	12.11.2020	2 वर्ष	स्पंज आयरन– 200000 टीपीए, केप्टिव पावर प्लांट– 30 मेगावाट, स्टील मेल्टिंग शाप– 200000 टीपीए, रोलिंग मिल– 200000 टीपीए, फेरो एलायज– 50000 टीपीए	270.00	525	रायगढ़
78	मेसर्स श्री बजरंग स्टील कार्पोरेट्स लिमिटेड	15.12.2020	2 वर्ष	स्पंज आयरन– 0.60 एमटीपीए, पेलेटाइजेशन प्लांट– 1.4 एमटीपीए, आयरन ओर बेनीफिशियेशन– 2 एमटीपीए, स्टील मेल्टिंग शाप0.3 एमटीपीए, रोलिंग मिल– 0.4 एमटीपीए, फेरो एलायज– 50000 टीपीए, पावर जेनरेशन– 60 मेगावाट, ऑक्सीजन प्लांट– 500 टीपीडी, ब्लास्ट फर्नेस– 4 एलटीपीए, सिंटर प्लांट– 2 एलटीपीए, रेल्वे साइडिंग अन्य	1400.00	2500	रायपुर
79	मेसर्स एनआरवीएस स्टील्स लिमिटेड, रायगढ़	15.12.2020	2 वर्ष	स्पंज आयरन, पावर प्लांट, स्टील मेल्टिंग शाप, रोलिंग मिल, फेरो एलायज	440.00	400	रायगढ़
80	मेसर्स एनआर स्टील एंड फेरो प्रायवेट लिमिटेड, रायगढ़	15.12.2020	2 वर्ष	एमएस बिलेट, रोल्ड स्टील प्रोडक्ट्स, एमएस वायर, फेरो एलायज / पिग आयरन	119.00	360	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
81	मेसर्स राशी स्टील एंड पावर लिमिटेड, बिलासपुर	15.12.2020	2 वर्ष	स्पंज आयरन, केप्टिव पावर प्लांट, आयरन ओर पेलेटाइजेशन, इण्डक्शन फर्नेस/ एसएमएस, रोलिंग मिल/ वायर राड मिल	454.17	471	बिलासपुर
82	मेसर्स नवदुर्गा फ्यूल्स प्रायवेट लिमिटेड, कोलकाता	15.12.2020	2 वर्ष	डीआरआई प्लांट, पैलेट प्लांट, इण्डस्क्शन फर्नेस एंड एसएमएस विथ कास्टर, एमएस स्ट्रीप्स मिल, ईआरडब्ल्यू पाइस विथ गेल्वेनाइजेशन, केप्टिव पावर प्लांट	465.17	471	रायगढ़
83	मेसर्स जयश्री श्याम एसोसियेटस प्रायवेट लिमिटेड, भिलाई	15.12.2020	2 वर्ष	स्पंज आयरन, केप्टिव पावर प्लांट, इण्डक्शन फर्नेस, रोलिंग मिल, पैलेट प्लांट	480.00	825	——
84	मेसर्स मॉ बेरीवाली स्टील एंड पावर प्रायवेट लिमिटेड, रायपुर	15.12.2020	2 वर्ष	स्पंज आयरन, केप्टिव पावर प्लांट, स्टील मल्टिंग शाप, रि–रोल्ड स्टील प्रोडक्ट्स, फेरो एलायज, जीआई पाइप/ब्लेक पाइप	400.00	350	रायगढ़
85	मेसर्स स्केनिया स्टील्स एंड पावर्स लिमिटेड, रायगढ़	15.12.2020	2 वर्ष	एकीकृत इस्पात संयंत्र	459.67	471	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
86	मेसर्स नूतन आयरन एंड पावर प्रायवेट लिमिटेड, रायपुर	15.12.2020	2 वर्ष	बेनीफिसियेशन ऑफ आयरन ओर– 20 एलटीपीए, पैलेट प्लांट– 16 एलटीपीए, स्पंज आयरन– 6 एलटीपीए, केप्टिव पावर प्लांट– 90 मेगावाट, स्टील मेल्टिंग शाप– 6 एलटीपीए, रोलिंग मिल– 6 एलटीपीए, फेरो एलायज– 50000 टीपीए, क्लिंकर ग्राइंडिंग विथ फ्लाई एश मिक्सिंग फार सीमेंट मेन्युफेक्चरिंग– 9 एलटीपीए	980.00	900	दन्तेवाड़ा
87	मेसर्स कृष्णव केमिकल एंड स्पिरिट प्रायवेट लिमिटेड, रायपुर	15.12.2020	2 वर्ष	एथानॉल / ईएनए – 3 करोड़ लीटर, डीडीजीएस– 16500 टन, सीओ2– 10800 टन	110.00	43	रायपुर
88	मेसर्स आईटेकसी मेटल्स प्रायवेट लिमिटेड	15.12.2020	2 वर्ष	स्पंज आयरन प्लांट– 2.25 एलटीपीए, केप्टिव पावर प्लांट– 21 मेगावाट, स्टील मेल्टिंग शाप 2.25 एलटीपीए, रोलिंग मिल– 2.25 एलटीपीए	435.00	700	रायपुर
89	मेसर्स सिंघल इंटरप्राइजेस प्रायवेट लिमिटेड, कोलकाता	15.12.2020	2 वर्ष	स्पंज आयरन– 2.40 एलटीपीए, केप्टिव पावर प्लांट– 31 मेगावाट, स्टील मेल्टिंग शाप– 90000 टीपीए, रोलिंग मिल– 90000 टीपीए, पैलेट प्लांट– 6 एलटीपीए	370.00	350	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
90	मेसर्स राम टीएमटी एंड स्टील प्रायवेट लिमिटेड, रायपुर	15.12.2020	2 वर्ष	स्पंज आयरन– 315000 एमटीपीए, इण्डक्शन फर्नेस– 360000 एमटीपीए, रोलिंग मिल– 360000 एमटीपीए, केप्टिव पावर प्लांट– 40 मेगावाट	444.02	354	दन्तेवाड़ा
91	मेसर्स सरगुजा मेटल्स प्रायवेट लिमिटेड, सरगुजा	15.12.2020	2 वर्ष	डीआरआई प्लांट– 2.10 एलटीपीए, आयरन ओर बेनीफिसियेशन– 20 एलटीपीए, पैलेट प्लांट– 12 एलटीपीए, इण्डक्शन फर्नेस एंड एसएमएस विथ कास्टर– 1.50 एलटीपीए, एमएस स्क्रीप मिल– 1.30 एलटीपीए, ईआरडब्ल्यू मिल विथ गेल्वेनाइजेशन प्लांट– 1 एलटीपीए, केप्टिव पावर प्लांट– 16 मेगावाट	457.42	471	रायपुर
92	मेसर्स एस्पायर फार्मास्युटिकल्स प्रायवेट लिमिटेड, रायपुर	15.12.2020	2 वर्ष	फार्मास्युटिकल्स (फार्मुलेशन) – टेबलेट– 600 मिलि.प्रतिवर्ष, केप्सूल– 250 मिलियन प्रतिवर्ष, लिक्विड– 10 मिलियन प्रतिवर्ष, आइन्टमेंट– 40 मिलियन प्रतिवर्ष	23.44	208	रायपुर
93	मेसर्स श्री बजरंग केमिकल डिस्टीलरी लिमिटेड, रायपुर	15.12.2020	2 वर्ष	ग्रे बेस्ड एथेनॉल / आरएस / ईएनए – 240 केएलपीडी, मोलासेस बेस्ड एथेनॉल– 120 केएलपीडी, केप्टिव पावर प्लांट– 12 मेगावाट	325.00	260	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
94	मेसर्स मोक्षित कापोरेशन दुर्ग	15.12.2020	2 वर्ष	फार्मास्युटिकल्स प्रोडक्ट्स, विभिन्न मेडिकल किट्स	15.65	59	दुर्ग
95	मेसर्स एआर एसएमएस प्रायवेट लिमिटेड, रायगढ़	15.12.2020	2 वर्ष	स्पंज आयरन– 330000 टीपीए, केप्टिव पावर प्लांट– 30 मेगावाट, स्टील मेल्टिंग शाप– 600000 टीपीए, रोलिंग मिल– 178000 टीपीए, बेनीफिसियेशन एंड पेलेटाइजेशन ऑफ आयरन ओर– 400000 टीपीए	380.00	350	रायगढ़
96	मेसर्स बारबरिक रिरोलर्स प्रायवेट लिमिटेड, रायपुर	15.12.2020	2 वर्ष	स्पंज आयरन, पैलेट प्लांट, एमएस बिलेट, टीएमटी बार, केप्टिव पावर प्लांट	414.17	438	सरगुजा
97	मेसर्स गोदावरी पावर एंड इस्पात लिमिटेड, रायपुर	29.12.2020	2 वर्ष	स्पंज आयरन– 10 एलटीपीए, स्टील मेल्टिंग शाप– 10 एलटीपीए, लैण्ड रिफायनिंग फर्नेस– 10 एलटीपीए, स्टील– 10 एलटीपीए, रोलिंग मिल– 10 एलटीपीए, कोल गैसीफायर/पीसीआई– 1 लाख एनएम3/घंटा, केप्टिव पावर प्लांट– 150 मेगावाट, ऑक्सीजन प्लांट– 20 एनएम3/घेटा	4000.00	10000	––

