Ministry of Environment, Forest and Climate Change
Impact Assessment Division
(Industry-1 Sector)

Date of zero draft MoM sent to Chairman: 10/03/2022
Approval by Chairman: 14/03/2022
Uploading on PARIVESH: 14/03/2022

Summary record of the First (1st) meeting of Expert Appraisal Committee (REAC) held on 5 -6th March, 2022 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.

The first meeting of the Expert Appraisal Committee (EAC) for Industry-I Sector as per the provisions of the EIA Notification, 2006 for Environmental Appraisal of Industry-I Sector Projects was held during **5 - 6th March, 2022** in the Ministry of Environment, Forest and Climate Change (MoEF&CC) through **video conferencing** in view of the ongoing Corona Virus Disease (Covid-19) pandemic.

The Chairman welcomed all the members. On behalf of the Ministry, Member Secretary briefed the provisions of the EIA Notification 2006, procedure to be followed during the appraisal of the projects. The list of EAC attendees is as follows:

S. No.	Name	Position	05/03/2022	06/03/2022
1.	Shri. Rajive Kumar	Chairman	Present	Present
2.	Dr. S. Ranganathan	Member	Present	Present
3.	Dr. Ranjit Prasad	Member	Present	Present
4.	Dr. E V R Raju	Member	Present	Present
5.	Dr. S. K. Singh	Member	Present	Present
6.	Dr. Jai Krishna Pandey	Member	Present	Present
7.	Dr. Dipankar Shome	Member	Present	Present
8.	Dr. Tejaswini Ananthkumar	Member	Present	Present
9.	Dr. Hemant Sahasrabuddhe	Member	Present	Present
10.	Dr. B. N. Mohapatra, DG, National Council for Cement and Building Materials (NCCBM)	Member	Present	Present
11.	*Representative of CPCB*	*Member*	*Absent*	*Absent*
12.	*Dr. S. Raghavan, Scientist 'D' National Institute of Occupational Health (NIOH)*	*Member*	*Absent*	*Absent*
13.	*Representative of IMD*	*Member*	*Absent*	*Absent*
Officials from MoEF&CC				
14.	Shri. Sundar Ramanathan	Member Secretary	Present	Present
15.	Dr. Sandeepan B.S.	Scientist 'B'	Present	Present

After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim.

5th March, 2022

1.1 Expansion of Production Capacity of Sponge Iron (90000 to 315000 TPA), Induction Furnace with CCM/PCM (150000 to 450000 TPA), Rolling Mill (150000 to 650000 TPA), Ferro Alloys Plant (reduction from 30000 TPA to 19000 TPA) and/or Pig Iron 38000 TPA, Captive Power Plant 30 MW (WHRB Based 6 MW to 16 MW and AFBC Based 9 MW to 14 MW) and addition of Fly Ash Brick Plant (115500 TPA) ERW Black Pipe (500000 TPA) Galvanized Steel (100000 TPA), Cold Rolled Steel Product (100000 TPA) by **M/s. Sambhv Sponge Power Private Limited** located at Village Sarora, Tehsil Tilda, **District Raipur, Chhattisgarh** [Online Proposal No. IA/CG/IND/253758/2020; File no: J-11011/387/2009-IA.II (I)] **– Environment Clearance – regarding.**

1.1.1 M/s. Sambhv Sponge Power Private Limited has made an online application vide proposal no. IA/CG/IND/253758/2020 dated 07/02/2022 along with copy of EIA/EMP Report, Form - 2 and Certified Compliance Report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & non-ferrous) and 1(d) Thermal Power Plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by Project proponent

1.1.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord	Validity of ToR
28/10/2020	Standard Terms of Reference issued	Standard ToR	11/11/2020	10/11/2024
31/12/2020	28th EAC held on 18-20th January, 2021	Amendment in Terms of Reference	12/02/2021	

1.1.3 The project of M/s. Sambhv Sponge Power Private Limited is located at Village Sarora, Tehsil Tilda, District Raipur, Chhattisgarh State is for expansion of production capacity of Sponge Iron (90000 to 315000 TPA), Induction Furnace with CCM/PCM (150000 to 450000 TPA), Rolling Mill (150000 to 650000 TPA), Ferro Alloys Plant (reduction from 30000 TPA to 19000 TPA) and/or Pig Iron 38000 TPA, Captive Power Plant 30 MW (WHRB Based 6 MW to 16 MW and AFBC Based 9 MW to 14 MW) and addition of Fly Ash Brick Plant (115500 TPA) ERW Black Pipe (500000 TPA) Galvanized Steel (100000 TPA), Cold Rolled Steel Product (100000 TPA).

1.1.4 Environmental Site Settings:

S No	Particulars	Details	Remarks
i.	Total land	25.30 ha. [Private land: 25.30 ha]	Land Use: Industrial.
ii.	Land acquisition Details as per MoEF & CC O.M. dated 7/10/2014	Expansion proposal is proposed within existing project area of 25.30 ha. Entire land of 25.30 ha is under possession of the company. No additional land is required for proposed expansion.	--

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td><u>Project Site</u> – NIL

<u>Study Area:</u>
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Sarora</td><td>0.6</td><td>SSW</td></tr>
<tr><td>Binaika</td><td>1.25</td><td>NE</td></tr>
</table></td><td></td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of the project site</td><td>
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1.</td><td>21°34'37.18"N</td><td>81°44'7.94"E</td></tr>
<tr><td>2.</td><td>21°34'35.89"N</td><td>81°44'16.63"E</td></tr>
<tr><td>3.</td><td>21°34'11.64"N</td><td>81°44'14.89"E</td></tr>
<tr><td>4.</td><td>21°34'8.84"N</td><td>81°44'3.92"E</td></tr>
</table></td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>268 - 287 m AMSL</td><td>--</td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>Not involved forest land</td><td></td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><u>Project Site</u>
• Canal – Passing through the project site (no change flow and capacity)
• Natural seasonal drain passing through project site (no change flow and capacity)

<u>Study Area</u>
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Pond</td><td>Adjacent</td><td>West</td></tr>
<tr><td>Pond</td><td>0.18 Km</td><td>South</td></tr>
<tr><td>Seonath River</td><td>5.2 Km</td><td>WNW</td></tr>
<tr><td>Kulhan Nala</td><td>7.8 Km</td><td>SW</td></tr>
<tr><td>Deorani Jethani Nala</td><td>2.1 Km</td><td>SSE</td></tr>
<tr><td>Bhatapara Branch (Mahanadi Kanal)</td><td>2.5 Km</td><td>East</td></tr>
<tr><td>Gadaria Nala</td><td>0.5 Km</td><td>North</td></tr>
<tr><td>Kotri Nala</td><td>4.4 Km</td><td>N</td></tr>
<tr><td>Chitwar Nala</td><td>8.1 Km</td><td>NE</td></tr>
<tr><td>Jamuniya Nadi</td><td>9.3 Km</td><td>East</td></tr>
</table></td><td></td></tr>
<tr><td>viii.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>NIL
However, following forests are located within study area:
• Bilari RF Adjacent to the project boundary in East direction.
• Bilari Ghughua RF 3.3 km/ NE</td><td></td></tr>
</table>

1.1.5 The existing project was accorded environment clearance vide file. no. J-11011/387/2009-IA II(I) dated 29/03/2011 in the name of M/s. Khetan Sponge & Infrastructure Pvt. Ltd, EC

validity was extended on 13/06/2018. The EC was transferred to M/s. Sambhv Sponge Power Private Limited vide letter dated 24/12/2018 by the Ministry. CTO renewal for the existing unit was obtained on 17/11/2020.

1.1.6 Implementation status of the existing EC:

S No	Facilities	Units	As per EC dtd. 29/03/2011 (in TPA)	Implementation Status as on 25/11/2021 (in TPA)	Production as per CTO (In TPA)
1.	Sponge Iron	TPA	(3x100 TPD DRI) 90000	90,000	90,000
2.	Pellet Plant	TPA	1,00,000	--	--
3.	Iron ore Beneficiation & Pelletisation	TPA	3,00,000	_	--
4.	Sinter	TPA	(1x24 m^2) 2,07,360	--	--
5.	Blast Furnace	TPA	(1x250 m^3) 1,50,000	--	--
6.	Induction Furnace with CCM/ PCM	TPA	(5x10 MT) 1,50,000	1,50,000	(4x10 MT) 1,20,000
7.	Reheating Furnace Based Rolling Mill	TPA	(1x500 TPD) 1,50,000	1,50,000	1,50,000
8.	Ferro Alloys (FeMn, SiMn, FeSi)	TPA	(SAF: 2x9MVA) 30,000	--	--
9.	Power: WHRB from Sponge Iron	MW	6	6	6
10.	Power: WHRB from Blast Furnace	MW	2.5	_	--
11.	Power: FBC boiler	MW	12	9	9
12.	Coal Washery	MTPA	1.44	--	--
13.	Fly Ash brick Plant	TPA	NIL	44100	--

1.1.7 The unit configuration and capacity of existing and proposed project is given as below:

S.No.	Nam of the product	Units implemented as per EC dated 29/03/2011 (A)		Proposed expansion (B)		Total (A+B)	
		Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)
1.	Sponge Iron	DRI: 3x100 TPD	90,000	4x150 TPD	2,25,000	DRI: 3x100 TPD + 4x150 TPD	3,15,000
2.	Induction Furnace with CCM/ LRF AOD/VOD	IF: 5x10 MT	1,50,000	IF: 8x12.5 MT LRF of 1x15 MT	3,00,000	IF: 5x10 MT + 8x12.5 MT LRF: 1x15 MT	4,50,000
3.	Rolling Mill	--	1,50,000	--	5,00,000	--	6,50,000
	(i) Hot Charging based	-	-	Electrically Operated Rolling Mill with 1166 TPD capacity	350000	Electrically Operated Rolling Mill with 1166 TPD capacity	350000
	(ii) Reheating Furnace Based	Fuel Fired Reheating Furnace with	1,50,000	Fuel Fired Reheating Furnace with	1,50,000	Fuel Fired Reheating Furnace with	3,00,000

S.No.	Nam of the product	Units implemented as per EC dated 29/03/2011 (A)		Proposed expansion (B)		Total (A+B)	
		Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)
		Electrical Driven Rolling Mill of 500 TPD		Electrical Driven Rolling Mill of 500 TPD		Electrical Driven Rolling Mill of 100 TPD	
4.	Submerged Arc Furnace	--	--	1x9 MVA	Si-Mn = 19000 TPA (OR) Fe-Mn =24,000 TPA (OR) Fe- Si = 11000 TPA (OR) Pig iron – 38000 TPA	1x9 MVA	Si-Mn = 19000 TPA (OR) Fe-Mn =24,000 TPA (OR) Fe- Si = 11000 TPA (OR) Pig iron – 38000 TPA
5.	Captive Power Plant						
	WHRB from Sponge Iron	WHRB based power generation	6 MW	WHRB based power generation	10 MW	WHRB based power generation	16 MW
	FBC boiler	FBC based power generation	9 MW	FBC based power generation	5 MW	FBC based power generation	14 MW
6.	Fly Ash brick Plant	-	44100	--	71400	Fly ash brick/ block making	115500
7.	ERW Pipe Mill	--	--	--	500000	Pipe manufacturing	500000
8.	Galvanizing unit	--	--	--	100000	Galvanizing Plant	100000
9.	Cold Rolling mill with annealing furnace and with Pickling unit	--	--	--	100000	CR Mill with annealing furnace with Pickling unit	100000

1.1.8 The details of the raw material requirement for the expansion cum proposed project along with its source and mode of transportation is given as below:

S No	Raw Material	Quantity required per annum			Source	Dist. From site (Kms)	Mode of Transportation
		Existing	Expansion	Total (TPA)			
1.	Iron Ore	144000.00	360000.00	504000.00	Odisha Iron Ore Mine and NMDC	600	By Road through covered vehicles
2.	Coal (SID, Power Plant and Gasifier)	153000.00	367635.00	520635.00	SECL Coal mines	300	
3.	Limestone/ Dolomite	4500.00	11250.00	15750.00	Open Market	100	
4.	Refractory Material	143.00	357.00	500.00	Open Market	100	
5.	Sponge Iron	150000.00	300000.00	450000.00	Captive production/ Local market	100	
6.	Pig Iron/ CI/ Scrap	18557.00	37113.00	55670.00	Captive production/ Local market	100	By Road thru. covered vehicles/

S No	Raw Material	Quantity required per annum			Source	Dist. From site (Kms)	Mode of Transportation
		Existing	Expansion	Total (TPA)			
							Internally available
7.	Melting Scrap	3100.00	6200.00	9300.00	Captive generation/ Local market	0	Internally available/ By Road through covered vehicles
8.	Ferro Alloys	1500.00	3000.00	4500.00	Captive production/ Local market	0	Internally available/ By Road through covered vehicles
9.	Aluminum	150.00	300.00	450.00	Open Market/ BALCO	100	By Road through covered trucks
10.	Ramming Mass	375.00	750.00	1125.00	Open Market	100	
11.	Steel Sheet Former	38.00	75.00	113.00	Open Market	100	
12.	FO for LRF	0	0	970.00	Open Market	100	
13.	FO for BRF	9750.00	-9750.00	0	Open Market	100	
14.	Calcined lime for refining of liquid steel	0.00	22500.00	22500.00	Open Market	100	
15.	Fluorspar and other additive for de phos	0.00	4500.00	4500.00	Open Market	100	
16.	Electrodes	0.00	900.00	900.00	Open Market	100	
17.	Hot Billets	0	357143.00	357143.00	Captive Production in Steel Melting shop	0	Internal Transfer
18.	Cold Billets	150000.00	-	92857.000	Captive production	0	Internal Transfer
19.	Cold Billets	10500.00	215793.00	226293.00	Local market as per requirement	100	By Road through covered vehicles
20.	Mn Ore	48079.00[1]	-17629.00	30450.00	Mines at Orissa and Madhya Pradesh and Vidarbha region	600	
21.	High Mn Slag	9158.00	-3358.00	5800.00	Self-unit	0	By Road through covered vehicles
22.	Quartz	1832.00	-672.00	1160.00	Mines in Raigarh	300	
23.	Coke/Coal/Charcoal	13737.00	-5037.00	8700.00	Open Market	100	
24.	Dolomite	687.00	-252.00	435.00	Mines in Bilaspur	150	By Road through covered vehicles
25.	Electrode Paste	687.00	-252.00	435.00	Local Industries	100	By Road through

S No	Raw Material	Quantity required per annum			Source	Dist. From site (Kms)	Mode of Transportation
		Existing	Expansion	Total (TPA)			
							covered vehicles
26.	M.S. Item	229.00	-84.00	145.00	Local Industries	0	Internal Transfer
27.	Lancing Pipe and Canister Sheet	345.00	-127.00	218.00	Local Industries	100	By Road through covered vehicles
28.	Oxygen Gas	70.00	-26.00	44.00	Local Industries	100	-
29.	Char Dolochar	27000.00	67500.00	94500.00	Captive generation in SID	0	Internally available.
30.	Fluidizing Bed Media	97.00	53.00	150.00	Local Industries	100	By Road through covered trucks
31.	Fly Ash/ Coal Ash etc	0.00	75075.00	75075.00	Internally available	0	
32.	Gypsum and Cement	0.00	11550.00	11550.00	Open market	100	
33.	Granulated slag from Induction Furnace	0.00	28875.00	28875.00	Internally available	0	
34.	HR Strips/ Cold Strips	0.00	526316.00	526316.00	Internally Available	0	Internally available Internally available/ Purchased from local market.
35.	Consumable ERW electrodes	0.00	1000.00	1000.00	Open market	100	By Road through covered trucks
36.	Annealing Furnace FO /LDO Fuel Required	0.00	2910.00	2910.00	Open market	100	
37.	Zinc	0.00	5000.00	5000.00	Open market	100	
38.	Lead	0.00	100.00	100.00	Open market	100	
39.	Pickling Acid	0.00	5365.00	5365.00	Open market	100	
40.	Lime	0.00	2750.00	2750.00	Open market	100	

1.1.9 Existing Water requirement as per EC is 575 m^3/day, water requirement is obtained from Ground Water. Permission for ground water withdrawal has been obtained from CGWA vide NOC letter no CGWA/NOC/IND/REN/1/2022/6628 valid from 19/12/2020. Total water requirement after proposed expansion will be 1914 m^3/day, out of which 75 m^3/day required for domestic purpose. However, total water requirement after proposed expansion will be fulfilled from surface water source (Lakhna Anicut). Thus, the company has applied for sanction of surface water from Lakhna Anicut, Water Resource Department, Govt. of Chhattisgarh.

1.1.10 Existing power requirement of 26.30 MW which is being met from 15 MW Captive Generation and 11.3 MW from CSPDC Grid. Total power requirement after proposed expansion will be 71 MW. Which will be met from 30 MW from captive power plant and 41 MW from State Grid (CSPDCL). In addition to these, total 2x3300 kVA DG sets are proposed for emergency backup.

1.1.11 Baseline Environmental Studies:

<table>
<tr><td>Period</td><td>Post monsoon season (1st October, 2020 – 31st December, 2020)</td></tr>
<tr><td>AAQ parameters at 8 Locations (min and max)</td><td>PM_{10} = 53.7 -94.7 µg/m^3
$PM_{2.5}$ = 16.9 – 37.4 µg/m^3
SO_2 = 7.1 – 16.3 µg/m^3
NO_2 = 12.6 – 27.2 µg/m^3
CO = 0.193 - 0.395 mg/m^3
O_3 = 4.5 – 10.6 µg/m^3
NH_3 = 5.4 -12.8 µg/m^3</td></tr>
<tr><td>Incremental GLC level</td><td>PM_{10} = 1.15 µg/m^3 (Level at 1.0 km SSW and South)
$PM_{2.5}$ = 0.69 µg/m^3 (Level at 1.0 km SSW and South)
SO_x = 12.0 µg/m^3 (Level at 1.0 km SSW and South)
NOx = 8.0 µg/m^3 (Level at 1.0 km SSW and South)</td></tr>
<tr><td>Ground water quality at 8 locations</td><td>pH: 7.20 - 7.88,
Total Hardness: 287.78 - 481.03 mg/l,
Chlorides: 49.72 - 142.91 mg/l,
Fluoride: 0.24 - 0.57 mg/l
Heavy Metals: As, Al, Cd, Cr, Cu, Pb, Mn, Zn and Hg) were found to be below detection limit and within specified standards.</td></tr>
<tr><td>Surface water quality at 8 locations</td><td>pH: 7.31-7.87;
DO: 6.1-6.3 mg/l;
BOD:3.92- 16.72 mg/l and
COD from 10.52 mg/l to 46.93 mg/l</td></tr>
<tr><td>Noise levels Leq. (Day and Night)</td><td>63.4 to 66.2 dB (A) for the day time and
55.7 to 59.2 dB (A) for the Night time.</td></tr>
<tr><td>Traffic assessment study findings</td><td>• Traffic study has been conducted at NH-200 which is approximately 3.7 km in West from the plant site.
• The raw material will be transported through road by covered trucks.
• Existing PCU is 331 PCU/hr and existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (volume in PCU/ hr)</th><th>C (capacity in PCU/hr)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-200</td><td>331</td><td>625</td><td>0.529</td><td>C (Good)</td></tr>
</table>
The proposed PCU load will be 371.5 (331 +40.5) PCU/hr after proposed expansion project and level of service (LOS) will be:
<table>
<tr><th>Road</th><th>V (volume in PCU/hr)</th><th>C (capacity in PCU/ hr)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-200</td><td>371.5</td><td>15000</td><td>0.594</td><td>C (Good)</td></tr>
</table>
* Note: Capacity as per IRC: 64-1990 Guidelines for capacity for roads.
Conclusion: the level of Service will remain same as Level C (Good) after including the traffic due to proposed expansion.</td></tr>
<tr><td>Flora and fauna</td><td>None of reported species in study area belongs to Rare, Endangered or Threatened category. No Schedule -I species observed in study area.</td></tr>
</table>

1.1.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S No	**Type of Waste**	**Source**	**Quantity generated (TPA)**	**Disposal**
1.	Char Dolochar	DRI kiln	94500	Used in own captive power plant
2.	Bottom Flue Dust Ash	DRI kiln	63000	Used in Brick making and/ or given to Cement Plants for Cement Making
3.	Kiln Accretion and Refractory waste	DRI kiln	2835	Used in Brick making and low-lying areas
4.	Defective Billets	Reheating Furnace	13600	Used as melting/ Re Rolling scrap in own plant/ Sold outside to Rerolling mills
5.	Mill Scale	Reheating Furnace	27146	Used in own Ferro Alloys as raw material/ sold to Ferro Alloys/ Pellet Plants.
6.	Slag from Induction Furnace	Induction furnace	81562	Given/ Sold to metal recovery units and also used in own plant to make Bricks.
7.	Refractory and Ramming Mass waste	Induction furnace	563	Given to refractory recycling units/ used in Fly ash brick making unit/ landfill.
8.	Defective and Miss Roll	Rolling mill	13147	Reused in own Induction furnace
9.	Coal Ash		46182	To be given to Cement Plants and to Fly Ash Brick making unit
10.	MS Scrap		27316	Internal Transfer/ sold to other industries.
11.	Slag from Ferro Alloys Plant	Ferro Alloys plant	19000	Will be sent to cement plant, used for road making; and used in own Fly Ash Brick making unit Agreement for disposal and utilization of slag dust between the company and M/s. Khomtech Traders
12.	Fly Ash from FBC	FBC	103652	To be given to Ultratech Cement Plant (Hirmi Cement Work) and Partially Used in own Fly Ash Brick making unit and remaining will be given to outside Fly Ash bricking units.
13.	Fluidized Bed Material		150	Used in own Fly Ash Brick making unit

1.1.13 Public Consultation:

Details of advertisement given	24/10/2021 - Nai Duniya (Hindi Newspaper) and Punjab Kesari (Hindi Newspaper)
Date of public consultation	25/11/2021

Venue	Near Unique product, open space in front of brick factory.
Presiding Officer	Mr. N. R Sahu, Additional District Magistrate, Raipur Mr. Manish Kashyap, (Regional Officer) Chhattisgarh Environment Conservation Board, Raipur
Major issues raised	i. Employment to local people ii. Skill Development iii. Development of Area iv. Education, Health and water should be provided under CSR funds. v. Air pollution, Water pollution, Noise pollution should be prevented so that human health will not get affected. vi. Canal near Sambhv Sponge Power Pvt. Plant is polluted due to the polluted water and dust from SSPPL. Measures should be taken to clean the canal.

Action plan as per MoEF&CC O.M. dated 30/09/2020

S No	Particulars	Physical Status	Target of Implementation of Action Plan (Timeline)			Rs. (in lakhs)
			FY: 2022-23	FY: 2023-24	FY: 2024-25	
1	Skill Development and Training Centre	Location: Village Sarora at community land provided by Village Panchayat/ Local Authority. Size: Approx 1000 Sqft. (50x20 sqft) **Quality:** RCC Roof and Floor, Fly Ash Brick Wall. **Facilities**: Weaving machine, embroidery machine, grinding machine to prepare Papad and Pickle, Computer, Printer etc.	Started in First Year at Village Sarora	Building and other infrastructure completed in 2nd Year at Village Sarora	Completed and started on 3rd Year at Village Sarora	15.00
2	Health Centre Clinic	**Location:** Village: Sarora, Tilda, Raipur, **Size of Room:** 20x30 = 600 Sqft **Facility:** 1 OPD chamber, 1 Lab room, 1 Patient waiting area, 1 Ambulance, First Aid and Minor OT, ECG and TMT	Started in First Year at Village Sarora	Building and other infrastructure completed in 2nd Year at Village Sarora		35.00

S No	Particulars	Physical Status	Target of Implementation of Action Plan (Timeline)			Rs. (in lakhs)
			FY: 2022-23	FY: 2023-24	FY: 2024-25	
		Machine etc/. **Quality:** RCC Roof and Floor, Fly Ash Brick Wall.				
3	Community Hall Building: - Community Hall (in Government Community land)	**Location:** Village: Sarora, Tilda, Raipur, **Size of Room:** 48x80 = 3840 Sqft **No. of Room: 1 Hall, 2 Bedroom,** with basic amenities and Kitchen area **Quality:** RCC Roof and Floor, Fly Ash Brick Wall.	Started in First Year at Village Sarora	Building and other infrastructure completed in 2nd Year at Village Sarora	-	40.00
4	Renovation of Pond (Deepening, Cleaning)	**Location:** Village-Sarora **(Behind Plant Premises)** Area of Pond: 24 Hectare Work Proposed: Cleaning of Silt, Deepening, and Beautification)	Started in First Year at Village Sarora	Building and other infrastructure completed in 2nd Year at Village Sarora	Completed and started on 3rd Year at Village Sarora	15.00
5	Cleaning of Canal	**Location:** Village-Sarora **(Nearby Plant Area)** Work Proposed Area: 1 KM Work Proposed: Cleaning of Silt and maintenance of canal.	Started in First Year at Village Sarora and will be completed in First year itself	--	--	10.00
6	Construction of Road in the Village Sarora main Road to Binaika village	**Location:** Village-Sarora main road to Village Binaika Work Proposed Area: 2.5 KM Work Proposed: **Construction of Road**	Work will be started in 1st Year	Work will be continued on 2nd Year	Work will be completed by 3rd Year	70.00
7	Water	Location:	Work will	Work will be	Work will	12.00

S No	Particulars	Physical Status	Target of Implementation of Action Plan (Timeline)			Rs. (in lakhs)
			FY: 2022-23	FY: 2023-24	FY: 2024-25	
	cooler, Septic tank, overhead tank, Solar power system will be provided to school in village.	1 Nos. of Government of School Sarora Government School Sankara Government School Parsada Government School Odgan **RWH Structure**: Size :1-meter dia x3 meter depth x1 No. at every school total 6 RWH = 0.50 Lakhs x5 = 2.00 Lakhs **Portable Water facility**: Size: Overhead tank 500 liter with water purifier with AMC at every school (Rs 1Lakhs x4 Nos= Rs 4.00 Lakhs) Solar Power System at School: Size: 1 KW SPP at every school (Rs 1.50 Lakhs x4 Nos. = Rs 6.00 Lakhs)	be started and completed in 1st Year at village Sarora	continued and completed on 2nd Year at village Sankara	be completed by 3rd Year at village Parsada and Odgan	
Total Rs.						**197.00**

1.1.14 Existing capital cost of project was Rs 155.21 Crores. The capital cost of the proposed project is Rs. 241 crores and the capital cost for environmental protection measures is proposed as Rs. 39.62 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 0.6827 Crores. The employment generation from the proposed expansion is 1286 (768 existing + 518 additional) persons.

S. No.	Particulars	Existing	Proposed addition	Total cost after expansion (in Crores)	Operation & Maintenance cost (in Crores)
	Plant and Machinery proposed for EMP				
1	Dry ESP for DRI Kilns (3 Kilns)	4.5	1.5	6.00	0.045
2	Dry ESP for Power Plant	3	0.5	3.50	0.015
3	Proposed ESP for 4 Nos. of 150 TPD Kilns	0	7	7.00	0.21

S. No.	Particulars	Existing	Proposed addition	Total cost after expansion (in Crores)	Operation & Maintenance cost (in Crores)
4	Bag Houses for the Sponge Iron Kilns (6 Nos)	2.4	0.6	3.00	0.018
5	Cost of Bag Houses for Induction Furnaces	0.9	0.9	1.80	0.027
6	Cost of Rotary Vane Wet Scrubber for Rolling Mill for Reheating Furnaces	0.5	0.5	1.00	0.015
7	Bag filter for Ferro Alloys Plan	0	0.5	0.50	0.015
8	Cost of Bag Houses for Boiler Furnaces for Power Plant Coal Handling and Ash Handling Area	0.35	0.5	0.85	0.015
9	Ash Handling System	0.45	0.65	1.10	0.0195
	Building and Civil works used for EMP				
1	Cost of a Chimney in Sponge Iron Plant and FBC	0.5	0.5	1.00	0.015
2	Cost Chimney for proposed ESP with proposed DRI Kilns	0	0.6	0.60	--
3	Cost of common chimney for AFBC Sponge Iron Kiln	0.5	0.25	0.75	--
4	Cost of a Common Chimney in Induction Furnace Plant	0.15	0.2	0.35	0.006
5	Cost of Chimney in Billet Reheating Furnace	0.35	0.15	0.50	--
6	Cost Chimney for Ferro Alloys Plant	0	0.25	0.25	--
7	Cost of Industrial ETP	0.35	0.5	0.85	0.015
8	Oil Trap in the drains system	0.1	0.05	0.15	0.0015
9	Silt Arrestation Pit in Storm Water Drains	0.35	0.15	0.50	0.0045
10	Internal Road Black topping and other construction works for Paving the Floors	1	0.5	1.50	0.015
11	Drainage system	0.5	0.25	0.75	0.0075
	Exclusive cost of works used for EMP				
1	Cost of STP for Domestic Waste	0.1	0.3	0.40	0.009
2	Green Belt Plantation along with Irrigation System and Pipe Line	0.15	0.15	0.30	0.0045
3	Fugitive dust Control Spray system in Plant	0.15	0.1	0.25	0.003
4	Movable Vacuum cleaning system		0.2	0.20	0.006
5	Wheel Washing System in Security area		0.05	0.05	0.0015
6	On Line stack Monitoring in all stacks DRI with Power; Induction Furnace and in Rolling mill	0.15	0.15	0.30	0.0045
7	On Line AAQ station	0.2	0.6	0.80	0.018
8	High Volume sampling and Stack Monitoring Kits	0.05	0.05	0.10	0.0015
9	Weather Monitoring Station		0.1	0.10	0.003
10	Ground water Monitoring Piezo Meters	0.05	0.02	0.07	0.0006
11	On Line Effluent Quality Monitoring System (EQMS)		0.15	0.15	0.0045
12	Environment Monitoring Laboratory Testing Equipment and Chemicals and Furniture and computer systems etc	0.5	0.25	0.75	0.0075
13	Rain Water Harvesting and Recharge system with Roof Harvesting and Rain	0.2	0.1	0.30	0.003

S. No.	Particulars	Existing	Proposed addition	Total cost after expansion (in Crores)	Operation & Maintenance cost (in Crores)
	Water Collection Tank				
14	Noise Reduction enclosure/ anti vibration pad etc.	0.1	0.1	0.20	0.003
15	Rain water storage Tanks for 2 months Back up	0.3	0.7	1.00	0.021
16	Environmental Monitoring Program	0.08	0.05	0.13	0.08
17	Conservation Measures & Other Miscellaneous	0.3	0.3	0.60	0.009
18	CER works for improvement of surrounding Environment		1.97	1.97	0.0591
	Total Expenses in Crores Rs.	**18.23**	**21.39**	**39.62**	**0.6827**
19	Addressal to public consultation concerns	--	--	**1.97**	--

1.1.15 The existing plantation at present within plant premises has developed in 9.3 ha area with 19750 trees (@2123 tree/ha). Total plantation after expansion will be 23250 nos. within 9.30 Ha. (37%) considering @ 2500 trees/ha. It is proposed to developed 3 tier green belt will be planned within the plant premises. Total no. of 23250 saplings will be planted and nurtured in 9.30 hectares in 1 years.

1.1.16 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.1.17 Name of the EIA consultant: M/s Anacon Laboratories Pvt. Ltd. [Sl. No. 66, List of ACOs with their Certificate / Extension Letter No: NABET/EIA/1922/RA0150 valid till 30/09/2022; Rev. 19, February 14, 2022]

Certified compliance report from Regional Office

1.1.18 The Status of compliance of earlier EC was obtained from Regional Office (WCZ), Nagpur vide letter no. EC-857/RON/2018-NGP/6266 dated 19/02/2020 in the name of M/s. Sambhv Sponge Power Pvt. Ltd. The Action taken report regarding the partially/non-complied condition was submitted to Integrated Regional officer MoEF&CC, Raipur vide letter no. SSPL/2021-22/052 dated 20/09/2021 MoEF&CC (IRO), and evolution is pending due IRO Raipur. The details of the observations made by RO in the report dated 19/02/2020 along with its present status as furnished by the PP is given as below:

S No	Conditions	Observation of RO (abridged)	Condition no.			Response by PP
			EC date	Specific	General	
A	**Non-complied**					
1	The project proponent shall also submit six monthly reports on the status of the compliance of stipulated environmental cnditions including results of monitored data (both in hard copies as well as by emails) to the regional office of MoEF at Bhopal, the respective Zonal office	PP has not submitted six monthly compliance reports regularly.	29/03/2011	-	General Condition No xii:	It is to submit that present management have taken over old unit in the year 2018. Thereafter the PP is complying with six monthly compliances by uploading and submitting it.

S No	Conditions	Observation of RO (abridged)	Condition no.			Response by PP
			EC date	Specific	General	
	of CPCB/ SPCB shall monitored stipulated condition.					
2	A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.	Environment management cell has not been established	13/06/2018	-	General Condition No 15	PP has established Environment Management cell. It is directly reporting to Board of Directors
B	**Partially complied**					
1	Compliance to all the specific and general condition stipulated for the existing plant by the Central/ State Government shall be ensured and regular reports submitted to the Ministry's Regional Office at Bhopal.	PP has not submitted six monthly compliance reports regularly	29/03/2011	Specific Condition No i	-	It is to submit that present management have taken over old unit in the year 2018. Thereafter PP is complying with six monthly compliances by uploading and submitting it. Now the current management have established dedicated Environment Management Cell and are submitting six monthly compliance report regularly.
2	Total water requirement from CSIDC shall not exceed 2,580 m3/day. Permission shall be obtained for drawl of water. efforts shall further be made to use maximum water from the rain water harvesting sources. The company shall installed air cooled condensers. Close circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluent shall be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank	Construction & installation of Sewage Treatment Plant is yet to be complete	29/03/2011	Specific Condition No vii		Sewage Treatment Plant of 10 KLD has been established and operating. Zero discharge is being maintained.

S No	Conditions	Observation of RO (abridged)	Condition no.			Response by PP
			EC date	Specific	General	
	followed by soak pit.					
3	Proper utilization of fly ash shall be ensured as per fly ash Notification, 1991 and subsequent amendment in 2009.	Installation of brick making plant is yet to be completed.	29/03/2011	Specific Condition No xii		The 44100 TPA capacity Fly Ash brick plant is established and operating since the year 2018.
4	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition end use of solid/ hazardous waste should be submitted to the Ministry' regional office at Bhopal, CECB and CPCB.	Report of Toxic metal content analysis of ash, dolochar, kiln accretion, SMS slag has not been submitted.	29/03/2011	Specific Condition No xviii		Toxic metal content analysis of ash, dolochar, kiln accretion, SMS slag has been done. it is submitted with the present EC compliance reports.
5	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including result of the monitored data on their website and shall update the same periodically. It shall simultaneously their be sent to the Regional Office of the MoEF, the respective zonal office of CPCB and SPCB. The criteria pollutant levels namely PM, RSPM, SO_2, NOx, (ambient level as well as stack emission) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	PP has not uploaded the status of compliance of the stipulated EC conditions, including results of monitored data on their website.	29/03/2011	-	General Condition No xi:	The current management have taken over this unit from old promoters in year 2018 and current management is now regularly submitting 6 monthly compliance reports and same is uploaded in their website under www.sambhv.com Monitoring reports are also submitted as well as the DRI stack is connected with Online Stack Monitoring system of CPCB and CECB server.
6	Submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mails) to the Regional Office of MoEF&CC, the respective zonal office of CPCB and the SPCB.	PP has not submitted six monthly compliance reports regularly.	13/06/2018	-	General Condition Nos 1 & 23	The current management have taken over this unit from old promoters in year 2018 and current management is now regularly submitting 6 monthly compliance reports

S No	Conditions	Observation of RO (abridged)	Condition no.			Response by PP
			EC date	Specific	General	
7	The project proponent shall (water pollution control): a. Adhere to 'zero liquid discharge' b. Provide sewage treatment plant for domestic waste water and c. Provide the ETP for effluent of rolling mills to meet the standards prescribed in G.S.R 277 as amended from time to time.	Installation of STP is in progress & it will be completed by end of Feb, 2020	13/06/2018		General Condition No 4	The establishment of STP is completed and STP in regular operation.

1.1.19 During the meeting, project proponent submitted written submission on the following points:

- PP undertake to develop 9 meters landscaping on both the sides of canal and natural drain.
- PP undertake to adopt nearest Sarora village and will conduct socio-economic study for village within 3 years to establish improvement of socio-economic development status,
- The company is having MoU dated 01/06/2021 with Cement Plant name "Ultratech Cement Ltd" for Fly Ash supply and accordingly the company supplying the Fly Ash.
- PP has given certificate of stability for expanded structures/ sheds/ facilities at project site certified by Charted Engineer designer, Raipur dated 12/02/2020 which is approved by Dy. Chief Inspector, Raipur on 03/05/2019.
- PP submitted that Carbon Emission Study will be conducted within 1 year. Report will be submitted with six monthly compliance report to RO MoEF&CC.
- Adequate facilities to Online monitor SO_2 and CO will be installed. CO level monitoring facilities with auto cutoff alarm system in the Ferro Alloys plant area and on furnace platform will be provided.
- PP submitted copy of amendment in CTO to include the facility of 1x10 MT induction furnace with 30,000 TPA billets production and Rolling Mills of 1,50,000 TPA in facilities mentioned in CTO dated 28/11/2020.
- To control fugitive dust, PP will provide following additional arrangements:
  - Fog / Mist Sprinklers will be provided at all conveyors point and on bulk raw material storage area (at the transfer points) like Iron Ore, Coal and for Fly Ash and similar solid waste storage areas.
  - Proper covered vehicle will be used while transport.
  - Wheel Washing mechanism will be provided in entry and exit gates.

Observations of the Committee

1.1.20 The Committee noted the following:

i. The Committee noted that the EIA/EMP report for the expansion project is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.

ii. The Committee also deliberated on the public hearing issues along with action plan

submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.

iii. The Committee deliberated upon the certified compliance report of RO and action taken report submitted by PP with respect to the compliance status of the existing EC and found it's satisfactory.

iv. The EAC also deliberated on the written submissions submitted by the proponent and found it satisfactory.

Recommendations of the Committee

1.1.21 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements:

A. Specific Condition:

i. The irrigation canal and nallah passing through the project site shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 9 m land on both sides of the irrigation canal and nallah. This shall be in addition to the 33% green belt development.

ii. Three tier Green Belt shall be developed in a time frame of one year covering 33% of total area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. This shall include development of green belt with a width of 20 m within the project site towards Sarora village located at 0.6km from the site Bilari Reserved Forest located adjacent to the site. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

iii. Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.

iv. 1914 KLD of water requirement after the proposed expansion shall be met from Lakhna Anicut surface water source after prior approval of the Competent Authority. No ground water abstraction is permitted.

v. Cold Rolling Mill (CRM), colour coating and galvanizing plants shall have Common Effluent Treatment Plant (CETP) to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.

vi. Following additional arrangements to control fugitive dust shall be provided:
   a. Fog / Mist Sprinklers at all conveyors point and on bulk raw material storage area (at the transfer points) like Iron Ore, Coal and for Fly Ash and similar solid waste storage areas.
   b. Proper covered vehicle shall be used while transport of materials.
   c. Wheel Washing mechanism shall be provided in entry and exit gates with complete recirculation system.

vii. All internal road and connecting road from project site to main highway shall be developed and maintained with suitable Million Axle Standard (MSA) as per the traffic load due to existing and proposed project.

viii. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.

ix. Particulate matter emission from stacks shall be less than 30 mg/Nm^3.

x. 85-90 % of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil as a fuel.

xi. Submerged Arc Furnace shall be of closed type with 4th hole extraction system. No Ferro-chrome shall be manufactured.

B. General conditions

I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as two Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

iv. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

v. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

vi. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.

vii. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.

viii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414 (E) dated 30th May 2008; G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the

plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

iv. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.

v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

vi. Tyre washing facilities shall be provided at the entrance/exit of the plant gates.

IV. Noise monitoring and prevention

i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V. Energy Conservation measures

i. Energy conservation measures may be adopted such as adoption of solar energy and provision of LED lights etc., to minimize the energy consumption.

VI. Waste management

i. Used refractories shall be recycled.

ii. Kitchen waste shall be composted or converted to biogas for further use.

VII. Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

ii. Project proponent shall submit a study report on De-carbonization program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX. Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-

economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

1.2 Expansion of Cement Plant with Increase of Clinker Production from 0.165 MTPA to 3.00 MTPA and Cement from 0.252 MTPA to 2.00 MTPA (OPC/PPC/PSC/Composite Cement/GGBS) along with installation of 12 MW Waste Heat Recovery Power Plant by **M/s. Shiva Cement Limited** located at Village Telighana, P.O. Bringatoli, Kutra, **District Sundargarh, Odisha**. [Online Proposal No. IA/OR/IND/255534/2010, File No. J-11011/84/2008- IA II (I)] – **Environment Clearance – regarding.**

1.2.1 M/s. Shiva Cement Limited has made an online application vide proposal no. IA/OR/IND/255534/2010 dated 07/02/2022 along with copy of EIA/EMP Report, Form - 2 and Certified Compliance Report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(b) Cement Plants, under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by Project proponent

1.2.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord	Validity of ToR
13/11/2020	Standard Terms of Reference issued	Standard ToR	21/11/2020	20/11/2024

1.2.3 The expansion project of cement plant of M/s. Shiva Cement Limited (SCL) is located in Telighana Village, P.O. Bringatoli, Kutra, Dist. Sundargarh, Odisha is for expansion of clinker production capacity from 0.165 MTPA to 3.0 MTPA and Cement (Ordinary Portland Cement (OPC)/Portland Pozzolona Cement (PPC)/Portland Slag Cement (PSC)/Composite Cement (CC)/ Ground Granulated Blast-furnace Slag (GGBS)) capacity from 0.252 MTPA to 2.0 MTPA with installation of 12 MW Waste Heat Recovery Power Plant.

1.2.4 Environmental Site Settings:

S.No.	Particulars	Details
i.	Total land	28.68 Ha.

<table>
<tr><th>S.No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td></td><td></td><td>[Private Land: 28.68 ha]

Land use: Industrial land
<table>
<tr><th>S No</th><th colspan="2">Details</th><th>Before Expansion</th><th>After Expansion</th></tr>
<tr><td>1</td><td colspan="2">Built up area</td><td>5.19</td><td>10.41</td></tr>
<tr><td>2</td><td colspan="2">Storage (Limestone, Coal/Petcoke and correctives)</td><td>0.00</td><td>2.35</td></tr>
<tr><td>3</td><td colspan="2">Road area</td><td>1.00</td><td>3.00</td></tr>
<tr><td>4</td><td colspan="2">Parking area</td><td>1.00</td><td>2.80</td></tr>
<tr><td>5</td><td rowspan="3">Existing Greenbelt</td><td>Existing Greenbelt – Plant area</td><td rowspan="3">6.12</td><td>3.29</td></tr>
<tr><td>6</td><td>Existing Greenbelt – Colony area</td><td>1.93</td></tr>
<tr><td>7</td><td>Existing Greenbelt – Truck area</td><td>0.90</td></tr>
<tr><td>8</td><td>Proposed Greenbelt</td><td>Plant area</td><td>-</td><td>3.50</td></tr>
<tr><td></td><td></td><td>Area of Colony</td><td>2.43 (Greenbelt + Buildings)</td><td>0.50 (Building area conversion to greenbelt)</td></tr>
<tr><td>9</td><td colspan="2">Vacant Area</td><td>12.94</td><td>0.00</td></tr>
<tr><td></td><td colspan="2">Total Area</td><td>28.68</td><td>28.68</td></tr>
</table></td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>Expansion activities is proposed in exiting project area of 28.68 Ha. Complete land of 28.68 ha is under possession of the M/s. Shiva Cement Limited. No additional land is required for proposed expansion activities.

However, 29.63 Ha of land will be required for setting up of railway siding and 9.23 Ha land for Overland Belt Conveyor.

SCL will commission railway siding (29.63 Ha) and Limestone belt conveyor in 9.23 Ha (Over Land Belt Conveyor-OLBC) within 3.0 years of obtaining Environmental Clearance</td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td><u>Project Site:</u>
Existing land belonging to SCL is 28.68 Ha and the project expansion of cement plant will be executed within the existing land.

However, 29.63 Ha of land will be required for setting up of railway siding and 9.23 Ha land for Overland Belt Conveyor.

The actual additional land requirement for the proposed</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td></td><td></td><td>expansion is 29.63 Ha (73.22 acres). However, due to the existence of some part plots at the boundary of the required land, it is required to be acquired the total plot as the land owners do not sell part plots. Hence SCL is bound to purchase the full plots and therefore the total land applied for acquisition is 85.15 acres.

9.23 Ha (22.80 Acres) of land will be acquired for over land belt conveyor of 8.7 km length. The corridor width of the conveyor is 12 m. The land is Scheduled Land and SCL proposes to acquire the land through Govt of Odisha. Project affected families are 171 nos. Land and R&R cost is Rs. 18.50 Crore and Cost of OLBC is Rs. 126 Crore. Total project cost for OLBC is Rs. 144.5 Crore.

Acquisition status:
SCL has approached IPICOL for the land of 43.7 Ha (107.95 acres). 34.47 Ha (85.15 acres) for railway siding and 9.23 Ha (22.80 acres) for Overland Belt Conveyor).

IPICOL vide letter No. IPICOL/SW/SCL-Exp./1 dated 08/06/2021 recommended acquisition/ alienation and allotment of a total of 43.7 ha (107.95 acres) of land in favour of SCL by IDCO to set up the facilities.

SCL has submitted the necessary documents to IDCO in response to its letter no IDCO/P&A/LAE/8157/2021/1455 dated 15/07/2021 for filling the acquisition and the lease proposal with appropriate authority.

Administrative approval from the Dept. of Industries is awaited.

SCL will commission railway siding (29.63 Ha) and Limestone belt conveyor in 9.23 Ha (Over Land Belt Conveyor-OLBC) within 3.0 years of obtaining Environmental Clearance.

<u>Study Area</u>:
<table>
<tr><td>Habitation</td><td>Distance</td><td>Direction</td></tr>
<tr><td>Telighana</td><td>0.63 km</td><td>South</td></tr>
<tr><td>Kandeimunda</td><td>0.10 km</td><td>NE</td></tr>
</table>
</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all corners of the project site.</td><td>
<table>
<tr><th>S. No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22°13'36.12"N</td><td>84°24'48.97"E</td></tr>
<tr><td>B</td><td>22°13'48.91"N</td><td>84°24'57.13"E</td></tr>
<tr><td>C</td><td>22°13'43.11"N</td><td>84°24'44.82"E</td></tr>
<tr><td>D</td><td>22°13'43.51"N</td><td>84°25'29.08"E</td></tr>
</table>
</td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>280 m above mean sea level.</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land Involved</td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><u>Study Area</u>: NIL

<u>Study area:</u>
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Kantijharia Nala</td><td>3.41 km</td><td>NNE</td></tr>
<tr><td>Nakti Jor</td><td>3.70 km</td><td>SE</td></tr>
<tr><td>Daku Nadi</td><td>3.71 km</td><td>West</td></tr>
<tr><td>Nearest Water Tank</td><td>3.0km</td><td>WSW</td></tr>
<tr><td>Matwali Jor</td><td>3.82 km</td><td>WNW</td></tr>
</table></td></tr>
<tr><td>viii.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td><u>NIL</u>
One Reserved Forest is located within study area:
Udarama R.F- 8.0 km, WNW
Khatang R.F - 7.0 km, E
Rajabasa R.F - 4.2 km, S
Mahabir R.F - 9.5 km, SW
Mundalasa R.F - 7.0 km, SE
Luhuraberni R.F - 5.5 km, ESE
Dahijira R.F - 3.0 km, ENE
Amirchua R.F - 8.6 km, WNW
Panchra R.F - 9.5 km, NW
Lampi R.F - 8.0 km, N
Bangala Paharh R.F. - 9.5 km NNW</td></tr>
<tr><td>ix.</td><td>Interlinked Project</td><td>M/s Shiva Cement has two interlinked limestone mine projects and the status of the Environment Clearance (EC) for both the projects is as follows:
i. Mine - 1: Expansion of existing Limestone Mine: Khatkurbahal Limestone & Dolomite Mine (ML Area- 72.439 ha) with Expansion in Production Capacity from 0.3475 MTPA to 1.50 MTPA.
Status of Environmental Clearance:
Terms of Reference (Proposal No. SIA/OR/MIN/37895/2019) has been issued by the SEIAA, Odisha vide letter No. File No.37895/23-MINB1/03-2020 dated 14/08/2020. Public Hearing for this expansion project has been conducted on 24/08/2021 and SEAC meeting for EC was held on 07/12/2021. The SEAC has recommended the project for grant of Environment Clearance vide minutes of meeting dated 28/01/2022.
ii. Mine- 2: Proposed Limestone Mine Khatkurbahal (North) Block, Area: 156.43 ha) with production capacity of Limestone 1.6 MTPA located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha.
Status of Environmental Clearance:
The Terms of Reference has been granted by the MoEF&CC vide letter No. F.No. J-11015/47/2020-IA. II (M) dated 19-</td></tr>
</table>

S.No.	Particulars	Details
		11-2020. PH for this expansion project was conducted on 24/08/2021 and EAC meeting for EC was held on 30.11.2021 and 16/02/2022. The EAC (non-coal mining) has recommended grant of Environment Clearance to the project vide minutes of meeting dated 28/02/2022.

1.2.5 The existing project was accorded Environment Clearance by MoEF&CC vide letter no. J-11011/84/2008-IA-II (I) dated 23/05/2011 for expansion of Cement Plant from 0.115 MTPA to 0.825 MTPA clinker and from 0.132 MTPA to 1.05 MTPA Cement production. M/s. SCL obtained Extension of validity of the existing EC for 3 years i.e., up to 22/05/2021 vide MoEF&CC letter no: J-11011/84/2008-IA-II (I), dated 15/06/2018, and the validity has further been extended up to 22/05/2022 vide MoEF&CC notification S.O. 221 (E) dated 18/01/2021 due to Covid 19 pandemic. Consent to Operate from OSPCB has also been obtained vide letter No. 3713, IND-I-CON-119 dated 12/03/2021 and valid up to 31/03/2022 for the Phase-I.

1.2.6 Implementation status of the existing EC:

S No	Facilities	Units	As per EC dated 23/05/2011	Implementation Status as on January, 2022	Production as per CTO
1	Clinker	MTPA	0.825	1) 0.165 (implemented)- Unit -I 2) 0.66 MTPA (under implementation) Unit-II	0.165
2	Cement (OPC/ PPC/ GGBS/ PSC/ Composite Cement)	MTPA	1.05	1) 0.252 (implemented)- Unit -I 2) 0.798 MTPA (under implementation) Unit-II	0.252

Note: The proponent has further submitted that the ongoing construction activities envisaged in the existing EC dated 15/06/2018, valid up to 22/05/2022 are likely to be completed by March 2022 and accordingly Consent to Operate application will be submitted in March 2022 before commissioning of the project. No construction activities will be undertaken beyond 22/05/2022 until fresh Environment Clearance is obtained.

1.2.7 The unit configuration and capacity of existing and proposed project is given as below:

Particulars	Present Capacity	Capacity After Expansion
Clinker	0.165*	#3.0
Cement (OPC/ PPC/ GGBS/ PSC/ Composite Cement)	0.252*	2.0
Waste Heat Recovery power generation (MW)	-	12.0
Note: *After implementation of existing EC, the old Unit of 0.165 MTPA clinker and 0.252 MTPA Cement will be dismantled as it's an inefficient plant. The proposed new plant will be energy and environmentally efficient. #Out of 3.0 MTPA, 2.0 MTPA clinker will be sent to Split Grinding units		

1.2.8 The details of the raw material requirement for the expansion cum proposed project along with its source and mode of transportation is given as below:

S. No.	Raw material	Existing requirement (TPA)	Total requirement after proposed expansion (TPA)	Source	Distance /Transportation
1	Limestone	172,500	31,00,000	Captive Mine	12 km (By road/ OLBC)
2	Steel Slag	0	9,00,000	Bhushan JSW, Jharsuguda	85 KM (By Road)
3	Laterite/ Clay	4,600	2,00,000	Lanjibera/ Kutra	12 km (By road)
4	Coal* (imported)	28,750	360,000	Paradeep Port	460 km (by rail)
5	Coal* (Indian)	34650	480,000	SECL, Korba (Chhattisgarh)	270 km (by rail)
6	Pet Coke*	0	260,000	IOCL, Odisha	460 km (by rail)
7	Alternate Fuel	0	33,000	Different sources (by road)	
8	BF Slag	56,760	820,000	Rourkela	60 km (By road)
9	Gypsum	6,600	85,000	Paradeep Phosphates Ltd.	490 km (By road)
10	Fly Ash	5,280	200,000	Rourkela/ Jharsuguda	60 km / 85km (By road)

Note: All material will be transported by Road initially for about 3.0 years after obtaining Environmental Clearance

*Coal and Pet Coke can be used in any combination depending on process & quality requirements

[Sulphur content of the limestone varies from 0.20 to 0.40 % as SO_3 (as S - 0.08 to 0.16 % (Source: Shiva Cement Ltd)].

1.2.9 The water requirement of the plant after expansion is 1990 m^3/day of which fresh water requirement is 1792 m^3/day. About 198 m^3/day of treated waste water will be used to meet the water requirements of plantation and dust suppression. SCL has obtained permission for withdrawal of 688 m^3/day water from the CGWA vide letter No CGWA/NOC/IND/REN/1/2021/6576 dated 20/07/2020 and valid up to 19/07/2023. The additional 1104 m^3/day of water will be sourced from the mine pit after laying of water pipeline along the 9 km long OLBC corridor. Entire water requirement for the industrial consumption, except drinking and domestic, will be met from the mine pit.

1.2.10 The existing peak power requirement of the cement plant is 5 MW which is met from the state grid. Additional power requirement will be 39 MW and the same will be sourced from the grid & 12 MW WHRS through a dedicated 132 kV overhead grid line.