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
				स्पंज आयरन– 10 एलटीपीए, फेरो एलाजय–2.50 एलटीपीए / पिग आयरन– 5 एलटीपीए, केप्टिव पावर प्लांट– 100 मेगावाट	2000.00	3000	जगदलपुर
98	मेसर्स नैनोआयन बेटरीज प्रायवेट लिमिटेड, रायपुर	29.12.2020	2 वर्ष	लिथियम आयन स्मार्ट बैटरी / एडवांस स्मार्ट बैटरी – 50000 नग	13.05	110	रायपुर
99	मेसर्स गोदावरी इलेक्ट्रिक मोटर्स प्रायवेट लिमिटेड, रायपुर	29.12.2020	2 वर्ष	इलेक्ट्रिक व्हीकल मेन्युफेक्चरिंग (ई–रिक्शा, ई–आटो, ई–स्कूटर, ई–बाइक –– 40,000 नग	17.71	148	रायपुर
100	मेसर्स हीरा फेरो एलायज लिमिटेड (स्प्रिंग सोलर पावर प्रा.लि.) रायपुर	29.12.2020	2 वर्ष	सोलर पावर – 9 करोड़ यूनिट्स	245.00	280	राजनांदगांव
101	मेसर्स वीटेक प्लास्टिक प्रायवेट लिमिटेड, रायपुर	22.03.2021	2 वर्ष	प्लास्टिक गुड्स मेन्युफेक्चरिंग प्लांट	107.73	200	रायपुर
102	मेसर्स स्काई स्टील एंड पावर प्रायवेट लिमिटेड, रायपुर	22.03.2021	2 वर्ष	स्पंज आयरन– 3 एलटीपीए, केप्टिव पावर प्लांट– 30 मेगावाट, स्अील मेल्टिंग शाप– 3 एलटीपीए, रोलिंग मिल– 3 एलटीपीए, फेरो एलायज / पिग आयरन– 50000 टीपीए, बेनीफिसियेशन एंड पेलेटाइजेशन ऑफ आयरन ओर– 6 एलटीपीए	480.00	400	बलौदाबाजार – भाटापारा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
103	मेसर्स पारस पावर एंड कोल बेनीफिसियेशन लिमिटेड, बिलासपुर	22.03.2021	2 वर्ष	स्पंज आयरन– 270000 एमटीपीए, केप्टिव पावर प्लांट– 65 मेगावाट, स्टील मेल्टिंग शाप– 270000 एमटीपीए, रोलिंग मिल– 270000 एमटीपीए	481.00	393	बिलासपुर
104	मेसर्स विस्तार एग्री फूड्स प्रायवेट लिमिटेड, रायपुर	22.03.2021	2 वर्ष	मेज स्टार्च– 12000 एमटी, सर्बीटाल– 30000 एमटी, मेज जर्म– 5850 एमटी, मेज ग्लुटेन– 4500 एमटी, मेज फाइबर– 11700 एमटी, ग्लूकोज सिरप– 10500 एमटी, माल्टो डैक्सट्रीन– 7500 एमटी, मोडीफाई स्टार्च– 6000 एमटी, केटल फीड– 6300 एमटी	100.00	130	रायपुर
105	मेसर्स श्री बद्रीनाथ इस्पात प्रायवेट लिमिटेड, रायपुर	22.03.2021	2 वर्ष	आयरन ओर पैलेट– 9 एलटीपीए, स्पंज आयरन– 3.15 एलटीपीए, रि–रोल्ड प्रोडक्ट् विथ इंडक्शन फर्नेस– 3.60 एलटीपीए, गेल्वेनाइज्ड रिरोल्ड प्रोडक्ट्स– 3.60 एलटीपीए, केप्टिव पावर प्लांट– 40 मेगावाट	465.23	381	बेमेतरा
106	मेसर्स कृपाल कोन्स प्रायवेट लिमिटेड, भिलाई	22.03.2021	2 वर्ष	वेफर कोन्स, शुगर कोन्स, वेफी कोन्स, प्रिटजेल कोन्स, फ्लेवर्ड कोन्स – 16,11,84,000 कोन्स वार्षिक	20.70	47	दुर्ग