1.2.11 Baseline Environmental Studies:

Period	Post Monsoon Season, 2020 (October'2020, November'2020 and December'2020)
AAQ parameters at 08 Locations	$PM_{2.5}$ = 6.0 to 37.0 µg/m^3 PM_{10} = 21.0 to 80.0 µg/m^3 SO_2 = 3.0 to 18.0 µg/m^3

	NOx = 9.0 to 31.0 µg/m^3 CO: less than 1 ppm
AAQ modelling (Incremental GLC)	**Impact of plant and transportation:** PM_{10} = 4.59 µg/m^3 - 0.50 km - SSW $PM_{2.5}$ = 2.21 µg/m^3 - 0.50 km - SSW SO_2 = 1.58 µg/m^3 - 1.5 km - SSW NOx = 9.60 µg/m^3 - 1.5 km - SSW CO = 1395.41 µg/m^3 - 0.1 km - on transportation route
Ground water quality at 08 locations	pH = 6.28 – 7.38 Total Hardness = 102.75-636.27 mg/l Chlorides = 7.94-134 mg/l Fluoride = 0.09-0.5 mg/l Heavy Metals (Zinc) = 0.02-0.1831 mg/l
Surface water quality at 07 Locations	Fresh Samples Collected pH: 7.41 to 7.78; DO: 5.1 to 6.1 mg/l; BOD: 02 to 05 mg/l; COD from 10 to 22 mg/l
Noise Levels At 08 Locations	49.9 to 71.4 dB (A) for the day time 40.5 to 62.7 dB (A) for the Night time.

Traffic assessment study Findings

- **Traffic study carried out at two locations**
  1) Near project Site-State Highway (SH-10), Biju Express Way connecting Sambalpur–Rourkela Highway:
     - Type of Road: Arterial - 4 lane divided (2 way) road
     - PCU limit: 3600 PCU per hour

  2) Near mine site at Kutra Road connecting SH-10 (Sambalpur – Rourkela Highway) to Ranchi.
     - Type of Road: Arterial - 2 lane undivided (one way) road
     - PCU limit: 1500 PCU per hour

- **Traffic impacts done in two phases**
  - Phase – 1
  - Phase – 1+2

Particulars	**Details**			**Remarks**		
	SH-10-Towards Rourkela	**Kutra road**	**SH-10-Towards Sundergarh**	**SH-10-Towards Rourkela**	**Kutra road**	**SH-10-Towards Sundergarh**
Traffic Load Study Period	10-06-2020, 08:00 AM to 10-06-2020, 08:00 PM	10-06-2020, 08:00 AM to 10-06-2020, 08:00 PM	10-06-2020, 08:00 AM to 10-06-2020, 08:00 PM	Connecting Sambalpur Rourkela Highway	Connecting Sambalpur Rourkela Highway to Captive Mine	Connecting Sambalpur Rourkela Highway
Traffic Load (Baseline) (PCU/Hr) – Max	1616 PCU's/hr during 08:00-	444PCU's/hr during 09:00-10:00 AM.	1616 PCU's/hr during 08:00-09:00 AM	LOS: C (Good)	LOS: B (Very Good)	LOS: C (Good)

	09:00 AM					
Additional Traffic Load During Operation of Project (PCU/Hr) – Max	72 PCU/Hr	0	24 PCU/Hr	Maximum trucks which would add to the existing traffic will be 18 trucks / hour (72 PCU/Hr)	0	Maximum trucks which would add to the existing traffic will be 6 trucks / hour (524PCU/Hr)
Total Traffic Load During Operation of Existing and Proposed (PCU/Hr) – Max	1688 PCU/Hr	444 PCU/Hr	1640 PCU/Hr	LOS: C (Good)	LOS: B (Very Good)	LOS: C (Good)
Traffic Capacity as Per the IRC 106:1990 For Highways (PCU/Hr)	3600 PUC per hour	1500 PUC per hour	3600 PUC per hour	IRC-106:1990 Guide line		

- No change in the Level of Service (remained at "B" and "C") of the roads due to additional traffic from SCL.

- **EMP Measures:**
  - Closed trucks will be employed for transport of Materials/Products
  - Trucks Pollution Under Control (PUC) will be employed
  - Plantation of local species has already been taken up along the road on either side
  - Monitoring of trucks to ensure compliances such as covering of trucks by tarpaulin, spillage on roads etc.
  - The existing road connecting SCL plant to SH-10 is being widened and concreted (as per IRC 37 & 58) at a cost of Rs 6.50 crores

- **Parking Facilities:**

SCL has earmarked an area of 3.70 Ha for parking facility with following

- 0.80 Ha Area for roads and free movement of trucks
- 1.70 Ha area for 500 – 600 vehicles (@30 m2 /truck)
- 0.90 Ha for greenbelt around the parking area
- 0.30 Ha for facilities to truck drivers

All facilities, such as canteen, toilets, rest rooms, etc. will be provided for truck drivers. Separate office building equipped with all communication and other infrastructure will be provided to the transporters.

Flora and fauna	There are no Schedule-I fauna species and endangered flora species presented in study area.

1.2.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

Sl. No	Type of Waste	Source Name	Quantity	Treatment before disposal	Mode of Disposal	Agreement Details for Disposal
Solid Waste						
1	Solid Waste	Cement Plant	No solid waste will be generated	Dust collected from Pollution control Equipment will be recycled back to the process	--	--
Hazardous Waste						
1	Spent Oil	Cement Plant	15 kl/Annum	None	Containers	Authorized Recycler
2	Waste grease	Cement Plant	06 TPA	None	Containers	Authorized Recycler

1.2.13 Public Consultation:

Details of advertisement given	15/07/2021- Times of India." (English News Paper) 14/07/2021- Samabad (Oriya News Paper)
Date of public consultation	26/08/2021
Venue	Ambabagicha ground, Telighana Village, under Kutra Block of Sundargarh District, Odisha State.
Presiding Officer	Chairmanship of Addl. District Magistrate (ADM) Sundargarh District.
Major issues raised	1. Land and displacement 2. Environment & pollution 3. Groundwater depletion and water scarcity - 4. Dedicated Approach Road 5. Local Employment, Proper wages and Safety of workers 6. Covid-19 Pandemic 7. Peripheral Development

Action plan as per MoEF&CC O.M. dated 30/09/2020

(A) Public hearing commitments and action plan and budget:

Concerns raised during PH	Physical activity & action plan	Particulars	Year of implementation			Total budget
			1st year	2nd year	3rd year	
Issue of displacement will be there	As there are no houses/ settlement in the land proposed to be acquired, there will be no displacement of people	Physical Target	-	-	-	
		Budget: Rs. Lakh	-	-	-	-
Company should discuss with the local inhabitants in Panchayat level for consensus.	Company had a meeting with Sarpanch, Kandeimunda in presence of ADM, Sundargarh and Tehasildar Kutra on 23-08-2021. The Sarpanch demanded to comply with their requirement in the areas of pollution	Physical Target: Env. & Pollution Control: SCL will install high efficiency pollution control systems for control of air, water and noise pollution and will strictly comply with the pollution norms of SPCB and MoEF				
		Budget:	Included in EMP cost			-
		Physical Target: Local Employment – There is a potential for employment to approx. 500 people for the proposed expansion. Local will be preferred and employment will be given based on qualification and eligibility				
		Budget: Rs. Lakh	-	-	-	-

Concerns raised during PH	Physical activity & action plan	Particulars	Year of implementation			Total budget
			1st year	2nd year	3rd year	
	control, local employment and peripheral development	Physical target: Peripheral development will be undertaken by SCL in the following areas: - Livelihood - Education - Health & sanitation - Rural development				
		Budget: Rs. Lakh	SCL will spend the allocated budget for various peripheral development activities in a span of 3 years. Yearwise and activitywise budget allocation is detailed in subsequent points			-
Regarding increase in level of pollution, Poisonous gas emission, respiratory illness, Cement Dust deposits over houses and in agricultural lands, Los of soil fertility and crop productivity, water and noise pollution etc.	• Adequate control measures like installation of ESP, Bag filters, dust suppression system, fume extraction system, sprinklers &stacks of adequate height at relevant places will be installed. • Air borne dust shall be controlled by mobile water tanker inside the plant premises. • Maintenance and performance monitoring of air pollution control equipment shall be done at regular intervals. • All roads shall be paved on which movement of raw materials or products will take place inside the plant premises. • No waste water will be discharged outside the plant area. The plant is designed as a zero-discharge plant. The entire wastewater will be recirculated and recycled. • Domestic waste water will be treated in STP and the treated water will be used for plantation. • The equipment shall comply with the Statutory limit of 85 dB(A) (at 1 m. from the source). • Noise Reduction Systems will be provided. • Thick greenbelt will be developed around the periphery	Physical Target:	The physical targets for the entire activities shall be achieved in 3 years			
		Budget:	Included in EMP cost.			-
Regarding ground water depletion and water scarcity in the	The fresh water requirement of the plant after the expansion is	Physical target:	Rooftop rainwater harvesting within plant premises.	Construction of a) 2 check dams in village Telighana and		

Concerns raised during PH	Physical activity & action plan	Particulars	Year of implementation			Total budget
			1st year	2nd year	3rd year	
locality due to drawl of ground water by company.	1792 m^3/day. 688 m^3/day water will be sourced from bore wells and additional 1104 m^3/day of water will be sourced from the mine pit after laying of water pipeline.		This includes roof tops of CCR, stores, admin, workshop, packing plant and residential buildings as well as groundwater recharge of surface runoff.	Kandeimunda b) deepening/ renovation of 2 ponds in Kandeimunda and Kutra c) Construction of Roof top RWH structures in 5 govt offices and school buildings.		
		Budget: Rs 50 Lakh	Included in EMP cost	Rs. 50 Lakh		**Rs. 50 Lakh**
	Supply of drinking water during summer	Physical target:	Drinking water supply through tankers in 3 villages, i.e. Telighana, Kutra and Kandeimunda as per requirement. Water supply will be continued even after 3 years and will also be extended to other villages based on their needs.			
		Budget: Rs. 18 Lakh	Rs. 6 Lakh	Rs. 6 Lakh	Rs. 6 Lakh	**Rs. 18 Lakh**
	Development of drinking water facility	Physical target:	Bore well construction and provision of solar pumps (2 nos each in village Telighana, Kutra and Kandeimunda)			
		Budget: Rs. 30 Lakh	Rs. 10 Lakh	Rs. 10 Lakh	Rs. 10 Lakh	**Rs. 30 Lakh**
	Utilization of mine pit water to conserve groundwater	Physical target:	Laying of water pipeline from Khatkurbahal mine to plant for carrying mine pit water			
		Budget:	Included in project cost			-
Regarding construction of dedicated road from State Highway to plant	The existing road is the only road connecting our plant to SH-10. The company proposes for widening and concreting of this road	Physical target:	Widening and concreting of approx. 1.5 km road will be completed by July 2022		-	
		Budget: Rs. 650 Lakh	Rs. 650 Lakh		-	**Rs. 650 Lakh**
Regarding employment to local people	Top most priority will be given to the local people based on their academic qualification and eligibility. In addition, skill development (SD) for unemployed local youths through National Skill Development Corporation and Odisha Skill Development Authority. Construction of SD Centre with the necessary infrastructure	Physical target:	Construction of Skill Development Centre/ Vocational training centre building with 6 AC rooms near plant premises. Installation of 20 nos. of sewing machines, 10 nos. of computer systems, 10 nos. of machines for making hand craft items along with necessary raw materials, organizing 6 workshops annually for practical training, provision of qualified trainers, approved course contents, independent 3rd party assessment, equipment, machinery and necessary consumables/ raw materials based on the need of the local people			
		Budget:	Rs. 30 Lakh	Rs. 60 Lakh	Rs. 60 Lakh	**Rs. 150 Lakh**
Proper wages to Local labours,	Wages will be paid strictly as per statutory norms	Physical target:	-	-	-	
		Budget:	-	-	-	-
Regarding proper safety measures to be taken for workers to be deployed in company.	Company will strictly comply with all safety measures in accordance with State Factory Rules and other applicable health and safety rules	Physical target:	All safety measures related to plant and machinery have been incorporated in plant design. Other measures such as provision of safe workplace, hand rails, toe guards, safe platforms, proper insulation, provision of sensors for equipment safety, required safety gadgets to workers, appointment of safety officers (in each shift), job safety analysis, regular safety training, ensuring good housekeeping in plant premises, regular health checkup of workers, provision of first aid and a health centre within the premises and implementation of Safety Management System in line with ISO 45001			
		Budget:	Included in project and EMP cost			-
Regarding peripheral	Construction of hospital	Physical target:	Construction of 20 bed hospital with doctors,			

Concerns raised during PH	Physical activity & action plan	Particulars	Year of implementation			Total budget
			1st year	2nd year	3rd year	
development	in the area		paramedical staff, minor OT, Emergency, Pathology lab, gynecology and other required facilities near plant in village Telighana			
		Budget:	-	Rs. 150 Lakh	Rs. 150 Lakh	**Rs. 300 Lakh**
	Village infrastructure development	Physical target:	Construction of 400 Mtr CC road along with drainage (Backside of colony to Telighana village)	Construction of 800 Mtr CC road along with drainage (Road leading from plant backside to Telighana village)	Construction of 1 km CC road along with drainage (Road leading from plant gate to Kandeimunda village)	
		Budget: Rs. 125 Lakh	Rs. 60 Lakh	Rs. 95 Lakh	Rs. 120 Lakh	**Rs. 275 Lakh**
	Sanitation (public toilets)	Physical target:	Construction of public toilets 5 nos each in village Telighana, Kandeimunda, Bringatoli and Kutra. Total 20 nos.			
		Budget: Rs. 15 Lakh	Rs. 5 Lakh	Rs. 5 Lakh	Rs. 5 Lakh	**Rs. 15 Lakh**
	Development of building infrastructure, playground, class rooms, library facilities and providing computers in the Local schools	Physical target:	Construction of 4 extra rooms in govt school, village Telighana	Development of play ground in Kutra High School and providing sports kits to students	Computer labs and 2 nos of smart boards in village schools of Telighana and Kandeimunda	
		Budget: Rs. 32 Lakh	Rs. 12 Lakh	Rs. 10 Lakh	Rs. 10 Lakh	**Rs. 32 Lakh**
	Electrification through Solar LED Street lighting in villages	Physical target:	10 nos of solar street lights in Kutra village	10 nos of solar street lights in Telighana village	10 nos of solar street lights in Kandeimunda village	
		Budget: Rs. Lakh	Rs. 7 Lakh	Rs. 7 Lakh	Rs. 7 Lakh	**Rs. 21 Lakh**
		Total budget:				**Rs. 1541 Lakh**

B. Detailed action plan with physical targets for need based activities:

Need based activities	Particulars	Year of implementation		
		1st year	2nd year	3rd year
Supporting health, nutrition and sanitation	Physical target	Providing nutritious diet package to pregnant women and new mothers for their baby's physical and mental health, providing support for timely vaccination		
	Budget (Rs. 9 Lakh)	Rs. 3 Lakh	Rs. 3 Lakh	Rs. 3 Lakh
	Physical target	Arranging 2 health camps in a year for elderly persons. One camp for eye check-up and free cataract surgery whereas another camp for general health check-up including blood, urine and other tests.		
	Budget (Rs.15 Lakh)	Rs. 5 Lakh	Rs. 5 Lakh	Rs. 5 Lakh

Need based activities	**Particulars**	**Year of implementation**		
		1st year	**2nd year**	**3rd year**
	Physical target	Distribution of sanitary napkins to girls and women.		
	Budget (Rs. 3 Lakh)	Rs. 1 lakh	Rs. 1 lakh	Rs. 1 lakh
Renovation and augmentation of infrastructure	Physical target	Repairing of existing tube wells	Hand pump Installation – 2 nos	Hand pump Installation – 2 nos
	Budget (Rs.3 Lakh)	Rs. 1 lakh	Rs. 1 lakh	Rs. 1 lakh
	Physical target	Repair & maint, of 1 km road in the village	Repair & maint, of 1 km road in the village	Repair & maint, of 1 km road in the village
	Budget (Rs. 30 Lakh)	Rs. 10 Lakh	Rs. 10 Lakh	Rs. 10 Lakh
	Physical target	Supply of furniture and 2 computers in 2 village schools	Supply of medicines in CHC, Kutra	
	Budget (Rs.15 Lakh)	Rs 5 Lakh	Rs 5 Lakh	Rs 5 Lakh
Support to children in education and sports	Physical target	Distribution of school bags, books, bicycles, stationery items to 50 students	Sponsoring 30 candidates for ITI training (fee & other educational expenses)	Providing sports kits to children (25 nos) and supporting them to participate in various sports tournaments etc.
	Budget (Rs. 17 Lakh)	Rs 2 Lakh	Rs 10 Lakh	Rs 5 Lakh
	Physical target	Scholarships to 10 meritorious students every year		
	Budget (Rs. 6 Lakh)	Rs 2 Lakh	Rs 2 Lakh	Rs 2 Lakh
Facilitate carrier-oriented programs to make youth eligible for various job opportunities	Physical target	Vocational training for self-employment in the field of auto mechanic, electrician, drill operator, loader operator, Maintenance Crew, excavator operator, HEMM Mechanic etc.		
	Budget (Rs. Lakh)	Covered in Public Hearing related issues		
	Physical target	Financial assistance to 10 students from PAFs towards coaching for competitive examinations		
	Budget (Rs. 15 Lakh)	Rs. 5 Lakh	Rs. 5 Lakh	Rs. 5 Lakh
Sustainable livelihood	Physical target	Organizing driving and vehicle maintenance workshops for PAFs (2 sessions in a year)		
	Budget (Rs.6 Lakh)	Rs. 2 Lakh	Rs. 2 Lakh	Rs. 2 Lakh
	Physical target	Training to PAFs through experts in the field of agriculture & livestock through workshop (2 sessions in a year)		
	Budget (Rs. 6 Lakh)	Rs. 2 Lakh	Rs. 2 Lakh	Rs. 2 Lakh
	Physical target	Training to PAFs for papad making, sanitary napkin making, sewing training through workshop by area expert (4 sessions in a year)		
	Budget (Rs. 15 Lakh)	Rs. 5 Lakh	Rs. 5 Lakh	Rs. 5 Lakh
	Total budget Rs. 140 Lakh			

1.2.14 The capital cost of the project is Rs. 2194.5 Crores and the capital cost for environmental protection measures is proposed as Rs. 294.9 crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.14.505 Crores. The employment generation from the proposed project / expansion is 500 (locals will be preferred). The detail of cost for environmental protection measures is as follows:

S No	**Particulars**	**Capital Cost (Rs. Crore)**	**Recurring Cost per annum (Rs. Crore)**
1	Air Pollution Control	224.5	13.5
2	Wastewater Management	1.0	0.06

S No	Particulars	Capital Cost (Rs. Crore)	Recurring Cost per annum (Rs. Crore)
3	Energy Conservation Measures	10.15	0.06
4	Solid Waste Management	30.2	0.02
5	Rehabilitation and Resettlement (Land Oustees)	25.17	0.08
6	Greenbelt development	0.70	0.20
7	Rainwater Harvesting Structures	0.30	0.03
8	Environmental monitoring	2.88	0.555
	Total	**294.9**	**14.505**
9	Addressed to Public consultation concern (Public hearing issued and need based activities)	16.81	--

1.2.15 SCL has developed greenbelt in an area of 6.12 ha with sapling of 6080 trees (@ 993 trees/ha) in the cement plant complex and balance 4.0 Ha will be developed in the next two years. SCL has acquired 0.58 Ha of land in southern direction of the plant which will be developed under greenbelt making the total greenbelt area of the plant to 10.70 Ha (37 %). A 20-100 m wide greenbelt, consisting of at least 3 tiers around plant boundary is/will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species are/will be planted with a density of 2500 trees per hectare. Total no. of 26750 saplings will be planted and nurtured in 10.70 hectares in one year time frame.

1.2.16 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.2.17 Name of the EIA consultant: M/s. B.S. Envi Tech Pvt.Ltd, [Sl. No. 146, List of ACOs with their Certificate / Extension Letter No: NABET/EIA/1922/RA 0174 valid till 16/11/2022; Rev. 19, February 14, 2022].

Certified compliance report from Regional Office

1.2.18 The Status of compliance of earlier EC was obtained from Regional Office, Bhubaneswar vide letter no. 106-678/16/EPE issued by MoEF&CC, dated 18/02/2021 in the name of M/s. Shiva Cement Limited. The Action taken report regarding the partially/non-complied condition was submitted to Regional Officer MoEF&CC, Bhubaneswar on 27/02/2021 & 25/06/2021. Compliance Report Recertified by Integrated Regional Office, Bhubaneshwar Vide letter No: 106-678/16/EPE dated 28/06/2021. The details of the observations made by RO in the report dated 28/06/2021 along with its re-assessment / present status as furnished by the PP is given as below:

S No	Non-compliances (Observation made during monitoring on 15/01/2021)	Corrective action taken (Action taken report submitted by the project proponent on 27/02/2021 and 25/06/2021)	Present status	RO Observation made on 28/06/2021
1	As per GSR 826 (E) dated 16th November, 2009, PAs also need to monitor O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni and submit the results to the Regional Office of	Ambient Air Quality Monitoring is being carried out for the parameters PM_{10}, $PM_{2.5}$, SO_2, NO_2 & CO by NABL accredited third party on regular basis and results are shared to MoEF&CC during six monthly compliance report submission.	Being complied.	From reports submitted by PAs, it is observed that they have analyzed parameters such as O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni at four locations Main Gate, Office Area, Kiln Area, Colony Area. The parameters are within the stipulated standard.

S No	Non-compliances (Observation made during monitoring on 15/01/2021)	Corrective action taken (Action taken report submitted by the project proponent on 27/02/2021 and 25/06/2021)	Present status	RO Observation made on 28/06/2021
	MoEF&CC, Bhubaneswar (Specific condition No.iii)	However, as observed, PP has started periodic monitoring of Pb, NH_3, C_6H_6, BaP, As, Ni parameters and the results of the monitoring carried out on 20/02/2021 are attached**.**		
2	PAs need to conduct fugitive emission monitoring regularly in other locations such as coal mill, packing section, crushing section and submit the monitoring data to the Regional Office of MoEF&CC at Bhubaneswar. During monitoring thick layer of fines were observed in the packing area and beside the cement silo indicating poor condition of the existing dust emission control system. Similarly, thick layer of dust was found deposited on the ground in the primary crusher and secondary crusher area, coal mill area indicating poor condition of the dust control system. (Specific condition No. iv)	Fugitive emission monitoring in coal mill, packing and crushing section has been started and the monitoring results are attached. PP checked all the bag filters in packing and cement silo section and the faulty bags have been replaced and now the dust extraction has been considerably improved as indicated by the fugitive emission results shown**.** In addition, PP has taken actions to further improve the housekeeping in the primary crusher & secondary crusher area. A dedicated team has been assigned with the responsibility to oversee the housekeeping in critical /dust prone areas on regular basis.	Being complied.	From the reports submitted by projects it is observed PAs have monitored fugitive emission in coal mill, cement packing section and crushing section. Further, they have informed that faulty bags have been replaced in the packing and cement silo section. They have also assured to take action actions to improve the housekeeping in the primary crusher and secondary crusher area.
3	PAs need to submit details e.g., amount generated and amount reused for raw mill dust, coal dust, clinker dust and cement dust from pollution control devices. (Specific condition No. ix)	On an average 3500 kg/hr of dust is collected in bag filters and the entire dust is automatically recirculated in the system.	Being complied.	PAs have informed that 3500 kg/hr (average) dust is collected in the bag filters and the entire dust is recirculated in the system.
4	PAs need to intimate the total area that has been developed as green belt until now with year wise plantation and action plan for covering the 25.42 acres under green belt as mentioned in the EC. (Specific condition No.xii)	Green belt is already developed in 13acres' areas inside the plant premises. The year wise green belt development detail till date is attached**.** Action plan for covering 25.42 acres under green belt is attached.	Assured to comply	As per the report submitted by projects, it is observed that from 2013-14 to 2020-21, 13.11 acres have been planted. For the remaining land (12.3 acres), they have assured to take plantation like: year 2021-22: 1.8 acres, year 2022-23: 2.0 acres, year 2023-24: 2.5 acres, year 2024-25: 3.0 acres, 2025-26: 3.0 acres.
5	Separate budget for implementing the public hearing	Separate budget for implementing the public hearing commitments is attached**.**	Being complied.	PAs have submitted action plan for ESC activities that includes education, infrastructure development, promotion

S No	Non-compliances (Observation made during monitoring on 15/01/2021)	Corrective action taken (Action taken report submitted by the project proponent on 27/02/2021 and 25/06/2021)	Present status	RO Observation made on 28/06/2021
	commitments need to submitted to the Regional Office along with an implementation plan. Further they also need to give details of the development earned for education, health care, livelihood, women empowerment, sanitation etc. from 2011-2020 along with supporting documents. (Specific condition No.xiv)	Details of the development carried out towards education, health care, livelihood, women empowerment, sanitation from 2011 -2020 are attached**.**		of sports, skill development, drinking water supply, health care, livelihood promotion rural development, project management and environmental promotion for 2021-22 to 2027-28. They have also provided details of the development carried out for education, health care, livelihood, women empowerment, sanitation etc. from 2011-2020.
6	Details of the time bound action plan needs to be submitted immediately to the Regional Office. PAs need to provide details of the activities undertaken under "improving living conditions, promoting social development, addressing environmental issues, rural development, Swachch Bharat mission, promotion of education, environment promotion, livelihood promotion, project management cost" along with supporting documents. (Specific condition No. xv, General condition No.vii)	Execution of the project started w.e.f. Oct'2020. Time bound action plan for undertaking the peripheral development is attached**.** Details of the activities undertaken under Improving Living Conditions, Promoting Social development, rural development, swatch Bharat mission, promotion of education, Livelihood promotions during last 4 years are attached**.**	Being complied.	PAs have submitted action plan for activities under ESC from 2021-22 to 2027-28. PAs have provided information with respect to activities undertaken under "improving living conditions, promoting social development, addressing environmental issues, rural development, Swachch Bharat mission, promotion of education, environment promotion, livelihood promotion" from 2017-18 to 2020-21.
7	PAs have not provided any information with respect to corporate environmental policy. The same should be submitted to the Regional Office. (Specific condition No. xvii)	The copy of the Corporate Environment Policy is attached**.**	Being complied.	PAs have submitted a copy of the corporate environment policy to this office.
8	PAs need to conduct ambient air quality monitoring in four locations instead of three. (General condition No.iii)	One more Ambient Air Quality Monitoring Station has been added & now monitoring of 4 locations has been started. The monitoring results of four locations are attached**.**	Being complied.	PAs have submitted AAQ monitoring report from four locations: Main Gate, Office Area, Kiln Area, Colony Area. The parameters are within the stipulated standard.

S No	Non-compliances (Observation made during monitoring on 15/01/2021)	Corrective action taken (Action taken report submitted by the project proponent on 27/02/2021 and 25/06/2021)	Present status	RO Observation made on 28/06/2021
9	Poor housekeeping was observed. Thick layers of dust were observed in different areas of the project particularly in the packing area, cement silo, crushing area (primary and secondary crushing area), coal mills, dust deposition in number of places from the conveyer belt. (General condition No.vi)	Although housekeeping is earned out on regular basis throughout the plant area. However, in recent past, due to non-availability of sufficient labour due to Covid-19situation, the housekeeping of plant was affected and during monsoon, the accumulated cement/ clinker dust deposited in some areas. Now, the housekeeping is done on regular basis in all the areas. Proper SOPs are being followed to maintain a good housekeeping inside the plant areas and a dedicated housekeeping team has been put in place for maintaining good house-keeping inside the plant premises.	Being complied.	As per the photographic evidence submitted by PAs vide letter No.SCL/600-09/2020- 21/27 dated 25.06.2021, it is observed that PAs are maintaining good housekeeping inside the plant area and they have also informed that they have a dedicated housekeeping team for maintaining good housekeeping.
10	PAs need to provide a separate environmental management cell with full-fledged laboratory facilities to carry out various management and monitoring functions under the control of Senior Executive. (General condition No. ix)	Shiva Cement has a well-structured Environment Management Cell staffed with qualified personnel at site supported by team at Head Office in Mumbai. However, after commissioning of the project, SCL will further strengthen the Environment Management Cell. Organization structure of Environment Management Cell is attached**.** SCL is engaging the services of NABL, MoEF&CC & OSPCB recognized laboratory to carry out the regular environment monitoring.	Assured to comply.	PAs have submitted a copy of the organization structure of Environmental Management Cell. Further they have informed that they do not have a full-fledged laboratory since they have engaged an NABL accredited agency for carrying out environmental monitoring. They have assured to set up environmental lab after commissioning of the expansion project.
11	PAs need to clarify whether occupational health cost come under environment management. (General condition No.x)	Yes, the Occupational Health cost comes under Environment Management budget. Review of Acton Taken	Being complied.	PAs have submitted that occupational health cost comes under Environment Management budget.
12	PAs also need to inform the date of financial closure and final approval of the project by the concerned authorities. (General condition No. xiii)	Final approval of the project: 27/11/2019 Date of financial closure of the project is 27/11/2019 Start of project execution (land development work): 22/10/2020.	Being complied.	PAs have submitted the date of financial closure and final approval of the project by the concerned authorities to this office.
13	PAs may inform whether they have workshop in their mining site and whether the waste water is properly collected, treated so as to confirm to the standards prescribed under GSR 422 (E) dated 19/05/1993 and 31st December, 1993 or as	Presently we do not have any workshop in mining areas and therefore no waste water is generated. However, after expansion of mines, workshop will be provided and trade effluent will be treated as prescribed under GSR 422 (E) dated 19/05/1993 and 31st December, 1993 or as amended.	Assured to comply.	PAs have informed that there is no workshop in the mining area. They further submitted that after expansion of mines, workshop will be provided and trade effluent will be treated as prescribed under GSR 422 (E) dated 19/05/1993 and 31st December, 1993 or as amended.

S No	Non-compliances (Observation made during monitoring on 15/01/2021)	Corrective action taken (Action taken report submitted by the project proponent on 27/02/2021 and 25/06/2021)	Present status	RO Observation made on 28/06/2021
	amended. (General condition No. xv)			
14	PAs also need to inform the date of financial closure and final approval of the project by the concerned authorities. (General condition No. xvii)	Final approval of the project: 27/11/2019 Date of financial closure of the project is 27/11/2019. Start of project execution (land development work): 22/10/2020.	Being complied.	PAs have submitted the date of financial closure and final approval of the project by the concerned authorities to this office.
15	Although six monthly compliance report has been uploaded in the company's website. copy of the Environment clearance letter has not been uploaded in their website: www.shivacement.com. The same needs to be uploaded at the earliest. (General condition No.xix)	Environment clearance letter has been uploaded in the company web site i.e www.shivacement.com. May please refer the following link:https://shivacement.com/wp-content/uploads/2021/02/Environment-Clearance- SCL_compressed.pdf.	Being complied.	EC was available in the link: https://shivacement.com/wp-content/uploads/2021/02/Environment-Clearance-SCL compressed.pdf.

1.2.19 The proponent had earlier applied for Environment Clearance vide proposal no. IA/OR/IND/233908/2010 dated 03/12/2021 and the proposal was considered in 49th Reconstituted Expert Appraisal Committee (Industry 1 Sector) meeting held on 16-17th December, 2021 wherein the Committee recommended the proposal to be returned in present form due to the shortcomings.

1.2.20 The proponent has again applied vide proposal no. IA/OR/IND/250109/2010, dated 21/01/2022 with revised EIA Report addressing the observations of the EAC as mentioned below:

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
i	Project proponent has obtained EC on 23/05/2011 for the existing project and the only part of the facility has been implemented and the remaining is reported to be under implementation. However, the validity period of the EC got	SCL will comply with the directions of the Honorable EAC. The ongoing construction activities vide EC No. J-11011/84/2008-IA-II (I), dated 15-06-2018, valid up to 22-05-2022 are likely to be completed by March 2022 and accordingly Consent to Operate application will be submitted in March 2022 before commissioning of the project. No construction activities will be undertaken beyond 22/05/2022 until fresh	Chapter – 1 Para – 1.3.1 Table – 1.3 Page no. 18

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
	expired on 22/05/2021. As per MoEF&CC notification S.O. 221 (E) dated 18/01/2021, the period between 1/04/2020 to 31/03/2021 shall not be considered for the purpose of calculation of EC validity period. In view of this, PP shall not undertake the implementation of remaining project activity beyond 22/05/2022.	Environment Clearance is obtained.	
ii	Land required for the proposed expansion project is not under the possession of proponent. No credible document has been submitted in this regard.	Existing land belonging to SCL is 28.68 Ha and the project expansion of cement plant will be executed within the existing land. However, 29.63 Ha of land will be required for setting up of railway siding and 9.23 Ha land for Overland Belt Conveyor. SCL will commission railway siding and Limestone belt conveyor after acquiring the required land. The EIA Report is revised considering the existing resources **(without additional land).**	Chapter – 1 Para – 1.1 Page no – 2
iii	Land requirement stated in the IPICOL letter dated 8/06/2021 is not in consonance with the land requirement for the proposed expansion project.	The actual additional land requirement for the proposed expansion is 29.63 Ha (73.22 acres). However, due to the existence of some part plots at the boundary of the required land, it is required to be acquired the total plot as the land owners do not sell part plots. Hence SCL is bound to purchase the full plots and therefore the total land applied for acquisition is 85.15 acres.	-
iv	Rain Water Harvesting calculations have not been given in the EIA report.	The rainwater harvesting calculations indicated that the plant and mines together has potential of capturing about 2,09,288 m^3/annum from 1st year which will be	Chapter – 4 Para – 4.4.3

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
		subsequently increased to 5,79,021 m^3/annum of rainwater by the end of 5th year. The details are furnished in the Revised EIA Report	Page no 176 - 178
v	Mode of transport of limestone from mines to the plant site is reported to be by conveyor. However, Right of Way for conveyor route and its acquisition status has not been made available.	9.23 Ha (22.80 Acres) of land will be acquired for over land belt conveyor of 8.7 km length. The corridor width of the conveyor is 12 m. The land is Scheduled Land and SCL proposes to acquire the land through Govt. of Odisha. Project affected families are 171 nos. Land and R&R cost is Rs. 18.50 Crore and Cost of OLBC is Rs. 126 Crore. Total project cost for OLBC is Rs. 144.5 Crore**.** **Acquisition status:** SCL has approached IPICOL for the land of 43.7 Ha (107.95 acres). 34.47 Ha (85.15 acres) for railway siding and 9.23 Ha (22.80 acres) for Overland Belt Conveyor). IPICOL vide letter No. IPICOL/SW/SCL-Exp./1 dated 08/06/2021 recommended acquisition/alienation and allotment of a Total of 107.95 acres of land in favor of SCL by IDCO to set up the facilities. SCL has submitted the necessary documents to IDCO in response to its letter no IDCO/P&A/LAE/8157/2021/1455 dated 15.07.2021 for filling the acquisition and the lease proposal with appropriate authority. Administrative approval from the Dept. of Industries is awaited. The alignment of the conveyor is shown in the Revised EIA Report	Chapter – 2 Para – 2.9.1 Page no. 69
vi	Interlinked project status neither mentioned in the EIA report nor in the presentation made before the EAC.	The plant will be supported by the following two captive Limestone mines. **Mine – 1: Expansion of existing Limestone Mine:** Khatkurbahal Limestone & Dolomite Mine (ML Area- 72.439 ha)	Chapter - 1, Para – 1.4 Page No-19

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
		with Expansion in Production Capacity from 0.3475 MTPA to 1.50 MTPA **Status of Environmental Clearance:** The Terms of Reference (Proposal No. SIA/OR/MIN/37895/2019) has been issued by the SEIAA, Odisha vide letter No. File No.37895/23-MINB1/03-2020 dated 14-08-2020. Public Hearing for this expansion project has been conducted on 24-08-2021 and SEAC meeting for EC was held on 07.12.2021. SEAC has asked some clarifications which have been submitted. **Mine – 2: Proposed Limestone Mine (Khatkurbahal (North) Block, Area:** 156.43 ha) with production capacity of Limestone 1.6 MTPA located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha. **Status of Environmental Clearance:** The Terms of Reference has been granted by the MoEF&CC vide letter No. F.No. J-11015/47/2020-IA. II (M) dated 19-11-2020. PH for this expansion project was conducted on 24-08-2021 and EAC meeting for EC was held on 30.11.2021. EAC has raised ADS. Regarding the ToR condition for OLBC, SCL has applied for ToR amendment seeking relaxation of 2.5 years for OLBC commissioning after start of mining operations. ToR meeting scheduled on 27-01-2022 before non-coal mining committee. Both the mines are adjacent to each other and are located at about 12 km distance from the plant. Total limestone requirement for 3 MTPA clinker is 3.1 MTPA. Steel Slag of 0.90 MTPA and 0.20 MTPA of clay/ laterite will be used as additional raw material for 3.0 MTPA clinker production.	
vii	Performance measurement	Performance measurement of Pollution control equipment will be taken up once in	Chapter – 6,

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
	frequency for Pollution Control Devices (PCDs) is not included.	six months. The same is included in the Revised EIA Report. An amount of Rs 10 Lakhs per annum is allocated for the same under EMP recurring cost	Table – 6.1, Page No. 199
viii	PP also proposed expansion in colony. Impact assessment for same not incorporated with EIA report.	SCL has dropped the proposal of expansion of the colony. Considering employee welfare related to infrastructure such as school, hospital, shopping, railway connectivity etc. it has been decided to facilitate accommodation to employees at Rajgangpur town and as such, the existing colony is also proposed to be dismantled.	Chapter – 2 Para – 2.9.7 Page no. 80
ix	PP need to be given clarification for higher NOx value.	Higher NOx values in baseline are due to transport of heavy vehicles on the unpaved road from plant to SH-10. There is slow movement of vehicles on this road which contributes to rise in NOx levels. The road is currently being widened and constructed by SCL and the road is designed by the dept. of PWD Govt. of Odisha. In addition, the presence of sponge iron units, existing cement plant and material transport from limestone and dolomite mines also contribute to rise in NOx levels. SCL has proposed the following measures for NOx reduction: 1. **High Efficiency Pre-heater cyclone** – The plant is a single string, 5 stage Pre-heater (PH) system with In-Line Calciner (ILC) having new generation high efficiency cyclones with low-pressure drop, having a separation efficiency of up to 95 % for the top most cyclone before the gas leaving the pyro section. About 40 % fuel shall be fired in the kiln and the balance 60 % fuel shall be fired in the Pre-calciner (PC). The efficient PH circuit reduces dust loss thereby reducing unnecessary fuel firing into the system hence support in controlling NO_x generation at source itself	Chapter – 4 Para – 4.2.8 Page no. 153

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
		2. **PREPOL Calciner AS-MSC** (***A**ir **S**eparate - **M**ulti-**S**tage **C**ombustion*) – This calciner design is specifically selected to cope up with challenges of NOx emission. Base concept behind this design is to allow combustions in calciner to take place under controlled sub-stoichiometric zone and defined temperature window to reduce NO_x emission. This feature of NO_x reduction takes place in PREPOL Calciner by adopting either of the three points stated below or in combination of any or all – - Tertiary air split - Fuel split - Meal split The PREPOL AS-MSC enables split feeding of fuel, air and raw meal into calciner in order to reduce NOx emission which is achieved by specific control of the combustion process in the calciner. Desired reducing zone is generally created by fuel and tertiary air split whereas temperature window is created by meal split. 3. The **refractory** selected for the system is to reduce radiation losses and offer high durability. This would reduce fuel firing requirement leading to less NO_x generation. 4. The kiln system is designed with latest generation state of the art **Cooler, Polytrack 8T-5-3R-B which with its high recuperation efficiency** of more than 72% will support us in reducing fuel requirement thereby controlling NO_x generation in Kiln and calciner, both. 5. Similarly, modern **Multi Channel Burner** emphasize on proper air-fuel mix to minimize NO_x emissions to the atmosphere. Modern technology burner along with dosing systems (fuel and kiln feed), emissions monitoring and kiln control systems are considered in the	

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
		project to minimize gaseous emissions from combustion processes (e.g. NO_x, CO, SO_2)	
x	Construction of the plant is proposed in two phases. The land for second phase is not yet available.	SCL is implementing the existing EC granted vide letter no. J-11011/84/2008-IA-II (I), dated 15-06-2018 which is valid upto 22nd May, 2022. The ongoing construction activities are likely to be completed by March 22 and no construction will be undertaken beyond 22-05-2022. SCL has revised the proposal per EAC appraisal. The proposed expansion will be implemented within the existing area of 28.68 Ha. SCL will commission railway siding and Limestone belt conveyor after acquiring the required land of 29.63 Ha and 9.23 Ha respectively	-
xi	Surface water quality results have been reported wrongly with respect to BOD parameter. Fresh analysis of surface water sampling needs to be carried out.	Fresh surface water samples are collected. BOD values are in the range of 02 to 05 mg/l. The analysis reports of fresh surface water samples collected are furnished in the Revised EIA Report	Chapter – 3 Para – 3.3.4 Page No. 95 Annexure - 3B Page No. 513 - 527
xii	No information has been furnished with respect to co-processing of hazardous waste and monitoring of dioxins and furans.	SCL has conducted a study in nearby area (up to 250 km radius) on the availability of high calorific value hazardous waste that can be co-processed in cement kiln. Information was also obtained from CII database. As per available details, only spent solvent is available at Jharsuguda in moderate quantities which we may use in the kiln. The quantities of other hazardous waste generated by the industries are very small/ negligible. Inventory of hazardous and non-hazardous waste available in the area is enclosed.	Chapter – 4 Para – 4.2.10 Page no. 165 And Chapter – 6 Table – 6.1 Page no. 199

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
		SCL also proposes to use non-hazardous wastes such as rice husk, groundnut shell etc. which are abundantly available in the nearby area. Refuse Derived Fuel (RDF) has also been considered for use as alternate fuels in the Kiln which will minimize GHG emission as well as also contribute towards efficient management of solid waste in local area. SCL will make provision for firing of hazardous waste as and when available in substantial quantities. Monitoring of dioxins and furans will be carried out in accordance with CPCB guidelines, dated 23-02-2010 when Hazardous waste is fired. Details are provided in the Revised EIA Report.	
xiii	For the initial two years, nearly 5 MTPA lime stone is proposed to be transported (19.2 km) by road. The impact assessment for the same has not been carried out.	The impact assessment on air quality is re-estimated considering 3.1 MTPA of limestone transport from mines to the plant. Steel Slag of 0.90 MTPA and 0.20 MTPA of clay/ laterite will be used as additional raw material for clinker production. In addition to above 4.2 MTPA, about 5.62 MTPA of other material transport i.e. clinker, cement and other raw material are also considered for cumulative impact assessment considering transportation by road	Chapter – 4 Para – 4.2.1-4.2.7 Page no. 144 - 152
xiv	Google map of the site shows dense plantation in the plant area proposed. Status of this land is not clear.	The proposed land is private agriculture land where only about 35 % of the area is under cultivation with paddy and pulses like arhar & moong while the remaining area is lying vacant. Approx. 550 nos of trees are existing in the area. The details of trees are as follows: Neem 97 nos, Teak wood 83 nos, Jamun 32 nos, Mango 16 nos, Karanja 35 nos, Areca Palm 28 nos, others 259 (babool, date palm, simel, sirisa etc.)	-

S No	Observation of EAC made during 16-17th December, 2021	Compliance	Reference in Revised EIA Report
		The land, after the acquisition, will be used for laying railway siding and it will be ensured that only the bare minimum number of trees falling under the proposed railway siding area are cut with due permission from the concerned DFO and the remaining trees are preserved. As part of the compensatory plantation which is proposed to be done adjacent to the railway siding area, the company will plant 3 times the number of trees cut/cleared.	
xv	PP has not provided the continuous AAQ station in the existing cement plant even after the lapse of 10 years.	The plant since inception in 1985 by M/s IPI-SP, the company's working was not satisfactory resulting in high financial loss. The losses continued and the company was declared sick in 1992 and was referred to the BIFR, Govt. of India. BIFR reviewed the case and finally took the case for amalgamation of this sick unit with Shiva Cement Ltd. In the year 1997. The plant was inoperative for a long time and finally it re-started its production in the year 1998 with 0.115 MTPA clinker capacity. In the year 2007, SCL entered into JV agreement with ACC but due to financial crisis caused by dissociation of ACC, the company was again in financial crisis. Finally, in 2017, JSW Cement took over the management control of the company through equity purchase agreement with revival proposal of this unit which is currently being implemented. SCL have already planned to install 3 nos of CAAQMS for the ongoing project and the same will be installed within 6 months, i.e. by June'22. Undertaking of SCL is enclosed in the Revised EIA Report	Annexure – 1B Page No. 361

Observations of the Committee held on 28th, 29th and 31st January, 2022

1.2.21 The EAC noted the following:

i. Plant layout needs to be altered to accommodate clinker grinding unit, cement packaging unit and loading facility and cement storage and transportation facility. This will increase green belt to 33 % minimum. At present the Plant area does not have space for green belt. Only 3.29 ha land shall be available (11% only). The green belt shown on the eastern side of the plant is only an avenue plantation and not a green belt.
ii. Water requirement for green belt shall be taken in account while preparing water balance and also in EMP cost.
iii. Revised plant will result in change the chimney locations and AAQ modelling has to be revisited accordingly.
iv. Telighana village is only 630 m south from the project site. Control measures to be adopted in this regard has not been furnished.
v. 3750 trucks shall ply per day inside the factory.
vi. Time frame for installation of overhead belt conveyor has not been committed by the proponent. In view of this, there is no clarity on the installation of overhead belt conveyor.
vii. Alternatives for limestone transportation in the absence of dedicated overhead belt conveyor has not been submitted.
viii. Action plan to address the issues raised during public hearing is not in consonance with the MoEF&CC O.M. dated 30/9/2020.
ix. It is mentioned that 1104 KLD water shall be sourced from mine pit. No details of the pipe route have been furnished.
x. Project proponent has not submitted the time bound action plan to comply with the non-compliances observed by RO in the certified compliance report.
xi. There is a discrepancy regarding the land requirement for railway siding stated in the EIA report vis-à-vis land to be acquired from IPICOL.

Recommendations of the Committee held on 28th, 29th and 31st January, 2022

1.2.22 In view of the foregoing and after deliberations, the Committee recommended that proposal to be returned in its present form to address the technical shortcomings enumerated at para no. 1.2.21 and submit the revised application as per the provisions of EIA Notification, 2006.

1.2.23 The proponent has again applied vide proposal no. IA/OR/IND/255534/2010, dated 07/02/2022. The proposal was considered in 1st Expert Appraisal Committee (Industry 1 Sector) meeting held on 5-6th March, 2022. The EAC observation and recommendation is given as below:

1.2.24 During the meeting, project proponent submitted written submission on the following points:

- PP commit to develop the 2 villages as 'Model Villages'. One of the selected villages will be developed within 5 years whereas another village will be developed within 10 years after commissioning of the clinker & cement plant as per proposal.
- M/s Shiva Cement has two interlinked limestone mine projects located at a distance of 19km from the project site and the status of the Environment Clearance (EC) for both the projects is as follows:
  - **Mine - 1: Expansion of existing Limestone Mine:** Khatkurbahal Limestone & Dolomite Mine (ML Area- 72.439 ha) with Expansion in Production Capacity from 0.3475 MTPA to 1.50 MTPA.
    Status of Environmental Clearance: Terms of Reference (Proposal No. SIA/OR/MIN/37895/2019) has been issued by the SEIAA, Odisha vide letter No.

File No.37895/23-MINB1/03-2020 dated 14/08/2020. Public Hearing for this expansion project has been conducted on 24/08/2021 and SEAC meeting for EC was held on 07/12/2021. The SEAC has recommended the project for grant of Environment Clearance vide minutes of meeting dated 28/01/2022.

- **Mine- 2: Proposed Limestone Mine Khatkurbahal (North) Block, Area:** 156.43 ha) with production capacity of Limestone 1.6 MTPA located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha.
  Status of Environmental Clearance: The Terms of Reference has been granted by the MoEF&CC vide letter No. F.No. J-11015/47/2020-IA. II (M) dated 19-11-2020. PH for this expansion project was conducted on 24-08-2021 and EAC meeting for EC was held on 30.11.2021 and 16-02-2022. The EAC (non-coal mining) has recommended grant of Environment Clearance to the project vide minutes of meeting dated 28/02/2022.

Observations of the Committee

1.2.25 The committee noted the following:

i. The Committee noted that the EIA/EMP report for the expansion project is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
ii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.
iii. The Committee deliberated upon the certified compliance report of RO and action taken report submitted by PP with respect to the compliance status of all the existing EC and found it's satisfactory.
iv. The EAC also deliberated on the written submissions submitted by the proponent and found it satisfactory.
v. Telighana Village is located in at 650 m in South and Kandeimunda Village is located at 100 m in NE from the project site.
vi. About 530 trees are proposed to be cut down during proposed expansion project.
vii. Overhead belt conveyor for transportation of Limestone from the mines to the plant site will be established in a time frame of three years as the land for the same is under acquisition process.
viii. The water requirement of the plant after expansion is 1990 m^3/day will be met from mine pit water only except ground water usage for domestic purposes.

Recommendations of the Committee

1.2.26 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 pertaining to integrated cement plants based on project specific requirements.

A. Specific Conditions

i. Overhead belt conveyor for transportation of Limestone from the mines to the plant site shall be established in a time frame of three years from the date of issue of Environment Clearance after obtaining requisite statutory permissions from the concerned competent authority. Thereafter, road transportation of limestone from

the mines to the plant site is not permitted.

ii. Particulate matter emissions from all the stacks shall be less than 30 mg/Nm^3.

iii. Three tier Green Belt shall be developed in a time frame of one year covering 10.32 ha area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. This shall include development of green belt with a width of 20 m within the project site towards Telighana Village located at 650 m in South and Kandeimunda Village located at 100 m in NE. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

iv. 1990 KLD of water requirement after the proposed expansion shall be met from mine pit water source. No ground water abstraction is permitted except for domestic purposes.

v. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.

vi. Slip roads shall be provided at the gates and along crossings on main roads.

vii. All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guidelines.

viii. Performance monitoring of pollution control equipment shall be taken up yearly and compliance status in this regard shall be reported to the concerned Regional Office of the MoEF&CC.

ix. Dioxin and furans shall be monitored twice a year during co-processing of hazardous waste and report shall be submitted to the Regional Office of the MoEF&CC.

x. Project proponent shall develop separate drainage system for storm water and industrial waste water and effectively prevent the pollution of natural waterbody.

xi. Compensatory afforestation shall be done in consultation with DFO for the 530 trees going to be removed from the project site as per State Government norms.

B. General Conditions

I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.
iii. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
iv. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;
v. The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;
vi. Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25thAugust, 2014 (Cement) and subsequent amendment dated 9thMay, 2016 (Cement) and 10th May, 2016 (in case of Co-processing Cement)as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall regularly monitor ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
v. Water meters shall be provided at the inlet to all unit processes in the cement plant.
vi. The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.
vii. Tyre washing facilities shall be provided at the entrance and exit of the plant gates.

IV. Noise monitoring and prevention

i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V. Energy Conservation measures

i. Waste heat recovery system shall be provided for kiln and cooler.
ii. The project proponent makes efforts to achieve power consumption less than 65 units/ton for Portland Pozzolona Cement (PPC) and 85 units/ton for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.

iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
iv. Provide the project proponent for LED lights in their offices and residential areas.

VI. Waste management

i. Used refractories shall be recycled as far as possible.

VII. Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.
ii. Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX. Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.
ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by

prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

1.3 Modernization Cum Expansion for Enhancing Hot Metal Production from 4.500 MTPA to 4.855 MTPA, Crude Steel Production from 4.200 MTPA to 4.850 MTPA and Saleable Steel Production from 3.880 MTPA to 4.325 MTPA by Installing Coke Oven Battery#7, Steel Melting Shop#3, New Normalizing Furnace in New Plate Mill, New Oxygen Plant and Natural Gas Pipe Line Network Inside the Existing Plant Premises and Adopting Technological Measures in Existing Blast Furnaces for Enhancing Hot Metal Production

by **M/s. SAIL – Rourkela Steel Plant** located at Rourkela, **District Sundergarh, Odisha** [Online Proposal No. IA/OR/IND/75723/2018, File No. J-11011/66/2014-IA-II(I)] – **Environment Clearance – regarding**.

1.3.1 M/s. SAIL – Rourkela Steel Plant has made an online application vide proposal no. IA/OR/IND/75723/2018 dated 08/02/2022 along with copy of EIA/EMP Report, Form - 2 and Certified Compliance Report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & non-ferrous), 4 (b) Coke Oven Plants, and 2(b) Iron Ore Beneficiation under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by Project proponent

1.3.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord	Validity of ToR
01/01/2021	28th meeting of EAC held on 18-20th January, 2021.	Terms of Reference	08/02/2021	07/02/2025

1.3.3 The project of M/s. SAIL – Rourkela Steel Plant located at Rourkela, District Sundergarh, Odisha State is for Modernization Cum Expansion for Enhancing Hot Metal Production from 4.500 MTPA to 4.855 MTPA, Crude Steel Production from 4.200 MTPA to 4.850 MTPA and Saleable Steel Production from 3.880 MTPA to 4.325 MTPA by Installing Coke Oven Battery#7, Steel Melting Shop#3, New Normalizing Furnace in New Plate Mill, New Oxygen Plant and Natural Gas Pipe Line Network Inside the Existing Plant Premises and Adopting Technological Measures in Existing Blast Furnaces for Enhancing Hot Metal Production.

1.3.4 Environmental Site Settings:

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>1714.73 ha
(Govt. Land: 1714.73 ha)</td><td>Land use – Industrial land</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>The expansion project is proposed within existing plant area of 1714.73 ha. Total 1714.73 ha is under the possession of SAIL. No additional land is required for proposed expansion.</td><td></td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any</td><td><u>Plant Site</u>: NIL

<u>Study Area</u>:
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Rourkela Town</td><td>~0.05 km</td><td>North and South</td></tr>
<tr><td>Bondamunda</td><td>~0.5 km</td><td>East</td></tr>
<tr><td>Balughat</td><td>0.2 km</td><td>SW</td></tr>
</table></td><td>No R & R is required.</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of the project site</td><td>
<table>
<tr><th>Point</th><th>Direc-tion</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>NE</td><td>22°13’8.5” N</td><td>84°54’40.4” E</td></tr>
<tr><td>2</td><td>NE</td><td>22°13’0.6” N</td><td>84°54’35.1” E</td></tr>
</table></td><td></td></tr>
</table>

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>3</td><td>E</td><td>22°13’27” N</td><td>84°54’24” E</td></tr>
<tr><td>4</td><td>S</td><td>22°12’14” N</td><td>84°52’55” E</td></tr>
<tr><td>5</td><td>S</td><td>22°11’33” N</td><td>84°50’59” E</td></tr>
<tr><td>6</td><td>W</td><td>22°12’19” N</td><td>84°50’01” E</td></tr>
<tr><td>7</td><td>NW</td><td>22°13’9.5” N</td><td>84°48’47.6” E</td></tr>
<tr><td>8</td><td>NW</td><td>22°13’25.6” N</td><td>84°48’52.6” E</td></tr>
<tr><td>9</td><td>N</td><td>22°13’12” N</td><td>84°50’54” E</td></tr>
</table>
</td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site.</td><td>219 m above mean sea level</td><td></td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is Involved in the plant site.</td><td></td></tr>
<tr><td>vii.</td><td>Water body exists within the project site as well as study area</td><td>Project site: NIL
Study area: Following water bodies falls within 10 km radius:
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Brahmani River</td><td>0.2 km</td><td>SW</td></tr>
<tr><td>Sankh River</td><td>3.0</td><td>NNW</td></tr>
<tr><td>Koel River</td><td>3.0</td><td>NNW</td></tr>
</table>
</td><td>As per the Central Water Commission monitored station data dated 02/09/2011, nearest HFL is 181.44 m at Brahmani River near Pamposh at ~7.8 km from the plant site.</td></tr>
<tr><td>viii.</td><td>Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve / tiger reserve / elephant reserve etc. if any within the study area</td><td>NIL.
However, following Forests are located in study area:
Durgapur RF (1.8 N),
Reun RF (8.0 N),
Ramnipaharh RF (7.5 NNW),
Kacharu PF (7.5 N),
Mudra RF (9.0 NNW),
Kamarpaharh RF (8.0 NW),
Balanda PF (8.0 WSW),
Butukupiri RF (5.0 SW),
Hatnibandha RF (4.0 S),
Lathikata PF (8.5 SSE),
Karalakhaman PF (8.0 SE),
Ergerha RF (9.0 SE),
Sonaparbat RF (3.5 E),
South Chiroberha RF (7.5 SE),
North Chiroberha RF (6.5 ESE)</td><td></td></tr>
</table>

1.3.5 The existing project was accorded environmental clearance vide letter no.: J-11011/40/88-IA. II dated 24/04/1992, vide letter no. J-11011/757/2007- IA II(I) dated 29/01/2008, vide letter no. J-11011/66/2014-IA II(I) dated 15/12/2016 and 06/11/2019. Renewal of Consent to Operate for the existing unit was accorded by Odisha State Pollution Control Board (OPCB) vides letter no. 4557/IND-I-CON-01 dated 19/03/2021. CTO is valid up to 31/03/2022.

1.3.6 Implementation status of the existing EC:

Sl. No.	Facilities	Units	As per EC dated 15/12/2016 and 6/11/2019	Implementation Status as on 12.01.2021	Production as per CTO
1.	Coke oven Plant No. of ovens Gross coke	 No. TPA	 437 Ovens 21,70,000	Completed and under operation	 21,70,000
2	Sinter plant (Sinter)	TPA	67,60,000	Completed and under operation	67,60,000
3	Blast Furnace – Hot metal production	TPA	45,00,000	Completed and under operation	45,00,000
4	Steel melt shops- Cruse Steel Caster #4	TPA	42,00,000	Completed and under operation	42,00,000
5	Rolling mill-Saleable steel	TPA	38,80,000	Completed and under operation	38,80,000
6	Hot strip mill	TPA	30,00,000	Completed and under operation	30,00,000
7	Plate mill– plates	TPA	21,35,000	Completed and under operation	21,35,000
8	Cold Roll mill CR coils CR sheets Galv. Sheets Tin Plates	 TPA TPA TPA TPA	 3,45,000 25,000 1,96,000 75,000	Completed and under operation	 3,45,000 25,000 1,96,000 75,000
9	Silicon steel mill – CRNO Steel	TPA	2,55,000	Completed and under operation	2,55,000
10	Pipe plant – Spiral welded pipe ERW pipes	 TPA TPA	 55,000 75,000	Completed and under operation	 55,000 75,000
11	LDBP- Lime: Dolo:	 TPA TPA	 4,14,900 1,30,000	Completed and under operation	 4,14,900 1,30,000
12	Beneficiation plant	TPA	33,00,000	Waiting for final sanction	--
13	Pellet plant	TPA	20,00,000	Waiting for final sanction	--
14	Special plate plant	TPA	15,000	Completed and under operation	15,000
15	Sulphuric acid plant	TPD	125	Completed and under operation	125

1.3.7 The unit configuration and capacity of existing and proposed project is given as below:

Sl. No.	Plant Equipment/ Facility	Existing facilities as per EC dated 15/12/2016 and 6/11/2019		Proposed Units		Final (Existing + Proposed)		Remarks
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	
1	Coke Ovens and By-products Recovery Plant (COBP)	6 Coke Batteries 437 no. of Ovens	2.17 MTPA Capacity 6.4 MW from CDCP 's BPTG By Product Plant Tar @ 97000 TPA Sulphur @1220 TPA	1 New Battery (COB#7) 92 Ovens New By Product Plant	0.77 MTPA Capacity 5 MW from CDCP's BPTG New By Product Plant Tar @ 37000 TPA Sulphur @1220 TPA	7 Coke Batteries. 529 no. of Ovens	2.94 MTPA 11.4 MW from CDCP's BPTG. New By Product Plant Tar @134000 Sulphur@ 2440 TPA	--
2	Ore bedding and blending plant	--	12 MTPA	--	--	--	12 MTPA	
3	Sinter Plant	--	#1 (1.5 MTPA) + #2 (1.57 MTPA) + #3 (3.706 MTPA)	6.776 MTPA	--	--	#1 (1.5 MTPA) + #2(1.57 MTPA) + #3 (3.706 MTPA)	--
4	Beneficiation Plant	--	3.3 MTPA	--	--	--	3.3 MTPA	--
5	Pellet Plant	--	2.0 MTPA	--	--	--	2.0 MTPA	--
6	Blast Furnace	BF#1, #4 #5	4.5 MTPA	--	Upgradation to 4.855 MTPA	BF#1, #4 #5	4.855 MTPA	--
	Gran Shot for HM granulation	--	--	--	300 TPH	--	300 TPH	New
	Stove	9 Nos.	--	1 No. (Stove- 4)	--	10 Nos.	--	1 new stove.
7	BOF Converters	--	2x60/66 T + 3x150 T	--	1x150 T and decomm-issioning of 2x60/66 T	4x150 T	4.85 MTPA	--
8	Ladle Furnace	--	1x60/66 T + 4x150 T	--	1x150 T and decommissioning of 1x60/66 T	5x150 T	--	
9	RH-OB	--	150 T	--	150 T	2 x 150 T	300 T	
10	Hot Metal Desulphurization	2 nos.	--	1 in place of old	--	2 nos.	--	
11	Continuous Slab Casters	4 x Single strand	4.2 MTPA	1x Single Strand	1 MTPA	4 x Single strand + 1x Single Strand	4.85 MTPA	
12	Hot Strip Mill	--	3.0 MTPA	--	--	--	3.0 MTPA	
13	Plate Mill Normalising Furnace	--	2.135 MTPA	--	--	--	2.135 MTPA	
14	Cold Rolling Mill CR coils CR sheets Galv. Sheets Tin Plates	--	0.345 MTPA 0.025 MTPA 0.196 MTPA 0.075 MTPA	--	---	--	0.641 MTPA	
15	ERW Pipe Plant	--	0.075 MTPA	--	--	--	0.075 MTPA	

Sl. No.	Plant Equipment/ Facility	Existing facilities as per EC dated 15/12/2016 and 6/11/2019		Proposed Units		Final (Existing + Proposed)		Remarks
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	
16	Spiral Welded Pipe Plant	--	0.055 MTPA	--	--	--	0.055 MTPA	
17	Silicon Steel Complex	--	0.255 MTPA	--	--	--	0.255 MTPA	
18	Special Plate Plant	--	0.015 MTPA	--	--	--	0.015 MTPA	
19	Lime and Dolo Plant Lime Dolo	7 VSKs	 0.4149 MTPA 0.13 MTPA	Lime: 1x300 TPD Dolo: 1x150 TPD (One old VSK will be phased out)	0.1051 MTPA 0.05 MTPA	8 VSKs	 Lime = 0.52 MTPA Dolo = 0.18 MTPA	
20	Oxygen Plant	2x180 T + 1x700 T	1060 T		1000 T	2x180 T + 1x700 T + 1x1000 T	2060 T	
21	Sulphuric Acid Plant	--	125 TPD		--	--	125 TPD	
22	Micro pelletisation facility for ferruginous wastes	--			0.18 MTPA	--	0.18 MTPA	
23	Natural Gas grid	-	- -		32,100 Nm^3/Hr	-	32,100 Nm^3/Hr	

1.3.8 The details of the raw material requirement for the expansion cum proposed project along with its source and mode of transportation is given as below:

S No	Raw material	Quantity required per annum			Source	Distance from site (km)	Mode of Transportation
		Existing	Expansion	Total			
1.	Coking Coal	2,964,035	1,245,965	4,210,000	Dugda, Bhojudih, Rajrappa, Swang, Kathara and Imported Coal from Australia, New Zeeland	300	Rail
2.	Non-Coking Coal	31,000	-	31,000	Mahanadi Coal Fields.	130	Rail
3.	Iron Ore + Pellets	6,142,320	2,083,680	8,226,000	Barsua, Kalta, Megathaburu, Kiriburu,	100	Rail

S No	Raw material	Quantity required per annum			Source	Distance from site (km)	Mode of Transportation
		Existing	Expansion	Total			
4.	PCI Coal	420,565	142,735	563,300	Mahanadi Coal Fields.	140	Rail
5.	Lime Stone	1,184,033	453,967	1,638,000	Bokaro, Jaisalmer, Satna, Kuteswar,	2000	Rail
6.	Dolomite	809,155	310,845	1,120,000	Birmitrapur, Sonakhan	40	Rail

1.3.9 Existing Water requirement is 227,352 m^3/day, water requirement is obtained from Brahmani River. The water requirement for the proposed project is estimated as 23,577.6 m^3 /day. Thus, total water requirement after proposed expansion will be 250929.6 m^3 /day, out of which 23,577.6 m^3 /day obtained by treated water from existing RSP CETP with tertiary treatment for the requirement of COBP and remaining 227,352 m^3/day will be obtained from Brahmani & Coil River, permission for the same has been obtained from Govt. of Odisha, Department of Water Resources for about 276000 m^3/day vides letter no. 729/WR.Irr-II-WRC-01/21 dated 08/01/2021.

1.3.10 Existing power requirement of 250 MW is obtained from captive generation and grid (WESCO Utility). The power requirement for the proposed project is estimated as 85.81 MW. Thus, total power requirement after proposed expansion will be 335.81 MW, which will be obtained from the captive generation and grid (WESCO).

1.3.11 Baseline Environmental Studies:

Period	Parameters
AAQ parameters at 8 Locations	$PM_{2.5}$ = 46.9 to 53.8 µg/m^3 PM_{10} = 88.4 to 92.7µg/m^3 SO_2 = 9.4 to 21.5 µg/m^3 NO_2 = 23.5 to 42 µg/m^3 CO = <0.1 to 0.7 mg/m^3 O_3 = <10 to 29.3 µg/m^3 NH_3 = <4.18 µg/m^3 Pb = <0.01 µg/m^3 C_6H_6 = <0.74 to 1.2 µg/m^3 As = <0.01 ng/m^3, Ni = <0.02 ng/m^3, BaP = <0.36 ng/m^3
Incremental GLC level	PM_{10} = 0.4 µg/m^3 (Level at 0.6 km in South Direction) SO_2 = 0.3 µg/m^3 (Level at 0.6 km in South Direction) NOx = 0.7 µg/m^3 (Level at 0.6 km in South Direction)
Ground water quality at 8locations	pH: 6.7-7.2 Total Hardness: 108-410 mg/l, Chlorides: 26.36 - 152.7 mg/l, Fluoride: 0.1 mg/l. Heavy metals (Cr^{6}+): 0.02 mg/l
Surface water quality	pH: 7.1-7.8

<table>
<tr><td>at 8 locations</td><td>DO: 5.13 – 6.13mg/l
BOD: 5.33 – 23.33mg/l
COD: 20.75 – 71.98mg/l</td></tr>
<tr><td>Noise levels Leq (Day and Night)</td><td>54.9 – 73.6 dBA for the day time and
43.3 – 59.5 dBA for the Night time</td></tr>
<tr><td>Traffic assessment study findings</td><td>Traffic study has been conducted on Ring Road, Rourkela at Traffic Gate which is adjacent to the plant site.
Transportation of raw material, fuel & finished product will be done 0% by road.
Existing PCU is 2406 PCU/hr at Traffic Gate and existing level of service (LOS) is: D
<table>
<tr><th>Road</th><th>Location</th><th>V (Vol in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>Ring Road</td><td>Traffic Gate</td><td>2406</td><td>3600</td><td>0.67</td><td>D</td></tr>
</table>
PCU load after proposed project will be 2411 PCU/hr (2406+5) and level of service (LOS) will be: D
<table>
<tr><th>Road</th><th>Location</th><th>V (Vol in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>Ring Road</td><td>Traffic Gate</td><td>2411</td><td>3600</td><td>0.67</td><td>D</td></tr>
</table>
* Note: Capacity as per IRC-106-1990Guide line for capacity for roads.
Conclusion: The level of service will remain D after including additional traffic due to proposed project.</td></tr>
<tr><td>Flora and fauna</td><td>Elephant, Leopard, Pangolin, Sloth bear, Brahminy kite, Hill myna, Malabar pied horn bill, Peacock, Python and Monitor lizard are listed under Schedule-I are envisaged in study area.
Wildlife Conservation Plan of SAIL RSP was approved by the PCCF, Govt. of Odisha for a total budget of Rs. 14.068 crore.</td></tr>
</table>

1.3.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S No	Type of Waste	Source	Quantity (TPA)			Mode of Treatment/ Disposal
			Existing	Proposed	Total	
1.	Coal Tar Sludge & BOD Sludge	Coke Oven	122	100	222	Reused in Coke oven
2.	Slag	SMS	630000	97500	727500	Reused in RMHP, BF & SMS
3.	Slag	BF	1800000	142000	1942000	Sold to Cement plant
4.	Micro fine dust	Bag house	90000	10000	100000	Converted to Micro Pellets for use in Sinter plant

1.3.13 Public Consultation:

Details of advertisement given	12/08/2021 Published in The Indian Express (English) and Pragativadi (Odia)
Date of public consultation	13/09/2021
Venue	Exhibition Ground (Adjacent to Bhanja Bhawan), Ambagan, Sector-5, Rourkela at Sundargarh district.
Presiding Officer	Biswajit Mohapatra, Additional District Magistrate
Major issues raised	• Environmental Protection - Control of Air Pollution, Water Pollution & impact of pollution on human health. • Developmental activities in Slum & Peripheral areas. • Promotion of cultural organizations • Rehabilitation of local displaced people • Welfare of ex-employees of RSP • Employment to the locals & ensuring minimum wages to contractor workers.

Action plan as per MoEF&CC O.M. dated 30/09/2020

Major Issue Raised	**Action Plans**	**Physical Measurable Target**	**Total Budget &Time**	**Time Period / Measurable Target/ Budget**		
				Year-1	**Year-2**	**Year-3**
Developmental Activities in Peripheral Villages	Construction of Community Centres in Peripheral areas – of Bisra, Lathikata, Nuagaon & Kauramunda blocks.	18 no.	270 lakhs (3 yr.)	6 no. 90 Lakh	6 no. 90 Lakh	6 no. 90 Lakh
	Construction of community toilets with water facilities in Peripheral areas – of Bisra&Lathikata blocks.	6 no.	96 lakhs (2 yr.)	-	3 no. 48 Lakh	3 no. 48 Lakh
	Solar Street Lights in Peripheral areas – of Bisra, Lathikata&Nuagaon blocks.	291 nos. in 20 Locations	150 Lakh (3 yr.)	97 Locatio-ns 50 Lakh	97 Locations 50 Lakh	97 Locations 50 Lakh
	Installation of Borewells in Peripheral areas – of Bisra, Lathikata, Nuagaon & Kauramunda blocks.	10 no.	103.50 lakh (3 yr.)	3 no. 31.05 Lakh	3 no. 31.05 Lakh	4 no. 41.40 Lakh
	Augmentation of drinking water facility in the resettlement colonies Jolda of Lathikata Block.	10 no.	100 Lakh (2 yr.)	6 no. 60 Lakh	4 no. 40 Lakh	-
	Programme for educational coaching and vocational training drop out students in areas - of Bisra&Lathikata blocks.	45 Students	22 Lakh (3 yr.)	15 Students 7.4 Lakh	15 Students 7.3 Lakh	15 Students 7.3 Lakh
Developmental Activities in Slums areas	Construction of RCC and Bituminous Roads in slums in the vicinity of Rourkela Steel Plant and Steel Township.	RCC Roads - 6 km Bituminous Roads – 2 Km.	519.7 lakh (3 yr.)	173.3 lakh	173.2 lakh	173.2 lakh

Major Issue Raised	Action Plans	Physical Measurable Target	Total Budget &Time	Time Period / Measurable Target/ Budget		
				Year-1	Year-2	Year-3
	Construction of Drains in slums in the vicinity of Rourkela Steel Plant and Steel Township.	5 km.				
	Street Solar/LED Lighting - Supply, Installation, testing and commissioning of Solar Street Lighting System in slums in the vicinity of Rourkela Steel Plant and Township.	100 no.	69.00 Lakh (3 yr.)	23.0 Lakh	23.0 Lakh	23.0 Lakh
	Providing Solar drinking water facility in slums in the vicinity of Rourkela Steel Plant and Steel Township.	5 nos.	51.9 Lakh (3 yr.)	17.3 Lakh	17.3 Lakh	17.3 Lakh
	Construction of Community Toilets in slums in the vicinity of Rourkela Steel Plant and Steel Township.	8 no.	128.0 Lakh (3 yr.)	42.7 Lakh	42.7 Lakh	42.6 Lakh
	Repair/Renovation Works for Community centres, School building, Boundary Wall in slums in the vicinity of Rourkela Steel Plant and Steel Township	Community Centers-3 no. School Buildings – 3 nos. Boundary wall – 2000 mtr.	141.6 Lakh (3 yr.)	47.2 Lakh	47.2 Lakh	47.2 Lakh
	Livelihood projects: Development of Vending Zones, Rest Sheds at market places, Type A – With CC flooring Type B – Shed with CC flooring	Type A: 4 Type B: 4	49.6 Lakh (3 yr.)	16.5 Lakh	16.5 Lakh	16.6 Lakh
	Development of Play grounds/parks for children in slums in the vicinity of Rourkela Steel Plant and Steel Township. Development works in Ispat autonomous college – Provision of high mast light & development of approach road	2 no. 1 no.	70.8 Lakh (3 yr.) 31.9 Lakh (2 yr.)	23.6 Lakh -	23.6 Lakh 12.8 Lakh	23.6 Lakh 19.1 Lakh
	Development of Play grounds/parks for children in slums in the vicinity of Rourkela Steel Plant and Steel Township.	2 no.	70.8 Lakh (3 yr.)	23.6 Lakh	23.6 Lakh	23.6 Lakh

Major Issue Raised	Action Plans	Physical Measurable Target	Total Budget &Time	Time Period / Measurable Target/ Budget		
				Year-1	Year-2	Year-3
Installation of air pollution control systems & emission levels shall be within the norms	Coke Oven Battery#7: Dust extraction systems with ESP/Bag hours for Pushing emission control, CDCP heat recovery area & Coal/coke transportation areas	All these are inbuilt in the project and will be installed along with the project units costing ~ 10% of the total project cost.		-	-	-
	Steel Melting Shop#3: Secondary Emission Control System (Dog House) for Converters. Dust Extraction System with ESP/Bag House for Ladle Heatign Furnace/RHOB, Lime & Dolomite Kilns.			-	-	-
	Dust Extraction system with ESP/Bag House in Blast Furnace#5 Gran Shot.			-	-	-
RSP to install Water pollution control systems & emission levels shall be within the norms	Installation of dedicated Waste Water Treatment System in Steel Melting Shop#3 based on ZLD concepts	All these are inbuilt in the project and will be installed along with the project units costing ~ 10% of the total project cost.				
	Installation of Biological Oxidation and de phenolisation plant for COB#7 with 100% recycling					
	No fresh water drawl from river/ground water for the project. The water requirements of the project are met by treating RSP's present effluent and its use in the new projects.					
	No effluent discharge to environment as all the projects are designed based on ZLD.					
Impact of Hexavalent Chromium on Environment	The presence of hexavalent chromium in water has been studied during field monitoring.	The Hexavalent chromium levels in ground water is <0.02 mg/lt and in surface water is <0.1; both are within norms.				
RSP to install waste management systems to prevent land pollution	All the wastes are converted into micro pellets for recycling back through sintering route for hot metal making	All these are inbuilt in the project and will be installed along with the project units costing ~ 10% of the total project cost.				
	SMS Slag is crushed, segregated and used back in steel making and used for rural road making					

Major Issue Raised	Action Plans	Physical Measurable Target	Total Budget &Time	Time Period / Measurable Target/ Budget		
				Year-1	Year-2	Year-3
Promoting Culture	Infrastructure development and support to Socio Cultural Organisations in and around Rourkela	90 Lakh	90 Lakh (3 yr.)	30 Lakh	30 Lakh	30 Lakh
	Development of erstwhile oldage-home, Sector-3 and named as Sanskruti Bhawan for use by cultural trusts in and around Rourkela	1	45 Lakh (1 yr.)	45 Lakh	-	-
Other Issues	Location of new project	RSP clarified that the proposed new project will be established within the existing plant boundary wall of Rourkela Steel Plant				
	Welfare of ex-employees	Shall be examined within the frame-work of Corporate Policy				
	Employment to the displaced families	RSP is providing employment to the identified Local Displaced Persons on recommendation by the Local Govt. Authority. At present 89 such persons are undergoing training for their eventual employment in RSP				
	Rehabilitation of displaced persons	no displacement of people is envisaged in the proposed project location as the proposed units are coming within the existing RSP Plant complex				
	Rehabilitation of displaced shall be expedited as committed during initial phase of land acquisition in early 50's	shall be addressed on merit with due discussions with State Government				
	Resettled colonies shall not be displaced further for expansion of plant	RSP confirmed that there will be no land acquisition and displacement for the proposed project expansion				
	Study shall be carried out to access the impact of pollution on human health and accordingly mitigative measures shall be adopted	• The impact of pollution on human health was studied during EIA report preparation • RSP is operating a 675 bedded Ispat General Hospital in Rourkela. • RSP has recently established a Super Speciality Hospital with the support of Central Govt. and State Government.				
Total Budget Provision for addressing Public Consultation Issues		**Year-1: Rs. 657.05 Lakh** **Year-2: Rs. 652.65 Lakh** **Year-3: Rs. 629.30 Lakh** **Total: Rs. 1939 Lakh.**				

1.3.14 Existing capital cost of project was Rs. 26031.23 Crores. The capital cost of the proposed project is Rs. 5,766.12 Crores and the capital cost for environmental protection measures is proposed as Rs. 523.39 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 4.86 Crores. The employment generation from the proposed project/ expansion is 2,615 (both direct and indirect).

S No	Environment Control Measure	Cost of EMP (in crore)					
		Existing		Proposed		Total	
		Capital	Recurring (Per annum)	Capital	Recurring (Per annum)	Capital	Recurring (Per annum)
1.	Air Pollution Control Measure	400	40	200	1.75	600	41.75
2.	Water	987	50	100	1	1087	51

S No	Environment Control Measure	Cost of EMP (in crore)					
		Existing		Proposed		Total	
		Capital	Recurring (Per annum)	Capital	Recurring (Per annum)	Capital	Recurring (Per annum)
	Conservation and Wastewater Treatment						
3.	Solid Waste management	800	2.50	100	1	900	3.50
4.	Energy Conservation	500	1.50	100	0.75	600	2.25
5.	Environment Monitoring and Management	10	1.0	1	0.01	11	1.01
6.	Greenbelt Development	~25	1.0	2.5	0.3	~27.5	1.3
7.	Rainwater Harvesting	3.0	0.10	0.5	0.05	3.50	0.15
8.	Addressing of Public Consultation concerns	65.756 (ESC)	-	19.39	-	85.146	-
	Total	**2790.756**	**96.1**	**523.39**	**4.86**	**3314.146**	**100.96**

1.3.15 Existing green belt has been developed in 521.62 ha area which is about 30.42 % of the total project area of 1714.73 ha with total sapling of 782430 Trees. Proposed greenbelt will be developed in 78.54 ha which is about 4.58 % of the total project area. Thus, total of 600.16 ha area (35% of total project area) will be developed as greenbelt. A 10-20m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees/Ha. Total no. of 1,96,350 saplings will be planted and nurtured in 78.54 hectares and gap filling of 5,21,620 saplings in existing green belt area of 521.62 ha in first year.

1.3.16 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.3.17 Name of the EIA consultant: M/s. M. N. Dastur & Company (P) Ltd, [Sl. No. 179, List of ACOs with their Certificate / Extension Letter No: QCI/NABET/ENV/ACO/21/2196 valid till 29/03/2022; Rev. 19, February 14, 2022].

Certified compliance report from Regional Office

1.3.18 The Status of compliance of earlier EC was obtained from Integrated Regional Office, Bhubaneswar vide letter no.101-694/EPE dated 18/10/2021 after site visit conducted on 8-9th July, 2021 in the name of M/s. Steel Authority of India. The Action taken report regarding the partially/non-complied condition was submitted to IRO, Bhubaneshwar dated 28/10/2021. MoEF&CC (RO), Bhubaneswar evaluated the ATR submitted by PP and has issued closure report on 06/12/2021. The details of the observations made by RO in the

report dated 06/12/2021 along with its re-assessment / present status as furnished by the PP is given as below:

S. No.	Partially Compliance details	Observation of IRO on 18/10/2021 (abridged)	Condition no.			Re-assessment by IRO on 06/12/2021
			EC date	Specific	General	
1.	Greenbelt to be developed 35% of total project area @1500 plants/ha.	It is recommended to achieve 35% green belt area as stipulated EC condition within six months.	06/11/2019	iv		Out of total green belt area 600.16 ha in 521.62 ha green belt has been developed @1500 plants/ha, in 66.67 ha area plantation is undergoing @1500 plants/ha and 11.87 ha yet to be developed under green belt.
2.	Wildlife Conservation Plan is yet to start and implementation plan need to be initiated in the regional office	Implementation of the plan yet to be start although Pas have started fund transfer in phases. PA need to implement the plan immediately and an implementation status report need to submit to the Regional Office of the Ministry.	15/12/2016	vi		PP have duly deposited the cost raised by Forest Department amounting Rs. 14.068 Crores for implementation of Wildlife Conservation plan. PP also initiated activities at the project level towards implementation of the same at a cost of Rs. 186 lakhs and have deposited a total amount of Rs. 1220.79 lakhs with DFO, Rourkela for implementation of the Wildlife Conservation Plan at their level.
3.	Zero Liquid Discharge criteria to be achieved within 4 years from the date of Grant of EC.	Pas are in the process of initiating zero liquid discharge at their project site through different plans. As per EC stipulation ZLD was supposed to be achieved within 4 years from the date of grant of EC to the project. However, ZLD is yet to be achieved. Project authority need to achieve ZLD immediately as per the stipulation.	15/12/2016		iv	PAs have already initiated action for the implementation of the Action Taken Plan prepared by M/s. MECON. Some of the activities are to be completed by the year 2021 and the total project for achieving zero liquid discharged by the industrial plant is expected to be completed by March, 2023.
4.	All the existing batteries shall be rebuilt by 2012 meeting all the pollution control norms as per	PAs have informed that COB#2 has been put down since March 2016 for rebuilding. It is recommended that	29/01/2008	i		From the report submitted by the PAs, it is noted that the installation of COB#2 is already in the process and the work has been awarded to M/s. MECON

S. No.	Partially Compliance details	Observation of IRO on 18/10/2021 (abridged)	Condition no.			Re-assessment by IRO on 06/12/2021
			EC date	Specific	General	
	CPCB guidelines and a commitment in this regard shall be submitted to the Ministry.	COB#2 be rebuilt immediately.				Limited. The PAs are to submit the progress made with regard to installation and commissioning of the COB#2 to this office on regular basis.

Observations of the Committee

1.3.19 The Committee noted the following:

i. The Committee noted that the EIA/EMP report for the expansion project is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.

ii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.

iii. The Committee deliberated upon the certified compliance report of RO and action taken report submitted by PP with respect to the compliance status of all the existing EC and found it satisfactory.

Recommendations of the Committee

1.3.20 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements:

A. Specific Condition:

i. Tailings from Iron Ore beneficiation plant shall be dewatered in filter press and no slime /tailing pond shall be permitted.

ii. Sinter Plant shall be equipped with Sinter cooler waste recovery system and suitable technology for control of dioxins and furans emissions from the plant.

iii. Solid waste utilization
- PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making.
- PP shall recycle/reuse 100 % solid waste generated in the plant.
- Used refractories shall be recycled as far as possible.

iv. Coke oven plant shall be equipped with coke dry quenching facility.

v. Coke Oven Gas shall be desulfurized.

vi. Blast Furnaces shall be equipped with Top Recovery Turbine, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.

vii. Secondary fume extraction system shall be installed on converters of Steel Melting Shop.

viii. Basic Oxygen Furnace (BOF) gas shall be cleaned dry.

ix. 85-90 % of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil or Mixed BF/CO gas.
x. Cold Rolling Mill (CRM) shall have CETP to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.
xi. Dust emission from Steel Plant stacks shall be up to 30 mg/Nm^3.
xii. 250929 KLD water shall be drawn from Brahmani river. No GW abstraction is permitted.
xiii. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.
xiv. The recommendations of the approved Site-Specific Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.
xv. Three tier Green Belt shall be developed in a time frame of one year covering 600.16 ha area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC. In addition, *Block plantation shall be done on vacant land within the premises of the plant.*
xvi. Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.
xvii. Zero Liquid Discharge (ZLD) scheme for the entire complex shall be implemented by March, 2023 as committed.

B. General Conditions

I. Statutory compliance:

ii. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.
iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.
vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.
viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.
ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).
x. Land-based APC system shall be installed to control coke pushing emissions.
xi. Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.
xii. Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.
xiii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
xiv. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
iv. The project proponent shall provide the ETP for coke oven and by-product to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time;
v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
vi. Tyre washing facilities shall be provided at the exit and entrance of the plant gates.
vii. Water meters shall be provided at the inlet to all unit processes in the steel plants.

IV. Noise monitoring and prevention

i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V. Energy Conservation measures

i. Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.
ii. Restrict Gas flaring to < 1%.
iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
iv. Provide LED lights in their offices and residential areas.
v. Ensure installation of regenerative/recuperative type burners on all reheating furnaces.

VI. Waste management

i. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.
ii. Kitchen waste shall be composted or converted to biogas for further use.

VII. Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.
ii. Project proponent shall submit a study report on De-carbonization program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage after offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX. Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.
ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

1.4 Expansion of Integrated Steel Plant; Mini Blast Furnace (1,80,000 TPA to 5,00,000 TPA), Sinter Plant (10,90,000 TPA to 14,40,000 TPA) & Pellet Plant (9,00,000 TPA to 12,00,000 TPA) by revamping, augmentation & up gradation of existing technologies & facilities and increasing annual working days along with Expansion in Pig Casting Machine (600 TPD to 1500 TPD) & Oxygen Plant (60 TPD to 260 TPD) by **M/s. Rashmi Metaliks Limited** located at Village Gokulpur, P.O. Shyamraipur, P.S. Kharagpur (Local), **District West Medinipur, West Bengal** [Online Proposal No. IA/WB/IND/254828/2019, File No. J-11011/237/2016-IA.II (I)] – **Environment Clearance – regarding.**

1.4.1 M/s. Rashmi Metaliks Limited has made an online application *vide* proposal no. IA/WB/IND/254828/2019 dated 09/02/2022 along with copy of EIA/EMP Report, Form - 2 and Certified Compliance Report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries (ferrous & non-ferrous), under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by Project proponent

1.4.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord	Validity of ToR
24/05/2019	8th Meeting of Re-Constituted EAC held on 26th June, 2019	Terms of Reference	22/07/2019	21/07/2023

1.4.3 The project of M/s. Rashmi Metaliks Limited located in Gokulpur Village, Kharagpur – I Tehsil, P.O. - Shyamraipur, P.S. - Kharagpur (Local), Paschim Medinipur District, West Bengal State is for expansion of Integrated Steel Plant; Mini Blast Furnace (1,80,000 TPA to 5,00,000 TPA), Sinter Plant (10,90,000 TPA to 14,40,000 TPA) & Pellet Plant (9,00,000 TPA to 12,00,000 TPA) by revamping, augmentation & up gradation of existing technologies & facilities and increasing annual working days along with Expansion in Pig Casting Machine (600 TPD to 1500 TPD) & Oxygen Plant (60 TPD TO 260 TPD).

1.4.4 Environmental Site Settings:

<table>
<tr><th>SNo</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>58.27 ha
(Private land: 58.27 ha)
Land Use:
<table>
<tr><th>S No</th><th>Particulars</th><th>Area after expansion (Ha)</th></tr>
<tr><td>1.</td><td>Plant Area</td><td>20.81</td></tr>
<tr><td>2.</td><td>Admin Building/ Canteen</td><td>0.50</td></tr>
<tr><td>3.</td><td>Internal Road</td><td>2.50</td></tr>
<tr><td>4.</td><td>Raw Material Yard/ Product House</td><td>4.00</td></tr>
<tr><td>5.</td><td>Railway Siding</td><td>4.00</td></tr>
<tr><td>6.</td><td>Parking</td><td>1.50</td></tr>
<tr><td>7.</td><td>Reservoir</td><td>1.50</td></tr>
</table></td><td>Land Use – Industrial</td></tr>
</table>

<table>
<tr><th>SNo</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>8.</td><td>Greenbelt</td><td>20.39</td></tr>
<tr><td>9.</td><td>Open Space</td><td>3.07</td></tr>
<tr><td colspan="2">Total Area</td><td>58.27</td></tr>
</table>
</td><td></td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>Expansion project is proposed in existing project area of 58.27 ha. Total land of 58.27 ha is completely under the possession of the company. No additional land is required for proposed expansion.</td><td>-</td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td>Project site: NIL.

Study Area:
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Gokulpur</td><td>1 km</td><td>N</td></tr>
<tr><td>Kharagpur</td><td>3.0 km</td><td>SE</td></tr>
<tr><td>Shyamraipur</td><td>0.5 km</td><td>N</td></tr>
<tr><td>Bargai</td><td>1.5 km</td><td>ENE</td></tr>
<tr><td>Dhekia</td><td>1 km</td><td>SW</td></tr>
</table>
</td><td>R&R is not required</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all corners of the project site</td><td>
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22°22'03.35"N</td><td>87°17'48.23"E</td></tr>
<tr><td>B</td><td>22°21'33.15"N</td><td>87°17'57.50"E</td></tr>
<tr><td>C</td><td>22°21'25.23"N</td><td>87°17'40.37"E</td></tr>
<tr><td>D</td><td>22°21'19.67"N</td><td>87°17'39.96"E</td></tr>
<tr><td>E</td><td>22°21'17.94"N</td><td>87°17'37.36"E</td></tr>
<tr><td>F</td><td>22°21'18.63"N</td><td>87°17'34.59"E</td></tr>
<tr><td>G</td><td>22°21'21.47"N</td><td>87°17'30.64"E</td></tr>
<tr><td>H</td><td>22°21'24.04"N</td><td>87°17'30.84"E</td></tr>
<tr><td>I</td><td>22°21'25.54"N</td><td>87°17'30.31"E</td></tr>
<tr><td>J</td><td>22°21'32.04"N</td><td>87°17'27.59"E</td></tr>
<tr><td>K</td><td>22°21'32.60"N</td><td>87°17'25.96"E</td></tr>
<tr><td>L</td><td>22°21'29.44"N</td><td>87°17'15.24"E</td></tr>
<tr><td>M</td><td>22°21'31.75"N</td><td>87°17'14.49"E</td></tr>
<tr><td>N</td><td>22°22'00.25"N</td><td>87°17'43.72"E</td></tr>
<tr><td>O</td><td>22°22'02.74"N</td><td>87°17'45.96"E</td></tr>
</table>
</td><td>--</td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>32 m to 35 m above mean sea level</td><td>--</td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is involved in the proposed expansion project area.</td><td>--</td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><u>Project site:</u> One Rain Water Harvesting Pond exists within the plant site.
<u>Study area:</u>
<table>
<tr><th>Water body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Nala*</td><td>Adjacent to plant</td><td>SE</td></tr>
<tr><td>Kasai River</td><td>4 km</td><td>NNE</td></tr>
<tr><td>Medinipur high level canal</td><td>6 km</td><td>NE</td></tr>
</table>
*The nala water after treatment in ETP of</td><td>-</td></tr>
</table>

SNo	Particulars	Details	Remarks
		associate company is/will be used for industrial purpose. Permission obtained from competent Authority. Ponds like Shabhaspally pond, Bhagwanpur pond, Vidyasagarpur pond, Chandabila pond, Gokulpur pond, Alichak pond, Narayanpur pond and Rupnarayanpur pond exists in 10 km radius area.	
viii.	Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	**NIL.** However, following forests are located in study area: Protected Forest: ~ 6 km in North direction Protected Forest: ~ 6 km in South direction	-

1.4.5 The existing project was accorded environmental clearance from MoEF&CC, New Delhi for its various units. Latest Environment Clearance has been obtained from MoEF&CC, New Delhi vide letter no. J-11011/237/2016-IA.II (I) dated 17th May, 2019 for expansion in Ductile iron pipe plant from 2,00,000 TPA to 5,50,000 TPA and integration of all existing unit (EC issued by MoEF&CC vide file no-11011 /227 /2007-IA- II (I), dated 12/06/2008 and EC issued by MoEF&CC vide letter dated 06/12/2016 for pellet plant). The company has obtained ECs for all the units installed in its premises and the details of all the ECs obtained by the unit are as mentioned below:

1.4.6 Implementation status of the existing EC:

S. No.	Facilities	Units	As per EC dated 17/05/2019	Implementation Status as on 04/02/2022	Production as per CTO
1.	Mini Blast Furnace	TPA	1,80,000 (1x215 m^3)	Operational	1,80,000 (1x 215 m^3)
2.	Sinter Plant	TPA	10,90,000 (2x25 m^2 + 1x70 m^2)	Operational	10,90,000 (2x25 m^2 + 1x70 m^2)
3.	Pig Casting Machine	TPD	600	Operational	600
4.	SMS	TPA	5,00,000 (7x20 T I.F /AOD)	EC obtained for 5,00,000 TPA and the same capacity has been installed but as on date 4,44,000 TPA is maximum operational	4,44,000

S. No.	Facilities	Units	As per EC dated 17/05/2019	Implementation Status as on 04/02/2022	Production as per CTO
				capacity after obtaining valid CTO.	
5.	Oxygen Plant	TPD	60	Operational	60
6.	Lime Calcination Plant	TPD	1200	Not yet implemented. To be dropped	0
7.	Pellet Plant	TPA	9,00,000	Operational	9,00,000
8.	Ductile Iron Pipe Plant	TPA	5,50,000	Operational	5,50,000
9.	Rolling Mill	TPA	3,65,200	Operational	3,65,200
10.	Coal Gasifier (Stand By)	Nm^3/hr	6000	Operational	6000
11.	Railway Siding	TPA	88,50,000	Operational	88,50,000

1.4.7 The unit configuration and capacity of existing and proposed project is given as below:

Sl. No.	Plant Equipment / Facility	Existing facilities as per EC dated 17.05.2019 which includes EC dated 12.06.2008, 12.02.2015, 06.12.2016, 06.01.2017 from MoEF&CC and 06.06.2017 from WBPCB								Proposed Units		Final (Existing + Proposed)		Remarks
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	
1.	Mini Blast Furnace	1 x 215 m^3	1,80,000 TPA	1 x 215 m^3	1,80,000 TPA	Nil	Nil	1 x 215 m^3	1,80,000 TPA	1 x 450 m^3	3,20,000 TPA	1 x 450 m^3	5,00,000 TPA	Capacity enhancement by revamping of existing MBF by changing core size
2.	Sinter Plant	2 x 25 m^2 + 1 x 70 m^2	10,90,000 TPA	2 x 25 m^2 + 1 x 70 m^2	10,90,000 TPA	Nil	Nil	2 x 25 m^2 + 1 x 70 m^2	10,90,000 TPA	No change	3,50,000 TPA	2 x 25 m^2 + 1 x 70 m^2	14,40,000 TPA	Capacity enhancement
3.	Pig Casting Machine	1 x 600 TPD	600 TPD	1 x 600 TPD	600 TPD	Nil	Nil	1 x 600 TPD	600 TPD	1 x 900 TPD	900 TPD (New Installation)	1 x 600 TPD + 1 x 900 TPD	1500 TPD	-
4.	Pellet Plant	-	9,00,000 TPA	-	9,00,000 TPA	Nil	Nil	-	9,00,000 TPA	-	3,00,000 TPA	-	12,00,000 TPA	Capacity enhancement
5.	Oxygen Plant	1 x 60 TPD	60 TPD	1 x 60 TPD	60 TPD	Nil	Nil	1 x 60 TPD	60 TPD	1 x 200 TPD	200 TPD (New Installation)	1 x 60 TPD + 1 x 200 TPD	260 TPD	
6.	SMS	7 x 20 T	5,00,00	7 x 20 T	5,00,000	Nil	Nil	7 x 20 T	4,44,00	Nil	Nil	7 x 20	5,00,00	

Sl. No.	Plant Equipment / Facility	Existing facilities as per EC dated 17.05.2019 which includes EC dated 12.06.2008, 12.02.2015, 06.12.2016, 06.01.2017 from MoEF&CC and 06.06.2017 from WBPCB								Proposed Units		Final (Existing + Proposed)		Remarks
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	
		I.F /AOD	0 TPA	I.F /AOD	TPA			I.F /AOD	0 TPA			T I.F /AOD	0 TPA	
7.	Ductile Iron Pipe Plant	-	5,50,000 TPA	-	5,50,000 TPA	Nil	Nil	-	5,50,000 TPA	Nil	Nil	-	5,50,000 TPA	
8.	Lime Calcination Plant	-	1200 TPD	Nil	Nil	-	1200 TPD	Nil	Nil	-	(-) 1200 TPD	-	0	To be dropped
9.	Rolling Mill	-	3,65,200 TPA	-	3,65,200 TPA	Nil	Nil	-	3,65,200 TPA	Nil	Nil	-	3,65,200 TPA	
10.	Coal Gasifier (Stand By)	-	6000 Nm^3/hr	-	6000 Nm^3/hr	Nil	Nil	-	6000 Nm^3/hr	Nil	Nil	-	6000 Nm^3/hr	
11.	Railway Siding	01 No.	88,50,000 TPA	01 No.	88,50,000 TPA	Nil	Nil	01 No.	88,50,000 TPA	Nil	Nil	01 No.	88,50,000 TPA	

1.4.8 The details of the raw material requirement for the expansion cum proposed project along with its source and mode of transportation is given as below:

S No	Raw Materials	Quantity required per annum (in TPA)			Source	Distance from site (kms)	Mode of Transportation
		Existing	Expansion	Total			
1.	I/o Lumps & Fines	23,10,731	(+) 7,75,269	30,86,000	Barbil-Joda, Orissa, Jharkhand, Karnataka	201	Rail
2.	Coal and Coal Dust	56,900	(+) 35,500	92,400	E-Auction, Purchased from BCCL, Dhanbad or Imported	177	Rail
3.	Ferro Alloys	8,650	-	8,650	Rashmi Cement Limited, Jhargram	40	Road
4.	Coke & Coke fines	1,57,400	(+) 83,400	2,40,800	Existing source (Jindal, VISA, Bengal Energy etc.)/ Imported	100	Rail
5.	Dolomite	87,200	(+) 28,000	1,15,200	From Birmitrapur, Orissa / Bilaspur, CG	264/541	Rail
6.	Limestone	1,41,894	(+) 36,106	1,78,000	From Birmitrapur, Orissa / Bilaspur, Raipur CG /	264/541	Rail

S No	Raw Materials	Quantity required per annum (in TPA)			Source	Distance from site (kms)	Mode of Transportation
		Existing	Expansion	Total			
					Katni MP		
7.	Quartzite	73,800	(+) 1,31,200	2,05,000	From Belpahar Orissa / Bilaspur, Raipur CG	264/541	Rail
8.	Pyroxenite	5,400	(+) 9,600	15,000	Fromm Jharkhand, Orissa	264/541	Rail
9.	Inoculants	528	-	528	Local Market	<150	Road
10.	Magnesium	935	-	935	Local Market	<150	Road
11.	Runner Coat	2811	-	2811	Local Market	<150	Road
12.	Slag Coagulant	762	-	762	Local Market	<150	Road
13.	Zinc	1040	-	1040	Local Market	<150	Road
14.	Bitumen Solution/ Epoxy Paint	2314 KL/Year	-	2314 KL/Year	WRAS* Approved Vendor	<150	Road
15.	Bentonite	9,000	(+) 3,000	12,000	From Kutch, Gujarat	--	Rail
16.	Mould Powder	1,491	-	1,491	Local Market	<150	Road
17.	Sponge Iron	4,90,000	-	4,90,000	Rashmi Cement Limited, Jhargram, Orissa Metaliks Private Limited, Kharagpur	5/40	Road
18.	Molten Hot Metal	3,00,000	(-) 2,00,000	1,00,000	Orissa Metaliks Private Limited Unit-II, Kharagpur	--	Rail

***Mostly material movement will be done through existing dedicated railway siding established inside the plant premises. In worst case if dedicated railway siding is under maintenance or breakdown, the materials will be unloaded at nearby public railway siding (Nimpura)-5.0 Km and then transported to plant premises via road (NH-6) or from associate company railway siding OMPL-II (adjacent to plant site West) & OASPL (0.2 km- East) and then transported to plant premises via dedicated internal road.*

1.4.9 Existing Water requirement is 1950 m^3/day, water requirement is obtained from bore well, treated waste /nallah water & rainwater harvesting pond and permission for the same has been obtained from State Water Investigation Directorate (SWID) vide even Letters dated 29.02.2012, 23.02.2011, 25.05.2011, 22.01.2010 & 29.02.2012 and for treated waste/ nalla water from Kharagpur Municipality vide memo no. 1293 PW dated 17.06.2021. The water

requirement for the proposed project is estimated as 5 m^3 /day which will be obtained from the existing sources.

1.4.10 Existing power requirement of 106.48 MW is obtained from State Grid (WBSEDCL) & Associate Company of the Group. The power requirement for the proposed project is estimated as 9.3 MW which will be obtained from State Grid (WBSEDCL) & Associate Company of the Group.

1.4.11 Baseline Environmental Studies:

Period	**Post Monsoon Season (October to December, 2019)**	**Additional study : *1 month January, 2021***
AAQ parameters at 8 locations	$PM_{2.5}$ = 24.8 to 54.9µg/m^3 PM_{10} = 58.3 to 96.8µg/m^3 SO_2 = 5.8 to 20.4 µg/m^3 NO_2 = 10.2 to 29.8 µg/m^3 CO = <0.5 to 1.54 mg/m^3	$PM_{2.5}$ = 26.3 to 50.8 µg/m^3 PM_{10} = 55.9 to 90.2 µg/m^3 SO_2 = 5.2 to 19.2 µg/m^3 NO_2 = 11.3 to 27. 8 µg/m^3 CO = 0 <0.5 to 1.39 mg/m^3
Incremental GLC level	PM_{10} = 7.87 µg/m^3 (Level at 0.78 km in SE Direction) SO_2 = 7.02 µg/m^3 (Level at 0.78 km in SE Direction) NOx = 6.80 µg/m^3 (Level at 0.78 km in SE Direction) CO = 2.30 µg/m^3 (Level at 2.1 km in SE Direction due to traffic movement)	Remarks: Incremental GLC is cumulative of all the 9 plants exist in the study area i.e. Point source and traffic emission from all existing plant (OASPL, OMPL, OMPL-I, OMPL-II, BCPL, TML, MFPL) + expansion project of RML, OASPL, OMIPL + unimplemented project of OASPL, OMPL, OMPL-II, BCPL and OMIPL (with all APCEs). The same was suggested by EAC (Industry-1) in the meeting dated 29/10/2021.
Ground water quality at 8 locations	pH: 6.66 to 7.03 Total Hardness: 125.02 to 403.64 mg/l Chlorides: 50.23 to 121.23mg/l Fluoride: 0.47 to 0.91 mg/l Heavy metals are within the limits.	
Surface water quality at 8 locations	pH: 6.98 to 7.52 Dissolved Oxygen- 5.7 to 7.1 mg/l BOD: 4.15 to 6.33 mg/l COD: 17.85 to 25.54 mg/l	
Noise levels Leq (Day and Night)	52.8 to 69.8 Leq dB (A) for the Day Time and 42.6 to 61.3 Leq dB (A) for the Night Time.	
Traffic assessment study findings	•Traffic study has been conducted at NH- 49 (formerly NH 6) which is approximately 1.5 km from the plant site. •Transportation of raw material, fuel & finished product will be done 10 % by road. •Existing PCU is 868 PCU/hr on NH- 49 (formerly NH 6) and existing level of service (LOS) is: B	

<table>
<tr><td>Period</td><td colspan="2">Post Monsoon Season (October to December, 2019)</td><td colspan="3">Additional study : 1 month January, 2021</td></tr>
<tr><td></td><td colspan="5">
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH 49 (formerly NH 6)</td><td>868</td><td>3600</td><td>0.24</td><td>B</td></tr>
</table>

• PCU load after proposed project will be 60 (Existing) + 19 (Additional) PCU/hr and level of service (LOS) will be: B
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH 49 (formerly NH 6)</td><td>887</td><td>3600</td><td>0.246</td><td>B</td></tr>
</table>
* Note: Capacity as per IRC-106: 1990, Guide line for capacity for roads.

Conclusion: The level of service will be “B” after including additional traffic due to proposed project.
</td></tr>
<tr><td>Flora and fauna</td><td colspan="5">There is no schedule - 1 species in the study area.</td></tr>
</table>

1.4.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. No.	Type of waste	Source	Quantity Generated (TPA)			Mode of Treatment/ Disposal
			Existing	Additional	Total after expansion	
1.	Core Sand & Slag	DIP	14929	--	14,929	Used for land leveling & road construction purpose.
2.	Miss Roll/ End Cuts	Rolling Mill	14,300	--	14,300	Used in S.M.S. Plant
3.	SMS Slag	SMS	16,200	--	16,200	Used for Road construction, Paver Block Making & cement manufacturing after recovering metal & flux from Slag Crushing unit
4.	Sinter Dust	Sinter	2,62,297	(+) 84,224	3,46,521	Used in Sinter Plant.
5.	MBF Slag	MBF	1,07,500	(+) 82,500	1,90,000	Used in Associate Company Cement Plant
6.	Dust from APC Devices	APC devices of SMS, DIP & Sinter	54,917	---	54,917	Used in Sinter Plant and also for Brick Manufacturing. Zinc Dust is sold to PCB certified Paint manufacture.
7.	MBF Dust & Sludge	MBF	1,04,500	(+) 1,38,300	2,42,800	
8.	Cement Slurry	DIP	1572	-	1,572	Used for Brick making and also

S. No.	Type of waste	Source	Quantity Generated (TPA)			Mode of Treatment/ Disposal
			Existing	Additional	Total after expansion	
						Used in associate company Cement Plant
9.	Coal Tar	Gasifier	78	-	78	Sold to WBPCB authorized Vender
10	Dust from ESP and Bag Filters of Pellet Plant	Pellet plant	25,200	(+) 8,400	33,600	100% reused in process
HAZARDOUS WASTE						
1	Zinc Ash	DIP	75	--	75	Sold to WBPCB Authorized Vendors
2	Damaged Bag Filters	APC devices	100	(+) 20	120	Sent to WBPCB Authorized CHWTSDF
3	Used Oil	Machinery & automobile	16,000 litre	(+) 2,000 litre	18,000 litre	Sold to WBPCB Authorized Vendors
4	Cotton Waste	Entire Plant	180 kg	(+) 20 kg	200 kg	Sent to WBPCB Authorized CHWTSDF

1.4.13 Public Consultation:

Details of advertisement given	06/09/2020 The Telegraph, Millennium Post (In English), Anandabazar Patrika, Bartaman & Aajkaal (In Bengali)
Date of public consultation	08/10/2020
Venue	Mahasakti Mahasangha, Satkui, PO- Matkatpur (Near B.D.O. Office, Kharagpur-I), District- Paschim Medinipur, West Bengal.
Presiding Officer	Shri Tushar Singla, I.A.S. (Additional District Magistrate (LR) and DL & LRO, District – Paschim Medinipur, West Bengal).
Major issues raised	Employment Environment – APCD, Pollution Control, Housekeeping Education Health CSR Activities related etc.

Action plan as per MoEF&CC O.M. dated 30/09/2020

S No	Physical activity and action plan		Year of implementation (Budget in INR)			Total Expenditure (Rs. in Lakhs)
	Name of the Activity	Physical Targets	1st	2nd	3rd	
1	Development & construction of Pond	Restoration of Existing Pond (2000 m^3) at Village Barkola in 1st year and (2000 m^3) at Village Gokulpur in 3rd year	5.00 Lakhs	--	5.00 Lakhs	10.00
2	Development & repairing of road of road	Repairing of 0.7 km road and construction of 0.3 km new road in village Gokulpur in 2nd year and 3rd year respectively	--	21.00 Lakhs	9.00 Lakhs	30.00
3	Vocational Training	Providing training to local	3.50	10.00	3.50	17.00

S No	Physical activity and action plan		Year of implementation (Budget in INR)			Total Expenditure (Rs. in Lakhs)
	Name of the Activity	**Physical Targets**	**1st**	**2nd**	**3rd**	
	Center for Educated youth of villages and Skill development to unemployed local youth through National Skill Development Corporation, Govt. of India Scheme.	village youths for three months' period (15 persons in 1st year and 15 persons in 3rd year). Contribution to DM, Paschim Medinipur & ITI, Kharagpur (Skill development fund - ₹ 5 Lakhs each in 2nd year)	Lakhs	Lakhs	Lakhs	
4	Development of parks, plantation of trees in the nearby areas.	Plantation alongside the road near factory (NH-6) – 670 Nos. in 1st year, Beautification of Sushumapally park at Kharagpur – 500 Nos. in 2nd year and Plantation in Village Shyamraipur – 500 Nos. In 3rd year.	4.00 Lakhs	3.00 Lakhs	3.00 Lakhs	10.00
NEED BASED ACTIVITIES						
5	Financial Support to the Local School for extension of building / class room/ toilets/ development of school infrastructure & library facilities	Barkola High School in 1st year, Gokulpur High School in 2nd year and Baharpat Primary School in 3rd year	3.00 Lakhs	3.00 Lakhs	3.00 Lakhs	9.00
6	Financial support to charitable Dispensary with specialist doctor / Primary Health Center	Samraipur-01 (cost for 1 doctor, 2 nurses, Support staffs, medicine) in 1st year and Barkola-01 in 3rd year	5.00 Lakhs	--	5.00 Lakhs	10.00
7	Street Lighting (Solar/Led) provision at suitable public places	Kalaikunda - 20 Nos. in 1st year, Barkola - 20 Nos. in 2nd year and Gokulpur - 20 Nos. in 3rd year	0.33 Lakh	0.33 Lakh	0.33 Lakh	1.00
8	Creation of irrigation infrastructure in the peripheral villages (Supply of Pest Control Machine), organize training programmes for the local farmers to learn the modern techniques of the agricultural practices	Supply of Pest Control Machine (10 no.@ ₹ 3,000) to each village and training programmes for the local farmers in collaboration with Govt. institute at village Barkola in 1st year, Gokulpur in 2nd year and Shyamraipur in 3rd year	1.00 Lakh	1.00 Lakh	1.00 Lakh	3.00
Total			**21.83 Lakh**	**38.33 Lakh**	**29.84 Lakh**	**90.00**

1.4.14 Existing capital cost of project was 1105.41 Crores. The capital cost of the proposed project is Rs. 90 Crores and the capital cost for environmental protection measures is proposed as Rs. 9 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 0.89 Crores. The employment generation from the proposed expansion is 300 persons (100 regular and 200 contractual). The detail of cost for environmental protection measures is as follows.