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
107	मेसर्स कृष्णा आयरन एंड इनर्जी प्रायवेट लिमिटेड, रायपुर	22.03.2021	2 वर्ष	स्पंज आयरन– 210000 टीपीए, केप्टिव पावर प्लांट– 20 मेगावाट, स्टील मेल्टिंग शाप– 250000 टीपीए, रोलिंग मिल– 250000 टीपीए, फेरो एलायज / पिग आयरन– 50000 टीपीए, बेनीफिसियेशन एंड पेलेटाइजेशन ऑफ आयरन ओर– 600000 टीपीए	350.00		––
108	मेसर्स रायगढ़ इस्पात एंड पावचर प्रायवेट लिमिटेड, रायगढ़	22.03.2021	2 वर्ष	स्पंज आयरन– 210000 टीपीए, केप्टिव पावर प्लांट– 16 मेगावाट, इण्डक्शन फर्नेस– 300000 टीपीए, रोलिंग मिल– 300000 टीपीए, फेरो एलायज– 50000 टीपीए, गेल्वेनाइज पाईप ब्लैक पाइप– 100000 टीपीए	365.00	400	रायगढ़
109	मेसर्स सार स्टील एंड पावर प्रायवेट लिमिटेड, रायगढ़	22.03.2021	2 वर्ष	डीआरआई प्लांट– 210000 टीपीए, पैलेटाइजेशन प्लांट– 800000 टीपीए, एसएमएस विथ कास्टर– 270000 टीपीए, रोलिंग मिल– 180000 टीपीए, केप्टिव पावर प्लांट– 36 मेगावाट	491.99	450	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
110	मेसर्स एसके एक्सपोर्ट्स, कानपुर, उत्तरप्रदेश	22.03.2021	2 वर्ष	सेफ्टी हेलमेट, जैकेट, हैण्ड ग्लोब्स, गागल्स, बाडी गार्ड, पुलिस, पैरामिलिटरी फोर्स एवं डिफेंस हेतु यूनिफार्म	24.90	244	––
111	मेसर्स एसके शूज एंड बूटस प्रायवेट लिमिटेड, उन्नाव, उत्तरप्रदंश	22.03.2021	2 वर्ष	सेफ्टी गमबूट, पुलिस, पैरा मिलिटरी फोर्स एवं डिफेंस हेतु ड्रेस, शूज एवं बूट्स	13.75	116	––
112	मेसर्स सत्या पावर एंड इस्पात लिमिटेड, बिलासपुर	22.03.2021	2 वर्ष	स्पंज आयरन– 231000 टीपीए, स्टील मेल्टिंग शाप– 297000 टीपीए, रोलिंग मिल– 264000 टीपीए, फेरो एलाजय– 50000 टीपीए, केप्टिव पावर प्लांट– 54 मेगावाट	470.00	400	बिलासपुर
113	मेसर्स इण्ड सिनर्जी लिमिटेड, रायगढ़	22.03.2021	2 वर्ष	एकीकृत इस्पात संयंत्र – विस्तार	1401.50	1889	रायगढ़
114	मेसर्स फिल स्टील एंड पावर प्रायवेट लिमिटेड, बिलासपुर	22.03.2021	2 वर्ष	स्पंज आयरन– 3 लाख टीपीए, केप्टिव पावर प्लांट– 40 मेगावाट, स्टील मेल्टिंग शाप– 3 लाख टीपीए, रोलिंग मिल– 3 लाख टीपीए, फेरो एलायज– 50000 टीपीए, गेल्वेनाइज्ड पाइप / ब्लैक पाइप– 1 लाख टीपीए	400.00	450	––