S No	Description of Item	Cost (in Lakhs)						Remarks
		Existing		Proposed		Total		
		Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	
1	Cost of Air Pollution Control Devices/ System	270.0	27.0	183.0	22.0	453.0	49.0	Existing Capital & Recurring Cost is as per consolidated EC accorded vide File No. J-11011/237/2016-IA.II (I) dated 17/05/2019
2	Cost of Water conservation & Pollution Control	120.0	12.0	40.0	3.0	160.0	15.0	
3	Cost of Solid Waste Management System	70.0	7.0	30.0	2.0	100.0	9.0	
4	Green belt development	40.0	4.0	70.0	7.0	110.0	11.0	
5	Noise Reduction Systems	80.0	8.0	10.0	10.0	90.0	18.0	
6	Occupational Health Management	70.0	7.0	15.0	2.0	85.0	9.0	
7	Risk Mitigation & Safety Plan	30.0	3.0	20.0	1.5	50.0	4.5	
8	Online Monitoring Surveillance System (Modification/ up gradation)	--	--	67.0	2.0	67.0	2.0	
9	Up gradation/ Modification of Environmental Management Cell & Laboratory	20.0	2.0	5.0	2.5	25.0	4.5	
10	Implementation of Controlling measures to minimise impacts due to transportation and traffic	--	--	10.0	2.0	10.0	10.0	
	Total	**700**	**70**	**450**	**54**	**1150**	**132**	
11	Addressal of Public Consultation concerns	413.0	To be spent in 5 years	90.0	To be spent in 3 years	503.0	**	

1.4.15 Existing green belt has been developed in 19.23 ha area which is about 33% of the total project area of 58.27 ha with total sapling of 41,716 trees. Proposed greenbelt will be developed in 1.16 ha which is about 2 % of the total project area as well as strengthen the existing greenbelt by gap filling and increasing the tree density to 2500 trees/ha. Thus total

of 20.39 ha area (35 % of total project area) will be developed as greenbelt. A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 18,700 saplings will be planted and nurtured in 20.39 hectares in 3 years.

1.4.16 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.4.17 Name of the EIA consultant: M/s. J.M. Enviro Net Pvt. Ltd., [Sl. No. 43, List of ACOs with their Certificate / Extension Letter No: NABET/EIA/2023/RA 0186 valid till 07/02/2023; Rev. 19, February 14, 2022].

Certified compliance report from Regional Office

1.4.18 The status of compliance of earlier EC's was obtained from Integrated Regional Office of MoEF&CC, Kolkata vide letter no. 102-179/07/EPE/22 dated 01/03/2021 in the name of M/s. Rashmi Metaliks Limited. In reply of the observations in the latest CCR the company submitted action taken report to IRO, Kolkata vide letter no. RML/KGP/20-21/01 dated 04/03/2021. In order to verify the corrective action, the plant site was revisited by IRO, Kolkata on 23/04/2021 and certified closure report was issued vide letter no. 102-179/07/EPE/61 dated 28/04/2021. The details of the observations made by RO in the report dated 24/04/2021 along with present status as furnished by the PP is given as below:

S. No.	Non-compliance details	Observation of RO (abridged)	Condition no.			Re-assessment by IRO
			EC date	Specific	General	
1.	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.	It was observed that the PA's have not raised three-tier plantation as mentioned in CPCB guidelines	17th May, 2019	-	General Condition No. 2	It has been observed that PA has taken initiative to develop three-tier plantation as mentioned in CPCB guidelines.
2.	Provide tyre washing facilities at the entrance of the plant gates.	It is mentioned that tyre washing facilities are to be provided at the entrance of the plant	17th May, 2019	-	General Condition No. 7 (V)	It has been observed that PA have installed tyre washing facilities.

S. No.	Non-compliance details	Observation of RO (abridged)	Condition no.			Re-assessment by IRO
			EC date	Specific	General	
		gates however the same was not observed.				

1.4.19 M/s. Rashmi Metaliks Limited has earlier made an online application vide proposal no. IA/WB/IND/234684/2016 dated 20/10/2021. The proposal was considered in 47th Reconstituted Expert Appraisal Committee (Industry 1 sector) meeting held on 28-29th October, 2021. The EAC observation and recommendation is given as below:

Observations of the Committee held on 28-29th October, 2021

1.4.20 The Committee observed the following:

i. On perusal of the KML file, it is noted that green belt development at the project site is very poor.
ii. No tangible effort has been taken by the proponent to phase out the utilization of 1458 KLD of ground water.
iii. Capex proposed is Rs. 90 Cr and Environmental expenditure of only Rs. 5.4 Cr is budgeted. These numbers look unrealistic and should be revisited.
iv. Cumulative environment impact assessment of the nearby group companies has not been carried out.
v. 19.23 ha land shall be developed into green belt. At present only 19 % of green belt has been developed.
vi. As per the EC accorded, the configuration of the furnace was 4x40 T EAF/LRF whereas PP has changed the configuration of the furnace as 7 x 20 T I.F /AOD. No explanation has been furnished by the PP in this regard.
vii. Action plan for solid waste utilization needs to be revisited.
viii. PM emissions considered for stacks is shall be 50mg/ Nm^3 against the requirement of 30 mg/Nm^3 as per TOR.
ix. Modelling has been done on the basis of CEMS actual data and incremental Ground Level Concentrations levels are reported as negative which needs to be revisited. Fresh AAQ modelling needs to be carried out on the basis of PM emission limit of 30 mg/Nm^3.
x. Scheme for traffic management from parking area to and from highway has not been furnished.
xi. Performance testing schedule for PCDs has not been furnished.
xii. Stack emission calculations have been carried out based on the CEMS data and not on the anticipated emission from the stacks.

Recommendations of the Committee held on 28-29th October, 2021

1.4.21 In view of the foregoing and after detailed deliberations, the committee recommended to return the proposal in its present form due to the shortcomings given at para no 1.4.20 above.

1.4.22 M/s. Rashmi Metaliks Limited has again made the online application vide proposal no IA/WB/IND/254828/2019 dated 09/02/2022. The proposal was considered in 1st Expert Appraisal Committee (Industry 1 Sector) meeting held on 5-6th March, 2022. The EAC observation and recommendations is given as below:

Observations of the Committee

1.4.23 The committee noted the following:

i. The proposal was earlier considered in 47th EAC meeting held on 28-29 October, 2021. The proposal was returned in its present form due to the shortcomings listed at para no. 1.4.22 above.
ii. Tree density in existing green belt is only 1787 trees per ha. PP has proposed additional land to ensure that 35 % of plant area shall be covered with Green Belt with a tree density of 2500 trees per ha by the FY 2023-24.
iii. Currently 1453 KLD water is being abstracted from GW sources. A pipe line from Kansavati River is being laid and by FY 2024-25, only 100 KLD water shall be taken from ground for domestic use only.
iv. EMP cost for Pollution Control Devices has been revised from Rs. 5.4 C to Rs. 9.0 Cr.
v. The resultative data of cumulative impact assessment carried out after including all the point sources and traffic emission from the plant (RML + 6 other associate companies + Tata Metaliks Limited & Metalik Fuel Pvt. Ltd.) are reported to be minimal changes as compared to impact data arising out of the proposed expansion activity. In view of this, EAC opined that the cumulative impact assessment data provided by PP needs to be revisited.
vi. Letter explaining the change in furnace configuration was sent by PP to MOEF&CC on 15.4.2020.
vii. 100 % Solid waste shall not be recycled/reused. Dumping in low lying areas has been proposed.
viii. Direct Hot charging of 85-90 % is not committed.

Recommendations of the Committee

1.4.24 In view of the foregoing and after deliberations, the Committee deferred the consideration of the proposal and sough following additional information from the proponent for further consideration of the proposal:

i. Project proponent shall revisit the cumulative impact assessment study especially the AAQ modelling and revised report shall be submitted along with the input data used for the modeling.
ii. An action plan for Green Belt development in 35% of the total area consisting of 3 tiers of plantations of native species all along the periphery of the project of adequate width with a tree density shall not less than 2500 per ha within a time frame of one year shall be submitted. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.

1.5 Proposed expansion of existing Steel Plant by installation of 1x400 TPD Sponge Iron Plant (1,32,000 TPA), Steel Melting Shop for total production of 2,60,500 TPA Billets, 1,92,000 TPA Rolling Mill with 1x15 TPH Reheating Furnace and Captive Power Plant [20 MW (10 MW WHRB + 10 MW AFBC)] within the existing plant premises by **M/s. AIC Iron Industries Private Limited** located at Village Benipur, Tehsil Neturia, **District Purulia, West Bengal** [Online Proposal No. IA/WB/IND/5663/2010; File No. J-11011/566/2008-IA.II(I)] – **Environment Clearance – regarding.**

1.5.1 M/s. AIC Iron Industries Private Limited has made an online application vide proposal IA/WB/IND/5663/2010 dated 09/02/2022 along with copy of EIA/EMP Report, Form - 2

and Certified Compliance Report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries (ferrous & non-ferrous) and 1(d) Thermal Power Plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by Project proponent

1.5.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord	Validity of ToR
04/01/2020	15th meeting of EAC, held on 16th January, 2020	Terms of Reference	24/01/2020	23/01/2024

1.5.3 The project of M/s. AIC Iron Industries Private Limited is located in Village Benipur, Tehsil Neturia, District Purulia, West Bengal State is for Proposed expansion of existing Steel Plant by installation of 1x400 TPD Sponge Iron Plant (1,32,000 TPA), Steel Melting Shop for total production of 2,60,500 TPA Billets, 1,92,000 TPA Rolling Mill with 1x15 TPH Reheating Furnace and Captive Power Plant [20 MW (10 MW WHRB + 10 MW AFBC)] within the existing plant premises.

1.5.4 Environmental Site Settings:

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>10.01 ha
[Private: 10.01 ha]</td><td>Land use: Industrial</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>Expansion project is proposed in existing project area of 10.01 ha. Complete land of 10.01 ha is under possession of company. No additional land is required for proposed project.</td><td></td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any</td><td>Project Site: NIL

Study Area:<table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Boropukur village</td><td>0.6 km</td><td>ESE</td></tr><tr><td>Benipur</td><td>0.1 km</td><td>NNE</td></tr></table></td><td>No R&R is required.</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of the project site</td><td><table><tr><th>Point</th><th>Latitude</th><th>longitude</th></tr><tr><td>1</td><td>23°39'31.61"N</td><td>86°47'41.98"E</td></tr><tr><td>2</td><td>23°39'29.44"N</td><td>86°47'54.64"E</td></tr><tr><td>3</td><td>23°39'22.51"N</td><td>86°47'50.25"E</td></tr><tr><td>4</td><td>23°39'24.49"N</td><td>86°47'40.13"E</td></tr></table></td><td></td></tr>
<tr><td>V.</td><td>Elevation of the project site</td><td>140 m AMSL</td><td></td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>Not involved.</td><td></td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists</td><td><u>Project Site:</u> NIL

<u>Study area:</u></td><td></td></tr>
</table>

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>within the project site as well as study area.</td><td><table><tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr><tr><td>Damodar River</td><td>2.8 km</td><td>NW</td></tr><tr><td>Panchet Reservoir</td><td>3.84 km</td><td>West</td></tr><tr><td>Baranti Reservoir</td><td>8.66 km</td><td>SSE</td></tr></table></td><td></td></tr>
<tr><td>viii.</td><td>Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve / tiger reserve / elephant reserve etc. if any within the study area</td><td>NIL
However, following forest is located within study area:
Panchet RF: 3.20 km/ SSW</td><td></td></tr>
</table>

1.5.5 The existing project was accorded Consent to Establish (NOC) from West Bengal Pollution Control Board vide Consent Letter Memo. No 1334/I-WPBA-NOC (816)/05 dated 15/12/2006 for 1x3 T and 1x6 T Induction Furnaces. Environmental Clearance is accorded ministry letter no F. No. J-11011/ 566/2008-IA II(I) dated 27/08/2010 for 4x100 TPD DRI Kiln, 2x15 T Induction Furnaces and CPP of 12 MW CPP (8 MW WHRB + 4 MW AFBC). Consent to Operates (CTO) for the existing unit was accorded by West Bengal Pollution Control Board vide Consent Letter Memo. No 1040-WPBA/Red(Prl)/Cont(216)/07 dated 10/05/2018 and Letter Memo. No 279-WPBA/Red(Prl)/Cont(216)/07 dated 17/11/2021. The validity of CTO is up to 31/03/2023.

1.5.6 Implementation status of the existing EC and NOC:

S. No.	Facilities	Units	As per NOC dated 15/12/2006	As per EC dated 27/08/2010	Implementation Status as on 04/02/2022	Production as per CTO dated 10/05/2018 and 17/11/2021
1.	Sponge Iron	TPA	--	4x100 TPD DRI Kilns (1,20,000 TPA)	Not implemented	--
2.	SMS (Billets)	TPA	IF: 1x3T + 1x6T (28,800 TPA Billets)	IF: 2x15 T (1,20,000 TPA)	IF: 1x3T + 1x6T (28,800 TPA) + IF: 1x15 T (49,500 TPA)	IF: 1x3T + 1x6T (28,800 TPA) + IF: 1x15 T (49,500 TPA)
3.	Captove Power Plant	TPA	--	12 MW CPP (8 MW WHRB + 4 MW AFBC)	Not implemented	--

1.5.7 The unit configuration and capacity of existing and proposed project is given as below:

S No	Plant Equipment /Facility	Existing facilities as per EC dated 27/08/2010 and CTE dated 15/12/2006 from WBPCB								Proposed Units		Final (Existing + Proposed)	
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO					
		Configuration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)
1	Sponge Iron	4x100 TPD DRI Kilns	1,20,000	--	--	4x100 TPD DRI Kilns	1,20,000	--	--	1x400 TPD DRI Kiln	1,32,000	1x400 TPD DRI Kiln	1,32,000
2.	Induction Furnace with CCM/ LRF AOD/VOD	IF: 1x3 T + 1x6 T + 2x15 T	28,800 + 1,20,000	IF: 1x3 T + 1x6 T + 1x15 T	28,800 + 49,500	IF: 1x15 T	70,500	IF: 1x3 T + 1x6 T + 1x15 T	28,800 + 49500	IF: 3x15 T (existing 1x3 T + 1x6 T will be replaced with 2x10 T)	1,48,500 liquid steel/ 1,46,000 Billets	IF: 2x10 T + 4x15 T	2,60,500 Billets
3.	Rolling Mill Structural Steels (Angles, Channels, Joist, TMT Bars, Wire Rod, Strips & Pipes etc.) with 1x15 TPH Reheating Furnace.	--	--	--	--	--	--	--	--	--	1,92,000	--	1,92,000.
4.	Captive Power Plant	--	12 MW CPP (8 MW WHRB + 4 MW AFBC)			--	12 MW CPP (8 MW WHRB + 4 MW AFBC)	--	--	--	20 MW CPP (10 MW WHRB + 10 MW AFBC)	--	20 MW CPP (10 MW WHRB + 10 MW AFBC)

1.5.8 The details of the raw material requirement for the expansion cum proposed project along with its source and mode of transportation is given as below:

Sl. No	Raw Material	Annual Requirement (in TPA)			Source	Distance (in km)	Transportation		
		Existing	Proposed	Total			Internal	Rail	Road
SPONGE IRON PLANT									
1	Iron Ore Fines / Pellet	-	1,80,000	1,80,000	I/O fines from Barbil-Joda, Orissa Pellet from Local Market	300 100	-	1,80,000	-
2	Coal	-	1,20,000	1,20,000	Imported-Haldia Port	315	-	1,20,000	-
3	Dolomite	-	3,600	3,600	Raipur CG Katni MP	800 830	-	-	3,600
STEEL MELTING SHOP									
1	Sponge Iron	1,05,000	1,35,000	2,40,000	In-house Conveyor Local Market	- 200	1,32,000	86400	21,600
2	Scraps	24,500	31,500	56,000	Local Market	100	-	-	56,000

Sl. No	Raw Material	Annual Requirement (in TPA)			Source	Distance (in km)	Transportation		
		Existing	Proposed	Total			Internal	Rail	Road
3	Pig Iron	17,500	22,500	40,000	Local Market	150	-	-	40,000
4	Ferro Alloys	904	1,160	2,064	Local Market	150	-	-	2,064
CAPTIVE POWER PLANT									
1	Coal	-	62,500	62,500	Imported-Haldia Port	315	-	62,500	-
2	Dolochar	-	30,000	30,000	In-House	-	30,000	-	-
TOTAL		**1,47,904**	**5,86,260**	**7,34,164**			**1,62,000**	**4,48,900**	**1,23,264**
Percentage (%)							**22%**	**61%**	**17%**
No. of Rakes / Trucks per Year								**113 (10 Rakes per Month)**	**6164 (19 Trucks per Day i.e. 1 Truck/ Hour)**

1.5.9 Total make up water as tune of 472 m^3/day will be needed for existing as well as proposed industrial purpose and around 25.5 m^3/day will be needed for domestic use. Thus, total 497.5 m^3/day make up water (Fresh Water 397.5 m^3/day and recycled water 100 m^3/day) will be required for the entire project. The raw water will be sourced from Damodar River through DVRRC supply (after expansion). No ground water shall be abstracted. The permission for supply of 0.212 MGD from Damodar Valley Reservoir Regulation Unit vide Letter No. MD/DVRR/W-6(144)/2020/1451-56 dated 07/01/2021.

1.5.10 As per the estimation the total power requirement for the entire project will be around 37.5 MW including the power requirement for the proposed units and the power requirement for the replacement of the existing (1x3 T + 1x6 T) by 2x10 T Induction Furnaces. Power will be sourced from the proposed 20 MW capacity Captive Power Plant (CPP) and the rest will be sourced from the DVC.

1.5.11 Baseline Environmental Studies:

Period	December, 2019 - February, 2020
AAQ parameters at 8 locations	$PM_{2.5}$ = 16 - 39 µg/m^3 PM_{10} = 50 - 86 µg/m^3 SO_2 = 4 - 16 µg/m^3 NO_2 = 14 - 38 µg/m^3 CO = 0.177 - 1.159 mg/m^3
AAQ Modelling (Incremental GLCs) Model Used : ISCST3	PM = 1.659 µg/m^3 (0.7 km in SE) SO_2 = 5.692 µg/m^3 (0.7 km in SSE) NOx = 3.583 µg/m^3 (0.7 km in SSE)
Ground water quality at 9 locations	pH: 6.7 - 7.6, Total Hardness: 188 - 304 mg/l, Chlorides: 93 - 135 mg/l, Fluoride: 0.24 - 0.62 mg/l, Iron: 0.18 - 0.46 mg/l, TDS: 328 - 473 mg/l
Surface Water Quality at 10 Locations	**Damodar River Water:** pH: 7.5 & 7.4, DO: 6.6 & 6.8 mg/l,

<table>
<tr><td>(1 Reservoir water sample, 2 River water & 7 pond water samples)</td><td>BOD: 3 mg/l,
COD: 12 & 10 mg/l,
Fe: 0.17 & 0.23 mg/l,
Coliform: 4400 & 5600 MPN/100 ml,
TDS: 186 & 199 mg/l,
Total Hardness: 124 & 144 mg/l,
Chloride: 36 & 35 mg/l

Pond Water:
pH: 6.8 - 7.3, DO: 6.1 - 6.6 mg/l,
BOD: 4 - 8 mg/l,
COD: 12 - 28 mg/l,
Fe: 0.16 - 0.22 mg/l,
Coliform: 990 - 2440 MPN/100ml,
TDS: 252 - 358 mg/l,
Total Hardness: 144 - 232 mg/l,
Chloride: 52 - 96 mg/l</td></tr>
<tr><td>Noise Levels at 10 Locations</td><td>54.4 - 67.2 dBA for day time and
44.9 - 53.0 dBA for night time.</td></tr>
<tr><td>Traffic assessment study findings</td><td>The traffic study was carried out at Sarbari-Panchet Road near Project Site and SH 5 near sarbari mor.
Transportation of raw material, fuel & finished product will be done 100 % by road.
Existing PCU is 35.66 PCU/hr on Sarbari-Panchet Road and 126.83 PCU/hr on SH 5 and existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>Sarbari-Panchet Road</td><td>35.66</td><td>625</td><td>0.57</td><td>A</td></tr>
<tr><td>SH 5</td><td>126.83</td><td>625</td><td>0.20</td><td>A</td></tr>
</table>
PCU load after proposed project will be 81.62 PCU/hr on Sarbari-Panchet Road and 172.75 PCU/hr on SH 5 and proposed level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>Sarbari-Panchet Road</td><td>81.62</td><td>625</td><td>0.13</td><td>A</td></tr>
<tr><td>SH 5</td><td>172.75</td><td>625</td><td>0.28</td><td>B</td></tr>
</table>
* Note: Capacity as per IRC-106: 1990, Guide line for capacity for roads.
Conclusion: The level of service will be remained same as A at Sarbari-Panchet Road near prpoject site but level</td></tr>
</table>

	of service will be change from A to B at SH 5 after including additional traffic due to proposed project.
Flora and fauna	No schedule I species of fauna and no endangered species of flora found in study area.

1.5.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S No	Type	Quantity (TPA)			Utilization
		Existing	Proposed	Total	
1	Dolochar from Sponge Iron Plant	-	30,000	30,000	100% to be used in AFBC boiler of CPP.
2	Slag from Induction Furnaces	10,500	13,500	24,000	The slag generated from the furnaces shall be 24,000 TPA considering 100% production in the furnaces. About 10% metal shall be recovered from the total slag and the balance 21,600 TPA utilized as stone chips / road construction materials) shall be used for road construction & repairing / land filling purposes. Considering 7 m width & depth 12 inch (0.3 m) of the road and density of the slag as 3.5 ton/cum, 7,350 T slag may be consumed for 1.0 km stretch. Therefore, the entire quantity of slag generated in a year (21,600 TPA) shall be utilized for the construction of around 3 km roads. As per an estimate, it was found that around 400 km undeveloped (Kuchha) road is existing in the surrounding villages in the 10 km radius area. Hence, there is lot of potential of slag utilisation during construction of these roads.
3	End Cuts, Scale & Scrap from CCM & Rolling Mill	3,500	3,500	7,000	100% to be used in Induction Furnaces.
4	Fly Ash from CPP	-	15,700	15,700	100% to be sold as a raw material in cement plant / brick manufacturers in the neighborhood.

S No	Type	Quantity (TPA)			Utilization
		Existing	Proposed	Total	
5	Bottom Ash from CPP	-	3,930	3,930	100% to be utilised for brick making / land filling purposes.

1.5.13 Public Consultation:

Details of advertisement given	14/01/2021
Date of Public Consultation	15/02/2021
Venue	Sampriti Sadan, Sarbari, P.S. Neturia, District - Purulia, West Bengal
Presiding Officer	Dr. Akansha Bhaskar, IAS, Additional District Magistrate, Purulia
Major issues raised	• Generation of employment opportunities • Measures for Environmental Protection • Regarding local people's health • Proper supply of drinking water • Water pollution and waste water discharge • Control of Air Pollution • Maintenance of local roads • Organize health camps for local people health check up • Proper implementation of the CSR fund in consultation with local committee • Greenbelt development • Maintenance of local schools • Scholarship for local students

Action plan as per MoEF&CC O.M. dated 30/09/2020

Budgetary action plan to address the public hearing issues:

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION			Total Expenditure (Rs. in Lakhs)
			1st Year	2nd Year	3rd Year	
Employment of local people	In the proposed project, top most priority will be given to the local people based on their academic qualification. Skill development for unemployed local youths through National Skill Development Corporation, Govt. of India Scheme. Construction of a building along with the necessary infrastructure for	Physical Target	Construction of 2 - room training building (1300 sq. ft area) and installation of 5 computer systems & 3 machines for making hand craft items along with necessary raw materials, based on the need of the local people			20
		Budget in Lakhs	15	5	-	

Concerns raised during Public Hearing	**Physical Activity and Action Plan**	**Particulars**	**YEAR OF IMPLEMENTATION**			**Total Expenditure (Rs. in Lakhs)**
			1st Year	**2nd Year**	**3rd Year**	
	this purpose.					
Measures for Environmental Protection	• Adequate control measures like installation of ESP, Bag filters, dust suppression system & stacks of adequate height at relevant places will be installed. • Air borne dust shall be controlled by mobile water tanker inside the plant premises. • Maintenance of air pollution control equipment shall be done regularly. • All roads shall be paved on which movement of raw materials or products will take place inside the plant premises. • No waste water will be discharged outside the plant area. The plant is designed as a zero discharge plant. The entire wastewater will be recirculated and recycled. • The equipment shall comply with the Statutory limit of 85 dB(A) (at 1 m. from the source). Noise Reduction Systems will be arranged.	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.			-
		Budget in Lakhs	Included in the EMP Cost.			
Groundwater shall not be withdrawn	Total Make up water for the entire Project shall be 397.5 m^3/day which will be sourced from Damodar River.	Physical Target	-	-	-	
		Budget in Lakhs	-	-	-	
To take care of local people's health	A charitable dispensary shall be constructed having basic facilities,	Physical Target	Construction of a charitable dispensary (1500 sq. ft area) at village Sarbari			40
		Budget in Lakhs	25	15	-	

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION			Total Expenditure (Rs. in Lakhs)
			1st Year	2nd Year	3rd Year	
	trained nurses and qualified doctors for treatment of the local people.					
Organizing Health Camps for health check-up of locals	Health camps shall be organized in the surrounding villages for health check-up of the local villagers.	Physical Target	It will be done on regular basis.			
		Budget in Lakhs	As per requirement.			
Proper Supply of Drinking Water	Drinking water shall be supplied through tanker and tubewells shall be installed for drawing drinking water.	Physical Target	Procurement of 1 tanker	Development of 2 tube wells at Ramkanali & Shunuri villages	Development of 2 tube wells at Bhurkunrabari and Digha villages	10
		Budget in Lakhs	6	2	2	
Regarding Water Scarcity	The water required for the proposed project will be taken from the Damodar River and therefore there will be no need for ground water, so there will be no question of depletion of ground water. Construction of Rain Water Harvesting structures for groundwater recharging and rain water surface storage tanks in nearby villages shall be done.	Physical Target	Construction of 2 Rain Water Harvesting structures at Sarbari & Digha villages	Construction of 1 Rain Water storage pond at Shunuri village	Construction of 1 Rain Water storage pond at Ramkanali	7
		Budget in Lakhs	5	1	1	
Regarding Measures to prevent Water Pollution	The plant is designed as a zero-discharge plant. The water will be recirculated through cooling and treatment. The entire waste water will be recycled for various purposes inside the plant. Domestic wastewater will be treated in Sewage Treatment Plant (STP).	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.			
		Budget in Lakhs	Included in the EMP Cost.			
Maintenance & repairing	Maintenance & repairing of 3 km	Physical Target	Construction of 1 km and	Construction of 1 km and	Construction of 1 km and	

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION			Total Expenditure (Rs. in Lakhs)
			1st Year	2nd Year	3rd Year	
of roads in the surrounding areas	roads in the surrounding villages.		repairing of existing roads at Sarbari village	repairing of existing roads at Shunri village	repairing of existing roads at Madhukunda village	30
		Budget in Lakhs	10	10	10	
Proper implementation of the CSR fund in consultation with local committee	The company has identified certain areas, to be considered for imparting the CER activities in the context of the local scenario of the area. The CER activities will be implemented in consultation and co-ordination with the local authorities.	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.			-
		Budget in Lakhs	As per requirement.			
Greenbelt development within the plant premises	Proper plantation of trees will be done inside the plant premises. The Company has earmarked 3.30 hectares (8.16 acres) of land for Green Belt Development out of total 10.01 hectares (24.74 acres) of total land within its plant area at Village: Benipur, P.O.: Saltor, P.S.: Neturia, Dist: Purulia in West Bengal. 3.30 hectares (8.16 acres) of land for greenery are already developed as greenbelt within the plant premises where around 5000 number of trees (@1500 trees per hectares) have been planted. There is plan to develop further greenbelt by planting more trees @2500 trees per hectares. There will	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.			
		Budget in Lakhs	Included in the EMP cost			

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION			Total Expenditure (Rs. in Lakhs)
			1st Year	2nd Year	3rd Year	
	be total 8250 number of trees within the plant area. Hence, additional 3250 number of trees shall plant.					
Maintenance of local schools	Development of building infrastructure, playground, class rooms, library facilities and providing computers in the Local Adibashi School.	Physical Target	Renovation & repairing of school building at Sarbari village	Supplying desks, benches, blackboards at Digha village	Development of playground and library at Shunuri village	8
		Budget in Lakhs	3	2	3	
Regarding scholarship for local students	Scholarships shall be provided to the local meritorious students for carrying out higher studies.	Physical Target	It will be done on regular basis.			-
		Budget in Lakhs	As per requirement.			
Total Budget - Public Hearing related: Rs. 115 Lakhs						

Need based activities:

Need based Activities	Particulars	Year of Implementation			Total Expenditure (Rs. In Lakhs)
		1st Year	2nd Year	3rd Year	
Street Lighting (Solar) provision at suitable public places in and around the nearby villages (15 numbers, @ Rs. 20,000/- per Solar Light)	Physical Target:	Providing 5 nos. Solar light at village Sarbari	Providing 5 nos. Solar light at village Digha	Providing 5 nos. Solar light at village Ramkanali	3
	Budget in Lakhs	1	1	1	
Development and maintenance of existing ponds in the local villages	Physical Target:	Development & maintenance of 2 ponds at villages Gar Panchkot & Ranipur	Development & maintenance of 2 ponds at villages Digha & Shunuri	Development & maintenance of 2 ponds at villages Haridi & Ramkanali	15
	Budget in Lakhs	5	5	5	
Providing green and blue Dustbins in the surrounding villages (under Swach Bharat Scheme) for waste segregation and handling	Physical Target:	Providing 200 green dustbins and 200 blue dustbins at five villages namely Lachhmanpur, Gagra, Ramkanali, Ranipur, Ajodhya	Providing 200 green dustbins and 200 blue dustbins at five villages namely Malancha, Mahishnadi, Bhurkunrabari, Bathanbari, Haridi	Providing 100 green dustbins and 100 blue dustbins at five villages namely Gar Panchkot, Digha, Kelyasota, Sarbari, Shunuri,	

Need based Activities	Particulars	Year of Implementation			Total Expenditure (Rs. In Lakhs)
		1st Year	2nd Year	3rd Year	
				Madhukunda	
	Budget in Lakhs	0.4	0.4	0.2	1.0
Total Budget - Need based activities: Rs. 19 Lakhs					
Overall Budget (Public Hearing related + Need based Activities): Rs. 134 Lakhs					

1.5.14 The capital cost of the proposed expansion project is Rs. 145 Crores and the capital cost for environmental protection measures is proposed as Rs. 22.0 Crores (around 15% of the project cost). The annual recurring cost towards the environmental protection measures is proposed as Rs. 2.4 Crores. The employment generation from the proposed project is 400 persons. The details of cost for environmental protection measures are as follows:

S No	Environment/ Social Control Measure	Cost of Emp (In Crores)					
		Existing		Proposed		Total	
		Capital	Recurring / Annum	Capital	Recurring / Annum	Capital	Recurring / Annum
1	Air Pollution Control Systems	2.0	0.20	9.0	1.00	11	1.2
2	Water conservation & Pollution Control	1.2	0.12	2.9	0.30	4.1	0.42
3	Solid / Hazardous Waste Management System	1.0	0.10	2.1	0.23	3.1	0.33
4	Green belt development	0.1	0.01	0.4	0.02	0.5	0.03
5	Noise Reduction Systems	1.0	0.10	1.6	0.16	2.6	0.26
6	Occupational Health Management	1.6	0.16	1.0	0.10	2.6	0.26
7	Risk Mitigation & Safety Plan	1.3	0.13	1.45	0.15	2.75	0.28
8	Environmental Management Department	1.1	0.11	2.4	0.44	3.5	0.55
9	Total Budget - Public Hearing related	0.5	-	1.15	-	1.65	-
	Total	**9.8**	**0.93**	**22.0**	**2.40**	**31.8**	**3.33**

1.5.15 M/s AIC Iron Industries Private Limited has already developed 3.30 ha (8.16 acres) of land as greenbelt within the plant premises where around 5000 number of trees (@1500 trees per hectares) have been planted. There is plan to develop further greenbelt by planting more trees @2500 trees per hectares. There will be total 8250 number of trees within the plant area. Hence, additional 3250 number of trees shall be planted.

1.5.16 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.5.17 Name of the EIA consultant: M/s. Envirotech East Pvt. Ltd. [Sl. No. 178, List of ACOs with their Certificate / Extension Letter No: NABET/EIA/2124/SA 0145 valid till 12/09/2022; Rev. 19, February 14, 2022].

Certified compliance report from Pollution Control Board:

1.5.18 The Status of compliance of Consent to Operate (CTO) was obtained from West Bengal Pollution Control Board vide letter Memo no. 386(01) WPBA/Red(prl)/Cont. (216)/07 dated 14/07/2021 in the name of M/s. AIC Iron Industries Pvt. Ltd on the basis of site visit conducted on 28/06/2021. As per the compliance report most of CTO conditions are compiled with except 33% green belt development.

Observations of the Committee

1.5.19 The committee noted the following:

i. PP shall complete the plantation *with tall trees* in 33% area of the project site with tree density of 2500 per ha all along the project boundary and submit the detail of updated status of green belt with geotag photographs.
ii. Slag from IFs is proposed to be dumped in low lying areas. No details of the lands to be used for dumping has been made available.
iii. Plant photographs indicate poor housekeeping and absence of green belt within the project site.
iv. Corporate policy is addressed in Chapter 10. TOR 9 pertaining to Corporate Environment Policy have not been complied.
v. There is no provision of Environment Management Cell in the EIA report.
vi. BOD and Coliform relations remain a matter of concern with this consultant. BOD concentration of 3 mg/l has been reported for a coliform concentration of 5600 MPN/100ml.
vii. BL data have not been interpreted in Chapter 3 to finalize significant environmental components to quantify project impacts in Chapter 4.
viii. Project benefits have not been quantified in chapter 8.
ix. Pond water has 6.6 mg/l DO at 2400 MPN/100 ml coliform. This needs to be revisited.

Recommendations of the Committee

1.5.20 In view of the foregoing and after deliberations, the Committee recommended the proposal to be returned in its present form to address the shortcoming enumerated above in para 1.5.19 and submit revised application as per the provisions of EIA Notification, 2006.

1.6 Proposed greenfield Integrated Steel Plant for Beneficiation Plant- (1x3.6 MTPA); Pellet Plant- (1x3.0 MTPA); Coke Oven Plant- (1x0.8 MTPA); Sinter Plant- (1x1.2 MTPA); Blast Furnace- (1x2.0 MTPA), Steel Melting Shop- (BOF/ZPF-1x2.2 MTPA, LRF- 1x2.2 MTPA, VD/VOD- 1x1.1 MTPA , Billet Caster 1x0.6 MTPA, Slab Caster- 1x1.0 MTPA & 1x1.8 MTPA, Hot Strip Mill - 1x1.0 & 1x1.8 MTPA); Oxygen Plant (VPSA- 1x700 TPD, Cryogenic-1x650 TPD), Cold Rolled Complex, Power Plant 330 MW, Lime or Dolo Plant 700 TPD, Ferro Alloy Plant 6x9 MVA) by **M/s. Godawari Power and Ispat Limited** located at Khasra No. 746, 747, 1320, 1322/1 and 1322/3 Village-Sarora, Tehsil-Tilda, **District Raipur, Chhattisgarh** [Online Proposal No. IA/CG/IND/252827/2022; File no: IA-J-11011/25/2022-IA-II(IND-I)] - **Prescribing of Terms of Reference – regarding.**

1.6.1 M/s. Godawari Power and Ispat Limited has made an application online vide proposal no. IA/CG/IND/252827/2022 dated 06/02/2022 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No.3(a) Metallurgical Industries (Ferrous and Non/ferrous), 2(b) Mineral Beneficiation, 4(b) Coke Oven Plants and 1(d) Thermal Power Plant under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

Observations of the Committee

1.6.2 The Committee noted the following:

i. The proposal is for seeking Terms of reference for undertaking EIA study for setting up of greenfield Integrated Steel Plant at Sarora Village, Tilda Tehsil, Raipur District, Chhattisgarh by M/s. Godawari Power and Ispat Limited.

ii. As per document submitted by proponent, the proposed project land of 233.9 ha is a reserve forest land as per Toposheet No. 64 G/10 (Old) and F44P10 (New) published by Survey of India, Government of India. However, DFO, Forest Division, Raipur (Chhattisgarh), Vide letter No./W.T.A./RA/2995 dated 08/10/2021 addressed to Tehsildar informed that the proposed land does not falls under RF/PF/Orange Area or Chota Bade Jhar Ke Jungle. It is also stated that the state forest department do not have any objection on it, if the proposed land is transferred to Industry Department, Government of Chhattisgarh for industrial purpose by Revenue Department.

iii. The Committee observed that as per the toposheet the land use of the project site is a reserved forest whereas the DFO has informed the Tehsildar stating that said land does not fall under RF/PF/ Chota Bade Jhar Ke Jungle. In this regard, it was opined that proponent shall obtain a clarification from the PCCF, Government of Chhattisgarh on the legal status of the proposed project site.

Recommendations of the Committee

1.6.3 In view of the foregoing and after deliberations, EAC recommended that the proposal to be returned in its present form and revised application as per the provisions of EIA Notification, 2006 shall be submitted to after obtaining clarification from the PCCF, State Forest Department, Govt. of Chhattisgarh regarding the legal status of the proposed project site.

1.7 Proposed Ferro Alloys Plant for production of Ferro Silicon (15400 TPA)/ Ferro Manganese (32000 TPA)/ Silico Manganese (30800 TPA)/ Ferro Silicon Magnesium (7200 TPA) by installation of 2x11 MVA Submerged Arc Furnace by **M/s. Shri Sumangalaya Balaji Steels Limited (SSBSL)** at located at Khasra No. 1823 & 1824, Village- Riwiang, Tehsil Nongstoin, **District West Khasi Hills, Meghalaya** [Online Proposal No. IA/ML/IND/255500/2022; File no: IA-J-11011/51/2022-IA-II(IND-I)] - **Prescribing of Terms of Reference – regarding.**

1.7.1 M/s. Shri Sumangalaya Balaji Steels Limited (SSBSL) has made an application online vide proposal no. IA/ML/IND/255500/2022 dated 08/02/2022 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at under Category 'A' schedule 3(a) Metallurgical Industries (ferrous & nonferrous) of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by Project proponent

1.7.2 The project of M/s Shri Sumangalaya Balaji Steels Limited (SSBSL) located in Riwiang BPO Village, Nongstoin Tehsil, West Khasi Hills District, Meghalaya State is for setting up of a new Ferro Alloys Plant for production of Ferro Silicon 15400 TPA (or) Ferro-Manganese 32000 TPA (or) Silico-Manganese 30800 TPA (or) Ferro Silicon Magnesium 7200 TPA.

1.7.3 **Environmental site settings:**

SNo	Particulars	Details	Remarks
i.	Total land	4.0462 ha [Private: 4.0462 ha]	Land use: Industrial use.
ii.	Land acquisition	It is a Private Land owned by M/s. Shri	

<table>
<tr><td></td><td>details as per MoEF&CC O.M. dated 7/10/2014</td><td>Sumangalaya Balaji Steels Limited.</td><td></td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td><u>Project site</u>: NIL

<u>Study Area</u>:<table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Umjaru</td><td>0.85 km</td><td>South</td></tr></table></td><td>No R&R is required.</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all corners of the project site.</td><td><table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>25°36'21.38"N</td><td>91°10'47.57"E</td></tr><tr><td>B</td><td>25°36'18.12"N</td><td>91°10'48.81"E</td></tr><tr><td>C</td><td>25°36'15.10"N</td><td>91°10'48.48"E</td></tr><tr><td>D</td><td>25°36'13.61"N</td><td>91°10'48.35"E</td></tr><tr><td>E</td><td>25°36'11.87"N</td><td>91°10'43.92"E</td></tr><tr><td>F</td><td>25°36'19.07"N</td><td>91°10'40.30"E</td></tr></table></td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>1040 m above mean sea level</td><td></td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>Not involved.</td><td></td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><u>Project site</u>: NIL

<u>Study area</u><table><tr><th>Water body</th><th>Distance</th><th>Direction</th></tr><tr><td>Riwiang</td><td>0.05 km</td><td>South</td></tr><tr><td>Umlang</td><td>5.1 km</td><td>South</td></tr><tr><td>Wah blei</td><td>8.8 km</td><td>West</td></tr><tr><td>Umtyrseng</td><td>7.3 km</td><td>North</td></tr></table></td><td>--</td></tr>
<tr><td>viii.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>NIL</td><td></td></tr>
</table>

1.7.4 The unit configuration and capacity of proposed project is given as below:

S No	Plant Equipment/ Facility	Plant Configuration	Production Capacity
1.	Ferro Alloys Plant	2x11 MVA SAF	Ferro Silicon: 15400 TPA or Ferro Manganese: 32000 TPA or Silico Manganese: 30800 TPA or Ferro Silicon Magnesium: 7200 TPA

1.7.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

S. No	Raw Material	Quantity required per annum			Source	Distance from site (Kms) approx	Mode of Transportation
		Existing	Expansion	Total			
For Ferro Silicon							
1.	Quartz	10000	NA	10000	Assam, Meghalaya, Andhra Pradesh and West Bengal.	2500	By Road
2.	LAM Coke	5000	NA	5000	Assam & Meghalaya.	350	By Road
3.	Mill Scale	2000	NA	2000	Assam & Meghalaya.	350	By Road
4.	Electrodes Paste	500	NA	500	Assam & Meghalaya	350	By Road
For Ferro Manganese							
1.	Mn Ore	67760	NA	67760	Maharashtra, Chhattisgarh, Odisha	2500	By Road
2.	Dolomite	6160	NA	6160	Chhattisgarh, Odisha	1700	By Road
3.	Coke	18480	NA	18480	Assam, Meghalaya	350	By Road
4.	Electrode paste	590	NA	590	Jharkhand, West Bengal, Chhattisgarh	1000	By Road
For Silicon Manganese							
1.	Mn Ore	77000	NA	77000	Maharashtra, Chhattisgarh, Odisha	2500	By Road
2.	Dolomite	9240	NA	9240	Chhattisgarh, Odisha	1700	By Road
3.	Coke	24640	NA	24640	Assam, Meghalaya	350	By Road
4.	Quartz	6160	NA	6160	Assam, Meghalaya, Andhra Pradesh and West Bengal.	2500	By Road
5.	Electrode Paste	660	NA	660	Jharkhand, West Bengal, Chhattisgarh	1000	By Road
For Ferro Silicon Magnesium							
1.	Ferro Silicon	3500	NA	3500	Meghalaya	50	By Road
2.	MS Scrap	3960	NA	3960	West Bengal,	1700	By Road

S. No	Raw Material	Quantity required per annum			Source	Distance from site (Kms) approx	Mode of Transportation
		Existing	Expansion	Total			
					Assam, Chhattisgarh		
3.	Magnesium Metal	100	NA	100	Odisha, Chhattisgarh, Andhra Pradesh	2500	By Road
4.	Ferro Silicon Metal	20	NA	20	Meghalaya, Arunachal Pradesh	850	By Road

1.7.6 The water requirement for the proposed project is estimated as 500m^3 /day, out of which 50 m^3/day will be required fresh water (5 KLD: domestic water from the Ground water and 45 KLD: process water from Riwiang river) and the remaining requirement of 450 m^3 /day will be met from the Process recycled water. The NOC for drawl of surface water from Riwiang River has been applied by the Project Proponent to concerned authority.

1.7.7 The power requirement for the proposed project is estimated as 15 MW, out of which 15 MW will be obtained from the Captive Power Plant of Shree Shakambari Ferro Alloys Pvt. Ltd.

1.7.8 The capital cost of the project is Rs 50.10 Crores and the capital cost for environmental protection measures is proposed as Rs 1.7 Crores. The employment generation from the proposed project is 100 people directly and 200 people indirectly.

1.7.9 Proposed Terms of Reference: (Baseline Data Collection: October, 2021- December, 2021)

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
A. Air				
a. Meteorological parameters	Wind Speed Wind Direction Max. Temperature Min. Temperature Relative Humidity Rain fall Solar radiation Cloud cover	1 location at project site	One hourly continuous for one season	
b. AAQ parameters	PM_{10}	8 locations, one at project site and 7 in buffer area (in downwind & crosswind location)	24 hourly twice a week	
	$PM_{2.5}$		24 hourly twice a week	
	NO_2		8 hourly continuous and averaged for 24Hours twice a week	
	SO_2		8 hourly continuous and averaged for	

Attributes	Parameters	Sampling		Remarks
		No. of stations	**Frequency**	
			24Hours twice a week	
	CO		8 hourly continuous and averaged for 24Hours twice a week	
B. Noise	Hourly equivalent noise levels dB(A)	Noise monitoring at 8 locations, one at project site and 7 in buffer area	24 hourly Once in a season	
	Day Time Noise Levels (Leqday) dB(A)		Once in a season	
	Night time Noise Levels (Leqnight) dB(A)		Once in a season	
C. Water Surface water/Ground water quality parameters	-Surface water pH; Turbidity; Total Hardness (as $CaCO_3$); Total Alkalinity (as $CaCO_3$); Chlorides (as Cl); Sulphate (as SO_4); Nitrate (as NO_3); Fluoride (as F); BOD 3 Days at 27ºC; COD; Phenolic Compounds (as C_6H_5OH); Lead (as Pb); Iron (as Fe); Arsenic (as As); Cadmium (as Cd); Total Chromium (as Cr); Mercury (as Hg); Copper (as Cu); Zinc (as Zn); Selenium (as Se); Oil & grease; Colour; Dissolved solids; Residual free chlorine; Boron (as B); Calcium (as Ca); Magnesium (as Mg); DO;	Set of grabs samples during study period at 2 location	Once in season	
	- Ground water Color; pH; Turbidity; Dissolved solids; Aluminium as Al; Ammonia (, as total ammonia-N); Anionic Detergents as MBAS; Barium as Ba; Boron as B; Calcium as Ca; Chloramines as Cl_2; Chloride as Cl; Copper as Cu; Fluoride as F; Free Residual Chlorine; Iron as Fe; Magnesium asMg; Manganese as Mn; Nitrate as NO_3; Phenolic Compounds	Set of grab samples during study period at the above mentioned 4 locations for Ground water.	Once in season	

Attributes	Parameters	Sampling		Remarks
		No. of stations	**Frequency**	
	as C_6H_5OH; Selenium as Se; Sulphate as SO_4. Total Alkalinity as $CaCO_3$, Total Hardness as $CaCO_3$, Zinc as Zn, Cd; Pb; Hg; As; Ni; Cr			
D. Biological Terrestrial	-Inventorization of floral and faunal species in core and buffer zone -Density in core zone -Importance value index (IVI) of trees, -Biodiversity index -Identification of rare Threatened and endangered species	5 locations for study in buffer area	Five-Seven days in a season	
E. Land				
a. Soil quality	**Soil** Particle size distribution; Texture; pH. Electrical conductivity; Bulk density; Organic carbon; Sodium (Na); Potassium (K); Moisture content; Total Nitrogen; available phosphorous; organic matter; Total Soluble Chloride; Total Soluble sulphate; Water holding capacity; Porosity;	One location near project site and 4 locations in buffer area	Once in season	
b. Land use	**Land use/Land cover** Location code Total project area Topography Drainage (natural) Cultivated, forest, plantations, water bodies, roads and settlements	Study area	Once	
F. Socio- economic parameters	Demographic structure; Infrastructure resource base; Economic resource base; Health status; Morbidity pattern;	Study area	Once during Baseline Period	

1.7.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.7.11 Name of the EIA consultant: M/s. Ecomen laboratories Private Limited [S No 156, NABET Certificate no. NABET/EIA/2023/RA 0203 and valid up to 21/09/2023; Rev. 19, February 14, 2022].

1.7.12 During the meeting, project proponent submitted written submission on the following points:

- PP submitted an undertaking that there is an old building structures exists at the site and the same would be dismantled.

Observations of the Committee

1.7.13 The EAC noted the following:

i. The instant proposal is for seeking ToR for undertaking EIA study for setting up of a Ferro Alloys Plant for production of Ferro Silicon 15400 TPA or Ferro-Manganese 32000 TPA or Silico-Manganese 30800 TPA or Ferro Silicon Magnesium 7200 TPA located in Riwiang BPO Village, Nongstoin Tehsil, West Khasi Hills District, Meghalaya.
ii. Total land of 4.0462 ha is proposed for project out of which 33% area is proposed for green belt development.
iii. Project site is located adjacent to their sister concern Ferro alloy plant namely M/s. Shri Shakambari Ferro Alloys Limited.
iv. There is an old building structures exists at the site and the same would be dismantled by the proponent.
v. The Riwiange river is located at a distance of 50 m from the project site in South direction.
vi. Water requirement for green belt shall be taken in account while preparing water balance and also in EMP cost.

Recommendations of the Committee

1.7.14 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToRs enclosed at Annexure-1 read with additional ToRs at Annexure-2:

i. Riwiang river flood plain corresponding to one in 25 years flood certified by the concerned District Magistrate/ Executive Engineer of the Water Resources Department (or) any other officer authorized by the State Government for this purpose shall be submitted. Industry shall not be located within the river flood plain system.
ii. An action plan for Green Belt development consisting of 3 tiers of plantations of native species all along the periphery of the project of adequate width shall be raised in 33% of total area with a tree density of not less than 2500 per ha within a time frame of one year shall be submitted. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.
iii. The surrounding buffer area being rich in biodiversity and a hilly terrain, the proponent shall conduct a Biodiversity study in the core and buffer zones of the plant, and shall take all necessary steps to protect that biodiversity and shall submit a report to this committee to that extent.
iv. Project proponent shall prepare layout plan showing all internal roads minimum 6m width and 9m turning radius for smooth traffic flow inside including fire tender as per NBC. Road network shall connect all service areas in layout. This drawing shall include area statement showing plot area, area under roads, parking, green belt with calculations and % with respect to plot area of project site and proper indexing.
v. Project proponent shall submit contour map of project site along with drainage disposal system with calculations and drawings supported with proper indexing including rain water harvesting details with calculations mentioning about GW

recharge along with relevant drawing.

vi. Project proponent shall submit a study report on De-carbonization program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.

vii. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration. In this regard, time bound action plan as per the MoEF&CC Office Memorandum dated 30/09/2020 shall be submitted.

viii. Project proponent shall carryout cumulative impact assessment and submitted along with the EIA report.

ix. Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm^3 shall be furnished.

x. Action plan for fugitive emission control in the plant premises shall be provided.

xi. Action plan for rain water harvesting shall be submitted.

xii. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.

xiii. Action plan for developing connecting and internal road in terms of MSA as per IRC guidelines shall be submitted.

1.8 Expansion of Existing Clinker Grinding unit from 50 TPD to 150 TPD by **M/s. Jai Shree Krishna Cements** located at Plot No. G-26(B) and G-27, RIICO Industrial Area, Sotanala, Tehsil Behror, **District Alwar, Rajasthan** [Online Proposal No. IA/RJ/IND/249583/2022; File no: J-11011/99/2012-IA II(I)] - **Prescribing of Terms of Reference – regarding.**

1.8.1 M/s. Jai Shree Krishna Cements has made an application online vide proposal no. IA/RJ/IND/249583/2022 dated 16/02/2022 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S.No. 3 (b) Cement plants Under Category 'B' of the schedule of the EIA Notification, 2006 and attracts general condition due to the Inter-state boundary (Rajasthan and Haryana) at 3.0 km towards West from the site and being appraised at Central Level.

Details submitted by Project proponent

1.8.2 The project of M/s. Jai Shree Krishna Cements is located at Plot No. G-27, G 26 (B) RIICO Industrial Area, Sotanala, Tehsil- Behror, Distinct-Alwar, Rajasthan proposes for expansion of existing capacity from 50 TPD to 150 TPD Cement (OPC, PPC, PSC & SSC).

1.8.3 Environmental site settings:

SNo	Particulars	Details	Remarks
i	Total land	3210 sq m [Private Land: 3210 sq m] Existing Area: -1500 sq m Proposed Area: -1710 sq m	Land use: Industrial
ii	Land acquisition	Expansion project is proposed in already	

<table>
<tr><th>SNo</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>details as per MoEF&CC OM dated 7/10/2014.</td><td>occupied area of 3210 sq m. complete land of 3210 sq m is in possession of company. No additional land is required for proposed project.
Out of 3210 sq m 1500 sq m area is existing area of project as per EC dated 13/04/2016 and 1710 sq m area is acquired and utilized by PP for project cited above without obtaining prior environment clearance and developed infrastructure shed & building - 745 sq m. Thus, the proposal involves violation of EIA notification, 2006.</td><td></td></tr>
<tr><td>iii</td><td>Existence of habitation & involvement of R&R, if any</td><td>Project Site: NIL

Study area:<table><tr><td>Habitation</td><td>Distance</td><td>direction</td></tr><tr><td>Jainpurwas</td><td>0.40 km</td><td>SE</td></tr></table></td><td></td></tr>
<tr><td>iv</td><td>Latitude and Longitude of the project site</td><td><table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>27°49'43.94"N</td><td>76°15'42.26"E</td></tr><tr><td>B</td><td>27°49'43.55"N</td><td>76°15'44.86"E</td></tr><tr><td>C</td><td>27°49'41.94"N</td><td>76°15'44.48"E</td></tr><tr><td>D</td><td>27°49'42.31"N</td><td>76°15'52.50"E</td></tr></table></td><td></td></tr>
<tr><td>V</td><td>Elevation of the project site</td><td>329 m above mean sea level</td><td></td></tr>
<tr><td>vi</td><td>Involvement of Forest land if any.</td><td>No Forest land Involved</td><td></td></tr>
<tr><td>vii</td><td>Water body exists within the project site as well as study area</td><td>Project site: NIL

Study area<table><tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr><tr><td>Sota Nadi</td><td>0.59 km</td><td>North</td></tr><tr><td>Sahibi Nadi</td><td>3.24 km</td><td>SSE</td></tr><tr><td>Karnali Nadi</td><td>9.79 km</td><td>ESE</td></tr></table></td><td></td></tr>
<tr><td>viii</td><td>Existence of ESZ/ ESA /national park/ wildlife sanctuary/ biosphere reserve /tiger reserve/ elephant reserve etc. if any within the study area</td><td>NIL
However, following forest is located within study area:
Baraud PF: 9.2 km/ NE</td><td></td></tr>
</table>

1.8.4 The existing project was accorded environmental clearance vide letter no. J-11011/99/2012-IA. II. (I) dated 13/04/2016. Consent to Operate for the existing unit was accorded by Rajasthan state Pollution Control Board vide letter no. F (CPM)/Alwar (Behror)/2690(1)/2017-2018/194-196 dated 06/04/2018. The validity of CTO is up to 30/06/2022.