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
115	मेसर्स गोस इस्पात प्रायवेट लिमिटेड, रायपुर	14.06.2021	2 वर्ष	पैलेट प्लांट– 6 एलटीपीए, स्पंज आयरन– 9 एलटीपीए, केप्टिव पावर प्लांट– 50 मेगावाट, स्टील मेल्टिंग शाप– 4 एलटीपीए, रोलिंग मिल– 4 एलटीपीए, फरो एलायज/ पिग आयरन– 50000 टीपीए	490.00	450	––
116	मेसर्स गोदावरी पावर एंड इस्पात लिमिटेड, रायपुर	19.07.2021	2 वर्ष	सोलर पीवी पावर प्लांट – 250 मेगावाट	750.00	400	रायगढ़
117	मेसर्स एसबीटी टेक्सटाइल्स प्रायवेट लिमिटेड, रायपुर	19.07.2021	2 वर्ष	नानओवन इंटरलाइनिंग फेब्रिक– 432 लाख मीटर प्रतिवर्ष	22.15	220	––
118	मेसर्स श्री रूपनधाम स्टील प्रायवेट लिमिटेड, रायपुर	24.07.2021	2 वर्ष	स्पंज आयरन– 3.50 एलटीपीए, एमएस बिलेट– 3.50 टीपीए, टीएमटी बार/स्ट्रक्चरल स्टील/ वायर राड मिल– 3.50 एलटीपीए, केप्टिव पावर प्लांट– 35 मेगावाट, फेरो एलायज– 18 एमवीए, कोल वाशरी– 1.0 एलटीपीए, फ्लाई एश ब्रिक्स– 1.20 एलटीपीए	300.00	176	रायगढ़

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
119	मेसर्स हाईटेक पावर एंड स्टील लिमिटेड, रायपुर	24.07.2021	2 वर्ष	स्पंज आयरन– 290000 टीपीए, इण्डस्क्शन फर्नेस– 165000 टीपीए, रोलिंग मिल– 150000 टीपीए, केप्टिव पावर प्लांट– 26 मेगावाट, फेरो एलायज / पिग आयरन – 38000 टीपीए / 76000 टीपीए, फ्लाई एश ब्रिक्स– 99 लाख नग (विस्तार परियोजना)	209.00	833	रायपुर
120	मेसर्स जी.आर.इंटीग्रेटेड स्टील प्रायवेट लिमिटेड, रायपुर	24.07.2021	2 वर्ष	बेनीफिकेशन ऑफ आयरन ओर– 12,00,000 टीपीए, पैलेट– 18,00,000 टीपीए, स्पंज आयरन–2,00,000 टीपीए, , केप्टिव पावर प्लांट– 32 मेगावाट, एसएमएस विथ सीसीएम– 1,50,000 टीपीए, एसएएफ– 32,000 टीपीए, रोलिंग मिल– 1,50,000 टीपीए, सीमेंट ग्राइंडिंग– 1,00,000 टीपीए, फ्लाई एश प्रोडक्ट्स– 36 मिलियन नग, एथानॉल (बायोफ्यूल)– 2,40,00,000 लीटर	495.00	873	बेमेतरा
121	मेसर्स एमरैल यूवा जेवी, चेन्नई	24.07.2021	2 वर्ष	फ्यूल एथेनॉल – 16.5 करोड़ लीटर	500.00	125	बलौदाबाजार – भाटापारा