1.8.5 Implementation status of existing EC:

S No	Facilities	units	As per EC dated 13/04/2016	Implementation status as on 25/12/2021	Production as per CTO
1	Clinker Grinding unit	TPD	50	50	50

1.8.6 The unit configuration and capacity of existing and proposed project is given as below:

Plant Equipment /Facility	Existing facilities as per EC dated 13.04.2016								Proposed Units		Final (Existing + Proposed)		Remarks
	Total (A+B)		Implemented		Un-implemented		As per CTO						
	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	Configuration	Capacity	
Cement mill	--	50 TPD	--	50 TPD	-	-	--	50 TPD	--	100 TPD	--	50 TPD and 100 TPD	

1.8.7 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

S No	Raw Material	Proportion, % by weight	Existing	Proposed	Total Quantity (TPA)	Source	Mode of Transportation
Raw Material Requirements for OPC, Source & Transportation							
1	Clinker	95	14250	28500	42750	J K Lakshmi cement Sirohi	By Road
2	Gypsum	5	750	1500	2250	Nagaur/ Bikaner	By Road
Raw Material Requirements for PPC, Source & Transportation							
1.	Clinker	60	9000	18000	27000	J K Lakshmi cement Sirohi/ Wonder Cement	By Road
2.	Gypsum	5	750	1500	2250	Nagaur/ Bikaner Districts and Gujrat	By Road
3.	Fly ash	35	5250	10500	15750	Kota,	By Road
Raw Material Requirements for PSC, Source & Transportation							
1.	Clinker	40	6000	12000	18000	J K Lakshmi cement Sirohi	By Road
2.	Gypsum	5	750	1500	2250	Nagaur/ Bikaner Districts	By Road

S No	Raw Material	Proportion, % by weight	Existing	Proposed	Total Quantity (TPA)	Source	Mode of Transportation
3.	Slag	55	8250	16500	24750	Jindal Steel Hisar,	By Road
Raw Material Requirements for SSC, Source & Transportation							
1.	Clinker	15	2250	4500	6750	J K Lakshmi cement Sirohi	By Road
2.	Gypsum	15	2250	4500	6750	Nagaur/ Bikaner Districts	By Road
3.	Slag	70	10500	21000	31500	Jindal Steel Hisar,	By Road

1.8.8 Existing Water requirement is 3 m^3/day, which is obtained from RIICO supply. The water requirement for the proposed project is estimated as 2.4 m^3/day, water requirement after Expansion will be 5.4 m^3/day.

1.8.9 Existing power requirement of 200KVA is obtained from JVVNL. The power requirement for the proposed project is estimated as 400 KVA and will be obtained from the JVVNL.

1.8.10 The capital cost of the project is Rs 2.0 Crores including existing investment of 64.5 lakhs and the capital cost for environmental protection measures is proposed as Rs 10 lacs. The employment generation from the proposed project is 15 persons.

1.8.11 Proposed Terms of Reference (Baseline data collection period: January 2022 'February & March 2022):

Attributes	Sampling		Remarks
	No. of stations	Frequency	
A. Air			
a. Meteorological parameters	1 location at project site	One hourly continuous for one season	Automatic Weather stations with sensor and microprocessor Max/ Min Thermometer Hygrometer Anemometer Rain gauge As per IMD specifications
b. AAQ parameters	8	As per NAAQS, For Study Period Twice a week	Particulate Matter (PM_{10}, $PM_{2.5}$), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NOx) and Carbon Monoxide (CO) etc.
B. Noise	8	Once during baseline study period	Parameters Monitored: • Day equivalent • Night equivalent
C. Water			
Surface	Surface	Once during	(a)physical parameters (b)chemical

Attributes	Sampling		Remarks
	No. of stations	**Frequency**	
water/Ground water quality parameters	water-2 Ground water-8	baseline study period	parameters (c) Biological parameters
D. Land			
a. Soil quality b. Land use	8	Once during baseline study period	
E. Biological a. Aquatic b. Terrestrial	8	Once during baseline study period	
F. Socio-economic parameters	Study area	In two phases of the project	

1.8.12 It has been reported by PP that, there is a violation under EIA Notification, 2006 related to the project under consideration given as below:
Jai Shree Krishna Cements had obtained Environmental Clearance vide letter J-11011/99/2012-IA. II(I) dated 13/04/2016 from MOEF&CC for production of 50 TPD cement at Plot No. G-27, RIICO Industrial Area, Sotanala, Tehsil- Behror, Distinct-Alwar, Rajasthan. Further Jai Shree Krishna Cements has purchased Plot No. G-26(B), area 1710 Sqm. RIICO allotted plot no G 26 (B) to Jai Shree Krishna Cements on 19/08/2019, and lease agreement between RIICO and Jai Shree Krishna Cements was executed on 11/12/2019. The construction has been done (shed & building -745 SQM) in plot no G 26 B which was not covered in the existing EC. Thus, it is a violation case as per EIA notification, 2006 and the amendments dated 14/03/2017 and 08/03/2018.

1.8.13 Name of the EIA consultant: M/s. Enkay Enviro Services Pvt Ltd Jaipur [S No 113, NABET Certificate/ Ext. ltr no. NABET/EIA/2023/RA 0183 valid up to 12/12/2023; Rev. 19, February 14, 2022].

Observations of the Committee

1.8.14 The EAC noted the following:

i. The instant proposal is for seeking ToR for undertaking EIA study for expansion of existing capacity from 50 TPD to 150 TPD Cement (OPC, PPC, PSC & SSC) located at Plot No. G-27, G 26 (B) RIICO Industrial Area, Sotanala, Tehsil- Behror, Distinct-Alwar, Rajasthan. Total project area is 3210 sq m.
ii. Proposed project is listed under category 'B' of the schedule of the EIA Notification, 2006 and attracts general condition due to the inter-state boundary (Rajasthan and Haryana) at 3.0 km towards West from the site and being appraised at Central Level.
iii. Out of 3210 sq m 1500 sq m area is existing area of project as per EC dated 13/04/2016 and 1710 sq m area is acquired and utilized by PP for project cited above without obtaining prior environment clearance and developed shed & building with area of 745 sq m and due to this PP committed violation of EIA Notification, 2006. Accordingly, PP has made application under provision of EIA notification of 14/03/2017 for violation cases and requested to consider the proposal as per the Standard Operating Procedure (SoP) issued by the Ministry on 7/07/2021.
iv. As per the Ministry's O.M. dated 28/01/2022, the violation projects located outside the territorial jurisdiction of Tamil Nadu can be considered as per the provisions contained in SOP dated 7/7/2021.

Recommendations of the Committee

1.8.15 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToRs enclosed at Annexure-1 read with additional ToRs at Annexure-2:

i. Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm^3 shall be furnished.
ii. Action plan for fugitive emission control in the plant premises shall be provided.
iii. Project proponent shall submit a study report on De-carbonization program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.
iv. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration. In this regard, time bound action plan as per the MoEF&CC Office Memorandum dated 30/09/2020 shall be submitted.
v. An action plan for Green Belt development consisting of 3 tiers of plantations of native species all along the periphery of the project of adequate width shall be raised in 33% of the project area with a tree density shall not less than 2500 per ha within a time frame of one year shall be submitted. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.
vi. Project proponent shall prepare layout plan showing all internal roads minimum 6m width and 9m turning radius for smooth traffic flow inside including fire tender as per NBC. Road network shall connect all service areas in layout. This drawing shall include area statement showing plot area, area under roads, parking, green belt with calculations and % with respect to plot area of project site and proper indexing.
vii. Project proponent shall submit contour map of project site along with drainage disposal system with calculations and drawings supported with proper indexing including rain water harvesting details with calculations mentioning about GW recharge along with relevant drawing.
viii. Action plan for rain water harvesting shall be submitted.
ix. The State Government/SPCB to take action against the project proponent under the provisions of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.
x. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR).
xi. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.
xii. The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter (13) in the EIA report by the accredited consultants.

xiii. Budget of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be completed within three years and to be prepared accordingly.

xiv. The project proponent shall require to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.

1.9 Cement plant of capacity 3.15 MTPA Clinker & 2.0 MTPA Cement and 2x25 MW Thermal Power Plant by **M/s. The Ramco Cement Limited** located at Kalvatala Village, Kolimigundla Mandal, **Kurnool District, Andhra Pradesh.** [Online Proposal No. IA/AP/IND/253999/2022; File No. IA-J-11011/135/2017-IA-II(I)] – **Amendment in Environment Clearance – regarding.**

1.9.1 M/s. The Ramco Cement Limited has made online application vide proposal no. IA/AP/IND/253999/2022 dated 09/02/2022 along with addendum in EIA/EMP report, and Form 4 seeking amendment in the Environment Clearance accorded by the Ministry vide letter no. IA-J-11011/135/2017-IA-II(I) dated 27/05/2019 under the provisions of the EIA Notification, 2006 for the project mentioned above.

Details submitted by Project proponent

1.9.2 M/s. The Ramco Cement Limited has obtained environmental clearance from Ministry vide letter dated 14/01/2019 for Cement plant of capacity 3.15 MTPA Clinker & 2.0 MTPA Cement and 2x25 MW Thermal Power Plant at Kalvatala Village, Kolimigundla Mandal, Kurnool District, Andhra Pradesh.

1.9.3 Owing to difficulty in acquisition of some private lands, M/s The Ramco Cements Ltd. proposed to relocate the cement plant site entirely in Government land near the earlier proposed site. After alienation of Government land, necessary amendment in Environmental Clearance was also obtained from MoEF&CC, New Delhi, vide F. No. J-11011/135/2017-IA.II(I) dated 27/05/2019 for the relocated plant site. Plant is currently under construction.

1.9.4 The limestone requirement for the cement plant is to be met from the following captive mines of M/s. The Ramco Cements Ltd., and its details are provided below:

S No	Name of the Mine	Proposed Production (MTPA)	Mine Distance from the Cement Plant (Km)	Status of EC
1	Chintalayapalle Limestone Mine	4.0	6.43 km - SW	Obtained EC from MoEF & CC letter no. F. No J-11015/15/2017-IA.II(M) dated 23/03/2020
2	Kanakadaripalle Limestone Mine	0.1 TOR amended	10.51 Km SW	Under progress
3	Kolimigundla Limestone Mine	0.6	0.5 Km SW	Obtained EC from MoEF & CC letter no. F.No. J-11015/96/2017-IA.II(M) dated 19/01/2021 Corrigendum obtained on 26/08/2021
4	Nayanapalle	1.5	4.85 Km W	Baseline monitoring is under

S No	Name of the Mine	Proposed Production (MTPA)	Mine Distance from the Cement Plant (Km)	Status of EC
	Limestone Mine	TOR received		progress

Note: After obtaining necessary consent to operate from state pollution control board, preliminary activities have already commenced in Chintalayapalle and Kolimigundla Limestone Mines.

1.9.5 Though in the initial EC of the cement plant under S.No.10 and 12, it is mentioned that "Limestone will be sourced from the Captive Limestone Mine. The limestone transportation will be done through Closed Belt Conveyor/Dumpers/Tippers", in the subsequent amended environmental clearance of the cement plant under S.No.14, the following are mentioned:

(i) "Limestone shall be transported through closed conveyor only."

(ii) "Dual carriage approach road to the plant site shall be constructed."

1.9.6 Similarly, in the Environmental Clearance issued to the Chintalayapalle Limestone Mine (which is the major captive mine of 4.0 MTPA production capacity and located about 6.0km away from plant) the following is stated "PP shall install conveyor belt from mines to cement plant and transportation is only through conveyor belt except in the case of maintenance & breakdown of conveyor belt, road transportation shall be carried out. PP shall keep the record of road transportation."

1.9.7 In the EC granted for Kolimigundla mines of 0.6 MTPA capacity vide reference (4) above, due to its proximity to the plant (< 0.5 km) and possibility of limestone transport from this lease to plant through dedicated road no such need arises and transport is by Tippers/ Dumpers.

1.9.8 M/s The Ramco Cements Limited is committed to establishing this conveyor transportation mode from Chintalayapalle Mine outlet to the cement plant and are actively pursuing the same.

1.9.9 The conveyor route has already been identified over a length of 5.33 Km and it was seen that 63% of land is owned by us and the balance 37% is Government land. Various permissions from different departments for road crossings, construction of culverts/bridges, and alienation/transfer of Government land is required.

1.9.10 The process of obtaining various Government clearances and alienation of land was commenced. However, due to COVID-19 pandemic and other reasons, the alienation process and obtaining Government approval is taking more time and is expected to get completed only by November 2022. As 37% of the land in the proposed route belongs to the Government, major decisions regarding the belt conveyor are heavily dependent on the approval to be obtained from the Government for Government land and this process can be carried out only after the requisite permissions.

1.9.11 All the subsequent works including final survey, establishment of bench pillar in the alignment route, detailed engineering, tender and float enquiry, ordering, equipment supply, design and drawing, civil, mechanical and electrical works all the way up to the final commissioning will take at least 3.5 years more after taking possession of Government land by November 2022. (i.e., more than 1 year from now).

1.9.12 Although the cement plant and the mines will be ready for commencement by December 2021, the time delays in laying of conveyor which is not in the control of M/s. The Ramco Cements Ltd. predominantly due to the procedural delay involved in obtaining permission from various Government agencies is expected to cause a big impediment in timely commissioning of the plant as well as mines.

1.9.13 Hence, it is proposed to carry out limestone transportation from the Chintalayapalle Limestone Mine to the Cement plant through an interim road. The present road alignment of (total road length 5.833 Km) is selected considering Private land owned by TRCL of (road length 4.607Km**)**, and the Government land (road length 1.226Km**)** expected to be alienated shortly, excluding the part of village cart track proposed earlier. In fact road in the major part of the conveyor corridor wherein road is already proposed is under construction. In this proposed interim road, the following measures will be ensured:

- Proper laying and maintenance of the interim road.
- Frequent dust sprinkling using mobile water sprinkler to control fugitive emission.
- Covering of the loaded vehicle with tarpaulin.
- Posting of traffic guard at crossing area for control of traffic.
- Creating avenue plantation along the transport road.
- Providing good illumination facility on either side of the road.
- Installation of signal at road crossings.
- Installation of speed breaker at vulnerable points for speed control.

- This interim temporary road transportation will be of less duration only and immediately after alienation of Government land for the belt conveyor route, corridor road alongside the belt conveyor will be laid quickly much before construction & commissioning of belt conveyor and used for mineral transport. Then, use of this interim road through this small stretch of village cart track will be totally avoided.
- Hence, as the timeline for construction and commissioning of the crusher and conveyor is expected to be completed by 3.0 years, permission for road transportation is requested till such time through interim road.
- Details of transportation to cement plant

S No	**Particulars**	**CP Mine**	**CP Mine +KG Mine**	**Units**
1	Effective working days in a year	300	300	Days
2	Number of shifts	2	2	Shifts
3	Transport hours per day	16	16	Hours
4	Quantity of limestone transported	4.0	4.6	MTPA
		40,00,000	46,00,000	TPA
		13,333.33	15,333.33	TPD
		833	958	TPH
5	Truck capacity	20	20	Tons
6	Number of trucks per hour	42	48	Trucks/Hour
7	Number of trucks per day	672	768	Trucks/day
8	Road Distance from crusher to cement plant	5.833	5.833 (overall)	Km

Note: The design traffic on project corridor is estimated to be less than 8.64 MSA for 5 years period & 5.18 for 3-year period. However, as per IRC manual minimum 10 MSA of design traffic to be considered for pavement design and as such 10 MSA is considered

1.9.14 **Reason for the amendment:**
Commissioning of belt conveyor is expected only after 3.0 years from now predominantly due to delay in obtaining permission from various Government agencies and subsequent planning and engineering activities. Hence, it is proposed to carry out limestone transportation from the Chintalayapalle Limestone Mine to the Cement plant through an interim road.

1.9.15 Any other amendment required in approved EC dated 27/05/2019:

S No	Reference of Approved EC	Description as per Approved EC	Description as per Proposal.	Remarks
1	Sub-clause i of clause 14 of EC dated 27/05/2019	i. Limestone shall be transported through closed conveyor only	i. Limestone shall be transported to the cement plant by closed belt conveyor/ Dumpers/ Tippers.	Due to delay in obtaining Govt. permission

1.9.16 Name of the EIA consultant: M/s. Creative Engineers & Consultants [S. No. 130, List of ACOs with their Certificate no. NABET/EIA/2023/RA 0187 and valid up to 23/03/2023; Rev. 19, February 14, 2022]

Observations of the Committee

1.9.17 The Committee noted the following:

i. M/s. The Ramco Cement Limited has obtained environmental clearance from Ministry vide letter dated 14/01/2019 and amendment in EC dated 27/05/2019 for Cement plant of capacity 3.15 MTPA Clinker & 2.0 MTPA Cement and 2x25 MW Thermal Power Plant at Kalvatala Village, Kolimigundla Mandal, Kurnool District, Andhra Pradesh.

ii. Now PP has requested to amendment the Sub-clause i of clause 14 of EC dated 27/05/2019 as mentioned in table given at para 1.9.4 above.

Recommendations of the Committee

1.9.18 In view of the foregoing and after detailed deliberations, the committee recommended for amendment in Sub-clause i of clause 14 of EC dated 27/05/2019 as mentioned below. All other terms and conditions of the EC dated 14/01/2019 and 27/05/2019 shall be remain same.

S No	Condition no	As per EC dated 27/05/2019	Amendment recommended
1	Sub-clause i of clause 14 of EC dated 27/05/2019	i. Limestone shall be transported through closed conveyor only	i. Limestone shall be transported to the cement plant from the mines by closed belt conveyor/ *properly covered* Dumpers/ *properly covered* Tippers. During road transportation measures such as *installation and maintenance of wheel washing system, Water curtain, Mist/Fog sprinklers and Mechanical dust sweepers/ suckers to arrest dust pollution shall be in place.* With respect to lime stone transportation from Chintalayapalle mine, closed conveyor shall be established by 31/12/2024.

6th March, 2022

1.10 Greenfield Alumina Refinery (150000 TPA) & 2x10 MW Captive Cogeneration Power Plant by **M/s. Maa Kudargarhi Alumina Refinery Pvt. Ltd** located at Village Chiranga, Tehsil Batauli, **District Surguja, Chhattisgarh.** [Online Proposal No. IA/CG/IND/185716/2020; File No. J-11011/201/2020-IA.II(I)] – **Environment Clearance – regarding.**

1.10.1 M/s Maa Kudargarhi Alumina Refinery Private Limited has made an online application vide proposal no. IA/CG/IND/185716/2020 dated 11/02/2022 along with copy of EIA/EMP report and Form-2 seeking Environment Clearance (EC) under the provision of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA Notification, 2006 and appraisal at Central Level.

Details submitted by the project proponent

1.10.2 The detail of the ToR is furnished as below:

Date of application	Consideration	Details	Date of accord	ToR Validity
30/11/2020	26th EAC Meeting held on 16-12-2020	Terms of Reference	04/01/2021*	03/01/2025

**Note – The project was originally accorded ToR for setting up of 300000 TPA Alumina Refinery and 30 MW Cogeneration Power Plant at Chiranga, tehsil Batauli, district Sarguja, Chhattisgarh. Subsequently, at the time of EC application project proponent downaized the capacity of the alumina refinery as 150000 TPA & Captive Cogeneration Power capacity as 2x10 MW.*

1.10.3 The project of M/s Maa Kudargarhi Alumina Refinery Private Limited is located in Chiranga Village, Batauli Tehsil, Surguja District, Chhattisgarh State is for setting up of a new Alumina Refinery (150000 TPA) & 2x10 MW Captive Cogeneration Power Plant.

1.10.4 Environmental site settings

S No	Particulars	Details	Remarks
i.	Total land	Total Land - 93.664 Ha Govt. Land - 91.942 Ha Private Land- 1.722 Ha. (Agriculture) Grazing land- Nil	Land use Agriculture Land: 1.722 Ha. Waste Land: 60.40 Ha. Water Body: 1.1 Ha Pahad Chattan: 30.464 Ha
ii.	Land acquisition details as per MoEF&CC OM dated 7/10/2014	Government of Chhatisgarh has allotted 91.942 Ha. of Land vide letter No. CSIDC/ALT/2021/4234 dated 27/08/2021. Consent obtained from 4 land owners for purchasing 1.722 Ha private land.	-
iii.	Existence of habitation & involvement of R&R, if any.	**Project Site:** No village/ no human habitation / settlement.	No R&R is involved.

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>Study Area:
<table>
<tr><th>S No</th><th>Name of Village</th><th>Population</th><th>Distance and Direction from Project Site</th></tr>
<tr><td>01</td><td>Chiranga</td><td>2308</td><td>1.8 km SE</td></tr>
<tr><td>02</td><td>Kalipur</td><td>976</td><td>1.8 km NW</td></tr>
<tr><td>03</td><td>Laigu</td><td>492</td><td>0.5 km SW</td></tr>
<tr><td>04</td><td>Manja</td><td>955</td><td>0.8 km E</td></tr>
<tr><td>05</td><td>Jhargaon</td><td>1120</td><td>1.8 km NE</td></tr>
</table></td><td></td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all the corners of project site</td><td>
<table>
<tr><th>Sl. No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>22°58'11.50"N</td><td>83°21'20.76"E</td></tr>
<tr><td>2</td><td>22°58'23.93"N</td><td>83°21'55.58"E</td></tr>
<tr><td>3</td><td>22°58'15.45"N</td><td>83°21'45.72"E</td></tr>
<tr><td>4</td><td>22°58'13.06"N</td><td>83°21'45.29"E</td></tr>
<tr><td>5</td><td>22°58'12.40"N</td><td>83°21'40.43"E</td></tr>
<tr><td>6</td><td>22°58'9.73"N</td><td>83°21'41.09"E</td></tr>
<tr><td>7</td><td>22°58'9.92"N</td><td>83°21'50.90"E</td></tr>
<tr><td>8</td><td>22°58'12.99"N</td><td>83°21'51.68"E</td></tr>
<tr><td>9</td><td>22°58'12.79"N</td><td>83°21'53.53"E</td></tr>
<tr><td>10</td><td>22°58'8.09"N</td><td>83°21'52.65"E</td></tr>
<tr><td>11</td><td>22°58'8.45"N</td><td>83°21'55.23"E</td></tr>
<tr><td>12</td><td>22°58'6.41"N</td><td>83°21'55.74"E</td></tr>
<tr><td>13</td><td>22°58'5.92"N</td><td>83°21'47.73"E</td></tr>
<tr><td>14</td><td>22°58'7.64"N</td><td>83°21'47.60"E</td></tr>
<tr><td>15</td><td>22°58'7.00"N</td><td>83°21'43.45"E</td></tr>
<tr><td>16</td><td>22°58'3.47"N</td><td>83°21'45.30"E</td></tr>
<tr><td>17</td><td>22°58'3.98"N</td><td>83°21'48.32"E</td></tr>
<tr><td>18</td><td>22°58'2.14"N</td><td>83°21'48.56"E</td></tr>
<tr><td>19</td><td>22°58'2.49"N</td><td>83°21'55.11"E</td></tr>
<tr><td>20</td><td>22°58'1.30"N</td><td>83°21'55.14"E</td></tr>
<tr><td>21</td><td>22°58'1.11"N</td><td>83°21'52.61"E</td></tr>
<tr><td>22</td><td>22°57'57.96"N</td><td>83°21'53.51"E</td></tr>
<tr><td>23</td><td>22°57'55.04"N</td><td>83°22'1.37"E</td></tr>
<tr><td>24</td><td>22°57'47.30"N</td><td>83°22'1.86"E</td></tr>
<tr><td>25</td><td>22°57'35.36"N</td><td>83°21'36.59"E</td></tr>
<tr><td>26</td><td>22°57'43.93"N</td><td>83°21'35.85"E</td></tr>
<tr><td>27</td><td>22°57'47.51"N</td><td>83°21'24.96"E</td></tr>
<tr><td>28</td><td>22°57'52.97"N</td><td>83°21'21.10"E</td></tr>
<tr><td>29</td><td>22°57'55.77"N</td><td>83°21'20.78"E</td></tr>
<tr><td>30</td><td>22°58'2.29"N</td><td>83°21'24.73"E</td></tr>
<tr><td>31</td><td>22°58'2.85"N</td><td>83°21'20.68"E</td></tr>
<tr><td>32</td><td>22°58'0.56"N</td><td>83°21'17.53"E</td></tr>
</table></td><td>-</td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>640 - 750 m above MSL</td><td></td></tr>
</table>

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is involved</td><td></td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project site: A small nallah originating inside the project site is passing through the plot from east to west.

Study area:<table><tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr><tr><td>Ghungutta nadi</td><td>600 m</td><td>West</td></tr></table></td><td>Authenticated distance from project boundary to Ghungutta nadi, has been submitted.</td></tr>
<tr><td>viii.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area.</td><td>Nil.</td><td>Certificate obtained from DFO, Ambikapur vide letter No. 2241 dated 28/09/2021.</td></tr>
</table>

1.10.5 The unit configuration and capacity of existing and proposed unit are given as below:

Sl. No	Plant Equipment/ Facility	Proposed Units		Remarks
		Configuration	Capacity	
1	Alumina Refinery	1	150000 TPA	-
2	Cogeneration Power Plant	2	10 MW and 55 TPH Steam	1 unit as standby

1.10.6 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

S. No.	Raw Materials	Quantity required per annum	Source	Distance from site	Mode of Transportation
01	Bauxite	4,20,000 TPA	From nearby Mines	30 KM	By Road
02	Lime	6000 TPA	Traders	200 KM	By Road
03	Coal	88300 TPA	SECL Mines	50 KM	By Road
04	Sulphuric Acid	425 TPA	Traders	100 Km	By Road
05	LSHS	11500 TPA	Traders	100 KM	By Road
06	Caustic Soda	13500 TPA	Traders	200 KM	By Road
07	Flocculants	75 TPA	Traders	200 KM	By Road
08	Lime Stone	1200 TPA	Traders	50 KM	By Road

1.10.7 The water requirement for the proposed project is estimated as 1339 m³/ day which will be obtained from the Ghunghuta nadi which is 600 meters away from the project site. The recommendation for drawl of surface water is granted by the State Investment Promotion Board, Govt of Chhattisgarh Vide Letter No. 553/SIPB/2020/246 dated 22/02/2021.

1.10.8 The power requirement for the proposed project is estimated as 9 MW which will be obtained from the Captive Power Plant.

1.10.9 Baseline Environmental Studies

<table>
<tr><td>Period</td><td>From 1st October, 2020 to 31st December, 2020</td></tr>
<tr><td>AAQ parameters at 04 locations</td><td>$PM_{2.5}$ = 13.1 to 30.6 µg/m^3
PM_{10} = 20.1 to 45.3 µg/m^3
SO_2 = 4 to 5.7 µg/m^3
NO_x = 9 to 14.5 µg/m^3</td></tr>
<tr><td>Incremental GLC Level</td><td>PM_{10} = 0.8 µg/m^3 (Level at 0.5 km in S Direction)
SO_2 = 7.1 µg/m^3 (Level at 0.5 km in S Direction)
NOx = 2.2 µg/m^3 (Level at 0.5 km in S Direction)
CO = <0.1 µg/m^3 (Level at 0.5 km in S Direction)</td></tr>
<tr><td>Ground water quality at 8 locations</td><td>pH: 6.55 to 6.89, Total Hardness: 40 to 90mg/l, Chlorides: 6 to 15 mg/l, Fluoride. 0.62 to 0.68 mg/1. Heavy metals - Not detectable</td></tr>
<tr><td>Surface water quality at 8 locations</td><td>pH: 6.76 to 6.93; DO: 5.5 to 6.8 mg/I and BOD: 1.6 to 2.2 mg/1. COD from 8 to 12 mg/1</td></tr>
<tr><td>Noise levels</td><td>48.6 to 52.6 dBA for the day time and 39.8 to 43.4 dBA for the Night time.</td></tr>
<tr><td>Traffic assessment study findings</td><td>Traffic study has been conducted at SH Mainpat-Ambikapur, which is approximately 500 m (distance) from the plant site.
• Transportation of raw material, fuel & finished product will be done 100% by road.
• Existing PCU is 162 PCU / hr on SH and existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/ hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>SH</td><td>162</td><td>15000</td><td>0.110</td><td>A</td></tr>
</table>
PCU load after proposed project
PCU/hr and level of service (LOS) will be:
<table>
<tr><th>Road</th><th>V (Volume in PCU/ hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>SH</td><td>2020</td><td>15000</td><td>0.135</td><td>A</td></tr>
</table>
*Note: Capacity as per IRC-64 Guideline for capacity for roads.
Conclusion: The level of service will remain A (free flow / Excellent) after including additional traffic due to proposed project.</td></tr>
<tr><td>Flora and fauna</td><td>No Schedule I fauna or Endangered Flora is found in the study area. Authenticated list of flora and fauna obtained from DFO, Ambikapur vide letter No. 2239 dated 28/09/2021.</td></tr>
</table>

1.10.10 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

Sl No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal
1	Red mud	Alumina Refinery	1,75,000(Dry),	Part of red mud	10% utilization in

Sl No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal
			2,33,000 (wet)	will be used for cement manufacturing as Some cement plants have expressed interest to consume it. Rest will be disposed in red mud pond which will be designed as per Government guide line.	cement making during 1st year and then progressively increases to 50% utilization from 7th year onward.
2	Fly ash	Co-gen Power Plant	37,100 TPA		100% utilization in cement making, bricks, tiles and block making from 1st year onward.
3	Lime grits	Lime slacking	120 TPA		It will be mixed with fly ash and will be used in brick, tiles and block making from 1st year onward.
4	Vanadium Sludge	Alumina Refinery	300 TPA		Vanadium pentoxide recovery plant will be established for processing of vanadium sludge to recover V_2O_5.
5	Plant Sludge & muck	Drain	150 TPA	Will be stored in drums	Disposal through TSDF
6	STP sludge	Sewerage	175 TPA		Dried sludge will be used as soil conditioning agent
7	Used Oil, Grease & Lubricant	Machinery of Refinery	10 KL	Store onsite at a safe designated place.	Will be disposed through TSDF
8	Used Battery	Automobile / Plant electrical system	750 Pcs/Year		Will be sold to manufacturer under buy back policy
9	Electronic waste	Electrical/electronic equipment	2 TPA	It will be collected in drums and will be stored in a safe designated place.	Half yearly it will be auctioned to authorized re-processors.

1.10.11 Public Consultation

Details of advertisement given	11th March 2021 in "Dainik Bhaskar" in Hindi and "Hindustan Times" in English.
Date of public consultation	12/04/2021
Venue	Primary School, Chiranga
Presiding Officer	ADM, Surguja
	i. Govt is giving highly fertile land to MKARPL, where forests are present. ii. Surguja district is dominated by tribals. The project will affect their traditional agriculture practice, grazing land, forest produce (Mahua collection, collection of Tendu leaves for beedi making, etc.), puja rituals and culture. iii. Taking water for the project from Ghungutta nala will affect the irrigation and drinking water supply. iv. There is presence of wild animals in the area. Attacks by elephants and bear is reported in Surguja district. v. Wastewater discharge into Ghungutta nadi will affect the water quality of nadi and reservoir. vi. Air pollution from the plant will affect the forests and agriculture of surrounding area.

Action plan as per MoEF&CC O.M. dated 30/09/2020

S.No	Name of the Activity	Physical Targets	Year of Implementation			Total Expenditure INR (Lakh/ Crores)
			1	2	3	
1	Employment in the project	Skill Development of Local Youth and then offering them employment in the project 300 semi-skilled jobs exist in the project Willing and employable youths will be identified in consultation with gram panchayat of Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon villages (300 Nos). They will be trained in Ambikapur ITI for trades namely electrician, fitters, welders, painters, and civil construction work, etc. Fees will be paid by PP. After successful completion of training, the youths will be offered employment in the project	42	42	42	Target 300 youths Stipend: 1000/- per month stipend to 300 persons for 1 year (36,00,000/-) ITI Fee: 30000/- pp for 1 year (90,00,000/-) Budget 126 Lakhs 1.26 Cr
2	Loss of Livelihood	Livelihood Support for Poor Illiterate People Social Forestry in Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon villages in consultation with village panchayats Self Help Group of women of Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon villages and training them for making clothes/ uniforms, sanitary napkins, pickels, papads,	50	50	50	Target Social forestry development in 20 ha area, planting 50000 trees 150/- per tree (50,00,000/-) Financial support to 130Self Help Groups, 1000000/- to each SHG

S.No	Name of the Activity	Physical Targets	Year of Implementation			Total Expenditure INR (Lakh/ Crores)
			1	2	3	
		dumlings (badi), paper plates, cups and napkins, organic wastes composting and providing them with seed money to start MSME and then purchase their products.				(100,00,000/-) Budget 150 Lakhs (1.5 Cr)
3	Crop Damage	Modern Agriculture practices Training to farmers of Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon villages through Agriculture college on improved farming techniques, improved and hydrid seens, correct use of fertilizers, insecticides and pesticides, modern irrigation techniques, etc to improve their crop yield. Later seed money will be provided for implementation.	50	50	50	Target 100 poor farmers will be chosen in consultation with village panchayat 1,50,000/- per farmers Budget 150 L (1.5 Cr)
4	Destroy natural resources and aesthetics	Develop Natural Resources Make recharge shaft type RWH structures, provide solar panels and solar street lights, LED lights, desiltation and cleaning of village ponds, in Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon villages and Batauli.	40	40	40	Targets RWH structures in Govt Buildings and Schools (20)- 40 L Solar panels in Govt buildings and schools (20 Nos) – 40 L LED lights in Govt Buildings and Schools (1000) – 2 L Solar stret light(100) – 20 L Desilting & Cleaning ponds (6) – 18 L Budget: 120 Lakhs (1.2 Cr)
Need Based Analysis						
5	Education	Infrastructure development of Schools in Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon villages and Batauli. PP will make pucca kitchen with fume exhaust in 10 local schools make auditoriums, provide furniture, computers and colour printers, screens, to the 10 schools, develop playgrounds and refurbish the classrooms to make it Digital friendly	30	30	30	Targets Kitchens (10) – 20 L Tables & Chairs (1000) – 5 L Computers (10) – 5 L Colour printer (10) – 5L Screens (10) – 10 L Auditorium (1) – 10 L Classroom Refurbishment (50)- 25L Develop playgrounds (10) – 10 L Budget 90 Lakhs (0.9 Cr)
6	Health Infrastructure Development	Develop Infrastructure and provide Ambulances, and Medical equipment to Government Hospital / Health Centre at Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon and Batauli	50	50	50	Targets Buildings – 50 L Ambulance (2) – 50 L Beds (100) – 20 L O_2 Cylinder (60) – 10 L Split AC (60) – 20 L Budget: 150 Lakhs (1.5 Cr)
7	Community Infrastructure	Make paved Roads, Sewerage & Drainage, MSW Landfill Sites,	45	45	44	Target Paved roads: (5 km) - 15

S.No	Name of the Activity	Physical Targets	Year of Implementation			Total Expenditure INR (Lakh/ Crores)
			1	2	3	
	Development	Community Halls, Toilets, Water Tank, Pump and Pipelines, Tubewells, Temples, Sports Ground, Charagaha land, at Chiranga, Kardana, Kalipur, Majas, Laigu, Jhargaon and Batauli				L Drainage (5 km) with STP – 50 L MSW landfill site (1) – 20 L Community Hall (1) – 10L Toilets (40) – 10 L Water Tank & tubewell (1) – 20 L Temple (1) – 4 L Charagaha land development – 5 L Budget 134 L (1.34 Cr)
	Total					**9.2 Crore**

1.10.12 The capital cost of the proposed project is Rs 618.07 crores and the capital cost for environmental protection measures is proposed as Rs 65 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 17.5 Crores. The employment generation from the proposed project is 700. The details of cost for environmental protection measures is as follows.

	Description of Items	Capital cost INR crores	Operating cost INR. Crores/year
1	Pollution control during construction stage	3.0 For 28 months	
2	Air pollution control	5.6	3.0
3	Water pollution control	15.3	2.5
4	Solid waste management	10.0	4.5
5	Noise pollution control	1.5	0.25
6	Environmental monitoring instruments	3.0	0.75
7	Environment Management Department with Laboratory and R&D Centre	4.0	3.0
8	Occupational Health Centre, Infrastructure Testing instruments, PPEs, Ambulance with paramedical staff and equipment,	4.0	1.5
9	Plant Safety and Risk mitigation measures, Fire Brigade	5.5	1.25
10	Greenbelt and greenery development inside plant premises	1.5	0.50
11	Energy conservation measures	2.4	0.25
12	CER Activities	9.2	-
	Grand Total	**65**	**17.5**

1.10.13 Proposed greenbelt will be developed in 35 ha which is about 37.4 % of the total project area. Thus total of 35 ha area (37.4 %of total project area) will be developed and retained as greenbelt. A 10 m to 25-meter-wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per

hectare. Total 37,500 saplings will be planted and nurtured in 15 hectares in 3 years (green area of 20 ha on the south side will be retained).

1.10.14 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

1.10.15 Name of the EIA consultant: M/s Ind Tech House Consult [S. No. 3, List of ACOs with their Certificate/ Extension Letter no. QCI/NABET/ENV/ACO/22/2225; valid up to 26/04/2022; Rev. 19, February 14, 2022].

Observations of the Committee

1.10.16 The Committee noted the following:

i. Red mud is alkaline in nature due to iron oxide and may affected to agriculture land or other vegetation, PP shall provide the plan for proper drainage collection system with catch pits.
ii. PP shall be provided the contour lines in project layout map and according to the contours of project site run off drainage, waste water drainage system and all other facility. PP shall be submitted the revised layout map.
iii. Scheme for vanadium recovery from vanadium sludge has not been furnished.
iv. Stability analysis of the Red mud pond has not been carried out by the PP. PP shall engage a reputed organization for carrying out stability study of Red Mud pond and report shall be submitted along with EIA EMP report.
v. A natural drainage is passes through the project site, PP shall provide the plan to protect the drainage in its natural condition.
vi. Heat stress impact assessment and mitigation measures are not furnished. Project specific Hazards Identification and Risk Assessment (HIRA) shall be furnished along with EIA report.
vii. Lime grits are said to be mixed with flyash for brick making. The lime grits are nothing but unburnt lime stone and lime stone is not mixed with flyash to make bricks. Project proponent shall clarify the factual position in this regard.
viii. Plan shall be submitted for three tier Green Belt Development covering 35% of the total area in a time frame of one year with native species all along the periphery of the project site of adequate width with a tree density shall not less than 2500 per ha.
ix. Ghanguntta River is located at 600 m form project site, High Flood Level (HFL) shall be mentioned in the EIA report.
x. Traffic analysis studies has not been incorporated in the EIA report.
xi. TOR point 9 has not been addressed as required. HOD Environment Management Department reports to plant head only, there is no mechanism to reporting of incidences and non-compliances by HOD EMD to Board.
xii. Interpretation of the Base line data has not been incorporated in Chapter 3 that to be used in Chapter 4 for quantification of impacts. The BL data of chapter 3 have not been used in Chapter 4 except for AAQ data for incremental concentration estimation. Interpretation of the baseline data shall be incorporated in chapter 3 and accordingly anticipated impact shall be addressed in the chapter 4.
xiii. Impacts identified in Chapter 4 are generic and no quantification has been done.
xiv. Surface water quality data have not been presented in section 3.4 of EIA report. Same shall be incorporated with EIA report.
xv. Project benefits have not been quantified in Chapter 8.
xvi. The report mentions about presence of elephants in the area. Clarification shall be given in this regard.

xvii. The annexures of EIA EMP report have not been numbered and legends not given the report.

Recommendations of the Committee

1.10.17 In view of the foregoing and after deliberations, the Committee recommended the proposal to be returned in its present form to address the shortcoming enumerated above in para 1.10.16 and submit revised application as per the provisions of EIA Notification, 2006.

1.11 Expansion of Crude Steel Production from 2.2 MTPA to 4.5 MTPA and Cold Rolling Mill Production from 1.6 MTPA to 2.6 MTPA within the existing Steel Plant by **M/s. Jindal Stainless Limited** located at Kalinga Nagar Industrial Complex, Village & Tehsil Danagadi, **District Jajpur, Odisha** [Online Proposal No. IA/OR/IND/249316/2021, File No. J-11011/281/2007-IA.II(I)] –**Environment Clearance – regarding.**

1.11.1 M/s. Jindal Stainless Limited has made an online application vide proposal No. IA/OR/IND/249316/2021, dated 12/02/2022 along with copy of EIA/EMP report, Form - 2 and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA Notification, 2006 and appraisal at Central Level.

Details submitted by the project proponent

1.11.2 The detail of the ToR is furnished as below:

Date of application	Consideration	Details	Date of accord	ToR Validity
26/04/2021	Standard Terms of Reference	Standard Terms of Reference	28/04/2021	27/04/2025

1.11.3 The project of M/s. Jindal Stainless Limited (JSL) located in Kalinga Nagar Industrial Complex, PO –Danagadi, Tehsil – Danagadi, Jajpur District, Odisha is for expansion of Crude Steel Production from 2.2 MTPA to 4.5 MTPA and Cold Rolling Mill Production from 1.6 MTPA to 2.6 MTPA within the existing Steel Plant at Kalinga Nagar.

1.11.4 Environmental site settings

<table>
<tr><th>Sl. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>437.13 ha [Govt. Land]</td><td>Land use: Industrial land; Existing Steel Plant of JSL</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>The proposed project does not require additional land and will be implemented within the existing land.</td><td></td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td>Project site: Nil

Complex:<table><tr><th>Habitation</th><th>Direction</th><th>Distance</th></tr><tr><td>Danagadi</td><td>East</td><td>2 km</td></tr></table></td><td></td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all corners of the project site.</td><td>
<table>
<tr><th>Point</th><th>Direc-tion</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>N</td><td>20°58'02.15"N</td><td>86°02'58.51"E</td></tr>
<tr><td>2</td><td>NE</td><td>20°57'59.68"N</td><td>86°03'18.99"E</td></tr>
<tr><td>3</td><td>E</td><td>20°57'20.17"N</td><td>86°03'42.57"E</td></tr>
<tr><td>4</td><td>SE</td><td>20°57'10.49"N</td><td>86°03'23.62"E</td></tr>
<tr><td>5</td><td>SE</td><td>20°56'58.96"N</td><td>86°03'29.76"E</td></tr>
<tr><td>6</td><td>SW</td><td>20°56'23.33"N</td><td>86°02'21.42"E</td></tr>
<tr><td>7</td><td>W</td><td>20°57'21.61"N</td><td>86°01'53.30"E</td></tr>
<tr><td>8</td><td>W</td><td>20°57'24.40"N</td><td>86°01'54.21"E</td></tr>
<tr><td>9</td><td>W</td><td>20°57'22.16"N</td><td>86°02'08.52"E</td></tr>
<tr><td>10</td><td>W</td><td>20°57'14.81"N</td><td>86°02'35.32"E</td></tr>
<tr><td>11</td><td>N</td><td>20°57'38.84"N</td><td>86°02'45.80"E</td></tr>
<tr><td>12</td><td>NW</td><td>20°57'58.21"N</td><td>86°02'27.20"E</td></tr>
<tr><td>13</td><td>NW</td><td>20°58'09.82"N</td><td>86°02'34.20"E</td></tr>
</table>
</td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>120 m above mean sea level</td><td></td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is involved.</td><td></td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project site: Nil

Study area:
<table>
<tr><th>Waterbody</th><th>Direction</th><th>Distance</th></tr>
<tr><td>Brahmani</td><td>South</td><td>7.3 km</td></tr>
<tr><td>Ganda Nalla</td><td>East</td><td>3.6 km</td></tr>
</table>
</td><td>Distance of HFL from Project Site : 7.3 km</td></tr>
<tr><td>viii.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>Nil</td><td></td></tr>
</table>

1.11.5 The existing project was accorded environmental clearance vide lr. No. J-11011/281/2007-IA.II(I) dated 18/09/2019. Consent to Operate for the existing unit was accorded by Odisha State Pollution Control Board vide lr. No. 4555/ IND-I-CON-5136 dated 19/03/2021. The validity of CTO is up to 31/03/2023.

1.11.6 Implementation status of the existing EC:

Sl No.	Facilities Envisaged as per EC	Unit	As per EC Dated	Implementation Status as on date	CTE / CTO Status
1	2 x 150 T EAF 2x6 T + 1x 200 Kg Testing Induction Furnace 1 x 30 T Holding Induction Furnace	SMS	05/08/2005 01/11/2007 18/09/2019	**Commissioned** 2 x 150 T EAF 2x6 T + 1x 200 Kg Testing Furnace 1 x 30 T Holding Induction Furnace	CTO Received
2	2 x 150 T LF 2 x 150 T AOD	Secondary Refining	05/08/2005 18/09/2019	**Commissioned** 1 x 150 T LF 1 x 150 T AOD	CTO Received
				Under Construction 1 x 150 T LF 1 x 150 T AOD	CTE received
3	2x1 – Strand Slab caster	Caster Shop	05/08/2005 18/09/2019	**Commissioned** 1 x 1 Strand Slab Caster	CTO Received
				Under Construction 1 x 1 Strand Slab Caster	CTE received
4	HAPL – 2 x 0.8 MTPA CAPL – 2 x 0.45 MTPA & Finishing Lines (Slitting, Cut to length, Skin Pass mill etc.)	CRM	05/08/2005 18/09/2019	**Commissioned** HAPL – 1x 0.8 MTPA CAPL – 1 x 0.45 MTPA Finishing Lines (Slitting, Cut to length, Skin Pass mill etc.)	CTO Received
				Under Construction HAPL – 1x 0.8 MTPA CAPL – 1 x 0.45 MTPA Finishing Lines (Slitting, Cut to length, Skin Pass mill etc.)	CTE Received
5	2 x 425 TPD (BOO Basis)	Air Separation Plant (ASP)	05/08/2005 18/09/2019	**Commissioned** 1 x 425 TPD	CTO Received
				Under Basic Engineering 1 x 425 TPD	CTE Received
6	0.25 MTPA (2 x 60 MVA + 3 x 27.6 MVA) 13 MW WHRB 50 TPH AFBC Boiler	Ferro Alloy Plant	05/08/2005 01/11/2007 18/09/2019	**Commissioned** 0.25 MTPA (2 x 60 MVA + 3 x 27.6 MVA) 13 MW WHRB 50 TPH AFBC Boiler Briquette Plant – 126 TPH & Jigging Plant – 100 TPH	CTO Received

Sl No.	Facilities Envisaged as per EC	Unit	As per EC Dated	Implementation Status as on date	CTE / CTO Status
	Briquette Plant – 180 TPH & Jigging Plant			**Yet to install** Briquette Plant – 54 TPH	CTE received
7	1x 450 TPD + 1 x 600 TPD (Lime & Dolo) + 200 TPD Hydrated Lime Plant (New) (BOO basis)	Lime/ Dolo Calcining Plant (LCP/DCP)	18/09/2019	**Under Basic Engineering**	CTE received
8	1 x 50 TPH 1 x 80 TPH (BOO Basis)	Metal Recovery Plant (MRP)	18/09/2019	**Commissioned** 1 x 50 TPH 1 x 40 TPH (BOO Basis)	CTO received
				Under Construction Metal Recovery Plant– 1 x 40 TPH	CTE received
9	CRMHS - Matching the production facilities	CRMHS	05/08/2005 01/11/2007 18/09/2019	Available as per present demand	CTO/CTE received
10	2 X 125 MW Coal Based	Captive Power Plant	30/11/2006	**Commissioned** 2 x 125 MW	CTO received

1.11.7 The unit configuration and capacity of existing and proposed unit are given as below:

Sl. No.	Plant Equipment/ Facility	Existing facilities as per EC dated 17th May,2018 and subsequent expansion of facilities as per EC dated 18th September,2019								Proposed Units		Final (Existing + Proposed)	
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacity	Configuration	Capacity
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity				
	Iron Making	-	-	-	-	-	-	-	-	-	**2.35 MTPA**	-	**2.35 MTPA**
1	Blast Furnace	-	-	-	-	-	-	-	-	1 x 720 m^3 1 x 1680 m3	2.35 MTPA	1 x 720 m^3 1 x 1680 m3	2.35 MTPA
2	Sinter Plant	-		-		-	-	-	-	1 x 120 m2 1 x 240 m2	3.64 MTPA	1 x 120 m2 1 x 240 m2	3.64 MTPA
SMS			**2.2 MTPA**		**1.1 MTPA**		**1.1 MTPA**		**1.1 MTPA**		**2.3 MTPA**		**4.5 MTPA**
3	EAF	2 x 150 T		2 x 150 T	-	-	-	2 x 150 T	-	-	-	2 x 150 T	-
4	Induction Furnace	2 x 6 T + 1 x 200 Kg + 1 x 30 T	-	2 x 6 T + 1 x 200 Kg + 1 x 30 T	-	-	-	2 x 6 T + 1 x 200 Kg + 1 x 30 T	-	2 x 30 T	-	3 x 30 T + 2 x 6 T + 1 x 200 kg	-
5	Cr Converter	-	-	-	-	-	-	-	-	1 x 70 T	-	1 x 70 T	-
6	BOF	-	-	-	-	-	-	-	-	1 x 110 T 1 x 150 T	-	1 x 110 T 1 x 150 T	-
	AOD	2 x 150 T	-	1 x 150 T	-	1 x 150 T	-	1 x 150 T	-	1 x 150 T	-	3 x 150 T	-
	LF	2 x 150 T	-	1 x 150 T	-	1 x 150 T	-	1 x 150 T	-	2 x 150 T	-	4 x 150 T	-
7	Caster Shop	2 x 1 Strand	-	1 x 1 Strand	-	1 x 1 Strand	-	1 x 1 Strand	-	2 x 1 Strand	-	4 x 1 Strand	-
CRM		-	**1.6 MTPA**	-	**0.8 MTPA**	-	**0.8 MTPA**	-	**0.8 MTPA**	-	**1.0 MTPA**	-	**2.6 MTPA**
9	HAPL	2 lines	2 X 0.8 MTPA	1 line	1 X 0.8 MTPA	1 line	1 X 0.8 MTPA	1 line	1 X 0.8 MTPA	1 line	1 x 1.0 MTPA	3 lines	2 X 0.8 MTPA + 1 X 1.0 MTPA
10	CAPL	2 lines	2 X 0.45 MTPA	1 line	1 X 0.45 MTPA	1 line	1 X 0.45 MTPA	1 line	1 X 0.45 MTPA	1 line	1 x 0.5 MTPA	3 lines	2 x 0.45 MTPA + 1 x 0.5 MTPA

Sl. No.	Plant Equipment/ Facility	Existing facilities as per EC dated 17th May,2018 and subsequent expansion of facilities as per EC dated 18th September,2019								Proposed Units		Final (Existing + Proposed)	
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacity	Configuration	Capacity
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity				
11	Tandem mill	-	-	-	-	-	-	-	-	1 mill	1 x 1.0 MTPA	1 mill	1 x 1.0 MTPA
12	Z mill	-	-	-	-	-	-	-	-	2 mills	2 x 0.15 MTPA	2 mills	2 x 0.15 MTPA
13	Bright annealing	-	-	-	-	-	-	-	-	2 lines	2 x 0.075 MTPA	2 lines	2 x 0.075 MTPA
14	Finishing lines (Slitting, Cut to length, Skin pass mill etc.)	10 lines	-	10 lines	-	-	-	10 lines	-	10 lines	-	20 lines	-
Ferro Alloy Complex		-	**0.25 MTPA**	-	**0.25 MTPA**	-	-	-	**0.25 MTPA**	-	**0.08 MTPA**	-	**0.33 MTPA**
16	Pelletisation & Sintering of Cr ore	-	-	-	-	-	-	-	-	1 unit	0.7 MTPA	1 unit	0.7 MTPA
17	SAF –Ferro Chrome	2 x 60 MVA + 3 x 27.6 MVA	0. 25 MTPA	2 x 60 MVA + 3 x 27.6 MVA	0.25 MTPA	-	-	2 x 60 MVA + 3 x 27.6 MVA	0.25 MTPA	-	-	2 x 60 MVA + 3 x 27.6 MVA	0.25 MTPA Increase in Fe-Cr production by change of feed from briquette to palletized sinter)
18	WHRB	2 x 28.5 TPH	13 MW	2 x 28.5 TPH	13 MW	-	-	2 x 28.5 TPH	13 MW	-	-	2 x 28.5 TPH	13 MW
19	AFBC	50 TPH		50 TPH		-	-	50 TPH		-	-	50 TPH	
20	Briquette Plant	180 TPH	180 TPH	126 TPH	126 TPH	54 TPH	54 TPH	126 TPH	126 TPH	-	-	180 TPH	180 TPH

Sl. No.	Plant Equipment/ Facility	Existing facilities as per EC dated 17th May,2018 and subsequent expansion of facilities as per EC dated 18th September,2019								Proposed Units		Final (Existing + Proposed)	
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacity	Configuration	Capacity
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity				
21	Jigging Plant	100 TPH	100 TPH	100 TPH	100 TPH	-	-	100 TPH	100 TPH	50 TPH	50 TPH	150 TPH	150 TPH
22	Thermal Power Plant	2 x 125 MW	250 MW	2 x 125 MW	250 MW	-	-	2 x 125 MW	250 MW	-	-	2 x 125 MW	250 MW
23	TRT (BF)	-	-	-	-	-	-	-	-	14 MW	14 MW	14 MW	14 MW
Flux Complex		-	**0.35 MTPA**	-	-	-	**0.35 MTPA**	-	-	-	**0.39 MTPA**	-	**0.74 MTPA**
24	Lime –Dolo Calcining Plant	1 x 600 TPD + 1 x 450 TPD	-	-	-	1 x 600 TPD + 1 x 450 TPD	-	-	-	2 x 600 TPD	-	3 x 600 TPD + 1 x 450 TPD	-
25	Hydrated Lime Plant	200 TPD	-	-	-	200 TPD	-	-	-	-	-	200 TPD	-
	Air Separation Plant	2 x 425 TPD	850 TPD	1 x 425 TPD	425 TPD	1 x 425 TPD	425 TPD	1 x 425 TPD	425 TPD	1 x 900 TPD	900 TPD	2 x 425 TPD + 1 x 900 TPD	2 x 425 TPD + 1 x 900 TPD
	Metal Recovery	1 x 50 TPH + 1 x 80 TPH	130 TPH	1 x 50 TPH + 1 x 40 TPH	90 TPH	40 TPH	40 TPH	1 x 50 TPH + 1 x 40 TPH	90 TPH	1 x 50 TPH + 2 x 80 TPH	210 TPH	2 x 50 TPH + 3 x 80 TPH	340 TPH
	Railway siding with wagon tippler	1 no. wagon tippler with 5 nos. line connecting from Sukinda Road Station. with ICD facility.	-	1 no. wagon tippler with 5 nos. line connecting from Sukinda Road Station. with ICD facility.	-	-	-	1 no. wagon tippler with 5 nos. line connecting from Sukinda Road Station. with ICD facility.	-	2nos. wagon tippler with 7nos. line connecting through lead line of Tata Steel Limited from Jakhapura Station.	-	3nos. wagon tippler with 12 nos. line including ICD facility	-

1.11.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

Sl. No.	Raw material	Quantity required per annum			Source	Distance from site (km)	Mode of Transportation
		Existing	Expansion	Total (MTPA)			
1.	Coke	-	1.11	1.11	From JCL and others	0	In Plant
2.	PCI Coal	-	0.25	0.25	Import through Paradeep Port	120	Sea/Rail
3.	Coke Breeze	-	0.19	0.19	From JCL	0	In Plant
4.	Lump Iron Ore	-	0.35	0.35	Barbil/Joda/open market	170	Rail/Road
5.	Iron Ore Fines	-	3.15	3.15	Barbil/Joda/open market	170	Rail (90 %) / Road (10 %)
6.	Lime Stone	0.52	1.94	1.94	Import through Paradeep Port	120	Sea/Rail
7.	Dolomite	0.32	0.20	0.52	Jharkhand/ Chhattisgarh	550	Rail/Road
8.	Pyroxenite	0.03	0.03	0.06	Sukinda	10	Rail/Road
9.	Quartz	0.03	0.03	0.06	Andhra Pradesh / Chhattisgarh	1000	Rail/Road
10.	Ferro Alloy	0.70	0.07	0.77	Open market	1000	Rail/Road

1.11.9 Existing Water requirement is 26,640 m^3/day, water requirement is obtained from Brahmani River and permission for the same has been obtained from Govt of Odisha, Department of Water Resources vide letter no Irr-II-WRC-60/05/26805/WR; dated 23/08/2005 and subsequent letter from IPICOL, Govt. of Odisha vide letter no. SJ/HLCA-221/17-18/2682; dated 12/11/2020. The water requirement for the proposed expansion project is estimated as 15,144 m^3 /day, which will be obtained from River Brahmani and by Internal recycling of the effluents.