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
122	मेसर्स देशैल बायोटेक प्रायवेट लिमिटेड, रायपुर	24.07.2021	2 वर्ष	गन्ना आधारित– एथेनॉल प्लांट– 30000 केएलपीडी, ईएनए– 16830 केएलपीडी, डीडब्ल्यूजीएस – 11220 मे.टन	141.88	100	दुर्ग
123	मेसर्स ज्योत्सना ग्रीन प्रोडक्ट्स प्रा.लि., रायपुर	24.07.2021	2 वर्ष	मेज आधारित– स्टार्च– 19800 एमटीपीए, एथेनॉल– 49500 एमटीपीए, डिस्टीलर्स ड्राइड ग्रैन विथ साल्यूबल (डीडीजीएस)– 24750 एमटीपीए	187.95	220	दुर्ग
124	मेसर्स प्रगति डिफेंस सिस्टम्स प्रायवेट लिमिटेड, बिलासपुर	24.07.2021	2 वर्ष	बुलेट प्रूफ जैकेट– 1 लाख यूनिट, बुलेट प्रूफ हेलमेट– 1 लाख यूनिट, एडवांस्टड सिरेमिक – 120 टन वार्षिक	20.00	65	बिलासपुर
125	मेसर्स श्री बजरंग स्टील कार्पोरेट लिमिटेड, रायपुर	24.07.2021	2 वर्ष	सोलर फोटोवालिटक सिस्टम (ग्राउंड मांउन्टेड) – 50 मेगावाट पी	175.00	70	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
126	मेसर्स श्री बजरंग पावर एंड इस्पात लिमिटेड, रायपुर	24.07.2021	2 वर्ष	टाइटेनियम स्लैग– 36000 मे.टन, पावर प्लांट डब्ल्यूएचआरबी– 55 मेगावाट एवं एएफबीसी– 30 मेगावाट, ऑक्सीजन प्लांट– 250 टीपीडी, ब्लास्ट फर्नेस– 1160000 टीपए, सिंटर प्लांट– 10 लाख टीपीए, फ्लाई एश ब्रिक्स– 2 करोड़ नग प्रतिवर्ष, कोक ओवन– 5 लाख टीपीए, रेल्वे साइडिंग एंड इन्फ्रा, फेरो एलायज– 42000 टीपीए, पैलेट प्लांट– 14 लाख टीपीए, आयरन ओर बेनीफिकेशन– 20 लाख टीपीए, रोलिंग मिल– 0.4 एमटीपीए, स्टील मेल्टिंग शाप– 0.4 एमटीपीए	2000.00	3000	रायपुर
127	मेसर्स श्री बजरंग पावर एंड इस्पात लिमिटेड, रायपुर (विस्तार परियोजना)	24.07.2021	2 वर्ष	स्पंज आयरन– 0.2 एमटीपीए, फेरो एलायज– 18000 टीपीए, पावर जनरेशन डब्ल्यूएचआरबी– 16 मेगावाट, ऑक्सीजन प्लांट– 500 टीपीडी, गेल्वेनाइजिंग प्लांट– 100000 टीपीए, वेगन टिप्पर	211.00	280	रायपुर