1.11.10 Existing power requirement of 250 MW is obtained from captive generation and State Power grid. The power requirement for the proposed project is estimated as 196 MW, which will be obtained from the captive generation and existing Grid facilities.

1.11.11 Baseline Environmental Studies

Period	October 2020 to December 2020
AAQ parameters at 10 Locations	$PM_{2.5}$ = 60.2 to 91.58 µg/m^3 PM_{10} = 19.36 to 51.23 µg/m^3 SO_2 = 5.0 to 38.72 µg/m^3 NO_x = 2.93 to 40 µg/m^3 CO = 0.02 to 1.7 mg/m^3
Incremental GLC level	PM_{10} = 6 µg/m^3 (Level at 2.23 km in North Direction) SO_2 = 6.8 µg/m^3 (Level at 2.23 km in North Direction) NO_x = 6.6 µg/m^3 (Level at 1.79 km in South Direction)
Ground water	pH: 4.90 – 6.91

<table>
<tr><td>quality at 8 locations</td><td>Total Hardness: 55.05 – 405.84 mg/l,
Chlorides: 31.56 – 102.55 mg/l, Fluoride: <0.1 mg/l.
Heavy metals (Cr 6+) : <0.02 mg/l</td></tr>
<tr><td>Surface water quality at 8 locations</td><td>pH: 7.02 – 7.64
DO: 5.2 – 6.53 mg/l
BOD: 8.0 – 22.3 mg/l
COD: 33.89 – 59.92 mg/l</td></tr>
<tr><td>Noise levels Leq (Day and Night)</td><td>56.03 – 69.4 dBA for the day time and
45.44 – 57.94 dBA for the Night time</td></tr>
<tr><td>Traffic assessment study findings</td><td>•Traffic study has been conducted at SH 20 at the junction towards entry gates of JSL which is adjacent to the plant site.
•Transportation of raw material, fuel & finished product will be done 10% by road.
•Existing PCU is 420.7 PCU/hr at SH 20 at the junction towards entry gates of JSL and existing level of service (LOS) is: B

<table><tr><th>Road</th><th>Location</th><th>V (Vol in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Existing V/C Ratio</th><th>LOS</th></tr><tr><td>SH 20</td><td>Traffic Gate</td><td>421</td><td>3600</td><td>0.12</td><td>B</td></tr></table>
• PCU load after proposed project will be 421 (Existing) + 5 (Additional) PCU/hr and level of service (LOS) will be: B
* Note: Capacity as per IRC-106-1990 Guideline for capacity for roads.
Conclusion: The level of service will remain B after including additional traffic due to proposed project.</td></tr>
<tr><td>Flora and fauna</td><td>No schedule I fauna and endangered Flora is present in the Study area.</td></tr>
</table>

1.11.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

Solid Waste

Sl. No.	Type of Waste	Source	Quantity (TPA)			Treatment Before Disposal	Mode of Disposal
			Existing	Proposed	Total		
1.	Slag	Blast Furnace	NA	7,20,000	7,20,000	-	100 % Sale to Cement Plant
2.	Mill Scale	CRM	20,000	15,000	35,000	Oil removal	100 % Reuse in Process for Ferro-alloy making
3.	Slag	Fe-Cr	2,50,000	1,00,000	3,50,000	Treatment in Jigging Plant	Sale to third Party for use as replacement of constructional materials/Low

Sl. No.	Type of Waste	Source	Quantity (TPA)			Treatment Before Disposal	Mode of Disposal
			Existing	Proposed	Total		
							lying area filling.
4.	Slag	SMS	7,45,000	7,55,000	15,00,000	Treatment in Metal recovery Plant	Road making and low-lying area filling
5	Fly Ash	CPP	6,30,000	-	6,30,000	-	100 % utilization in brick and Cement manufacturing units.
6	Bottom Ash	CPP	1,40,000	-	1,40,000		100 % utilization in road making, low lying area filling, Abandoned mine pit filling

Hazardous Waste:

Sl. No.	Type of Waste	Source	Quantity			Treatment Before Disposal	Mode of Disposal
			Existing	Proposed	Total		
1.	Used Oil	All plant source	200 KL	100 KL	300 KL	Stored in dedicated Hazardous Waste storage shed	Handed over to Authorized Recycler.
2.	Oily Waste	All plant source	200 KL	100 KL	300 KL		Handed over to Authorized Recycler.
3.	ETP Sludge	CRM	1,00,000 TPA	60,000 TPA	1,60,000 TPA	Stored in dedicated storage shed having concrete flooring and covered shed	Handed over to Authorized CHWTSDF.
4.	Flue gas Cleaning residue	Fe-Cr Plant	22,000 TPA	15,000 TPA	37,000 TPA	Pneumatic Handling followed by storage in concrete flooring with covered shed.	Re-use in Ferro Alloy making
5	Discarded Container	All plant source	25,000 TPA	10,000 TPA	35,000 TPA	Stored in dedicated Hazardous Waste storage shed	Handed over to Authorized party/ MS discarded container reuse in process.

1.11.13 Public Consultation

Details of advertisement given	Advertisement dated 27/10/2021 published in The Times of India (English) Advertisement dated 27/10/2021 published in The Samaj (Odia)
Date of public consultation	26/11/2021
Venue	Danagadi Bhawan, Danagadi under Danagadi RI Circule, Jajpur, District, Odisha.
Presiding Officer	Additional District Magistrate, Kalinganagar, Jajpur
	i. Area Development ii. Medical Facilities iii. Local Employment iv. Education v. Drinking Water Facilities vi. Women Empowerment vii. Environment

Action plan as per MoEF&CC O.M. dated 30/09/2020

Major Issue Raised	Action Plan	Physical Target	Time Line for Execution			Total Budget in Lakh
			Year 1st	Year 2nd	Year 3rd	
Area Development						
Development of Park	Set up of Indoor Sports Complex at Jajpur		Land selection and acquisition	Construction of Buildings and utilities	Supply of sports equipment, furniture and fixtures.	2000
Development of public community hall	New establishment of community hall at 6nos. Of villages.		Set up in villages namely: Dhuligarh, Tikar, Trijanga: by providing new building with electrification.	Set up in villages namely: Damodarpur by providing new building with electrification.	Set up in villages namely: Mangalpur, Singagadia: by providing new building with electrification.	100
Plantation activities in peripheral villages	Plantation drive at five numbers of village.		Village: Pankapal & Dhabalgiri Actual area and number of tress to be decided based survey and discussion with local authorities. Report will be sent to MoEF & CC as a part of Half Yearly EC Compliance.	Village: Jakhapura & Jajpur Road Actual area and number of tress to be decided based survey and discussion with local authorities. Report will be sent to MoEF & CC as a part of Half Yearly EC Compliance.	Village: Kharadi Actual area and number of tress to be decided based survey and discussion with local authorities. Report will be sent to MoEF & CC as a part of Half Yearly EC Compliance.	40
Medical Facilities						
Provision of health care facilities	Establishment of 100 bedded super specialties		Land acquisition	Construction of Buildings and utilities.	Provision of medical equipments , furniture and fixtures	2000

Major Issue Raised	Action Plan	Physical Target	Time Line for Execution			Total Budget in Lakh
			Year 1st	Year 2nd	Year 3rd	
	hospital at village Jakhapura		process to be completed.		and essential medicines.	
Medical assistance to cancer patients	Identification with assistance to cancer patients at village Kumbhiragadia		Assistance will be provided on case to case and need basis.	----	----	50
Local Employment						
Provide employment with preference to local people	Priority to be given for local employment during both construction and operation phase.		During Construction phase it is envisaged for Direct employment of 380 nos. and Indirect employment of 1800 nos & during operation phase direct employment of 715 nos. and Indirect employment of 1,525 no. During construction phase 70 % indirect employment and 30 % direct employment will be through local employment. During operation phase 90 % indirect employment and 30 % direct employment will be through local employment.			--
Education						
Establishment of educational facilities	Renovation/Construction of additional new 2nos. of classrooms and electrification with sanitation facility at four nos. school.		At village : Asanabahali, Mantira	At village : Kumbhiragadia	At village: Tikara	60
Establishment of technical education/coaching centres	Establishment of skill development centre and financial assistance to coaching centre at 2nos. Of villages.		At village: Trijanga. Establishment of skill development centre like tailoring, mobile repairing. Financial assistance for four nos. of teachers to provided.	At village: Asanbahali Establishment of skill development centre like computer education, beauty parlour, electrical machineries.	----	20
Drinking Water facility						
Provide drinking water to peripheral villages	Arrangement to be made in three numbers of villages.		At village Manpur: Set up of Pump house at the existing source and new pipeline laying of 1KM along with stand post.	At village Tikar: Set up of Pump house at the existing source and new pipeline laying of 1KM along with stand post.	At village Mantira Construction of 2 Nos. of Bore well.	30
Women Empowerment						
Strengthening of women empowerment measures in peripheral villages	Focus on various livelihood programme through Self Help Group (SHG) for women		Livelihood promotion through SHG that include dairy farming, poultry, goatery, Phenyl	Establishment of sanitary napkin unit at Danagadi. Tailoring training at village Damdorpur,	Establishment of neem powder and turmeric powder making unit at Danagadi/Jakhapura.	300

Major Issue Raised	Action Plan	Physical Target	Time Line for Execution			Total Budget in Lakh
			Year 1st	Year 2nd	Year 3rd	
	empowerment in peripheral villages.		making, Agarwati making, Wheat grinding at 30nos. of villages in 7 GP of Danagadi block.	Kiapada and Dhabahali.	Mushroom farming at Danagadi, Jakhpura.	
Environment						
Air and Water pollution control	Effective APC devices to be in place during plant operation and set up of ETP for treatment of process of effluent. No wastewater discharge to be ensured.		Effective pollution control equipment s with interlocking facility with process to be in place for proposed expansion project. continuous emission monitoring, ambient air quality monitoring and effluent quality monitoring to be done. Periodical Ambient air quality monitoring to be done in buffer zone of plant site.			As per EMP budget of plant
Water sprinkling on roads to control air pollution	Extensive water sprinkling to be done in roads of peripheral villages.		Regular water sprinkling to be done in villages at Jakhpura and Manpur.			20

1.11.14 Existing capital cost of project as per existing EC was Rs. 8398 Crores. The capital cost of the proposed project is Rs. 6017 Crores and the capital cost for environmental protection measures is proposed as Rs. 628.2 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 41.5 Crores. The employment generation from the proposed project / expansion during construction is 2180 (both direct & Indirect) & during operation, it is 2,240 (both direct and indirect). The details of cost for environmental protection measures is as follows:

Sl. No.	Environment Control Measure	Cost of EMP (in crore)					
		Existing		Proposed		Total	
		Capital	Recurring (per annum)	Capital	Recurring (per annum)	Capital	Recurring (per annum)
1.	Water Conservation and Wastewater Treatment	65	5	80	5	145	10
2.	Air Pollution Control Measure	175	18	295	30	470	48
3.	Solid Waste management	25	2.0	55	2.5	80	4.5
4.	Energy Conservation	100	0.1	125	1.0	225	1.1
5.	On-line Monitoring and Environmental Laboratory	12	0.3	20	1.5	32	1.8
6.	Greenbelt Development	27	2.0	2.5	1.0	29.5	3.0
7.	Surface Runoff Management	12	0.50	4.5	0.5	16.5	1.0
8.	Address of Public Consultation concerns	-	-	46.20	-	46.20	-

1.11.15 Existing green belt has been developed in 156 ha area which is about 35% of the total project area of 437 ha with total sapling of 343374 Trees. Proposed greenbelt will be only gap filling to maintain the existing greenery.

1.11.16 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

1.11.17 Name of the EIA consultant: M/s. M. N. Dastur & Company (P) Ltd [S. No. 179, List of ACOs with their Certificate/ Extension Letter no. QCI/NABET/ENV/ACO/21/2196; valid up to 29/03/2022; Rev. 19, February 14, 2022].

Certified compliance report from Regional Office

1.11.18 The Status of compliance of earlier EC was obtained from Regional Office, Bhubaneswar vide letter no.101-267/EPE, dated 10/01/2022 in the name of M/s Jindal Stainless Limited. As per the report, there are no non-compliances observed by RO, MoEF&CC.

Observations of the Committee

1.11.19 The Committee noted the following:

i. On perusal of the KML file, it is noted that there are four companies of Jindal group namely JSL, JUSL, JCL and JSW cement grinding unit are under operation with separate EC.

ii. As per the point no. 7(i) of the standard ToR accorded on 28/04/2021, PP was supposed to carry out the cumulative impact assessment.

iii. As per the EIA report, cumulative impact assessment has been carried out only for 3 units and not included the unit details of JSW Cement Limited. Besides, cumulative impact assessment has done only for Air Environment and remaining components have not been covered. Further, the Emissions/discharges from following incomplete (under implementation) facilities have not reflected in the base line monitoring;

- 1x150T LF
- 1x150 T AOD.
- 1x1 strand slab caster.
- 1x0.8 MTPA HAPL
- 1x0.45 MTPA CAPL
- 425 TPD ASP.
- 54 TPH Briquetting plant
- New jigging plant.
- 3x Lime/dolo kilns of 450/600/200 TPD capacity.
- Hydrated lime plant.
- 40 TPH metal recovery plant.

In view of the above, the cumulative impact assessment study needs to be carried out again along with revisiting of Air Quality Modelling.

iv. Corporate Environment policy is not given in EIA, it is in Annexure. PP shall be incorporated the Corporate Environment Policy in EIA report. TOR #9 not complied as per TOR requirement.

v. Waste heat recovery system proposed from Sinter Cooler is very inefficient. Modern technologies to generate power or low-pressure Steam for use in plant have not been considered.

vi. BF shall be provided with Dry gas cleaning facility, TRT and stove waste gas heat recovery system.
vii. Max GLC predicted is 6 µg/m^3 at 2.23 km North and 5.4 µg/m^3 in South. This does not corroborate with wind rose which shows that predominant wind direction is SSW.
viii. Oil content in base mix for sinter making to control dioxin and furan emissions has not been committed.
ix. FeCr slag shall be used for construction. A plan for TCLP test and only after finding the Cr values within standards, the slag shall be used for construction, otherwise it shall be sent to TSDF.
x. CRM ETP sludge shall be stored under covered shed on impervious floor with parapet walls and shall be sent to TSDF.

Recommendations of the Committee

1.11.20 In view of the foregoing and after deliberations, the Committee recommended the proposal to be returned in its present form to address the shortcoming enumerated above in para 1.11.19 and submit revised application as per the provisions of EIA Notification, 2006.

1.12 Brownfield project for substantial expansion by installation of production facilities for production of Sponge Iron 375,000 TPA; Mild Steel Billet 365,400 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 350,000 TPA; and Captive Power 40 MW (30MW through WHRB and 10 MW through AFBC) by **M/s. NRVS Steels Limited** located at Village- Taraimal, Tehsil- Tamnar, **District-Raigarh, Chhattisgarh** [Online Proposal No. IA/CG/IND/210323/2021; File no: IA-J-11011/195/2021-IA-II(I)] **– Environment Clearance – regarding.**

1.12.1 M/s. NRVS Steels Limited has made an online application vide proposal No. IA/CG/IND/210323/2021, dated 14/02/2022 along with copy of EIA/EMP report, Form - 2 and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & non-ferrous) and 1(d) Thermal Power Plant under Category "A" of the schedule of the EIA Notification, 2006 and appraisal at Central Level.

Details submitted by the project proponent

1.12.2 The detail of the ToR is furnished as below:

Date of application	Consideration	Details	Date of accord	ToR Validity
07/05/2021	36th meeting of REAC (Industry-I) held on 18th- 19th May, 2021.	Terms of References	02/06/2021	01/06/2025

1.12.3 The project of M/s. NRVS Steels Limited is located at Village Taraimal, Tehsil Tamnar (Previously a part of Tehsil Gharghoda), District Raigarh, Chhattisgarh is for substantial expansion by installation of production facilities for production of Sponge Iron 375,000 TPA; Mild Steel Billet 365,400 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 350,000 TPA; and Captive Power 40 MW (30MW through WHRB and 10 MW through AFBC).

1.12.4 Environmental site settings

<table>
<tr><th>Sl.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>25.33 ha. (Private land)</td><td>This land is a free hold land owned and lease hold land held by the company.</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF & CC O.M. dated 7/10/2014</td><td>Proposed expansion is within existing plant premises which is under possession of the company. The land is already diverted for industrial purpose.
There is no additional land required to be acquired by the company.</td><td>At present company have physical possession on 25.330 Hectare land on which existing plant is in operation. As per government records the khasara of the above lands are having 25.395-hectare area (out of which 18.337-hectare land is owned by the company and 7.058-hectare land is held by the company as long term lease land from group firm (namely "NR infrastructure"). All the partners of this firm are directly related to the promoters of the company and are also shareholders in the company.</td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td><u>Project Site:</u> No any
<u>Study Area</u>
<table>
<tr><th>Habitation</th><th>Dis.</th><th>Dir.</th></tr>
<tr><td>Taraimal</td><td>1 km</td><td>SE</td></tr>
</table></td><td></td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of the project site</td><td>
<table>
<tr><th>Sl.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1.</td><td>22° 1'55.22"N</td><td>83°22'7.45"E</td></tr>
<tr><td>2.</td><td>22° 1'44.64"N</td><td>83°22'16.91"E</td></tr>
<tr><td>3.</td><td>22° 1'39.69"N</td><td>83°22'16.53"E</td></tr>
<tr><td>4.</td><td>22° 1'47.90"N</td><td>83°21'46.24"E</td></tr>
<tr><td>5.</td><td>22° 1'55.72"N</td><td>83°21'55.92"E</td></tr>
</table></td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>270 m above MSL</td><td></td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No</td><td></td></tr>
<tr><td>vii.</td><td>Water body
(Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><u>Project Area:</u> Nil
<u>Study Area</u>
1. Kelo River, 2.7 KMs/E
2. Pajhar Nadi, 5.5 KMs/NE
3. Jam Nala, 1 KMs/W
4. Dewanmunda Nala, 2.9 KMs/W
5. Korapali Nala, 3 KMs/W
6. Barade Nala, 7.8 KMs/WSW
7. Bodojuri Nala, 5.5 KMs/WNW
8. Kosam Nala, 6.8 KMs/NW</td><td></td></tr>
</table>

Sl.	Particulars	Details	Remarks
		9. Ranai Nala, 7 KMs/N 10.Chui Nala, 7.7 KMs/NE 11.Gardharasi Nala, 7.1 KMs/NE 12.Ratrot Nala, 3.8 KMs/ENE 13.Banjari Nala, 1.7 KMs/ENE 14.Gerwani Nala, 1.9 KMs/SW 15.Karanara Nala, 3.6 KMs/SE 16.Dhengu Nala, 9 KMs/SSW 17.Tipakhol Tal, 9.7 KMs/SE	
viii.	Existence of ESZ/ ESA / national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil	

1.12.5 The existing project was accorded CTE by Chhattisgarh Environment Conservation Board (CECB) to two independent Units namely (1) Seleno Steels Limited and the other one (2) M/s Keshav Sponge and Energy Pvt. Ltd (Formerly known as Ambika Ispat Private Limited). After the takeover of these two units, these consents were transferred to present company namely M/s. NRVS Steels Ltd. and later on clubbed in one consent vide Boards letter no. 4641/TS/CECB/2020 dated 26/08/2020 and letter No 6774/TS/CECB/2020 dated 31/10/2020. These two independent Units namely (1) Seleno Steels Limited and the other one (2) M/s Keshav Sponge and Energy Pvt. Ltd (Formerly known as Ambika Ispat Private Limited) were set up prior to EIA notification 2006 coming into force. These two units were set up with investment less than Rs 100 Crores. Thus, the EC was not required for these units. Later on, these two different companies were acquired by the present promoters. Since both these units were located in the contiguous land in adjoining plots thus the present owner decided to club these two units in one and sought one consent on dated 26/08/2020. Renewal of CTO has obtained from CECB on 07/10/2021 and validity of same is up to 31/10/2022.

1.12.6 Implementation status of the existing CTE:

Sl.	Facilities	Units	Implementation Status in TPA	Production as per CTO (Permitted capacity) in TPA
1.	Sponge Iron	TPA	180,000	180,000
2.	Induction Furnace with CCM	TPA	51,600	51,600
3.	WHRB from Sponge Iron based Captive Power Plant	MW	15 MW	15 MW

1.12.7 The unit configuration and capacity of existing and proposed unit are given as below:

S No	Plant Equipment/ Facility	Existing facilities as per ~~EC~~ CTO dated 26/08/2020 and Amendment dtd. 27/05/2021								Proposed Units		Final (Existing +Proposed)	
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO					
		Configuration	Capacity (TPA)	Config-uration	Capacity	Configuration	Capacity	Config-uration	Capacity	Configuration	Capacity	Configuration	Capacity
1.	Sponge Iron	DRI Klins, (50 TPD x 4 Nos; 100 TPD x 4 Nos)	180,000 TPA	DRI Klins, (50 TPD x 4 Nos; 100 TPD x 4 Nos)	180,000 TPA	-	-	DRI Klins, (50 TPD x 4 Nos; 100 TPD x 4 Nos)	180,000 TPA	DRI Klins 100 TPD x 1 Nos. 200 TPD x 2 Nos. 350 TPD x 1 No (50 TPD x 4 Nos will be replaced by the above)	195,000 TPA	DRI Klins 100 TPD x 5 Nos. 350 TPD x 1 Nos. 200 TPD x 2	375,000 TPA
2.	Mild Steel Billet	Induction Furnace (7 TON x 3 Nos)	51,600 TPA	Induction Furnace (7 TON x 3 Nos)	51,600 TPA	-	-	Induction Furnace (7 TON x 3 Nos)	51,600 TPA	Induction Furnace, (12 TON X 3 Nos; 20 TON X 4 Nos) & LRF, (20 Ton x 1 No) (existing Induction Furnace of 7 TON x 3 Nos will be upgraded with 12 Tons each)	313,800 TPA	Induction Furnace, (12 TON X 3 Nos; 20 TON X 4 Nos) & LRF, (20 Ton x 1 No)	365,400 TPA
3.	**Rolling Mill**												**350000 TPA**
	Rerolled Steel Products like; TMT bar, Structural Steel	-	-	-	-	-	-	-	-	Rolling Mill Hot Charging	260000 TPA	Rolling Mill Hot Charging	260000 TPA
	Rerolled Steel products	-	-	-	-	-	-	-	-	Rerolling Mill with Billet Reheating Furnace	90000 TPA	Billet Reheating Furnace	90000 TPA
4.	Captive Power Plant												40 MW
5.	WHRB Captive power from Sponge Iron	WHRB Power Plant (15 MW)	15 MW	WHRB Power Plant (15 MW)	15 MW	-	-	WHRB Power Plant (15 MW)	15 MW	WHRB from Sponge Iron	15 MW	WHRB from Sponge Iron	30 MW
6.	AFBC Captive Power	-	-	-	-	-	-	-	-	AFBC boiler	10 MW	AFBC boiler power	10 MW

S No	Plant Equipment/ Facility	Existing facilities as per ~~EC~~ CTO dated 26/08/2020 and Amendment dtd. 27/05/2021								Proposed Units		Final (Existing +Proposed)	
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO					
		Configuration	Capacity (TPA)	Config-uration	Capacity	Configuration	Capacity	Config-uration	Capacity	Configuration	Capacity	Configuration	Capacity
												generation from Char/ Dolochar & Coal	

1.12.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

S No	Raw Material	Quantity required per annum			Source	Distance from site (Kms)	Mode of Transportation
		Existing	Expansion	Total (TPA)			
1.	Iron Ore	315,000.00	292,500.00	607500.00	Odisha Iron Ore Mine and NMDC	Within 500 kms	By Rail to the nearest railway siding and then by Road through covered vehicles
2.	Coal	252,000.00	216,750.00	468750.00	SECL Coal mines or imported Coal	Within 200 kms	By Rail to the nearest railway siding and then by Road through covered vehicles or by port and then by rail to the nearest railway siding and then by Road through covered vehicles
3.	Limestone/ Dolomite	9,000.00	4,125.00	13125.00	Open Market	Within100 kms	By Road through covered vehicles
4.	Refractory Material	360.00	240.00	600.00	Open Market	Within 100 kms	By Road through covered vehicles
5.	Sponge Iron	61,920.00	303,480.00	365400.00	Captive production/ Local market	Within the unit	By internal Road through covered vehicles/ Conveyors
6.	Pig Iron / CI Scrap	7,341.01	37,862.99	45204.00	Captive production/ Local market	Within 200 kms	By Road through covered vehicles/ Internally available
7.	Melting Scrap	1,126.90	6,473.10	7600.00	Captive generation/ Local market	Within Plant and local market in 50 kms	Internally available/ By Road through covered vehicles
8.	Ferro Alloys	541.80	3,112.20	3654.00	Captive	Within	Internally

S No	Raw Material	Quantity required per annum			Source	Distance from site (Kms)	Mode of Transportation
		Existing	Expansion	Total (TPA)			
					production/ Local market	100 kms	available/ By Road through covered vehicles
9.	Aluminum	77.40	288.00	365.40	Open Market/ BALCO	Within 200 kms	By Road through covered vehicles
10.	Ramming Mass	141.98	772.02	914.00	Open Market	Within 300 kms	By Road through covered vehicles
11.	Steel Sheet Former	16.24	75.76	92.00	Open Market	Within 200 kms	By Road through covered vehicles
12.	Furnace Oil for Ladle Preheating	100.10	608.77	708.88	Open Market	Within 300 kms	By Road through Tankers
13.	Calcined Lime for Refining of Liquid Steel	0.00	18,270.00	18270.00	Open Market	Within 100 kms	By Road through covered vehicles
14.	Flurospar and other additives for de phos	0.00	3,654.00	3654.00	Open Market	Within 300 kms	By Road through covered vehicles
15.	Electrode for Arc Furnace	0.00	730.80	730.80	Open Market	Within 600 kms	By Road through covered vehicles
16.	Hot Billets	-	268569.0	268569.00	Captive Production in Steel Melting shop		Internal Transfer
17.	Cold MS Billets (internally Available)	-	89523.00	89523.00	Captive production as per requirement		Internal transfer
18.	Coal	-	10743.00	10743.00	SECL Mines/ Local Market	Within 100 kms	By Road through covered vehicles
19.	Char Dolochar	-	93750.00	93750.00	Captive generation in SID		Internal Transfer by tippers/ Conveyors
20.	Coal	-	30458.00	30458.00	SECL Mines	Within 100 kms	By Road through covered vehicles
21.	Fluidizing Bed Media	-	50.00	50.00	Open Market	Within 200 kms	By Road through covered vehicles

1.12.9 Existing Water requirement is 705 m^3/day, which is met from ground water and the permission for the same has been obtained from CGWA vides NOC No. CGWA/ NOC/ IND/ ORIG/ 2021/10093 valid from 24/11/2020 to 23/11/2023. The project water

requirement will be 1950 KLD (682500 KLA). The management had decided to implement a 50000 KL Rain water collection Tank which will be enough to cater to water requirement of 25 days. During 75 days of monsoon water requirement will be met through rain water collection. Therefore, it is considered that about 100 days water requirement will be met through rain water and rain water collection, and balance 250 days water (487500KLA) will be sourced from surface water from Shivpuri (Gerwani nallah) for which application has been submitted to Water resources department of Govt. of Chhattisgarh on 29/12/2021 for a quantity of 0.73 MM^3/year.

1.12.10 Existing power requirement of 15 MW is obtained from WHRB and 5.5 MW is obtained from CSPDCL. The total existing power requirement is 20.5 MW. Project additional Power requirement will be 30.5 MW out of which 25 MW will be met from CPP and rest 5.5 MW will be drawn from CSPDCL supply network. Thus, the total power requirement will be 51 MW of which 40 MW shall be obtained from CPP (30MW WHRB + 10 MW AFBC) and balance 11 MW shall be obtained from CSPDCL.

1.12.11 Baseline Environmental Studies

Period	**Post monsoon season (1st October 2020 – 31st December 2020)**
AAQ parameters at 8 Locations (min and max)	PM_{10} = 57.6 – 78.7 µg/m^3 $PM_{2.5}$ = 22.6 – 32.4 µg/m^3 SO_2 = 9.7 – 19.1 µg/m^3 NO_2 = 17.5 – 30.7 µg/m^3 CO = 0.291 - 0.411 mg/m^3 Ozone = 4.9 – 14.9 µg/m^3 NH_3 = 4.3-12.1 µg/m^3
Incremental GLC level	PM10 = 1.4 µg/m^3 (Level at 2.7 km ESE and E Direction) $PM_{2.5}$ = 0.60 µg/m^3 (Level at 2.7 km ESE and E Direction) SO2 = 5.5 µg/m^3 (Level at 1.9 km ESE and E Direction) NOx = 9.5 µg/m^3 (Level at 2.4 km ESE and E Direction)
Groundwater quality at 8 locations	pH: 6.94-8.13, Total Hardness: 158.21-417.1 mg/l, Fluoride: 0.13-0.38 mg/l, Nitrate: 2.00 -16.85 mg/l, Sulphate: 8.52-58.17 mg/l
Surface water quality at 8 locations	pH:6.73- 8.16; TDS: 140-286 mg/l; total hardness 97-198.01 mg/l as $CaCO_3$; DO: 6.0-6.3 mg/l; BOD:12.52-24.66 mg/l and COD from 38.59 mg/l to 82.32 mg/l
Noise levels Leq. (Day and Night)	58.1 to 61.4 dBA for day time and 49.8 to 52.3 dBA for night time.
Traffic assessmentstudy findings	• Traffic study has been conducted at **SH-I** which is going adjacent to project site. • The raw material will be transported through road by covered trucks. • Existing PCU is **3847.5 PCU/day** and existing level of service (LOS) is:

Road	**V (volume in PCU/ day)**	**C (capacity in PCU/day)**	**Existing V/C Ratio**	**LOS**

<table>
<tr><td></td><td>
<table>
<tr><td>SH-I</td><td>3847</td><td>15000</td><td>0.25</td><td>B (very good)</td></tr>
<tr><td colspan="5">• The Existing PCU load will be increased by 1509 PCU/day (Additional) after proposed expansion project and level of service (LOS) will be:</td></tr>
<tr><td>Road</td><td>V (volume in PCU/day)</td><td>C (capacity in PCU/ day)</td><td>(Existing + Proposed) V/C Ratio</td><td>LOS</td></tr>
<tr><td>SH-I</td><td>3847.5 + 1509 = 5356.5</td><td>15000</td><td>0.35</td><td>C (good/ Avg.)</td></tr>
<tr><td colspan="5">* Note: Capacity as per IRC: 64-1990 Guideline for capacity for roads.
Conclusion: The LoS value from the proposed activity is found to project be “good” for highway which was earlier also “very good”. So the additional load will add insignificant contribution on the carrying capacity of the concern roads. Hence it is concluded that it is not likely to have any significant adverse effect.</td></tr>
</table>
</td></tr>
<tr><td>Flora and fauna</td><td>As per Indian Wild Life (Protection) Act, 1972 & IUCN RED (2013) list:
Mammals: Elephas maximus – Asiatic Elephant (Endangered) (Sch. I)
Melursus ursinus– Sloth Bear (Vulnerable) (Sch. I)
Reptiles: Python molurus – Indian Python (Threatened) (Sch. I)
Avifuana: Pavo cristatus (Indian Peafawl) Least Concern (Sch. I)
Conservation Plan prepared with budgetary provision of Rs. 15 lakhs and submitted to the State Forest Department.</td></tr>
</table>

1.12.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
1.	Melting Scrap (I.e., Defective Billets, End Cutting, Miss Rolls etc.)	CCM and Rolling Mill	5408.00	-	Reused in process	
2.	Mill Scale from Induction Furnace	CCM and Rolling Mill	9957.00	-	Reused in process/ sold to other ferro Alloys or Sold to Palletization unit.	
3.	Slag from Induction	Induction Furnace	66229.00	-	Sold to metal recovery units.	MoU for Slag

S. No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
	Furnace					utilization is provided in EIA
4.	Refractory and Ramming Mass waste	Induction Furnace and DRI kiln	1157.00	-	Given to Recycler/ landfill/ Brick making	
5.	Fluidized Bed Material Waste	CPP Boiler	50.00	-	Given to Recycler/ landfill/ Brick making	
6.	Char/ DoloChar	DRI Kiln	93750.00	-	To be used in AFBC boiler of CPP in the plant	
7.	Bottom Flue Dust Ash	CPP Boiler	75000.00	-	Given to landfill/ Brick making and Cement plants	MoU for utilization of Fly ash enclosed in EIA report.
8.	Total Ash generation	CPP Boiler	84735.00	-	Given to landfill/ Brick making	
9.	Hazardous waste-Waste Oil/Used Oil	Rolling Mill; Work Shop; Induction Furnace and DRI kiln etc	5 KL/annum	-	Partly used for lubrication and will be stored in covered HDPE Drums & will be given to CECB approved vendors/authorized recycler	
10.	Hazardous Waste-Used Lead acid batteries	Backup Power storage and Vehicles	30 Nos	-	The lead acid battery or dry battery will be given to authorized recycler having authorization from competent authority	

1.12.13 Public Consultation

Details of advertisement given	Dainik Bhaskar (Hindi News Paper)- 22/09/2021 Times of India (English Newspaper)- 22/09/2021
Date of public consultation	29/10/2021
Venue	Near Banjari Mandir, Village Taraimal, Tehsil Tamnar, Dist. Raigarh, Chhattisgarh.
Presiding Officer	Additional District Magistrate, Raigarh
	1. Impact of Air Pollution on Air Regime 2. Impact of Water Pollution on Water Regime 3. Employment to local peoples. 4. NOC from Gram Sabha due to PESA Act

	5. Delay in public Hearing 6. Proper information not provided to villages 7. Elephant Corridor/ Elephant Impact zone 8. Solid waste disposal program 9. Road side dust to be controlled and made dust free. Traffic System should be improved to avoid accidents.

Action plan as per MoEF&CC O.M. dated 30/09/2020

Sl.	Particulars	Physical Status	Target of Action Plan Implementation (Timeline)		Rs. (in lakhs)
			1st Year	2nd Year	
1	Lack of Medical Facility	**Facility:** 6 Bed Trauma Centre and Hospital with Resident Doctor. **Location:** Taraimal, District- Raigarh **Size:** 10000 Sq. ft **No. of Room:** 8 Nos **Quality:** RCC Roof and Floor, Fly Ash Brick Wall along with Pathology Laboratory, Mini Operation theater, Xray and other radiology	completed in 1st Year at Village Taraimal	-	150.00
2	Improvement of Education Standard	**Facility:** English Medium School for surrounding villages **Location:** Taraimal, District- Raigarh **Size:** 3000 Sq. ft **No. of Room:** 6 Nos **Quality:** RCC Roof and Floor, Fly Ash Brick Wall along with Staff room, Library, Toilets, Greenbelt, boundary wall. **Quality:** RCC Roof and Floor, Fly Ash Brick Wall	completed in 1st Year at Village Taraimal	-	100.00
3	Need of Skill Development Centre To make rural women/ youth self-dependent,	Location: Village Taraimal at community land provided by Village Panchayat/ Local Authority. Size: Approx 1000 Sqft. (50 X 20 sqft) **Quality:** RCC Roof and Floor, Fly Ash Brick Wall. **Facilities**: **for youth**: - Welding, Leath work, Steel Fabrication work, Computer, Accounting and other industrial and commercial employment/ self-employment training. **For Women**: Along with training for women Weaving machine, embroidery machine, Grinding machine to prepare Papad and Pickle, Computer, Printer etc.	-	Completed by 2nd Year at village Taraimal	50.00
4	Road Maintenance to avoid dust	Kindly note that industry is located adjacent to National Highway, thus maintenance have been controlled by NHAI, however to control dust we propose as follows: **Location:** Village: Taraimal, District- Raigarh **Length:** 1.0 km in front of Plant premises **Physical: Providing the** Water Tank for water sprinkling with capacity of 45000 Ltr. Which will sprinkle water regularly on road side for dust suppression.	completed in 1st Year at Village Taraimal	-	10.00
5	Street Light at Roads	Kindly note that industry is located adjacent to National Highway, thus maintenance have been controlled by NHAI, however we proposed to implement solar street lights.	completed in 1st Year at Village Taraimal	-	20.00

Sl.	Particulars	Physical Status	Target of Action Plan Implementation (Timeline)		Rs. (in lakhs)
			1st Year	2nd Year	
		Location: Village: Taraimal, District- Raigarh **Length:** 1.0 km in front of Plant premises **Physical: Providing the** Water Tank for water sprinkling with capacity of 45000 Ltr. Which will sprinkle water regularly on road side for dust suppression.			
Total Rs. =					**330.00**

1.12.14 Existing capital cost of project is Rs 155.05. Crores. The capital cost of the proposed project is Rs. 305 crores and the capital cost for environmental protection measures is proposed as Rs. 30.10 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 1.38 Crores. The employment generation from the proposed expansion is 990 (245 existing + 745 additional). The details of cost for environmental protection measures is as follows:

S. NO.	Particulars	Existing (in Crores Rs)	Additional Proposed (in Crores Rs)	Total cost after expansion (in Crores Rs)	Operation and Maintenance cost (in Crores Rs)
	Plant and Machinery proposed for EMP				
1	Dry ESP for DRI Kilns (8 Kilns)	4	3	7.00	0.35
2	Dry ESP for Power Plant	0	2.5	2.50	
3	Bag Houses for the Sponge Iron Kilns (12 Nos)	2.4	1.5	3.90	0.15
4	Cost of Bag Houses for Induction Furnaces	0.4	1.5	1.90	0.095
5	Cost of Wet Scrubber for Rolling Mill for Reheating Furnaces	0.15	0.5	0.65	0.0325
6	Cost of Bag Houses for Boiler Furnaces for Power Plant Coal Handling and Ash Handling Area	0.5	0.5	1.00	0.05
	Building and Civil works used for EMP				
1	Cost of a Common Chimney in Sponge Iron Plant and FBC	0.25	0.15	0.40	0.02
2	Cost of a Common Chimney in Induction Furnace Plant	0.2	0.15	0.35	0.0175
3	Cost of Industrial ETP	0.25	0.5	0.75	0.0375
4	Oil Trap in the drains system	0.1	0.1	0.20	0.01
5	Silt Arrestation Pit in Storm Water Drains	0.35	0.15	0.50	0.025
6	Internal Road Black topping and other construction works for Paving the Floors	1	1	2.00	0.1
7	Drainage system	0.5	0.25	0.75	0.0375
	Exclusive cost of works used for EMP				
1	Cost of STP for Domestic Waste	0.1	0.4	0.50	0.025
2	Green Belt Plantation along with Irrigation System and Pipe Line	0.15	0.2	0.35	0.0175
3	Fugitive dust Control Spray system in Plant	0.15	0.2	0.35	0.0175
4	Movable Vaccum cleaning system		0.2	0.20	0.01
5	Wheel Washing System in Security area		0.05	0.05	0.0025
6	On Line stack Monitoring in all stacks DRI with Power; Induction Furnace and in	0.15	0.05	0.20	0.01

S. NO.	Particulars	Existing (in Crores Rs)	Additional Proposed (in Crores Rs)	Total cost after expansion (in Crores Rs)	Operation and Maintenance cost (in Crores Rs)
	Rolling mill				
7	On Line AAQ station	0.2	0.5	0.70	0.035
8	High Volume sampling and Stack Monitoring Kits	0.05	0.05	0.10	0.005
9	Weather Monitoring Station		0.07	0.07	0.0035
10	Ground water Monitoring Piezo Meters		0.03	0.03	0.0015
11	On Line Effluent Quality Monitoring System (EQMS)		0.15	0.15	0.0075
12	Environment Monitoring Laboratory Testing Equipments and Chemicals and Furniture and computer systems etc	0.5	0.25	0.75	0.0375
13	Rain Water Harvesting and Recharge system with Roof Harvesting and Rain Water Collection Tank	0.2	0.1	0.30	0.015
14	Noise Reduction enclosure/ anti vibration pad etc.	0.1	0.1	0.20	0.01
15	Environmental Monitoring and others	0.25	0.7	0.95	0.0825
16	CER works for improvement of surrounding Environment		3.3	3.30	0.175*
	Total Expenses in Crores Rs	**11.95**	**18.15**	**30.10**	**1.38**

1.12.15 Existing green belt has total sapling of 15126 trees. Total 8.360 ha area (33% of total project area) will be developed as greenbelt. A 30 m wide greenbelt, consisting of 3 tiers towards North direction at 0.7 KM from the project site will be developed and green cover as per CPCB/ MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 20900 saplings will be planted and nurtured in 8.360 hectares in 3 years.

1.12.16 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

1.12.17 Name of the EIA consultant: M/s. Anacon Laboratories Pvt. Ltd. Nagpur [S. No. 66, List of ACOs with their Certificate/ Extension Letter no. NABET/EIA/1922/RA0150; valid up to 30/09/2022; Rev. 19, February 14, 2022].

Certified compliance report from Regional Office

1.12.18 The Status of compliance of earlier Consent was obtained from Regional Office, CECB, Raigarh vide letter outgoing no. 2124/RO/CECB/2022 dated 20/01/2022 in the name of M/s. NRVS Steels Limited. As per the report, there are no non-compliances observed by RO, MoEF&CC.

1.12.19 During the meeting, project proponent submitted written submission on the following points:

i. PP undertake that M/s. NRVS Steels Limited will adopt nearest village namely "Taraimal " and will conduct socio-economic index study for village within 3 years to establish improvement of socio-economic development status. CER implementation details are provided in EIA as well as presentation.

ii. Carbon Emission Study will be conducted within 1 year. Report will be submitted with six monthly returns to RO MoEF&CC.

iii. Existing plant is using ground water, we hereby commit that, the existing groundwater usage will be stopped within 2 years from grant of EC. No groundwater will be used for expansion project. M/s. NRVS has already submitted application to Water Resource Department, Government of Chhattisgarh on 14/05/2021 for supply of surface water. Water will be sourced from Genvani Nala (Shivpuri) which is about 2.06 Km in south direction from the project site. After two years only surface water will be used.

iv. Stability certificate for the existing has obtained and will be obtained for the future construction also and submit it after construction of these structures.

v. Recalculated results of Air Pollutant are as follows:

Pollutant	**Max. Baseline Conc. (µg/m^3)**	**incremental Conc. (µg/m^3)**	**Resultant Conc. (µg/m^3)**	**Dist. (km) and Direction**	**CPCB Limit**
PM_{10}	89.4	1.4	90.8	2.7 km in ESE & E	100
$PM_{2.5}$	38.9	0.60	39.5	2.7 km in ESE & E	60
SO_2	19.9	5.5	25.4	1.9 km in ESE & E	80
NO_2	24.9	9.5	34.4	2.4 km in ESE & E	80
Note: Kindly note that max baseline concentration considered at village Taraimal (AAO8) which is 1.0 Km in SE direction					

vi. PP commit that, the existing surviving plantation within plant premises is 15,126 plants. The total plantation after expansion will be 20,900 within 8.36 ha (33%) of total land area. lt is proposed to developed 3 - tier green belt will be planned within the plant premises. All this plantation will be executed in first year of expansion.

Year (1st year)	**No. of sapling (@ 2500 Sapling/Ha.)**
Proposed additional Saplinq in 1st year	57,74 Nos
Existing plantation	15,126 Nos
Total after expansion	20,900 Nos in 8.360 ha (i.e. 33% of total plot area)

vii. To control fugitive dust, PP will provide following additional arrangements:
- Fog / Mist Sprinklers will be provided at all internal transfer points & also on bulk raw material storage areas like lron Ore Coal, Fly Ash etc.
- Trucks will be covered while transport of materials to arrest fugitive dust.
- Wheel washing mechanism will be provided in entry and exit gates.

viii. PP will install the CO and SOx monitoring system at the working zone of the producer gas plant; Sponge iron plant area and other vulnerable area with alarm alert.

Observations of the Committee

1.12.20 The Committee noted the following:

i. The Committee noted that the EIA/EMP report for the expansion project is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The

Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.

ii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.

iii. The Committee deliberated upon the certified compliance report of RO of CECB and action taken report submitted by PP with respect to the compliance status of the existing EC and found it's satisfactory.

iv. The EAC also deliberated on the written submissions submitted by the proponent and found it satisfactory

Recommendations of the Committee

1.12.21 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements:

A. Specific Condition:

i. Project proponent shall take necessary steps for gradual phase out of ground water for existing operation in a time frame of two years from the date of issue of EC. 1950 KLD water requirement after the proposed expansion shall be met from harvested rain water and Shivpuri (Gerwani nallah) surface water source after prior approval of the Competent Authority.

ii. Three tier Green Belt shall be developed in a time frame of one year covering 8.360 ha area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. This shall include development of green belt with a width of 20 m within the project site towards Taraimal village located at 1 km from the site. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

iii. Following additional arrangements to control fugitive dust shall be provided:
   a. Fog / Mist Sprinklers at all conveyors point and on bulk raw material storage area (at the transfer points) like Iron Ore, Coal and for Fly Ash and similar solid waste storage areas.
   b. Proper covered vehicle shall be used while transport of materials.
   c. Wheel Washing mechanism shall be provided in entry and exit gates.

iv. All internal road and connecting road from project site to main highway shall be developed and maintained with suitable Million Axle Standard (MSA) as per the traffic load due to existing and proposed project.

v. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.

vi. Particulate matter emission from stacks shall be less than 30 mg/Nm^3.

vii. 85-90 % of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil/ LSHS as a fuel.

B. General conditions

I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as two Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

iv. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

v. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

vi. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.

vii. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.

viii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414 (E) dated 30th May 2008; G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

iv. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.
v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
vi. Tyre washing facilities shall be provided at the entrance/exit of the plant gates.

IV. Noise monitoring and prevention

i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V. Energy Conservation measures

i. Energy conservation measures may be adopted such as adoption of solar energy and provision of LED lights etc., to minimize the energy consumption.

VI. Waste management

i. Used refractories shall be recycled.
ii. Kitchen waste shall be composted or converted to biogas for further use.

VII. Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
ii. Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX. Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any

infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

1.13 Change in Plant Configuration in the existing 1.0 MTPA Steel Plant by setting up a 0.3 MTPA DI Pipe Plant with associated infrastructure and dropping certain facilities in existing EC by **M/s The Sandur Manganese & Iron Ores Ltd.** located at Village Hanumanhalli, Danapur Mandal, Taluk Hospet, **District Bellary, Karnataka.** [Online Proposal No. IA/KA/IND/25+5323/2022, File No. J-11011/205/2014-IA-II(I)] – **Environment Clearance under para 7(ii) of EIA Notification, 2006** – regarding.

1.13.1 M/s. The Sandur Manganese Iron Ores Limited has made an online application vide proposal no. IA/KA/IND/255323/2022 dated 07/02/2022 along with copy of Addendum EIA report, Form – 2 and certified compliance report seeking Environment Clearance (EC) under the provisions of para 7(ii) of EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by the project proponent

1.13.2 The project of M/s The Sandur Manganese Iron Ores Limited located in Hannumanhalli, Danapura Mandal, Hospet Taluk, Vijayanagar District part earlier part of Bellary District, Karnataka is for Change in Plant Configuration in the existing 1.0 MTPA Steel Plant by setting up a 0.3 MTPA DI Pipe Plant with associated infrastructure and dropping certain facilities in existing EC as given below.

Sl. No.	Description	Existing Configuration as per the EC dated 25/06/2018	Proposed configuration of expansion units	Total capacity after expansion
1.	Submerged Arc Furnace	1*15MVA, 2*20 MVA Capacity: 0.0144 MTPA FeSi or 0.03 MTPA of Ferro Alloys or 0.066 MTPA of FeMn or 0.048 MTPA of SiMn	No change in 1*15MVA, 1*20 MVA **Increase of 1*20MVA to 1*24 MVA furnace**	1*15MVA, 1*20MVA, 1*24MVA Capacity: 0.125 MTPA of FeMn or 0.095 MTPA of SiMn or 0.135 MTPA Pig Iron or 0.050 MTPA FeSi
2.	Sinter plant (Mn Ore fines)	0.012 MTPA	-	0.012MTPA
3.	Mn ore beneficiation plant	0.016MTPA	-	0.016MTPA
4.	Coal based power plant	32 MW	-	32 MW
5.	Non-Recovery coke oven	1*0.4 MTPA	Current 0.4 MTPA + **increase 0.1 MTPA**	1*0.5 MTPA
6.	WHRB and power	32 MW	-	32 MW

Sl. No.	Description	Existing Configuration as per the EC dated 25/06/2018	Proposed configuration of expansion units	Total capacity after expansion
	plant			
7.	Blast furnace	2*0.4 MTPA	**Reduce 1 BF to make it 1*0.4 MTPA**	1*0.4 MTPA
8.	BF Gas Based Power Plant	-	10 MW	10MW
9.	Pig casting machine	1*0.4 MTPA	**Reduce to 1*0.2 MTPA**	1*0.2 MTPA
10.	Sinter plant (Iron ore fines)	2*0.53 MTPA	**Reduce 1 Sinter plant to make it 1*0.53 MTPA**	1*0.53 MTPA
11.	DI Pipe Plant	-	**0.3 MTPA (1*0.2 MTPA + 1*0.1 MTPA)**	1*0.2 MTPA + 1*0.1 MTPA (Total 0.3 MTPA)
12.	Oxygen plant	1*23100 TPA + 1*66000 TPA	**Reduce in existing configuration to 1*60000 TPA**	1*60000 TPA
13.	Energy optimizing furnace (EOF)	2*50 T (1.057 MTPA)	To be Dropped from proposed EC	-
14.	Ladle refining furnace (LRF)	2*50T (1.057 MTPA)	To be Dropped from proposed EC	-
15.	Vaccuum de-gassers (VAD)	2*50T (1.057 MTPA)	To be Dropped from proposed EC	-
16.	Continuous casting machine	2*0.5 MTPA (1.036 MTPA)	To be Dropped from proposed EC	-
17.	Rolling mill	2*0.5 MTPA (1.00 MTPA)	To be Dropped from proposed EC	-

1.13.3 Environmental site settings

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>129.82 ha [Private Land]</td><td>Land use: Industrial</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC OM dated 7/10/2014</td><td>The expansion is proposed in existing project area of 129.82 ha which is already under possession of the company.</td><td>-</td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td>Plant Site: Nil
Study Area:<table><tr><th>Habitation</th><th>Distance (km)</th><th>Direction</th></tr><tr><td>Hanumanahalli</td><td>0.3 Km</td><td>-</td></tr><tr><td>Vyasankere</td><td>1.85</td><td>-</td></tr></table></td><td>No R&R is required</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all the</td><td><table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>$15^0$12'10.82</td><td>$76^0$22'45.31</td></tr></table></td><td>-</td></tr>
</table>

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>corners of project site</td><td>
<table>
<tr><td>B</td><td>15°11'15.43</td><td>76°22'39.44</td></tr>
<tr><td>C</td><td>15°11'14.77</td><td>76°22'58.81</td></tr>
<tr><td>D</td><td>15°10'55.18</td><td>76°23'3.19</td></tr>
<tr><td>E</td><td>15°10'56.59</td><td>76°23'32.12</td></tr>
<tr><td>F</td><td>15°11'31.49</td><td>76°23'13.15</td></tr>
<tr><td>G</td><td>15°11'31.55</td><td>76°22'54.34</td></tr>
<tr><td>H</td><td>15°12'10.09</td><td>76°22'55.12</td></tr>
</table>
</td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>517 m above mean sea level</td><td>-</td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is Involved in the plant site.</td><td>-</td></tr>
<tr><td>vii.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project site: Nil
Study area:
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Tungabhadra Dam Back water</td><td>4 kms</td><td>W</td></tr>
<tr><td>Dhanayakana Kere</td><td>4.7 kms</td><td>SW</td></tr>
<tr><td>Tungabhadra Right canal</td><td>6.5 kms</td><td>NE</td></tr>
</table>
</td><td>-</td></tr>
<tr><td>viii.</td><td>Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area.</td><td>Nil.
However, following RF are present nearby:
<table>
<tr><th>Sl. No</th><th>Name</th><th>Distance from the project (Km)</th><th>Remark Aerial Distance</th></tr>
<tr><td>1</td><td>Gunda Reserved Forest</td><td>3.63</td><td>NW</td></tr>
<tr><td>2</td><td>Ramgad Reserved Forest</td><td>0.8</td><td>E</td></tr>
<tr><td>3</td><td>Sandur Reserved Forest</td><td>4.6</td><td>E</td></tr>
<tr><td>4</td><td>Joga Reserved Forest</td><td>10.4</td><td>SE</td></tr>
<tr><td>5</td><td>Bandri Reserved Forest</td><td>11.2</td><td>S</td></tr>
<tr><td>6</td><td>Nandibanda Reserved Forest</td><td>7.6</td><td>SW</td></tr>
<tr><td>7</td><td>Tungabhadra Dam Back water</td><td>4</td><td>W</td></tr>
<tr><td>8</td><td>Dhanayakana Kere</td><td>4.7</td><td>SW</td></tr>
<tr><td>9</td><td>Tungabhadra Right canal</td><td>6.5</td><td>NE</td></tr>
</table>
</td><td>-</td></tr>
</table>

1.13.4 The existing project was accorded Environmental Clearance vide MoEF&CC letter no. J-11011/205/2014-IA-II(I) dated 25/06/2018. Consent to Operate for the existing unit was accorded by Karnataka State Pollution Control Board vide lr. no. AW-329576 dated 02/02/2022. The validity of CFO is up to 30/06/2026.

1.13.5 Implementation status of the existing EC:

Sl No	Name of the Unit	As per EC dated 25/06/2018	Implementation Status	Production as per CTO per month
1	Submerged Arc Furnace	1*15MVA, 2*20 MVA Capacity: 0.0144 MTPA FeSi or 0.03 MTPA of Ferro Alloys or 0.066 MTPA of FeMn or 0.048 MTPA of SiMn	Implemented	FeSi 1200 T or Ferro Alloys 2500 T Ferro Manganese 5500 T or Silico Manganese 4000 T
2	Sinter plant (Mn Ore fines)	0.012 MTPA	Implemented	1000 T
3	Mn ore beneficiation plant	0.016 MTPA	Implemented	1360 T
4	Coal based power plant	32 MW	Implemented	32 MWH
5	Non-Recovery coke oven	1*0.4 MTPA	Implemented	33333.33 T
6	WHRB and power plant	32 MW	Implemented (Only 2 X60 TOH WHR Boilers Installed and are in Operation)	32 MW
7	Blast furnace	2*0.4 MTPA	Not Implemented	Not Applied
8	Pig casting machine	1*0.4 MTPA	Not Implemented	Not Applied
9	Sinter plant (Iron ore fines)	2*0.53 MTPA	Not Implemented	Not Applied
10	DI Pipe Plant	NA	Not Implemented	Not Applied
11	Oxygen plant	1*23100 TPA + 1*66000 TPA	Not Implemented	Not Applied
12	Energy optimizing furnace (EOF)	2*50 T – 1.057 MTPA	Not Implemented	Not Applied
13	Ladle refining furnace (LRF)	2*50T – 1.057 MTPA	Not Implemented	Not Applied
14	Vacuum de-gassers (VAD)	2*50T– 1.057 MTPA	Not Implemented	Not Applied
15	Continuous casting machine	2*0.5 MTPA – 1.036 MTPA	Not Implemented	Not Applied
16	Rolling mill	2*0.5 MTPA – 1.00 MTPA	Not Implemented	Not Applied

1.13.6 The unit configuration and capacity of existing and proposed unit are given as below:

Sl. No	Plant Equipment/ Facility	Existing facilities as per EC dated 25/06/2018								Proposed Units		Final (Existing + Proposed)		Remarks
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO						
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	
1	Submerged Arc Furnace	1*15 MVA, 2*20 MVA	Capacity : 0.0144 MTPA FeSi or 0.03 MTPA of Ferro Alloys or 0.066 MTPA of FeMn or 0.048 MTPA of SiMn	1*15MVA, 2*20 MVA	0.0144 MTPA FeSi Or 0.03 MTPA of Ferro Alloys Or 0.066 MTPA of FeMn Or 0.048 MTPA of SiMn	-NA-		1*15MVA, 2*20 MVA	• FeSi 14400 TPA or • Ferro Alloys 30000 TPA • Ferro Manganese 66000 TPA or • Silico Manganese 48000 TPA	1*15MVA, 1*20 MVA Increase of 1*20MVA to 1*24 MVA furnace	• 0.059 MTPA FeMn • 0.047 MTPA SiMn • 0.050 MTPA FeSi • 0.135 MTPA Pig Iron	1*15MVA, 1*20MVA, 1*24MVA	• 0.125 MTPA of FeMn • or 0.095 MTPA of SiMn • or 0.135 MTPA Pig Iron • or 0.050 MTPA FeSi	EC is granted for 2x20 MVA Nos of SAF Config. Now we proposed the upgrade 1 SAF among those 2 to 24 MVA Production of Pig Iron is additional
2	Sinter plant (Mn Ore fines)	0.012 MTPA	0.012 MTPA	0.012 MTPA	0.012 MTPA		-	-	-	0.048 MTPA	0.048 MTPA	-	0.06 MTPA	-
3	Mn ore beneficiation plant	0.016 MTPA	0.016 MTPA	0.016 MTPA	0.016 MTPA	-	-	6960 TPA	6960 TPA	-	-	0.016 MTPA	0.016 MTPA	-
4	Coal based power plant	32 MW	32 MW	32 MW	32 MW	-	-	32 MWH	32 MWH	-	-	32 MWH	32 MWH	-
5	Non-Recovery coke oven		1*0.4 MTPA		1*0.4 MTPA	-	-	-	1x 0.4 MTPA	-	1x 0.1 MTPA	-	1x0.5 MTPA	-
6	WHRB and power plant	-	32 MW	-	32 MW	-	-	-	32 MW	-	-	-	32 MW	-
7	Blast furnace	-	2*0.4 MTPA	-	-	-	2*0.4 MTPA	-	-	-	Reduce 1 BF to make it 1*0.4 MTPA	-	1*0.4 MTPA	-
8	BF Gas Based Power Plant									-	10 MW	-	10 MW	
9	Pig casting machine	-	1*0.4 MTPA	-	-	-	1*0.4 MTPA	-	-	-	Reduce to 1*0.2 MTPA	-	1*0.2 MTPA	-
10	Sinter plant (Iron ore fines)	-	2*0.53 MTPA	-	-	-	2*0.53 MTPA	-	-	-	Reduce 1 Sinter plant to make it 1*0.53 MTPA	-	1*0.53 MTPA	-

Sl. No	Plant Equipment/ Facility	Existing facilities as per EC dated 25/06/2018								Proposed Units		Final (Existing + Proposed)		Remarks
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO						
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	
11	DI Pipe Plant	-	-	-	-	-	-	-	-	-	0.3 MTPA (1*0.2 MTPA + 1*0.1 MTPA	-	1*0.2 MTPA + 1*0.1 MTPA (Total 0.3 MTPA)	-
12	Oxygen plant	-	1*23100 TPA + 1*66000 TPA	-	-	-	1*23100 TPA + 1*66000 TPA	-	-	-	Reduce in existing configuration to 1*60000 TPA	-	1*60000 TPA	-
13	Energy optimizing furnace (EOF)		2*50 T – 1.057 MTPA	-	-	-	2*50 T – 1.057 MTPA	-	-	-	To be Dropped from proposed EC	-	-	-
14	Ladle refining furnace (LRF)	-	2*50T – 1.057 MTPA	-	-	-	2*50T – 1.057 MTPA	-	-	-	To be Dropped from proposed EC	-	-	-
15	Vaccuum de-gassers (VAD)	-	2*50T– 1.057 MTPA	-	-	-	2*50T– 1.057 MTPA	-	-	-	To be Dropped from proposed EC	-	-	-
16	Continuous casting machine	-	2*0.5 MTPA – 1.036 MTPA	-	-	-	2*0.5 MTPA – 1.036 MTPA	-	-	-	To be Dropped from proposed EC	-	-	-
17	Rolling mill	-	2*0.5 MTPA – 1.00 MTPA	-	-	-	2*0.5 MTPA – 1.00 MTPA	-	-	-	To be Dropped from proposed EC	-	-	-

1.13.7 The details of the raw material requirement for the proposed project/ expansion cum proposed project along with its source and mode of transportation is given as below:

Sl. No	Raw Material /Fuel	Quantity	Unit	Other Unit	Source	Mode of Transport	Other Mode of Transport	Distance of Source from Project site (in Km)
1	Manganese Ore	275000	TPA	-	-	Own Captive mine by road	-	SB Halli-60Kms
2	Iron ore (Lumps)	328000	TPA	-	-	Own captive mine by rail/road	-	SB Halli-60 Kms
3	Iron ore (Fines)	450000	TPA	-	-	Own captive mine by rail/road	-	SB Halli-60 Kms
4	Coal	840000	TPA			Imported/Indigenous	-	Goa Port-

Sl. No	Raw Material /Fuel	Quantity	Unit	Other Unit	Source	Mode of Transport	Other Mode of Transport	Distance of Source from Project site (in Km)
						by Sea/ Rail to plant		308 Kms
5	Coke (BF)	255000	TPA	-	-	In-House	-	
6	Coke Breez (fines)	40000	TPA			In-House		
7	PCI/Coal dust	48000	TPA			In- House		
9	Charcoal	67500	TPA			Local Suppliers		300 KM
10	Dolomite	85550	TPA	-	-	Local Suppliers By road	-	Bagalkot-150 Kms
11	Quartz	307500	TPA	-	-	Local Suppliers By road	-	Bagalkot-150 Kms
12	Lime stone	53000	TPA	-	-	Local Suppliers By road	-	Bagalkot-150 Kms
13	Lime	10580	TPA	-	-	Local Suppliers By road	-	Bagalkot-150 Kms
14	Mill scale scrap (MS)	45140	TPA	-	-	Local Industries By road	-	30 Kms
15	Hot Metal	330000	TPA	-	-	In House	-	
16	Coating & lining	26368	TPA	-	-	Local Industries By road	-	30 Kms
17	Other ferrous input	8300	TPA	-	-	In House	-	In House
18	Magnesium	3300	TPA	-	-	In-House	-	350 KM
19	Zinc Wire	1300	TPA	-	-	In-House	-	350 KM
20	Return DI pipe Scrap	39300	TPA	-		In-House		
21	Flue Dust	5300	TPA	-	-	In-House	-	
22	Sinter dedusting fines	5300	TPA	-	-	In House	-	

1.13.8 Existing Water requirement is 16,440 m^3/day as per the EC. The revised quantity of water requirement is 8,686 m^3/day. The permission for drawl of 4 cusecs/day (9786 m^3/day) surface water is obtained from KKNL vide Agreement dated 08th June 2021 w.e.f. 29/01/2020 up to 28/01/2025.

1.13.9 Existing power requirement of 90 MW as per the Existing EC. After proposed changes, the power requirement will be 73 MW. The entire power required will be generated as captive power for the new proposed facilities.

1.13.10 Baseline Environmental Studies (Post project monitoring data)

AAQ parameters at 04 locations	$PM_{2.5}$ = 14 to 44 µg/m^3 PM_{10} = 26 to 68 µg/m^3 SO_2 = 5 to 15 µg/m^3 NO_x = 9 to 22 µg/m^3 CO = 0.05 to 0.45µg/m^3

Incremental GLC Level	PM_{10} =0.004 (at Plant) to 1.05 μg/m^3 (at Venkatagiri) SO_2 = 0.003 μg/m^3 (Nr Gunda Rly Station) to 3.77 μg/m^3 (Level at Plant Area) NOx = 0.004 (at Plant Area) to 15.71 μg/m^3 (at Venkatagiri)
Ground water quality at 8 locations	pH: 8.02 to 8.25 Total Hardness: 76 to 640 mg/l, Chlorides: 33 to 465 mg/l, Fluoride:<0.1 to 0.72 mg/l. Heavy metals Cadmium: <0.002 mg/l Chromium: <0.03 mg/l Lead: <0.005 mg/l Arsenic: <0.002 mg/l Mercury: <0.0005 mg/l
Surface water quality at 5 locations	pH: 8.14 to 8.25; DO: 5.4 to 5.6 mg/l and BOD: 1.3 to 1.6 mg/l.
Noise levels	51dB (A) to 65 dB(A) for the day time and 34.5 to 54.5 for the Night time.
Traffic assessment study findings	About 40% of the material will be transported by road and after proposed project total 33360 Truck of 25 T/ Truck capacity will be ply on road. There will be an overall decrease in the volume of the raw material movement through the trucks by 30%.
Flora and fauna	No Schedule I fauna or Endangered Flora is found in the study area.

1.13.11 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. No.	Name of Waste	Item	Quantity per Annum	Unit	Distance from Site (KM)	Mode of Transport	Other Mode of Transport	Mode of Disposal
1.	Fly Ash	Power Plant	40000	TPA	0	Road	Closed truck or Tankers	Authorized Recyclers
2.	Sinter Fines	After Screening from Blast furnace	53440	TPA	0	Road	Conveyers	Co- Processing
3.	Bag house Dust	Sinter Plant	5000	TPA	0	Road	Trucks	Used in Sinter Blend
4.	BF Slag	Blast Furnace (BF)	128000	TPA	0	Road	Closed truck	Authorized Recyclers
5.	Flue Dust	Blast Furnace (BF)	40000	TPA	0	Within premises	Conveyers	Charged back as blend mix for sinter production
6.	Coke Fines	Coke Oven Plant	2000	TPA	0	Road	Conveyer	Co- Processing
7.	SiMn/Fe Mn Slag	Ferro Alloy Plant						SiMn Slag sold as M sand and

S. No.	Name of Waste	Item	Quantity per Annum	Unit	Distance from Site (KM)	Mode of Transport	Other Mode of Transport	Mode of Disposal
			100000	TPA	0	Road		Fe Mn slag will be used in SiMN production as RM.
8.	Baghouse Dust/ De Dusting Plant dust	Ferro Alloy Plat	70000	TPA				Reusing in SIMN Production after briquetting
9.	Burnt / Coarse Sand	DI Pipe Plant	10000	TPA		Road	Closed truck	Will be Used in Blast Furnace Hot metal and Slag runner dressing / sold to the KSPCB authorized end user.
10.	Return DI Scrap	DI Pipe Plant	25000	TPA				Used in Induction Furnace
11.	Mg Dust	D I Plant	20	TPA				Reused in Sinter Plant
12.	Zinc Dust	DI Plant	525	TPA				Sold to Authorized Recyclers
13.	Slag From Induction Furnace and Mg converter	DI Plant	3000	TPA				Sold to Authorized Recyclers
14.	Sludge	DI Plant	600	TPA				Secured Landfill Facility

1.13.12 Public Consultation (Part of the Original EC accorded on 25/06/2018)

Details of advertisement given	Times of India" (English) and "Kannadaprabha" (Kannada) on 25/06/2017 and in local newspaper "E Namma Kannadanadu" on 28/06/2017 and in "Snajayvani" on 28/06/2017, 17/07/2017, 20/07/2017 and 25/07/2017.
Date of public consultation	27/07/2017
Venue	SMIORE PU College Ground, Vyasapuri Colony, Vyasanakere, Hanumanahalli post, Hospet Taluk, Ballari.
Presiding Officer	Additional Deputy Commissioner and Additional District Magistrate, Ballari District

Action plan as per MoEF&CC O.M. dated 30/09/2020

Sl no	Area of Concern	Action plan	Budgeted in Lakhs	Budget Spent in ₹ Lakhs during 2018-19 to 2021 - 22
1	Employment for localpeople	Preference shall be given to qualified and deserved candidates form the local surrounding villages. Adequate training shall be providedfor and after employment	500	154.01
2	Education facilities and sports facilities	1. Deserving children will be given preference in Sandur polytechnic 2. SMIORE is already running 16 education institution 3. New school will be built 4. Free distribution of sports kits , uniforms, lab equipment's, school bags	2900	243.76
3	Drinking water to local village	1. Drinking water requirement has been discussed with village panchayat of Danapura, Hanumahalli and vysanekere and Galemannagudi 2. Water tanks, pipeline connections shall be provided in these villages	250	33.10
4	Health care	1. Health care centre at Hanumanahalli Regular health camps for surrounding villages 2. 24x7 Ambulance facility made available for all the villages	250	74.32
5	Development of grave yard	Construction of compound wall Provide water facility Built a small temple	50	19.68
6	Toilets	Toilets will be constructed to individual houses Public toilets will be constructed for villages and schools	450	506.31
7	Up gradation of Temples	Provide funds to local villages for festival celebrations and Up gradation of temples	50	281.67
8	Green belt development and environment	Green belt shall be developed as per MOEF guidelines in the plant Green belt shall be developed in consultation with local village panchayats	550	39.01
9	Basic Infrastructure development	Development of roads and drains Providing solar lighting Construction of labour colony	2000	10.75

1.13.13 Existing capital cost of project was Rs 2300 Crores. The capital cost of the proposed project is Rs 900 Crores and the capital cost for Environment Management measures is proposed as Rs 25 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 2.5 Crores. The employment generation from the proposed project / expansion is 450 Nos.

S. No.	Description of Item	Existing (Rs. In Crores)		Proposed (Rs. In Crores)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
i.	Air Pollution Control/ Noise Management	17.0	4.0	25	2.5
ii.	Water Pollution Control	5.0	0.5		
iii.	Environmental Monitoring and Management	3.0	0.5		
iv.	Green Belt Development & plantation	5.0	1.0		
v.	Solid Waste Management	5.0	1.0		
vi.	Occupational health	5.0	1.0		
Total		**40.0**	**8.0**	**25**	**2.5**
vii.	Address of Public Consultation concerns	**70 Crores**			

1.13.14 Existing green belt area has been developed in 12.5 Ha out of 44.5 ha area (Allocated for greenbelt) which is about 34% of the total project area of 129.82 Ha with total sapling of 48,000 Saplings/ Trees. A 15 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/ MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of about 1 Lakh saplings will be planted and nurtured in 44.5 Ha in Two Years.

1.13.15 **Justification under para 7(ii) of EIA, 2006**

In view of the market requirement the proponent has proposed for the amendment in their existing Environmental Clearance under section 7(ii) of EIA Notification 2006 as amended thereof to include products that are in demand and to reduce/ drop some other operations, (Change in Product Mix) so as to ensure that there is no increase the Pollution Load that has been envisaged in the existing EC dated 25/06/2018. The proponent intends to retrofit their Submerged Arc Furnace from 55 MVA to 59 MVA in a very state-of-the-art way and hence achieve higher production with practically no increase in Pollution Load from that section.

1.13.16 It has been reported that following will be resource consumption after the proposed change:

Particulars	As per EC dated 25/06/2018	After Proposed change under Para 7(ii)	% Increase/ decrease
Land	129.82 ha	129.82 ha	0
Greenbelt	33.92 ha	44.5 ha	31%
Water	16440 m^3/day	8686 m^3/day	(-) 49%
Power	90 MW	73 MW	(-) 19%
Raw materials	52,27,175 TPA	3778770 TPA	(-) 27.71 %
Products	1.0 MTPA	0.5 MTPA	(-) 50%
Truck transport (No. of Trucks per Annum)	46,916	33,360	(-) 29%

1.13.17 Pollution load assessment:

Sl No	Section	Capacity as per existing EC	Particulate Matter Load as per the existing EC in Kg/ Day	Proposed Change	Particulate Matter Load as per the Proposed Change under Clause 7 (ii) in Kg/ Day	Net increase (+) / Decrease (-)In Kg/ Day	Overall impact on the environment	Remarks
1.	Submerged Arc Furnaces (Ferroalloy Plant)	66000 TPA FEMN / 48000 TPA SIMN/ 14400 TPA FESI / 30000 TPA FERROALLOYS	504	125000 TPA FEMN / 95000 TPA SIMN/ 50000 TPA FESI / 135000 TPA PI	482.4	-21.6	Positive	Though there is increase in Production Capacity due to revision of applicable norm PM load will reduce marginally.
2.	Power Plant	32 MW	276	32 MW	165.6	-110.4	Positive	Revision of applicable norm.
3.	Coke Oven	0.4 MTPA	383.52	0.5 MTPA	407.52	24	Negative	Increased due to increase in Production Capacity
4.	Blast Furnace	0.8 MTPA	1533	0.4 MTPA	460	-1073	Positive	Reduce the proposed capacity by half
5.	BF Gas based Power Plant	-	-	10 MW	-	-	Positive	Clean gas exit from the Boiler
6.	Sinter Plant	1.06 MTPA	1319	0.53 MTPA	396	-923	Positive	Reduce the proposed capacity by half
7.	SMS	1 MTPA	1130	-	0	-1130	Positive	Dropped
8.	Rolling Mill	1 MTPA	89		0	-89	Positive	Dropped
9.	DI Pipe Plant	NA	0	0.3 MTPA	183.6	183.6	Negative	To be added into the configuration
	PM Plant Emission Total, Kg/ Day		**5235**		**2095**	**-3140**	**Positive**	**Overall Decrease in Particulate Matter by 54.02%**
The PM will reduce be 60%								

Consolidated SO_2 and NO_X Emission Load before and After the Proposed Change

Sl No	Section	Capacity as per existing EC	SO_2 Load as per the Existing EC in Kg/ Day	NO_X Load as per the existing EC in Kg/ Day	Proposed Change	SO_2 Load as per the Proposed Change under Clause 7 (ii) in Kg/ Day	NO_x Load as per the Proposed Change under Clause 7 (ii) in Kg/ Day	Net SOx increase (+) / Decrease (-) In Kg/ Day	Net NOx increase (+) / Decrease (-) In Kg/ Day	Overall impact on the environment
1	Submerged Arc Furnaces (Ferroalloy Plant)	66000 TPA FEMN / 48000 TPA SIMN/ 14400 TPA FESI / 30000 TPA FERROALLOYS	504	302.4	125000 TPA FEMN / 95000 TPA SIMN/ 50000 TPA FESI / 135000 TPA PI	804	482.4	300	180	Negative
2	Power Plant	32 MW	3312	1104	32 MW	1380	552	-1932	-552	Positive
2	Coke Oven	0.4 MTPA	3000	900	0.5 MTPA	3240	972	240	72	Negative
3	Blast Furnace	0.8 MTPA	1323	1029	0.4 MTPA	662	515	-661	-514	Positive
4	BF Gas Based Power Plant	-	-	-	10 MW	-	-	-	-	Positive
5	Sinter Plant	1.06 MTPA	4020	2412	0.53 MTPA	2010	1206	-2010	-1206	Positive
6	SMS	1 MTPA	0	0	-	0	0	0	0	Positive
7	Rolling Mill	1 MTPA	89	267	-	0	0	-89	-267	Positive
8	DI Pipe Plant	-	0	0	0.3 MTPA	812.4	352.8	812.4	352.8	Negative
	Plant Emission Total, Kg/ Day		**12248**	**6014**		**8990**	**4134**	**-3258**	**-1880**	**Positive**
The SO_x load will reduce by 26.60 % ***The NO_x load will be reduce by 32.13 %***										

Solid/ Hazardous Waste

S. No.	Name of Waste	Item	UOF	Quantity as per Existing Capacity/ Plant Configuration	Quantity as per Proposed Configuration and Production Capacity	Net Increase or Decrease of Solid waste	Impact	Mode of Disposal
1.	Fly Ash	Power Plant	TPA	40000	40000	0	Neutral	Sale to Authorized Recyclers like Cement Plant, Brick Industries etc.
2.	Sinter Fines	After Screening from Blast furnace	TPA	106880	53440	-53440	Positive	Reused in Sinter Process
3.	Baghouse Dust/ Deducting Unit Fines	Sinter Plant	TPA	10000	5000	-5000	Positive	Reused in Sinter Process

S. No.	Name of Waste	Item	UOF	Quantity as per Existing Capacity/ Plant Configuration	Quantity as per Proposed Configuration and Production Capacity	Net Increase or Decrease of Solid waste	Impact	Mode of Disposal
4.	BF Slag	Blast Furnace (BF)	TPA	256000	128000	-128000	Positive	Sold to Authorized Recyclers like Cement Plant
5.	Flue Dust	Blast Furnace (BF)	TPA	8000	4000	-4000	Positive	Charged back as blend mix for sinter production
6.	Coke Fines	Coke Oven Plant	TPA	1600	2000	400	Negative	Used in Sinter plant and sold to Pellet Plants
7.	SiMn/ FeMn Slag	Ferroalloy Plant	TPA	52800	100000	47200	Negative	SIMN Slag Sold to cement industries and FeMn slag will be reused in SIMN Production as Raw Material
8.	Baghouse Dust/ Dedusting Unit Fines	Ferroalloy Plant	TPA	3500	7000	3500	Negative	Reused in SIMN Production after briquetting.
9.	Mill Scale	Rolling Mills	TPA	15	0	-15	Positive	Used in Steel Production or FeSi Production
10.	Burnt/Course Sand	DI Pipe Plant	TPA	0	10000	10000	Negative	Will be Used in Blast Furnace Hot metal and Slag runner dressing / sold to the KSPCB authorized end user.
11.	Return DI pipe Scrap	DI Pipe Plant	TPA	0	25000	25000	Negative	Reused in Induction Furnace
12.	Magnesium Dust	DI Pipe Plant	TPA	0	20	20	Negative	Reused in Sinter Plant
13.	Zinc Dust	DI Pipe Plant	TPA	0	525	525	Negative	Sold to Authorized Recyclers
14.	Slag from Induction Furnace Magnesium Converter	DI Pipe Plant	TPA	0	3000	3000	Negative	Sold to Authorized Recyclers
15.	Sludge from Combined ETP	ETP	TPA	0	600	600	Negative	Will be disposed to secured landfill facilities
	Total			478795	378585	-100210		

- ***After implementation of proposed configuration, there will be 20.93% reduction in solid waste generation.***
- ***The Hazardous waste generated will be stored in safe storage facility and will be disposed to the authorized vendors/ Secured Landfill Facility.***

1.13.18 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

1.13.19 Name of the EIA consultant: M/s Ecomen Laboratories Pvt. Ltd. [S. No. 156, List of ACOs with their Certificate/ Extension Letter no. NABET/EIA/2023/RA 0203; valid up to September 21, 2023; Rev. 19, February 14, 2022].

Certified compliance report from Regional Office:

1.13.20 The Status of compliance of earlier EC was obtained from Regional Office, Bangalore vide letter no. EP/ 12.1/2018-19//13KAR/10 dated 17/11/2021 and 11/01/2022 in the name of

M/s. SMIORE. The observations made in the RO report and the action taken report submitted by the proponent are as follows:

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
1	Avenue plantation both the sides of the road for a length of 3 kms with broad- leave species.	During the visit, it was noted that the road on which plantation condition is proposed is owned by NHAI (NH-50) and prior permission from NHAI is mandatory for undertaking avenue plantation.	25.06.2018	Part A 1b	-	Avenue plantation along the sides of roads infront of plant not complied as the Highway and Service Road construction works are in progress till Aug 2021, and permission from NHAI is awaited for starting the plantation as their permission is mandatory. After getting required permission the plantation will be started on priority and will be completed before July 2022.
2	Maintenance of the road near the plant premises such as filling of potholes, etc.	During the visit, it was noted that the road on which plantation condition is proposed is owned by NHAI (NH-50) and prior permission from NHAI is mandatory for undertaking maintenance works and PA has expressed their willingness to support this initiative jointly with NHAI.	25.06.2018	Part A 1c	-	The Road connecting the Plant is being regularly maintained by us. The new RCC road connecting the highway and plant will be done in consultation with NHAI before July 2022.
3	An amount of Rs. 70.00 crores towards Enterprise Commitment (ESC) shall be utilized as capital expenditure in project mode. The projects hall be completed in concurrence with the implementation of the expansion and estimated on the basis of scheduled Rates.	**Partially Complied:** During the visit, based on records verified and as per discussions held with PA, it was given to understand that an amount of 70 Crores was proposed for Corporate Environment Responsibility (CER) considering the total project cost of Rs. 2300.	25.06.2018	Part A 2	-	The CER works have been carried out as per the guidelines during the first phase of project. Funds will be allocated and works will be carried out during next phases of project as per the guidelines
4	Green belt shall be	During the visit,	25.06.2018	Part A 3	-	Out of 34 Ha of greenbelt to be

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
	developed in 33.92 Ha with a native tree species in accordance with CPCB guidelines. The 15 mtr wide greenbelt shall inter alia cover the entire periphery of the plant.	based on records verified and as per discussions held with PA, it was given to understand that considering the entire project as one unit, green belt needs to be developed in 33.92 Ha and since the PA is implementing the project in a phased manner, till now has developed green belt covering an area of about 12.5 Ha and reportedly PA planted about 48000 sapling within and outside the plant premises				developed ,12.5 Ha have been completed The balance green belt has been not done due to CoVID issues and also the plant layout was not finalised due to change in plant configuration. Balance 22 Ha of green belt will be developed in phases. In first phase, priority has been given to plantation to be completed all along the boundary and other areas (Around 12 Ha) during monsoon of 2022. Balance 10 Ha greenbelt will be developed before August, 2022.
5	The capital cost of Rs. 40.00 Crores and annual recurring cost Rs. 8.0 Crores towards the environment protection measures shall be provided for separately. The funds so provided shall not be diverted for any other purpose.	During the visit, based on records verified and as per discussions held with PA, it was given to understand that considering the entire project as one unit, PA has allocated a budget of Rs. 40 Crore towards capital cost and Rs 8 Crores as recurring cost for environment protection measures.	25.06.2018	Part A 4	-	According to guidelines, the required funds have been utilised in first phase for the said purpose. The Balance funds will be spent during next phase of the proposed project implementation.
6	Install system carryout continuous Ambient Air Quality monitoring for parameters relevant to pollutants released as per National Ambient Air Quality Standards issued by the ministry vide G.S.R No. 826 (E) dated 16th November, 2009 (as amended from time to time)	During the visit, it has been noted that PA has installed only one CAAQMS station within the plant.	25.06.2018	-	Part B 1c	Already One CAAQMS has been installed and balance three CAAQMS systems will be installed before December 2022 in consultation with KSPCB

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
	within and three outside the plant area at an angle of 120* each, covering upwind and downwind direction;					
7	Install 24*7 continuous effluent monitoring system at all discharge points with respect to standards prescribed in Environmental (Protection) Rules 1986 (G.S.R 277 (E) dated 31st March 2012; G.S.R 414 (E) dated 7th December 2015 as amended from time to time) and connected to SPCB and SPCB online and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environmental (Protection) Rules 1986 or NABL accredited laboratories.	Based on discussions with PA, it was noted that since the installed COP is of non-recovery type, they have not installed 24*7 continuous effluent monitoring system at all discharge points as no effluents generation is envisaged from non-recovery COPs.	25.06.2018	-	Part B 2a	As we have dropped SMS plant it is not applicable we will apply for corrigendum for this general condition.
8	Submit monthly summary report of continuous effluent monitoring and results of manual effluent testing for calibration of CEMS and manual monitoring of ground water quality to regional office of MoEF&CC, Zonal office of CPCB and Regional office of SPCB along with six-monthly monitoring report.	Based on discussion with PA, it was informed that sine the installed COP is of non-recovery type and no effluent generation is envisaged from non-recovery COPs.	25.06.2018	-	Part B 2c	As it is not applicable to our system we will apply for corrigendum for this specific condition.
9	Provide secondary emission control system at SMS converters;	PA informed that this project is being implemented in a phased manner and thus the SMS plant is proposed to be installed during the second phase of project	25.06.2018	-	Part B 3d	All the necessary Pollution control systems will be provided as per the guidelines during the project implementation

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
		and accordingly, required secondary emission control system to be provided during installation of SMS project.				
10	Provide pollution control system in the steel plant as per the CREP Guidelines of CPCB;	During the visit, it has been noted that PA has commissioned only COP and WHRB's and accordingly provided pollution control system in the coke oven plant as per the CREP guidelines of CPCB and assured to provide other systems during subsequent phases of implementation	25.06.2018	-	Part B 3e	All the necessary Pollution control systems will be provided as per the guidelines during the project implementation
11	Provide vapour absorption system in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens; Provide catalytic conversion of NH_3 to N_2 in coke oven gas for reduction of NOx emissions in combustion facilities using CO gas; In case concentrated ammonia liquor is incinerated, adopt high temperature incineration to destroy Dioxins and Furans. Suitable NOx control facility shall be provided to meet the prescribed standards;	Based on discussions with PA, it was informed by PA that since the installed COP is of non-recovery type these EC conditions are not applicable for Non-recovery COPs.	25.06.2018	-	Part B 3l, Part B 3m and Part B 3n	As it is not applicable to our system we will apply for corrigendum for this specific condition.
12	The coke oven gas be subjected to desulphurization if the sulphur content in the coal exceeds 1%.	Reportedly, PA is using imported coal S content is 0.6% and accordingly, PA	25.06.2018	-	Part B 3o	As we are using Imported coking coal with sulphur less than **0.6 %** Sulphur hence desulphurization system is not envisaged.

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
		opines that desulphurisation for coke oven gas is not envisaged				
13	Provide the ETP for coke oven and by product to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 as amended from time to time; Adhere to 'zero liquid discharge'	Based on discussion with PA, it was informed PA that since the installed COP is of non-recovery type these EC conditions are not applicable for non-recovery COPs.	25.06.2018	-	Part B 4a and Part B 4b	As it is not applicable to our system we will apply for corrigendum for this specific condition.
14	Provide sewage treatment plant for domestic wastewater;	It is noted that PA has initiated the process of discussions with come vendors for installation of STP and PA informed that they are planning to set up the same by march 2022.	25.06.2018	-	Part B 4c	The work got delayed due to change in plant layout. For the existing operating units, STP will be installed before March 2022. For the proposed plant configuration, STP will commissioned by December 2022.
15	Introduce CO_2 injection in GCP of SMS to reduce pH in circulating water to ensure optimal recycling of treated water for converter gas cleaning; and	PA informed that this project is being implemented in a phased manner and thus the CO_2 injection is GCP of SMS to reduce pH in circulating water is proposed to be installed during the second phase of project and accordingly, required secondary emission control system to be provided during installation of SMS project.	25.06.2018	-	Part B 4g	As we have dropped SMS plant it is not applicable we will apply for corrigendum for this general condition.
16	Practice rainwater harvesting to maximum possible extent;	On the day of visit, it was noted that PA has provided trenches for collection of rainwater harvesting.	25.06.2018	-	Part B 5a	All the necessary rainwater harvesting systems will be developed by December, 2022 in phased manner and ensured maximum conservation and utilisation of rainwater ..
17	Not use treated water from ETP of COBP for	Based on discussion with	25.06.2018	-	Part B 5b	As it is not applicable to our system we will apply for

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
	coke quenching;	PA, it was informed by PA that since the installed COP is of non-recovery type these EC conditions are not applicable for Non-recovery COPs.				corrigendum for this specific condition.
18	Provide TRTs to recover energy from top gases of Blast Furnace;	PA informed that this project is being implemented in a phased manner and thus proposes to provide TRTs to recover energy during the commissioning of BF plant during the second phase.	25.06.2018	-	Part B 6a	Required System will be provided during proposed project implementation.
19	Provide CDQ for coke quenching for both recovery and non-recovery type coke ovens;	**Not Applicable (Corrigendum Obtained).** Reportedly, PA has obtained amendment from MoEF&CC vide letter no. F.No. J-11011/205/2014-IA.II (l)	25.06.2018	-	Part B 6b	
20	Practice waste heat recovery from sinter plants coolers and sinter machines; Use torpedo ladie for hot meatl transfer as far as possible. If not use ladles covers for open top ladles; Use hot charging of slabs and billets/blooms as far as possible	PA informed that this project is being implemented in a phased manner and thus proposes to comply to this condition during the commissioning of Sinter plant during the second phase.	25.06.2018	-	Part B 6c, Part B 6d and Part B 6e	Required System will be provided during proposed project implementation.
21	Provide waste heat recovery system in all units where the flue gas or process gas exceeds 300* C;	**Partly complied:** During the visit, it was noted that PA has already installed Waste Heat Recovery Boiler (WHRB) for the coke oven plant and the same is in operation.	25.06.2018	-	Part B 6f	Already WHR Boiler installed for Coke oven batteries for heat recovery and required systems will be installed during proposed projects as per requirement.

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
22	Explore feasibility to install WHRS at waste Gases from BF stoves; Sinter Machines; Sinter cooler, and all reheating furnaces and if feasible shall be installed; Restrict Gas flaring to <1%;	PA informed that this project is being implemented in a phased manner and thus proposes to comply to this condition during the commissioning of Sinter plant during the second phase.	25.06.2018	-	Part B 6g and Part B 6h	Required System will be provided during proposed project implementation.
23	Provide solar power generation of roof tops buildings, for solar light for all common areas, streetlights, parking around project area and maintain the same regularly.	During the visit, it was noted that PA has installed roof top solar systems and solar streetlights in some areas of the plant.	25.06.2018	-	Part B 6i	Required solar energy systems will be implemented to the maximum extent. Solar systems like Solar street lights, office roof tops, solar heaters etc will be installed on priority before Dec 2023
24	Ensure installation of regenerative type burners on all reheating furnaces	PA informed that this project is being implemented in a phased manner and thus proposes to comply to this condition during the commissioning of Sinter plant during the second phase.	25.06.2018	-	Part B 6k	As it is not applicable to our system we will apply for corrigendum for this specific condition.
25	Dry quenching (CDQ) system shall be installed along with power generation facility from waste heat recovery from hot coke.	**Not Applicable (Corrigendum Obtained).** Reportedly, PA has obtained amendment from MoEF&CC vide letter no. F.No. J-11011/205/2014-IA.II (l) **dated 11.9.2019 where in the provision of CDQ is deleted.**		-	Part B 7	
26	In case of non-recovery coke ovens, the gas main carrying hot flue gases to the boiler, shall be insulated to conserve heat and to maximize heat recovery	**Partly complied:** It was noted that PA, as a special design have installed RCC gas tunnel with complete refractory lining and insulation carrying the coke	25.06.2018	-	Part B 8	Required System has been installed to ensure minimum loss of heat energy

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
		oven gas to WHRB to ensure minimum loss of heat energy.				
27	Tar sludge and waste oil shall be blended with coal charged in coke ovens (applicable only to recovery type coke ovens) Carbon recovery plant to recovery the elemental carbon present in GCP slurries for use in sinter plant shall be installed Waste recycling plant shall be installed to recover scrap, metallic and flux for recycling to Sinter plant and SMS Used refractories shall be recycled as for as possible. SMS slag after metal recovery in waste recycling facility shall be conditioned and used for road making, railway tract ballast and other application. PP shall install a waste recycling facility to recover metallic and flux for recycle to sinter plant. PP shall establish linkage for 100% reuse of rejects from waste recycling plant.	PA informed that this project is being implemented in a phased manner and thus proposes to comply to this condition during the commissioning of Sinter plant during the second phase.	25.06.2018	-	Part B 9, Part B 10, Part B 11, Part B 12 and Part B 13	As it is not applicable to our system we will apply for corrigendum for this specific condition.
28	100% utilization of fly shall be ensured. All the fly ash shall be provided to cement and brick manufactures for further utilization and memorandum of Understanding shall be submitted to the ministry's Regional office.	Reportedly, PA has been sending the fly ash to cement and brick manufacturers for further utilization.	25.06.2018	-	Part B 14	The coal based boiler has been stopped completely after commissioning the WHR Boilers connected to coke oven batteries. Hence there is no generation of any fly ash. We have been selling all the fly ash to cement Industries like J K cements, Dalmia cements and brick industries in nearby areas.
29	The PP shall prepare GHS emissions	On the day of visit, it was noted	25.06.2018	-	Part B 16	Required study will be conducted and necessary

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
	inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation	that PA is planning to maintain Green House Gas emission inventory for their plant and accordingly, have started to develop green belt around their plant.				program will be done along with action plan for reduction of GHG emissions by Dec 2023.
30	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management plan shall be Implemented	PA informed that HIRA for coke oven plant has been conducted by professional party after commissioning the coke oven.	25.06.2018	-	Part B 17	The required study will be conducted and reports/ Plans will be submitted before Dec 2022
31	The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide personal Protection Equipment (PPE) as per norms of factory Act.	On the day of inspection, it was noted that PA has provided high Quality Personal Protection (PPE) to workmen inside the plant, including suitable PPE to workmen who work in high temperature work.	25.06.2018	-	Part B 18	We are providing all the required PPE's for the workmen. As suggested the required Heat stress analysis for workmen working high temperature zones and report will be submitted by Oct 2022
32	The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ noncompliance of EC conditions at least once I year to the Board of directions and the copy of the board resolutions shall be submitted to the MOEF&CC as a part of six-monthly report.	It was noted that PA has a corporate environmental policy of reporting of any infringements/ non-compliance of EC conditions to the Board of Directors of the Company.	25.06.2018	-	Part B 19	Required system will ensured more diligently as suggested with immediate effect.
33	All the recommendations made in the charter on Corporate Responsibility for Environment Protection (CREP) for the Iron and steel plant shall be implemented.	PA informed that this project is being implemented in a phased manner and thus proposes to comply to applicable CREP guidelines based on commissioning of	25.06.2018	-	Part B 20	Required report will be submitted by March 2022.

Sl no	Non-compliance details	Observation RO (abridged)	Condition no.			Re-assessment by RO/Response by PP
			EC dates	Specific	General	
		the project				
34	Oil collection pits shall be provided in oil cellars to collect and reuse/recycle soiled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storages area.	PA has provided certain number of oil collection pits and provided oil collection trays at appropriate places.	25.06.2018	-	Part B 26	As suggested required additional oil pits will be provided as per requirement by June 2022
35	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.			-	Part B 29	As the project is being implemented in phases all the required systems required for environmental protection measures and safeguards as proposed in the EIA report will be provided before December, 2022.
36	Put on the clearance letter on the website of the company for access to the public.	**Partly complied:** PA has displayed the EC in their plant area for public display.	25.06.2018	-	Part B 30b	Already Uploaded
37	Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance letter are available with the SBCP and may also be see website of the Ministry of Environment	**Partly complied:** Reportedly PA has informed that the information relating to publication of EC was done in Prajavani and Deccan Herald.	25.06.2018	-	Part B 30c	Already copy has been provided and attached for reference
38	Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and uploaded the same periodically			-	Part B 30d	Already uploaded

1.13.21 The project proponent had earlier applied for EC under para 7(ii) of EIA Notification vide proposal no. IA/KA/IND/240582/2021 dated 20/01/2022 and the proposal was considered 52nd meeting of the Re-constituted EAC (Industry-I) held on 31st January, 2022 wherein the

Committee returned the proposal in present form due to technical deficiencies in the proposal.

1.13.22 The project proponent has again applied for EC under para 7(ii) of EIA Notification vide proposal no. IA/KA/IND/255323/2022 dated 07/02/2022 and the proposal is considered in the 1st meeting of the EAC held on 5-6th March, 2022. The observations and recommendations of the EAC are as follows:

Observations of the Committee

1.13.23 The Committee noted the following:

i. The proposal was originally accorded EC for setting up of 1 MTPA integrated steel plant for which EC was accorded by the Ministry on 25/06/2018.
ii. Presently, the project proponent has implemented unit only ferro alloy plant, sinter plant, Mn ore plant, non-recovery coke oven plant and CPP. Remaining units are yet to be implemented.
iii. Instant proposal is for seeking EC under para 7(ii) of EIA Notification, 2006 for change in product mix i.e., downsizing of ISP capacity from 1.0 to 0.5 MTPA and minor enhancement in ferro alloy and coke oven production and installation of 0.3 MTPA ductile iron plant.
iv. Due to the proposed change in product mix under para 7(ii), it has been reported that there will be reduction in water consumption, overall reduction in emission of PM, SO_2 and NO_X by 60%, 26% & 32% respectively.
v. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
vi. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.
vii. The Committee deliberated upon the certified compliance report of RO and action taken report submitted by PP with respect to the compliance status of all the existing EC condition, PP given time bound commitment to comply the all the observations of RO by Dec, 2022. After deliberations, the Committee found it's satisfactory.
viii. The EAC has carried out requisite due diligence of the instant proposal and considered the same under para 7(ii) (a) of the EIA Notification, 2006 and dispense with the requirement of conducting fresh public consultation in light of the observations mentioned above.

Recommendations of the Committee

1.13.24 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the para 7(ii) provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements.

A. Specific Conditions

i. Three tier Green Belt shall be developed in a time frame of one year covering 33% of total area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt

developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

ii. All the observations stated in the certified compliance report of RO dated 11/01/2022 shall be complied with by 31/12/2022 as committed. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.
iii. Water requirement of 8,686 m^3/day will be met from Tungbhadra River after prior approval of the Competent Authority. No ground water abstraction is permitted.
iv. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm^3.
v. 100 % solid waste generated in the facility shall be utilized.
vi. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.
vii. Following additional arrangements to control fugitive dust shall be provided:
    d. Fog / Mist Sprinklers at all conveyors point and on bulk raw material storage area (at the transfer points) like Iron Ore, Coal and for Fly Ash and similar solid waste storage areas.
    e. Proper covered vehicle shall be used while transport of materials.
    f. Wheel Washing mechanism shall be provided in entry and exit gates.
viii. Performance monitoring of all Pollution Control Devices shall be carried out annually and report submitted to MoEF&CC, Regional Office.
ix. Fourth hole extraction system shall be provided in the Sub Merged Arc Furnaces.
x. Sinter Plant
    - Sinter cooler waste recovery system shall be installed to generate process steam or power.
    - Equipped with MEROS technology to reduce emission of SO2, NOx and heavy metals.
xi. Coke oven plant shall be equipped with modified wet quenching system.
xii. Blast Furnaces shall be equipped with Top Recovery Turbine, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.
xiii. Ductile Iron (DI) plant shall have the following provisions:
    a. Bag filter for Zn coating and Mg converter area.
    b. Wet scrubbers in paint and bitumen coating area.
    c. Bag Filter in Cement lining area.
    d. PTFE dipped bags shall be used in the plant.
    e. PM emissions from BF in Zinc coating area shall be 5 mg/Nm^3.
    f. ETP with recycling facility shall be included.

B. General Conditions

I.Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

II.Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient

Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).

x. Land-based APC system shall be installed to control coke pushing emissions.

xi. Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.

xii. Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.

xiii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.

xiv. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

III.Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
v. Tyre washing facilities shall be provided at the exit and entrance of the plant gates.
vi. Water meters shall be provided at the inlet to all unit processes in the steel plants.

IV.Noise monitoring and prevention

i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V.Energy Conservation measures

i. Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.
ii. Restrict Gas flaring to < 1%.
iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
iv. Provide LED lights in their offices and residential areas.
v. Ensure installation of regenerative/recuperative type burners on all reheating furnaces.

VI.Waste management

i. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.
ii. Kitchen waste shall be composted or converted to biogas for further use.

VII.Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.
ii. Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

VIII.Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX.Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

X.Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

1.14 Expansion of Integrated Steel Plant from 2.8805 to 7.0185 MTPA by **M/s. Rungta Mines Limited** located at Villages Chaliyama, Bankasai, Kuju, Arahasa & Medki, Tehsil Rajnagar, **District Saraikela-Kharsawan, Jharkhand** [Online Proposal No. IA/ JH/ IND/ 151458/ 2020; File No. J-11011/305/2012-IA.II(I)] – **Environment Clearance – regarding.**

1.14.1 M/s Rungta Mines Limited has made an online application vide proposal no. IA/JH/IND/151458/2020 dated 24/02/2022 along with copy of EIA/EMP report, Form - 2 and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries (ferrous & nonferrous) with related activities in 2(a) Coal washery, 3(b) Cement plants, 4(b) Coke oven plants and 1(d) Captive power plant under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by the project proponent

1.14.2 The detail of the ToR is furnished as below:

Date of application	Consideration	Details	Date of accord	ToR Validity
15/07/2021	Standard ToR granted	Terms of Reference	17/07/2021	16/07/2025

1.14.3 The project of M/s Rungta Mines Limited is located in villages Chaliyama, Banksai Kuju, Arhasa and Merki, Saraikela-Kharsawan District, Jharkhand State is for enhancement of production of crude steel from 2.8805 to 7.0185 MTPA by expansion of facilities such as DRI from 2,477,900 to 4,203,200 TPA, Mini Blast Furnace from 1,550,045 to 4,591,545 TPA, SMS from 2,880,500 to 7,018,500 TPA, Continuous casting machine from 9X4 to 16X4 strand, Rolling mill from 3,227,964 to 7,167,964 TPA, Power plant from 657 to 1,252 MW, Oxygen plant from 600 to 3000 TPD, Lime Plant from 171,500 to 633,500 TPA, Sinter

Plant from 2,101,572 to 6,754,572 TPA, Coke Oven plant from 910,000 to 2,590,000 TPA, Cement Plant from 2,805,000 to 4,357,500 TPA and establishment of new BOF/NOF/EOF/EAF-LF-VD/RH/AOD. The capacity of the Pelletisation plant (25.0 MTPA), Coal washery (1.26 MTPA), Vacuum Degassing (130 T), Ferro Alloys Plant (54000 TPA) and Producer Gas Plant (661,000 Nm^3/hr) shall remain same.

1.14.4 Environmental site settings

<table>
<tr><th>Sl. No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>Total land: 559.49 ha
Private Land: 391.08 ha
Govt. Land: 168.41 ha</td><td>Existing: 377.76 ha
Proposed : 181.74 ha</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td><table><tr><th>Land ownership type</th><th>Purchased land (ha)</th><th>To be acquired (ha)</th><th>Total, ha</th></tr><tr><td>Private</td><td>165.152</td><td>225.928</td><td>391.08</td></tr><tr><td>Govt</td><td>111.113</td><td>57.297</td><td>168.41</td></tr><tr><td>Total</td><td>276.265</td><td>283.225</td><td>559.49</td></tr></table></td><td></td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td>R&R is required as habitation is present within proposed plant area. 198 land loser families have been identified.</td><td>The displacees shall be paid compensation as per mutually agreeable terms.</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of the project site</td><td><table><tr><th rowspan="2">Point</th><th colspan="2">Plant Area</th></tr><tr><th>Latitude</th><th>Longitude</th></tr><tr><td>S</td><td>22° 33’ 22.03’’</td><td>85° 52’ 54.62’’</td></tr><tr><td>N</td><td>22° 37’ 50.06’’</td><td>85° 54’ 58.19’’</td></tr><tr><td>E</td><td>22° 36’ 42.26’’</td><td>85° 55’ 14.12’’</td></tr><tr><td>W</td><td>22° 33’ 52.31’’</td><td>85° 52’ 22.60’’</td></tr></table></td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>185-208 m above mean sea level</td><td></td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No forest land is involved</td><td></td></tr>
<tr><td>vii.</td><td>Water body exists within the project site as well as study area</td><td>Project site (expansion area): Three seasonal drains including Lor Gara nala.

Study area: Nearest river is Kharkai adjoining to plant area. Streams like Roro Gara (1.1 km), Sona Nadi (7.3 km), Ila Gara (4.5 km), Hon Gara (5.1 km), Chirchi Nala (9.1 km), Icha left main canal 1 & 2 (1.4 & 2.1 km), Canal near Kamarbasa (1.2 km), Icha dam (0.6 km), Reservoirs near Sankohatu (8.3 km), Bara Mauni (1.5 km) and Kashidih (3.8 km) exist in addition to village ponds.</td><td>--</td></tr>
</table>

Sl. No	Particulars	Details	Remarks
viii.	Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	Nil. The nearest sanctuary is Dalma Wildlife sanctuary at a distance of 33 km in NNE and Simlipal National park is at 66 km SE Simlipal ESZ is at 51 km SE from the project site. **Protected forests:** Chuka Pahar and Gidi Pahar PF- 9.3 Km E, Gobra Buru Pahar PF- 5.2 km ESE, Kokcho PF- 9.4 km S, PF near Sini Village- 8.5 km SSE, PF near Urangsahi village-8.3 km S, PF near Kope-2.4 km W, PF around Uparsila-0.2 km E, PF near Dhanudih- 4.6 km E and PF near Bankasai -0.09 km SE	

1.14.5 **Land details**

Project area of existing plant is 933.44 acres (377.75 ha) and expansion area shall be 449.09 acres (181.74 ha). The total project area after expansion shall be 1382.53 acres (559.49 Ha). Actual status of the land under purchased and under process of purchase is given below:

Sl	Land ownership	Total area in Ha	Under possession in Ha	Balance area in Ha	Status of balance land
1	**Existing plant**				
a	Private land	258.10	142.273 ha	115.827	• 23.91 Ha Gram Sabha completed on 28/12/2020 by State government for land acquisition. • 14.16 ha consent letter received from Gram Pradhan, village Chaliyama, panchayat Potka based on Gram Sabha of villagers dt. 04/03/2020. • 84.99 ha consent letter received from Gram Pradhan, Gram panchayat Kuju based on Gram Sabha of villagers dated 06/11/2020, out of which actual requirement is less i.e. 77.757 ha
b	Government land	119.66	96.665	22.995	• Government land in Kuju village 28.67 acres (11.60 ha) pending at Ranchi for recommendation. • 28.14 acres (11.39 Ha) land under process. Gram Sabha completed on 15/03/2020
	Sub total	***377.76***	***377.76***	***138.822***	
2	**Expansion**				
a	Private land	132.98	22.879	110.101	• Merki ST land measuring 4.93 acres (1.995 ha), CO Rajnagar reported vide letter no 1393 dated 17/12/2021 to DC Saraikela Kharsawan. Hearing completed in DC Court. Waiting for DC order copy. • Kuju ST land measuring 1.37 acres (0.55 Ha), CO Rajnagar Reported vide letter no 1275 dated 20/11/2021 to DC Saraikela Kharsawan. Hearing completed in DC Court.