क्र.	इकाई का नाम	एम.ओ.यू. का दिनांक	एमओयू में क्रियान्वयन प्रारंभ करने की कालावधि	प्रस्तावित संयंत्र / उत्पाद एवं वार्षिक क्षमता	प्रस्तावित पूंजी निवेश करोड़ रू. में	प्रस्तावित रोजगार	प्रस्तावित जिला
1	2	3	4	5	6	7	8
128	मेसर्स अल्ट्राटेक सीमेंट लिमिटेड, मुम्बई	06.08.2021	2 वर्ष	क्लिंकर– 3.50 एमटीपीए, सीमेंट (विस्तार परियोजना) – 1.10 एमटीपीए, केप्टिव पावर प्लांट – 13 मेगावाट	954.00		बलौदाबाजार – भाटापारा
129	मेसर्स अल्ट्राटेक सीमेंट लिमिटेड, मुम्बई	06.08.2021	2 वर्ष	क्लिंकर– 3.5 एमटीपीए, सीमेंट– 3.60 एमटीपीए, केप्टिव पावर प्लांट – 13 मेगावाट (नवीन परियोजना)	1500.00		बलौदाबाजार – भाटापारा
130	मेसर्स पिकाडिली एग्रो इण्डस्ट्रीज लिमिटेड, हरियाणा	06.08.2021	2 वर्ष	एथेनॉल / ईएनए – 210 किलोलीटर प्रतिदिन	290.00	125	महासमुन्द
योग					**58949.98**	**78161**	

Appendix-IV

Agriculture contingency plan for District Bemetara

Agriculture Contingency Plan for District: Bemetara

State: CHHATTISGARH

1.0 District Agriculture profile				
1.1	**Agro-Climatic/Ecological Zone**			
	Agro Ecological Sub Region (ICAR)	11.0 Chhattisgarh/Mahanadi Basin Agro-eco region (J3(Cd/Cm)5		
	Agro-Climatic Zone (Planning Commission)	Zone-7 Eastern plateau and hills region		
	Agro Climatic Zone (NARP)	Chhattisgarh plain zone		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Raipur, Baloda bazaar, Gariyabandh, Bilaspur, Korba, Raigarh, Janjgir-champa, Kabirdham, Rajnandgaon, Durg, balod, bemetara, Dhamtari, Mahasamund, Korba (15 districts)		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		21.70 N	81.53E	277 m
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	ZARS, Raipur		
	Mention the KVK located in the district with address	Krishi Vigyan Kendra, Kabirdham (C.G.)		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	Department of Agrometeorology, College of Agriculture, IGKV, Raipur (C.G.)		

1.2	**Rainfall**	**Normal RF(mm)**	**Normal Rainy days (number)**	**Normal Onset (specify week and month)**	**Normal Cessation (specify week and month)**
	SW monsoon (June-Sep):	923.0	47	17 June 25th SMW, June	30 September 39th SMW, September
	NE Monsoon(Oct-Dec):	66.4	4	Post monsoon (October-December)	-
	Winter (Jan- March)	18.2	4	Winter rains	-
	Summer (Apr-May)	20.4	3	-	-
	Annual	1027.9	58	-	-

Source: Agricultural Statistics, 2013, Commissioner of land records, Raipur, Govt. of Chhattisgarh

1.3	**Land use pattern of the district** (latest statistics)	Geographical area	Cultivable area	Forest area	Land under non-agricultural use	Permanent pastures	Cultivable wasteland	Land under Misc. tree crops and groves	Barren and uncultivable land	Current fallows	Other fallows
	Area ('000 ha)	285.5	342.4	0.04	24.9	23.3	-	0.01	0.01	2.5	24.0

Source: ***Agricultural statistic Chhattisgarh 2013**

1. 4	**Major Soils (common names like red sandy loam deep soils (etc.,)***	**Area ('000 ha)**	**Percent (%) of total**
	1. Entisol (Bhata-gravely)	-	-
	2. Inceptisol (Matasi-Sandyloam)	-	-
	3. Alfisols (Dorsa-clayloam)	-	-
	4. Vertisols (Kanhar-clayey)	-	-
	5. Bharri	-	-
	Total	-	-
	Others (specify):	-	-

* mention colour, depth and texture (heavy, light, sandy, loamy, clayey etc) and give vernacular name, if any, in brackets (data source: Soil Resource Maps of NBSS & LUP) Source: Agricultural Statistics, 2013, Directorate of Agriculture, Govt. of Chhattisgarh

1.5	**Agricultural land use**	Area ('000 ha)	Cropping intensity %
	Net sown area	224.7	**152**
	Area sown more than once	117.7	
	Gross cropped area	342.4	

1.6	**Irrigation**	Area ('000 ha)
	Net irrigated area	71.6
	Gross irrigated area	126.0

	Rainfed area	216.4		
	Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
	Canals	27	12.8	
	Tanks	167	1.2	
	Open wells	2013	0.1	
	Bore wells	21218	108.7	
	Lift irrigation schemes		-	
	Micro-irrigation			
	Other sources (please specify)		3.02	
	Total Irrigated Area		125.9	
	Pump sets	16877		
	No. of Tractors			
	Groundwater availability and use* (Data source: State/Central Ground water Department /Board)	No. of blocks/ Tehsils	(%) area	Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc)
	Over exploited	Nil		
	Critical	Nil		
	Semi- critical	Nil		
	Safe	15	100	
	Wastewater availability and use	Nil		
	Ground water quality	Potable and suitable for irrigation as well		
*over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70%				

Source: Directorate of Agriculture, Govt. of Chhattisgarh
Source: Agricultural Statistics, 2013, Commissioner of land records, Govt. of Chhattisgarh

Appendix-V

Yield per Hactare in Bemetara District

1.11 Production and Productivity of major crops (Average of last 5 years: 2004, 05, 06, 07, 08; specify years)

1.11	Name of crop	Kharif		Rabi		Summer		Total		Crop residue as fodder (‘000 tons)
		Production ('000 m t)	Productivity (kg/ha)	Production ('000 m t)	Productivity (kg/ha)	Production ('000 m t)	Productivity (kg/ha)	Production ('000 m t)	Productivity (kg/ha)	
Major Field crops (Crops to be identified based on total acreage)										
Crop 1	Rice	296.124	2282					**296.124**	2282	
Crop 2	Black Gram	0.037	276					**0.037**	276	
Crop 3	Maize	0.186	1550					**0.186**	1550	
Crop 4	Pigeonpea	0.655	571					**0.655**	571	
Crop 5	Seasamum									
Crop 6	Wheat			7.488	1124			**7.488**	1124	
Crop 7	Lathyrus			6.156	415			**6.156**	415	
Crop 8	Linseed			0.244	405			**0.244**	405	
Crop 9	Gram			31.459	1843			**31.459**	1843	
Crop 10	Soybean	8.586	1199					**8.586**	1199	
	All crops									
Major Horticultural crops (Crops to be identified based on total acreage) – Fruits & Vegetables										
Crop 1	Papaya	0.381	9525					**0.381**	9525	
Crop 2	Banana	0.527	8783					**0.527**	8783	
Crop 3	Mango									
Crop 4	Ber									
Crop 5	Gauva									
Crop 6	Lemon									
Crop 7	Aonla									
Crop 8	Brinjol									
Crop 9	Tomato									
Crop 10	Potato									
Crop 11	Cauliflower									
Crop 12	Bhindi									
Crop 13	Spices									
Crop 14	Cabbage									
Crop 15	Onion									