Sl	Land ownership	Total area in Ha	Under possession in Ha	Balance area in Ha	Status of balance land
					Waiting for DC order copy • Arahasa ST land measuring 1.94 acres (0.79 Ha), CO Rajnagar reported vide letter no. 1395 dated 17/12/2021 to DC Saraikela Kharsawan. Hearing completed in DC court. Waiting for DC order copy. • 107.5615 ha in villages Merki, Kuju and Arahasa under process for direct purchase.
b	Government land	48.75	14.448	34.302	• Application has been made for seeking government land in village Merki, area measuring 86.44 acres (34.982 ha) out of which 35.70 acres (14.448 ha) in possession and balance 50.74 acres (20.53 Ha) is under process. • Government land in Arahasa 38.32 acres (15.51 ha) for allotment for which Gram Sabha completed on 29/09/2021 at village Arahasa. 23.06 acres (9.33 ha) pending at commissioner office (Kolhan). Balance 15.26 acres (6.18 Ha) under process at CO office.
	Sub total	***181.73***	***37.327***	***144.403***	
	Grant total	**559.49**	**276.265**	**283.225**	

1.14.6 **Chronology of Environment Clearances**

Rungta Mines Limited (Chaliyama Steel Plant) obtained the following Environmental Clearances from Ministry of Environment, Forest & Climate Change for the plant since its inception vide letter numbers:

(i) J-11011/838/2007-IA.II.(I) dated 04.11.2008 for integrated mini steel plant (0.21 MTPA steel) along with WHRB (14 MW) and CPP (25 MW).

(ii) (ii) J-11011/838/2008-IA.II(I) dated 21.06.2010 for integrated mini steel plant (0.21 MTPA) along with WHRB (14 MW) and CPP (25 MW) for change in configuration of SMS.

(iii) (iii) J-11011/838/2007-IA.II.(I) dated 15.12.2014 for extension of validity of EC.

(iv) J-11011/305/2012-IA.II.(I) dated 01.04.2016 for expansion of ISP from 0.20 to 0.50 MTPA steel & 39 to 119 MW CPP with setting up of additional units.

(v) J-11011/305/2012-IA.II.(I) dated 07.08.2018 for expansion of ISP from 0.50 to 0.70 MTPA steel & 119 to 158 MW CPP and additional units.

(vi) J-11011/305/2012-IA.II.(I) dated 28.01.2019 for expansion of ISP from 0.70 to 0.785 MTPA steel along with 158 MW CPP as well as amendment in EC for change in steel making route, change in configuration of power plant and Ladle Refining Furnace (EC under para 7(ii)).

(vii) J-11011/305/2012-IA.II.(I) dated 17.06.2019 for amendment in EC for change in configuration of pellet plant from 2x 1.32 MTPA to1 x 2.64 MTPA.

(viii) J-11011/305/2012-IA.II.(I) dated 27.08.2020 for enhancement from 0.7854 MTPA to 1.0395 MTPA along with 158 MW CPP and other units.

(ix) J-11011/305/2012-IA-II(I) dated 19.01.2021 for expansion of Chaliyama Steel Plant from 1.039 to 2.880 MTPA.

The environmental clearances accorded to the steel plant by MoEF&CC on 04/11/2008, 01/04/2016, 07/08/2018, 28/01/2019 and 17/06/2019 were superseded vide environmental clearance dated 27.08.2020. Subsequently, Rungta Mines Limited

(Chaliyama Steel Plant) obtained Environmental Clearance from 1.0395 MTPA to 2.8805 MTPA vide letter no J11011/305/2012-IA.II(I) dated 19/01/2021. Consent to Operate for the existing unit was accorded by office of the Jharkhand State Pollution Control Board, vide letter nos JSPCB/HO/RNC/CTO-6940536/2020/631 dated 12/03/2020, JSPCB/HO/RNC/CTO-9572347/2021/573 dated 06/04/2021 and JSPCB/HO/RNC/CTO-10230647/2021/774 dated 12/06/2021 and JSPCB/HO/RNC/CTO-10658562/2021/1069 dated 18/09/2021. The validity of CTO is up to 31/03/2025.

1.14.7 Implementation status of the existing EC:

Sl. No.	**Facilities**	**Units**	**Sanctioned production & configuration as per EC dated 19/01/2021**	**Implementation Status as on 04/03/2022**	**Production as per CTO**
1	DRI Plant				
1.1	DRI	TPA	360,325 (7X100 TPD kiln)	under operation	360,325
1.2	DRI	TPA	51,475 (1X100 TPD kiln)	under operation	51,475
1.3	DRI	TPA	340,800 (2X350 TPD kiln)	under operation	340,800
1.4	DRI	TPA	1,725,300 (4 X 900 TPD)	Yet to installed	
	Sub Total	TPA	**2,477,900**		**752,600**
2	Mini Blast Furnace				
2.1	MBF-1	TPA	696,920 (1x524 cum)	Under construction	
2.2	MBF-2	TPA	853,125 (1X650 cum)	Yet to installed	
	Sub Total	**TPA**	**1,550,045**		
3.0	SMS				
3.1	SMS (I) via IF Route	TPA	346,500 (IF 4x15 T, LRF 3x20 T)	under operation	346,500
3.2	SMS (II) via IF Route	TPA	346,500 (IF 4x15 T, LRF 2x35T)	under operation	346,500
3.3	SMS (III) via IF Route	TPA	346,500 (IF 4X15T, LRF 2X35 T)	under commissioning	346,500
3.4	SMS (IV) via IF Route	TPA	1,001,000 (IF 13X20T, LRF 4X45T)	Yet to installed	
3.5	SMS (V) EAF/ BOF/ EOF Route	TPA	840,000 (EAF/ EOF 1x100T or BOF 1x75T or AOD 1x100T)	Yet to installed	
		Total	**2,880,500**		**1039500**
4	**Billets/slab/bloom caster**				
4.1	Billet caster (I)	TPA	339,570	Under operation	339570
4.2	Billets caster (II)	TPA	339,570	Under operation	339570

Sl. No.	Facilities	Units	Sanctioned production & configuration as per EC dated 19/01/2021	Implementation Status as on 04/03/2022	Production as per CTO
4.3	Billets caster (III)	TPA	339,570	Under commissioning	339570
4.4	Billets caster (IV)	TPA	980,980	Yet to installed	
4.5	Billets caster (V)	TPA	823,200	Yet to installed	
		Total	**2,822,890**		**1018710**
5	Continuous casting machine/TSCR		9x4 strand	2x 4 stand under operation	
6	Rolling mill (TMT/ flat/ Round/ wire rod/ structural mill/ others)				
6.1	Rolling mill (I)	TPA	325,988	under operation	325988
6.2	Rolling mill (II)	TPA	325,988	under operation	325988
6.3	Rolling mill (III)	TPA	325,988	Under construction	
6.4	Rolling mill with Annealing & Pickling & Galvanising Line (TMT/ flat/ Round/ wire rod/Wire drawing structural mill/ others)	TPA	1,550,000 (1X0.5 + 1X0.45 + 2X0.3 MTPA)	Yet to installed	
6.5	Rolling mill with Pickling & Galvanizing line (strip mill/ sheet/ coil/ wire rod/ structural/ others)	TPA	200,000	Yet to installed	
6.6	Ductile Pipe Plant	TPA	500,000 (1X0.2 + 1X 0.3 MTPA)		
		Total	**3,227,964**		**651976**
7	Captive Power Plant	MW	**657**		**138**
7.1	WHRB	MW	229	33 under operation, Balance yet to be installed.	33
7.2	AFBC/ CFBC	MW	420	25+40 under operation, 40 under commissioning. Balance yet to be installed.	105
7.3	TRT	MW	8	4 under construction. 4 yet to be installed.	
7.4	TG	MW	5x20 + 2x40 + 9x25 + 2x65 + 1x70 + 2x30	3x20 +1x40 MW under operation + 1x40 MW under commissioning. Balance yet to be installed	
8	Pelletisation plant	TPA	25,000,000 (5 X 3 MTPA + 10 X 1	1x3.0 MTPA Under operation	3.0

Sl. No.	Facilities	Units	Sanctioned production & configuration as per EC dated 19/01/2021	Implementation Status as on 04/03/2022	Production as per CTO
			MTPA)	Balance yet to be installed	
9	Coal washery	TPA	1,260,000	Yet to installed	
10	Oxygen	cum/ annum	161,700,000 (1X100 + 2X150 + 1x200 TPD)	200 TPD under construction, Balance yet to be installed.	
11	Lime Plant	TPA	171,500 (1X90 + 1x400 TPD)	Yet to installed	
12	Vacuum Degassing	Tonnes	1X30 T + 1X100 T	Yet to installed	
13	Ferro Alloy Plant (9MVA +18 MVA)				
a	Ferro Manganese OR	TPA	9 MVA= 18,000 18 MVA= 36,000 Total = 54,000	Yet to installed	
b	Silico Manganese OR	TPA	9 MVA= 14,400 18 MVA= 28,800 Total = 43,200	Yet to installed	
c	Ferro Chrome OR	TPA	9 MVA= 14,400 18 MVA= 28,800 Total = 43,200	Yet to installed	
d	Ferro Silicon	TPA	9 MVA= 6,400 18 MVA= 12,800 Total = 19,200	Yet to installed	
	Briquette Plant for ferro chrome	TPA	88,320	Yet to installed	
	Briquette Plant for ferro manganese	TPA	112,380	Yet to installed	
14	Sinter plant	TPA	2,101,572 (1x48 sq.m. + 1x130 sq.m. + 1x30 sq.m.)	665,280 (1x48 sqm) + 277,992 (1x30 sqm) = 943,272 is under construction. Balance yet to be installed.	
15	Coke oven plant	TPA	910,000 (13 batteries x 70,000 TPA)	350,000 (5 Batteries x70,000 TPA) is under construction. Balance yet to be installed.	
16	Producer gas plant	Nm^3/hr	661,000 (17X3000 Nm^3/hr+ 32X12500 Nm^3/hr+28X 7500 Nm^3/hr)	Yet to installed	
17	Cement Plant	TPA	2,805,000 (2x2500 + 2X1000 + 1X1500 TPD)	Yet to installed	

1.14.8 The unit configuration and capacity of existing and proposed unit are given as below:

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
1	DRI	8X100 TPD+ 2x350 TPD+4x900 TPD*	2,477,900	8X100 TPD+ 2x350 TPD	752,600	4x900 TPD*	1,725,300	8X100 TPD+ 2x350 TPD	752,600	4x900 TPD or 6x600 TPD*	1,725,300	8X100 TPD+ 2x350 TPD+4x900 TPD +4x900 TPD or 6x600 TPD*	4,203,200	Additionalalternate configuration for same production proposed after ToR, included in EIA for PH
2	MBF	1x524 cum+1x650 cum	1,550,045	Nil	Nil	1x524 cum+1x650 cum	1,550,045	NA	NA	2x650 cum+ 1x1250 cum	3,041,500	1x524 cum +3x650 cum+1x1250 cum	4,591,545	
3	SMS via IF route (I, II, III, IV, VI)	IF 12X15 T + 13x20 T, LRF 3x20 T+4x35 T	2,040,500	IF 12x15 T, LRF 3x20 T+4x35 T	1,039,500	IF 13X20T, LRF 4X45T	1,001,000	IF 12x 15 T, LRF 3x20 T+4x35 T	1,039,500	IF 20 x20 T, LRF 8x45 T	1,120,000	IF 12X15T + 33x20 T, LRF 3x20 T+4x35 T+8x45 T	3,160,500	
	SMS via EAF/BOF/EOF Route (V)	EAF/ EOF 1x100T or BOF 1x75T or AOD 1x100T	840,000	Nil	Nil	EAF/ EOF 1x100T or BOF 1x75T or AOD 1x100T	840,000	NA	NA	No Change	No change	EAF/ EOF 1x100T or BOF 1x75T or AOD 1x100T	840,000	
	SMS via BOF/	-	-	-	-	-	-	-	-	2x65 T,	1,287,00	2x65 T,	1,287,000	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
	NOF/ EOF/ EAF-LF-VD/ RH/ AOD (VII)									LRF 2x65 T	0	LRF 2x65 T		
	SMS via BOF/ EOF/ EAF-LF-VD/ RH/ AOD (VIII, IX)	-	-	-	-	-	-	-	-	IF 2x45T +1x75 T, LRF 2x45 T + 1x75T	1,731,000	IF 2x45T +1x75 T, LRF 2x45 T + 1x75T	1,731,000	
	Sub Total SMS		**2,880,500**		1,039,500		1,841,000				**413,8000**		**7,018,500**	
4	Billets caster/ TSCR		**2,822,890**		**1,018,710**		1,804,180		**1,018,710**		**4,096,620**		**6,919,510**	
5	Continuous Casting Machine	9 nos. x 4 strand	2,822,890	3 nos. x 4 strand	1,018,710	6 nos. x 4 strand	1,804,180	3x 4 strand	1,018,710	7 nos. x 4 strand	4,096,620	16 nos. x 4 strand	6,919,510	
6	**Finished product facilities**													
6.1	Rolling mill (TMT/ flat/ Round/ wire rod/ structural mill/ others (I)	1x 325,988 TPA	325,988	325988	325988	NA	NA	325,988	325,988	No change	No change	1x 325,988 TPA	325,988	
6.2	Rolling mill (TMT/ flat/ Round/ wire rod/ structural mill/ others (II)	1x 325,988 TPA	325,988	325988	325988	NA	NA	325,988	325,988	No Change	No Change	1x 325,988 TPA	325,988	
6.3	Rolling mill (TMT/ flat/ Round/ wire rod/ structural mill/ others(III)	1x325988 TPA	325,988	Nil	Nil	1X325,988 TPA	325,988	NA	NA	No Change	No Change	1x325,988 TPA	325,988	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
6.4	Rolling mill with Annealing & Pickling & Galvanising Line (TMT/ flat/ Round/ wire rod/Wire drawing structural mill/ others)	1X500,000 TPA +1X 450,000 TPA + 2X300,000 TPA	1,550,000	Nil	Nil	1X500,000 TPA +1X 450,000 TPA + 2X300,000 TPA	1,550,000	NA	NA	No Change	No Change	1X500,000 TPA +1X 450,000 TPA + 2X300,000 TPA	1550,000	
6.5	Rolling mill with Pickling & Galvanizing line (strip mill/ sheet/ coil/ wire rod/ structural/ others)	1x200,000 TPA	200,000	Nil	Nil	1x200000 TPA	200,000	NA	NA	No Change	No Change	1x200000 TPA	200,000	
6.6	Ductile Pipe Plant	1x 200,000 TPA + 1x 300,000 TPA	500,000	Nil	Nil	1x 200000 TPA + 1x 300000 TPA	500,000	NA	NA	No Change	No Change	1x 200000 TPA + 1x 300000 TPA	50,0000	
6.7	Rolling Mill (Long/TMT/ Flat/Strip/ Round/ Wire Rod/Hot Rolled/HRC/ /Structural Mill/Plate/ Pipe& Tube Products /wire drawing etc)	-	-	-	-	-	-	-	-	2x 550000 TPA + 2X420000 TPA + 1X 800000 TPA	2,740,000	2 X 550000TPA+ 2X420000 TPA + 1X 800000 TPA	2,740,000	
6.8	Rolling Mill (Long/ TMT/ Flat/	-	-	-	-	-	-	-	-	300,000 TPA	1,200,000	300,000 TPA pipe;	1,200,000	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
	Strip/ Round/ Wire Rod/ Hot Rolled/ HRC/ Structural Mill/ Tin Plate/ Electrical Steel/ CRGO/ Wire Drawing followed by (1) Pipe & Tube Products or (2) one or more in series of pickling, cold rolling, annealing, galvanizing and colour coating									pipe; 450,000 TPA cold rolling; 200,000 TPA galvanised product; 200,000 TPA colour coated product		450,000 TPA cold rolling; 200,000 TPA galvanised product; 200,000 TPA colour coated product		
	Total		**3227964**		**651975**		**2575988**		**651976**		**3940000**		**7167964**	
7	Captive power plant													
7.1	WHRB		229 MW	-	33 MW	-	196 MW	-	33 MW	-	Additional in existing 35 MW + Proposed new 310 MW = 345 MW	-	574 MW	
7.2	AFBC/CFBC		420 MW	-	105 MW	-	315 MW	-	105 MW	-	230 MW	-	650 MW	
7.3	TRT		8 MW	-	Nil	-	8	-	-	-	20 MW	-	28 MW	
7.4	TG	5x20 MW	-	3x20MW	-	2x20	-	3x20	-	4x65	-	5x20	-	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
		+ 2x40 MW + 9x25 MW + 2x65 MW + 1x70 MW + 2x30 MW		+ 2x40 MW		MW + 9x25 MW + 2x65 MW + 1x70 MW + 2x30 MW		MW + 2x40 MW		MW + 5x60 MW + 1x35 MW		MW+ 2x40 MW + 9x25 MW + 6x65 MW + 1x70 MW + 2x30 MW + 5x60 MW + 1x35 MW		
8	Pelletisation plant	5 X 3 MTPA+ 10 X 1 MTPA	25000000	1x3.0 MTPA	3000000	4 X 3 MTPA+ 10 X 1 MTPA	22000000	1x3.0 MTPA	3000000	No Change	No Change	5 X 3 MTPA+ 10 X 1 MTPA	25,000,000	
9	Coal washery	-	1260000	Nil	Nil	-	-	NA	NA	No Change	No Change	-	1260000	
10	Oxygen plant	1X100 TPD + 2X150 TPD + 1x200 TPD	161,700,000 cum/annum	Nil	Nil	1X100 TPD + 2X150 TPD + 1x200 TPD	161,700,000 cum/annum	NA	NA	2x600 TPD+ 1x1200 TPD	588,000,000 cum/annum	1X100 TPD + 2X150 TPD + 1x200 TPD + 2x600 TPD +1X1200TPD	749,700,000 cum/annum	
11	Lime plant	1X90 + 1x400 TPD	171,500	Nil	Nil	1X90 + 1x400 TPD	171,500	NA	NA	1x600 TPD +2x400 TPD	462,000	1x90 TPD +3x400 TPD +1x600 TPD	633,500	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
12	Vacuum Degassing	1X30 T + 1X100	-	Nil	Nil	1X30 T + 1X100	-	NA	NA	No change	-	1X30 T + 1X100	-	
12.1	RH/ VD/ AOD	-	-	-	-	-	-	-	-	2x65 T + 1x75 T + 2x45 T	-	2x65 T + 1x75 T + 2x45 T	-	
13	**Ferro Alloy Plant (9MVA +18 MVA**)													
	Ferro Manganese OR	9 MVA 18 MVA	9 MVA= 18,000 18 MVA =36,000 Total = 54,000	Nil	Nil	9 MVA	54,000	NA	NA	No change	No change	9 MVA 18 MVA	9 MVA= 18,000 18 MVA=36,000 Total = 54,000	
	Silico Manganese OR	9 MVA 18 MVA	9 MVA= 14,400 18 MVA=28,800 Total = 43,200	Nil	Nil	18 MVA	43,200	NA	NA	No change	No change	9 MVA 18 MVA	9 MVA= 14,400 18 MVA=28,800 Total = 43,200	
	Ferro Chrome OR	9 MVA 18 MVA	9 MVA= 14,400 18 MVA=28,800 Total = 43,200	Nil	Nil	9 MVA	43,200	NA	NA	No change	No change	9 MVA 18 MVA	9 MVA= 14,400 18 MVA=28,800 Total = 43,200	
	Ferro Silicon	9 MVA 18 MVA	9 MVA= 6,400	Nil	Nil	18 MVA	19,200	NA	NA	No change	No change	9 MVA 18 MVA	9 MVA= 6,400	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
			18 MVA=12,800 Total = 19,200										18 MVA=12,800 Total = 19,200	
	Briquette Plant for ferro chrome			88,320			88,320	NA	NA	No change	No change		88,320	
	Briquette Plant for ferro manganese			112,380			112,380	NA	NA	No change	No change		112,380	
14	Sinter plant	1x48 sq.m. + 1x130 sq.m. + 1x30 sq.m.	2,101,572	Nil	Nil	1x48 sq.m. + 1x130 sq.m. + 1x30 sq.m.	2,101,572	NA	NA	2x130 sq.m +1x210 sq.m	4,653,000	1x48 sq.m. + 1x 30 sq.m. + 3x130 sq.m +1x210 sq.m	6,754,572	
15	Coke oven plant	13 batteries x 70,000 TPA	910,000	Nil	Nil	13 batteries x 70,000 TPA	910,000	NA	NA	2 batteries x 420,000 TPA + 12 batteries x 70,000 TPA	1,680,000	2 batteries x 420,000 TPA + 25 batteries x 70,000 TPA	2,590,000	
16	Producer gas plant	17X3000 Nm^3/hr+ 32X12500 Nm^3/hr+28 X 7500 Nm^3/hr	661,000 Nm^3/hr	Nil	Nil	17X3000 Nm^3/hr+ 32X12500 Nm^3/hr+	661,000 Nm^3/hr	NA	NA	-	-	17X3000 Nm^3/hr+ 32X12500 Nm^3/hr+28 X 7500 Nm^3/hr	661,000 Nm^3/hr	

Sl	Plant Equipment/ facility	Existing facilities as per EC dated 19/01/2021								Proposed Units		Final (Existing + Proposed)		Remarks
		Total(A+B)		Implemented(A)		Un-implemented (B)		As per CTO						
		Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity, TPA	Configuration	Capacity TPA	Configuration	Capacity, TPA	
						28X 7500 Nm^3/hr								
17	Cement plant	2x2500TPD + 2X1000 TPD + 1X1500 TPD	2,805,000	Nil	Nil	2x2500 + 2X1000 + 1X1500 TPD	2,805,000	NA	NA	3x1500 TPD	1,552,500	2x2500 TPD + 2X1000 TPD + 4X1500 TPD	4,357,500	

Note: Project proponent shall install a stone crusher (2X40 TPH) for duration of the construction phase to be able to utilise the stones for construction.

****4X900 TPD was sanctioned in the TOR dated 17.07.2021. However, for flexibility according to market scenario and raw material availability at the time of implementation, an alternate configuration of 6X600 TPD is being considered with the same total production.***

1.14.9 The details of the raw material requirement for the for the existing cum proposed project along with its source and mode of transportation is given as below:

Sl. No	Raw Material	Unit	Quantity required per annum			Source	Distance (kms)	Mode of transportation
			Existing	Expansion	Total			
1	Bentonite	TPA	250,000	0	250,000	Gujarat	900	By Rail/Road
2	Chrome Ore Lump & Chrome Ore Concentrate	TPA	88,134	0	88,134	Odisha	200	By Road
3	Clinker	TPA	1,790,607	397,876	2,188,483	Rourkela, Odisha	200	By Road
4	Coal and fines	TPA	6,880,856	2,773,210	9,654,066	Imported, Odisha	300	By Rail/Road
5	Coking Coal	TPA	1,374,100	2,536,800	3,910,900	South Africa/ Talcher	300	By Rail/Road
6	Coke, Coke breeze and fines	TPA	1,475,477	1,627,650	3,103,127	Imported, Rourkela, Odisha	200	By Rail/Road
7	Dolomite	TPA	1,182,680	907,945	2,090,625	Rourkela, Odisha	200	By Road
8	Electrode Paste	TPA	1,344	0	1,344	Jamshedpur	60	By Road
9	Fuel and Furnace Oil	TPA	106,037	208,394	314,431	Ranchi, Jharkhand	170	By Road
10	Gypsum	TPA	141,254	74,137	215,391	Rourkela, Odisha	200	By Road
11	Iron ore, fines and concentrate	TPA	30,035,306	4,174,386	34,209,692	Companys mine in Odisha/ OMC /other pvt mines	110	By Rail/Road
12	Lime Stone	TPA	628,810	1,311,525	1,940,335	Rourkela, Odisha	200	By Road
13	Low-Grade High Silicon Moil Ore	TPA	37,368	0	37,368	Odisha	120	By Road
14	Mn Ore and Concentrate	TPA	100,224	0	100,224	Koida, Odisha	110	By Rail/Road
15	Molasses	TPA	6,682	0	6,682	Tatanagar	60	By Road
16	Quartz	TPA	117,125	134,316	251,441	Rourkela, Odisha	200	By Road
17	Steel Scrap	TPA	116,277	60,870	177,147	Imported/ Jamshedpur	60	By Road

1.14.10 Existing Water requirement is 100,800 m^3/day, water requirement is obtained from Kharkai River. Permission for 15,370 m^3/day has been obtained through Agreement dated 07/07/2018 from Kharkai River, Irrigation Division and 85,342 KLD water withdrawal from River Kharkai is recommendation by Chief Engineer, Subernarekha Multipurpose Project vide letter no. SMP/IGC/CE/1181, Adityapur dated 26.10.2021. Fresh water requirement for the proposed expansion project is estimated as 59,184 m^3/day. The total fresh water requirement for the entire 7.0185 MTPA project will be 159,984 KLD. The water required for the plant will be sourced from Kharkai River. No ground water extraction is envisaged except for drinking water.

1.14.11 Existing power requirement of 620.5 MW is from captive power plant (599 MW) and grid (22 MW). The additional power requirement for the proposed expansion project is estimated as 510.11 MW and will be obtained from captive power plant. The total power requirement for the entire 7.0185 MTPA project will be 1130.61 MW.

1.14.12 Baseline Environmental Studies

Period	**March 2021 to May 2021**
AAQ parameters at 9 Locations	$PM_{2.5}$ = 25.10 to 46.1 µg/m^3 PM_{10} = 45.1 to 79.6 µg/m^3 SO_2 = 5.1 to 18.0 µg/m^3 NO_x = 5.8 to 21.8 µg/m^3 CO = BDL to 0.802 mg/m^3
Incremental GLC level	PM_{10}= 12.81 µg/m^3 (Level within existing plant) $PM_{2.5}$= 7.37 µg/m^3 (Level within existing plant) SO_2 = 22.96 µg/m^3 (Level at 0.2 km in NW Direction) NOx = 15.50µg/m^3 (Level at 0.2 km in NW Direction)
Ground water quality at 8 locations	pH: 6.8 to 7.6, Total Hardness: 88 to 488 mg/l, Chlorides: 18 to 189 mg/l, Fluoride: 0.24 to 0.81 mg/l. Heavy metals are within the limits.
Surface water quality at 8 locations	pH: 6.8 to 7.6, DO: 6.9 to 7.4 mg/l, BOD: 1.5 to 10.5 mg/l and COD: 3.0 to 30 mg/l
Noise levels at 9 locations	49.10 to 67.95 dBA for the day time and 37.29 to 60.11 dBA for the Night time.
Traffic assessment study findings	• Traffic study has been conducted near Baduri village (6.5 km, SW from plant, towards Chaibasa) and near Keshargariya village NH 220 (2.3 km, E from plant, towards Tatanagar) during monitoring period. • Transportation of raw material, fuel & finished product will be done 100% by road. • Existing PCU and Level of Service (LoS) is given below:

Road	**V (Volume in PCU/ day)**	**C (Capacity in PCU/ day)**	**Existing V/C Ratio**	**LoS**
Near Baduri village	3425	30000	0.11	A
Near Keshargariya	2136	30000	0.07	A

<table>
<tr><td></td><td>
<table>
<tr><td>village NH 220</td><td></td><td></td><td></td><td></td></tr>
</table>

• PCU load after proposed project will be 3425 & 2136 at the two locations (Existing) + 50% of 29,250 (Additional, half traffic is expected to move in either direction towards Chaibasa (SW) or Tatanagar (NE)) PCU/hr and level of service (LOS) will be as follows:
<table>
<tr><th>Road</th><th>V (Volume in PCU/ day</th><th>C (Capaci in PCU/ day</th><th>Existing V/C Ratio</th><th>LoS</th></tr>
<tr><td>Near Baduri village</td><td>3425+ 14625= 18050</td><td>30000</td><td>0.60</td><td>C</td></tr>
<tr><td>Near Keshargariya village NH 220</td><td>2136+ 14625= 16761</td><td>30000</td><td>0.56</td><td>C</td></tr>
</table>
Note: Capacity as per IRC-64-1994 Guide line for capacity for roads.

Conclusion: The level of service will be change from A to C after including additional traffic due to proposed project.
</td></tr>
<tr><td>Flora and fauna</td><td>Indian peafowl, Large Bengal Monitor Lizard, Indian Rock Python, Indian Elephant & Sloth Bear are the schedule I fauna. Site Specific Wildlife Conservation Plan approved by PCCF (WL) & Chief Wildlife Warden; Jharkhand vide memo no. 196 dated 25/01/2018.</td></tr>
</table>

1.14.13 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

Sl. No.	Type of waste	Source	Quantity Generated, TPA	Mode of treatment / disposal
1	Char	DRI Plant	889,981	100% Char will be used for power generation
2	ESP, Bag Filter Dust		329,077	100% dust will be used in Sinter Plant
3	Kiln accretion		83,499	100% Stored in land fill temporarily till reused in road sub-base making within and outside plant
4	Dust	Pelletisation Plant	600,900	100% dust will be reused in Pellet Plant
5	Middlings	Coal Washery	535,000	508,725 used in CPP and 26,275 as material handling losses
6	Rejects		95,000	100% temporarily stored in solid waste disposal area within project site till sent for backfilling in mine or used for road making/ filling of low lying area
7	BF Slag	Mini Blast Furnace	1,363,709	100% slag will be granulated, used for cement making in own proposed cement plant
8	Dust		229,577	100% dust will be reused in Sinter Plant.
9	Sinter Return	Sinter Plant	2,010,672	100% reused in sinter plant
10	Bag Filter Dust	Coke Oven plant	117,327	100% reused in sinter plant

Sl. No.	Type of waste	Source	Quantity Generated, TPA	Mode of treatment / disposal
11	BF dust	SMS-IF	76,951	100% reused in sinter plant
12	Slag		5,81,747	100% slag will be given for metal recovery (20 TPH slag recovery plant), converted to aggregates (special balls) and used making bricks and in road making within and outside plant.
13	Mill Scale	SMS-IF-CCM	52,010	100% reused in sinter plant
14	BF dust	SMS-EAF	88,153	100% reused in sinter plant
15	Slag		964,724	100% used in road making, filler in embankment and new development show success in use for ceramic tiles production and cement making
16	Mill scale	SMS-EAF-CCM	46,980	100% reused in sinter plant
17	Reject	Rolling Mill	36,719	100% reused in SMS
18	Mill Scale		53,563	100% reused in sinter plant
19	Reject	Strip Mill	2,090	100% reused in SMS
20	Mill Scale		2,554	100% reused in sinter plant
21	Reject	Ductile pipe	4,592	100% reused in SMS
22	Mill Scale		5,612	100% reused in sinter plant
23	Reject	Rolling Mill	70,479	100% reused in SMS
24	Mill Scale		86,141	100% reused in sinter plant
25	Coal Ash	Producer gas plant	415,397	100% reused as per Fly Ash Utilisation Notification 1999 and its amendments of 2003, 2009, 2016. Used in cement making, brick making, block making, aggregate making, and road making.
26	Coal Tar		69,987	Sale
27	Ash	Power Plant	1,888,066	100% reused as per Fly Ash Utilisation Notification 1999 and its amendments of 2003, 2009, 2016. Used in own cement plant (589,917 TPA) and rest sent to cement making, brick making, block making, aggregate making, and road making.
28	Fe-Mn Slag	Ferro Alloys Plant	64,821	Used in Ferro alloy plant and balance for sale
29	Fines		10,821	100% Reused in sinter plant
	HAZARDOUS WASTE			
1	Industrial operations using mineral or synthetic oil as lubricant in hydraulic systems or other applications	Used/ spent oil	360 KL	Storage in containers over impervious floor in leak proof containers, under well ventilated covered shed followed by disposal through captive use/ authorized TSDF facility
		Waste/ residues containing oil	450 KL	In addition to above, other option is to send for co-processing in authorized/ own clinker kiln
2	Industrial use of zinc	Zinc ash/ skimming	0.4 T	100% sent to authorized recycler for conversion to Zinc sulphate for

Sl. No.	Type of waste	Source	Quantity Generated, TPA	Mode of treatment / disposal
				subsequent use as micronutrient in agriculture, raw material for Zinc Chloride manufacturing or melted into zinc ingots/ slabs for further use in galvanising
		Flue gas dust and other particulates	0.4 T	100% sent to authorized recyclers
3	Metal surface treatment- galvanizing	Acidic and alkaline residues	70 T	Neutralized in ETP of cold rolling mill. Storage in impervious pit / containers under well ventilated covered shed followed by final disposal in Authorized HW incinerator
		Spent acid and alkali	35 T	Storage in impervious pit / containers under well ventilated covered shed followed by final disposal in Authorized HW incinerator
		Plating metal sludge (Zinc Dross)	0.40 T	100% sent to authorized recycler for conversion to zinc oxide, which is used in rubber, medicine, ceramics, glass, etc. or melted into zinc ingots/ slabs for further use in galvanizing
4	Production of iron and steel (finishing mills)	Spent pickling liquor	18 lakh KL	100% sent to authorized recycler after treatment
		Sludge from acid recovery unit	70 T	Storage in impervious pit / containers under well ventilated covered shed followed by final disposal in Authorized HW incinerator and land filling
5	Coke oven plant	Tar	130000 T	Storage in impervious pit in leak proof containers under well ventilated covered shed followed by disposal to TSDF/ co-processing in authorized/ own DRI kiln/ charged with coking coal for coke making or sent to other authorized users
6	Handling of hazardous chemicals and wastes	Discarded barrels/ containers contaminated by Hazardous chemicals	45 T	Storage on impervious floor under well ventilated covered shed followed by captive use/ disposal through original supplier/ disposal through authorized TSDF facility
7	Gas scrubbing system	Gas cleaning residue	0.5 T	Storage in impervious pit / containers under well ventilated covered shed followed by final disposal in Authorized HW incinerator / co processing in cement plant kiln/ CHWTSDF
8	Effluent treatment plant, water treatment plant	Spent ion exchange resin containing toxic metals	0.5 T	Storage in impervious pit / containers under well ventilated covered shed followed by final disposal in Authorized HW incinerator and land filling
		Chemical sludge from waste water treatment	150 T	Storage in impervious pit in leak proof containers under well ventilated covered shed followed by disposal to TSDF
		Oil and grease skimming	25 T	Storage in impervious pit in leak proof containers under well ventilated covered shed followed by co-processing in authorized cement kiln

1.14.14 Public Consultation

Details of advertisement given	English Newspaper - Times of India dated 29/10/2021 Hindi Newspaper - Prabhat Khabar dated 28/10/2021
Date of public consultation	07/12/2021
Venue	Utkramit Madhaya Vidhalaya, Village Chaliyama, Post Kesargadiya, Block Rajnagar, Dist. Saraikela-Kharsawan.
Presiding Officer	Additional Deputy Commissioner, Saraikela –Kharsawan District
Major issues raised	i. Educational ii. Health iii. Drinking water iv. Free electricity to villagers v. High Mast light vi. Shiv Temple & Marriage venue in Chaliyama vii. Skill development viii. Help to the Women Board/ Samiti ix. Help to Anganbadi centre x. Employment xi. Land losers, etc

Action plan as per MoEF&CC O.M. dated 30/09/2020

Sl. No.	Physical Activity & Action Plan		Year of implementation (Budget in Rs.lakh)			Total Expenditure (Rs. lakhs)
	Activity	Physical Target	Year 1	Year 2	Year 3	
1	**Education**	Infrastructure facilities in school (Year 1: Raj Nagar, Nakahasa, Iccha &Soso villages; Year 2: Jhalak ,Beetagaon, Kasida &Adaratu villages; Year 3: Katanga , Barudih, Ittidih & Shyamsundarpur villages)	100	100	100	300
2	**Health**	Company will Upgrade Health Centre at Rajnagar, Chaliyama & Dholadih	250	250	250	750
3	**Drinking water**	Potable water through pipeline is being provided in 2 Tolas of Chaliyama Village. Piped supply arrangements have been provided in villages Bankasai, Kuju, Kewatsai, Soso and Rengalbeda. Further, piped water supply at Arahasa & Merki village will be provided. Where there is no pipeline, potable water is being and will be supplied through tankers.	95	95	95	285

4	**INFRASTRUCTURE**					
4.1	Free Electricity to the villagers	20 nos. solar lighting each in streets of the five villages and assist in rooftop solar panels, wherever possible.	10	10	10	30
4.2	High mast light	Provision for a high mast light in Telai, Kesargadia, Rajnagar, Aita, Kuju, Merki & Arahasa villags has been made.	12	12	12	36
4.3	Shiv temple and marriage venue in Chaliyama	A Shiv temple will be renovated and a marriage mandap/ venue will be constructed in Chaliyama.	6	5	5	16
4.4	Dust on road should be cleaned	Two mechanical sweeping machines are already there. One more shall be provided to clean road.	10	10	10	30
5	**OTHERS**					
5.1	Skill development	Purchase of equipment for Training for self-employment and involvement of women in non-farm based activities like tailoring & stitching (10 nos. sewing machines), embroidery, homemade food items i.e., pickles, papad, namkeen, puffed rice, spices, etc (food processing units 10 nos.) and for Men (poultry, goatery dairy, mushroom farming, fishery bee keeping, etc- purchase of raw material, fertilizer, fodder, etc)].	5	5	5	15
5.2	Help to the Women Board/ Samiti	Provision for tailoring machines, cloth, any other items	3	3	3	9
5.3	Help to Anganbadi centre	Sports materials to the ten Anganwadi Kendra in 10 villages	10	10	10	30
	TOTAL (lakhs)		**501**	**500**	**500**	**1501**

1.14.15 Existing capital cost of project was Rs. 9654.97 Crore. The capital cost of the proposed expansion project is Rs. 11650 Crore and the capital cost for environmental protection measures is proposed as Rs 111.51 Crore. The annual recurring cost towards the environmental protection measures in proposed expansion project will be Rs 56.07 Crore. The employment generation from the proposed project is 1800. The details of the cost for environmental protection measures is as follows:

Description	Existing in lakhs		Proposed additional in lakhs	
	Capital Cost	**Recurring cost**	**Capital Cost**	**Recurring cost**
Air pollution control	9555.00	1758.07	10615.00	1609.47
Water pollution control	215.00	19.15	71.00	3684.24
Noise pollution control	10.00	1.67	10.00	0.6
Environment Monitoring	470.00	64.83	209.00	79.22
Occupational health	130.00	66.41	45.00	19.68
Green belt	124.65	23.46	59.95	10.99
Others- studies, certifications, additional commitments in previous EC's (0.7 to1.0395 MTPA) etc	126.00	70.04	49.20	55.6
Overheads (3% of dep., energy, R&M)	-	50.03	-	147.92
To address issues raised in public hearing dated 27.11.2020 (for EC dt. 19.01.2021 for 1.039 to 2.880 MTPA)	49.20	57.40		-
To address issues raised in public hearing dated 07.12.2021 (for expansion from 2.880 to 7.0185 MTPA)		-	1501	-
Total	**10679.85**	**2111.06**	**12560.15**	**5607.72**

1.14.16 Existing greenbelt will be developed in 124.645 ha area which is about 33% of the existing project area of 377.76 ha with total sapling of 311612 trees, out of which 79.01 ha has been planted with 195410 trees. Proposed greenbelt will be developed in 59.95 ha which is about 33% of the expansion area. Thus, total of 184.6 ha area will be developed as greenbelt. A 5 to 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 456200 saplings will be planted and nurtured in 184.6 ha in 5 years.

1.14.17 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

1.14.18 Name of the EIA consultant: The EIA report was originally prepared by the consultant namely Min Mec Consultancy Pvt. Ltd. and thereafter the report was revalidated by the M/s Centre for Envotech and Management Consultancy Private Limited [certificate no NABET/EIA/1821/SA 0126 and letter no QCI/NABET/ENV/ACO/21/2182 dated 16/12/2021 and is valid up to 15/03/2022] as the former consultant was not accredited by the QCI/NABET.

Certified compliance report from Regional Office

1.14.19 The status of compliance of earlier EC dated 19/01/2021 was obtained from Regional Office, Ranchi vide letter no. 103-567/ROR-2021/84 dated 09/02/2022 in the name of M/s Rungta Mines Ltd. The Action taken report regarding the partially complied conditions is submitted to Regional Office MoEF&CC, Ranchi vide letter no. RML/CSP/MOEF/21-22/9036 dated 23/02/2022. Present status as furnished by the PP is given as below.

SI	Category	Observation of RO (abridged) partially complied	Condition no.		Response by PP as on 24/02/2022
			Specific	General	
1	Air Pollution and control	A verified map depicting the flood plain corresponding to HFL of Kharkai river by an authority as per the condition has not been furnished. PP reported in the submitted six monthly compliances that no construction activity will take place in expansion area flood plain of Kharkai river.	i		Project proponent confirm that no construction activity except for securing the land is taking place in the expansion area of 138.11 ha as on date. Already received the HFL level vide letter no.1291 dt. 31.12.2020 from Office of the Chief Engineer, Subernarekha Multipurpose Project, Adityapur, Jamshedpur, (highest HFL - 191.45 m, in 2014) Approached above office for map again The company will not carry out any plant construction in the expansion area of 138.11 ha till receipt of map depicting HFL from competent authority and its submission to MOEF.
2	Plantation	Plantation observed along the boundary towards the river side. However, the width of green belt seems to be less than the prescribed width as per the condition and needs to be improved. PP reported that the area of plantation as 195.41 acre, as per the EC accorded total area is 377.76 ha.	ii		Existing area = 239.64 ha (592.16 acres) and 33% greenbelt in it - 195.4 acres. 195,410 trees planted over this. Sections in peripheral green belt had lower survival rate and we lost saplings. Gap plantation will be carried in coming spring season Expansion area - 138.11 ha (341.28 acres) totaling to 337.75 ha (933.44 acres). Total greenbelt - 308 acres. Additional 142.6 acres shall be planted in 3 years. Plantation in expansion area not been started, not disturbing any area, awaiting the map from Office of Chief Engineer, as mentioned in specific condition i. Target date of completion :

SI	Category	Observation of RO (abridged) partially complied	Condition no.		Response by PP as on 24/02/2022
			Specific	General	
					Year 2025
3	Air Pollution and control	Monthly average data of online monitoring has been furnished for the period April 21 to September 21. However, maximum value of particulate matter exceeds the limit of 30 mg/Nm3 occasionally	vi		PM is being monitored through on-line stack monitoring facilities at : 1 stack with DRI 1&2 (2X100 TPD) 1 stack with DRI 3&4 (2X100 TPD) 1 stack with DRI 5&6 (2X100 TPD) 1 stack with DRI 7&8 (2X100 TPD) 1 stack with DRI (2X350TPD) 1 stack with AFBC boiler (25 MW) 2 stacks connected to SMS- I 2 stacks connected to SMS- I PM primarily exceed in stacks of DRI's 4&5 and 6&7. Root cause – ESPs connected to DRI kilns 5 & 7 are still undergoing upgradation. Work order placed on 04.06.2019 but delays due to covid. Work is reaching completion – expected by April 2022. Target date of completion : 15 May 2022, Compliance demonstrable.
4	Plantation	Plantation was observed towards the river side of the plant. However, green belt along the entire periphery of the plant needs to be developed. Total area of the plant is 377.76 Ha. PP reported plantation in 195.41 acre 79.07 ha.	xvi		As has been explained in response to specific condition no. ii earlier, the green belt along the periphery of the expansion area of the plant has yet to be carried out, pending receipt of the HFL map from Office of Chief Engineer, Adityapur, Jamshedpur. It shall be carried out within three years. Target date of completion: 2025

SI	Category	Observation of RO (abridged) partially complied	Condition no.		Response by PP as on 24/02/2022
			Specific	General	
5	Air Pollution and control	Continuous emission monitoring facility has been provided to 5 DRI stack, l stack of AFBC Boiler and 4 stack of SMS, online monitoring facility to pellet plant has not been provided. 24x7 continuous emission monitoring system has not been provided to the other process stack. Online ambient air quality monitoring station has been provided at four locations and connected to the Jharkhand State Pollution Control Board website. Parameters monitored are PM10, PM2.5, SO2, NO2 and CO. Project proponent has submitted online ambient air quality data of 4 locations from April 21 to September 21. PP has also submitted ambient air quality data of 4 locations from MoEF&CC recognised laboratory Min Mec R&D Laboratory. The parameters were found within limit		II(i)	Online stack monitoring facilities have been provided in the Pelletisation Plant i.e. at combined exit of ESP 1&2 from 27.12.2021. The same connected to CPCB & JSPCB servers for online real time data transmission. Photographs showing online systems installed in pellet plant Therefore, now all process stacks (i.e. from DRI kilns, AFBC boiler, IF in SMS and indurating furnace of pellet plant) 24x7 continuous emission monitoring system.
6	Air Pollution and control	Coal was found to be kept in open as well as cover shed. Iron ore was found to be kept in open. Wind shelter fence provided in part of the raw material area not all along the raw material storage area. Sheds		II(XVII)	It is submitted that during inspection, the raw material observed in open was due to unloading by Truck, where after it is shifted under covered shed using dozers.

<table>
<tr><th>SI</th><th>Category</th><th>Observation of RO (abridged) partially complied</th><th colspan="2">Condition no.</th><th>Response by PP as on 24/02/2022</th></tr>
<tr><th></th><th></th><th></th><th>Specific</th><th>General</th><th></th></tr>
<tr><td></td><td></td><td>having total covered area reported to be 15500 sq. metres.</td><td></td><td></td><td></td></tr>
<tr><td>7</td><td>Water Pollution and control</td><td>A drain has been provident in between part of the raw material storage to the newly constructed ETP. However, garland drain and collection pit for each stock pile to arrest the run off in the event of heavy rains needs to be provided. Solid waste dump observed near the premises needs to be provided with garland drain and collection pit to check the water pollution due to surface run off.</td><td></td><td>III(VI)</td><td>Garland drains connected with catch pits is being constructed around those stock piles where it was not observed.

The runoff from the raw material and waste storage yards will be duly settled in check pit being constructed near ETP, before release into the natural drain. The runoff will occur only on rainy days. We confirm that the quality of runoff prior to release shall be monitored on rainy days immediately for basic parameters such as pH, EC, TDS and TSS.</td></tr>
<tr><td>8</td><td>Energy conservation</td><td>PP has submitted a copy of GHG emission inventory report and reduction of Chaliyama Steel Plant of M/s Rungta Mines Ltd. The report has been prepared by Department of Chemical engineering, IIT Kharagpur. As per the recommendation of the report (Year 2021) of IIT, Kharagpur, PP has not furnish the implementation status</td><td></td><td>VII</td><td>The recommendations were concluded by the IIT Kharagpur report after evaluation of the advantages, disadvantages, cost-effectiveness of various available technologies. The compliance to the recommendations is as follows:

<table>
<tr><th>Recommendation</th><th>Status</th></tr>
<tr><td>use the recovery energy from of Waste Gases and recover different waste energies to utilize it in</td><td>WHRBs have been installed as follows:
15MW on 7X100 TPD
2 MW on 1X100 TPD DRI
16 MW on</td></tr>
</table>
</td></tr>
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SI	Category	Observation of RO (abridged) partially complied	Condition no.		Response by PP as on 24/02/2022	
			Specific	General		
					the form of steam or pre-heated air to reduce GHG	2X350 TPD DRI Thus, total 33 MW has been installed for recovery of energy for power generation, this reducing GHG
					Plantation of trees in and around its premises as indicated in map with thick and broad native leaves like Kusum, Jack fruit , siris, palas, Karanja, Ashok, neem, sal , mahua, mango, etc.	The company has planted 195,410 trees over 195.41 acres in existing plant area of 592.16 acres. The plantation in 33% of 341.28 acres expansion area shall be undertaken in next three years. Trees planted have been Haldu, Shisham, Gulmohar, Jasmin, Mango, Jamun, Teak, China Rose, Chuimui, Tulsi etc.

SI	Category	Observation of RO (abridged) partially complied	Condition no.		Response by PP as on 24/02/2022
			Specific	General	
9	Miscellaneous condition	The advertisement regarding accord of environmental clearance was published in English newspaper "Times of India" and Hindi newspaper "Prabhat Khabar" dated 23.01.2021. However, the advertisement published was without environmental clearance conditions. Clearance letter has been uploaded on company's website.		X(I)	Advertisement regarding accord of environmental clearance was published in English Newspaper "Hindustan Times" and Hindi Newspaper "Prabhat Khabar" dated 23.01.2021 and refers to the MoEF&CC as well as company website. Publication of an 18 pages EC letter is practically not possible in the newspaper. Clearance letter has already been posted in company's website www.rungtamines.com
10	Miscellaneous condition	Status of environmental protection measure has already been depicted in the Environmental Clearance conditions. Environmental protection measures such as dust extraction system at all the raw material unloading area, solid waste disposal area, crushing/ grinding operations not observed. Covered shed for raw material partially provided, green belt provided in patches not all along the boundary. Proper measure to control runoff from coal and iron ore handling areas and run off from solid waste disposal area has not been addressed properly.		viii	a) Dust extraction system with bag filters has been provided to crushing unit of DRI. Processing of raw materials & Products are within intact cover with provisions of duct collection. 72 fixed water sprinklers have been installed inside the plant to cover the entire premises to mitigate fugitive dust emission. Mobile water sprinkler is also used where unloading, material handling & truck movement is taking place in the premises. b) Covered shed for raw material partially provided- as replied in point 2 earlier. c) Green belt - as replied in point 6 earlier. d) Measure to control runoff from coal and iron ore handling areas and run off from solid waste disposal area - as replied in point 7 earlier.

1.14.20 During the meeting, project proponent submitted written submission on the following points:

i. ATR has been submitted to IRO, Ranchi on 23/02/2022. PP further submit that the observations made by RO will be complied by 31/05/2022.
ii. Revised budgetary provision for the socio - economic development of the surrounding villages is Rs 15.01 Cr. Same has been updated at para 1.14.13 above.
iii. Transportation of the various raw material and finished products will be transported through nearest existing railway sidings at Birarajpur, Haludpukur and Tata Nagar. Further, transportation will also be done from railway siding at pandrasali which will be completed within 3 years.
iv. PP will take up the study for carbon foot print through recognized agency/ Institute.
v. PP already having surface water withdrawal permission of 5.610 MCM (15370 KLD) and Recommendation for 31.15 MCM (85342 KLD) is forwarded by Chief Engineer, Subernarekha Multipurpose Project vide letter no. SMP/IGC/CE/1181 Adityapur dated 26/10/2021. For additional requirement of 21.60 MCM (59184 KLD) propoent will make the application for drawal of surface water from Kharkai river.

Observations of the Committee

1.14.21 The Committee noted the following:

i. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
ii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.
iii. The Committee deliberated upon the certified compliance report of RO and action taken report submitted by PP with respect to the compliance status of all the existing EC condition, PP given time bound commitment to comply the all the observations of RO by 31/05/2022. After deliberations, the Committee found it satisfactory.
iv. The EAC also deliberated on the written submissions submitted by the proponent and found it satisfactory.

Recommendations of the Committee

1.14.22 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements.

A. Specific Conditions

i. Rejects from coal washery shall only be used either in the captive power plant (or) in the Thermal Power Plants meeting emission standards.
ii. Solid waste utilization
    - PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making.
    - PP shall recycle/reuse solid waste generated in the plant as far as possible.
    - Used refractories shall be recycled as far as possible.

iii. Sinter Plant shall be equipped with Sinter cooler waste recovery system and suitable technology for control of dioxins and furans emissions from the plant.
iv. Tar shall be recovered from producer gas and shall be sold to registered processors and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.
v. Coke oven plant shall be equipped with modified wet quenching system.
vi. Blast Furnaces shall be equipped with Top Recovery Turbine (capacity more than 450m^3), dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.
vii. Secondary fume extraction system shall be installed on converters of Steel Melting Shop.
viii. Basic Oxygen Furnace (BOF) gas shall be cleaned dry.
ix. Electric Arc Furnace shall be closed type with 4th hole extraction system.
x. 85-90 % of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil or Mixed BF/CO gas/Producer gas.
xi. Cold Rolling Mill (CRM), color coating and galvanizing plants shall have CETP to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.
xii. Dust emission from Steel Plant stacks shall be up to 30 mg/Nm^3.
xiii. 159984 KLD water shall be drawn from Kharkai River. No GW abstraction is permitted except for domestic purposes.
xiv. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.
xv. Transportation of the various raw material and finished products will also be transported through nearest existing railway sidings at Birarajpur, Haludpukur and Tata Nagar. Further, transportation will also be done from railway siding at Pandrasali.
xvi. Ductile Iron (DI) plant shall have the following provisions:
    a. Bag filter for Zn coating and Mg converter area.
    b. Wet scrubbers in paint and bitumen coating area.
    c. Bag Filter in Cement lining area.
    d. PTFE dipped bags shall be used in the plant.
    e. PM emissions from BF in Zinc coating area shall be 5 mg/Nm^3.
    f. ETP with recycling facility shall be included.
xvii. The emission norms applicable for the cement plant shall be adhered to.
xviii. Dioxin and Furan monitoring shall be carried out once in six months at cement kiln stack.
xix. The recommendations of the approved Site-Specific Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.
xx. Three tier Green Belt shall be developed covering 33% of total area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. This shall include 50 m wide green belt along the boundary of the plant situated towards the Kharkai river side. Where there is no sufficient place besides the Kharkai river for developing the green belt, suitable soil conservation structures shall be constructed to arrest soil erosion from the plant site to the river. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.

Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

xxi. Kharkai river water quality shall be monitored at upstream and downstream on monthly basis and data shall be submitted to RO.

xxii. Adequate parking space for trucks shall be provided. No trucks pertaining to plant/ plant activity will be parked on road side/public places.

xxiii. All the observations stated in the certified compliance report of RO dated 23/02/2022 shall be complied with by 31/05/2022 as committed. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

B. General Conditions

I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

II.Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 06 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).

x. Land-based APC system shall be installed to control coke pushing emissions.

xi. Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.
xii. Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.
xiii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
xiv. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

III.Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
v. Tyre washing facilities shall be provided at the entrance of the plant gates.
vi. Water meters shall be provided at the inlet to all unit processes in the steel plants.

IV.Noise monitoring and prevention

i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V.Energy Conservation measures

i. Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.
ii. Restrict Gas flaring to < 1%.
iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
iv. Provide LED lights in their offices and residential areas.
v. Ensure installation of regenerative/recuperative type burners on all reheating furnaces.

VI.Waste management

i. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.
ii. Kitchen waste shall be composted or converted to biogas for further use.

VII.Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.
ii. Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

VIII.Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX.Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.
ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

X.Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

1.15 Proposed Greenfield Cement Plant of 2.50 MTPA Clinker & 3.50 MTPA Cement (OPC/PPC), 50 MW Thermal Power Plant, and 15 MW Waste Heat Recovery Plant by **M/s. Saraswati Power & Industries Private Limited** at located at Tangeda, Vemavram & Chennayyapalem Villages, Dachepalli & Machavaram Tehsils, **Guntur District, Andhra Pradesh** [Online Proposal No. IA/AP/IND/256140/2022; File no: IA-J- 11011/543/2009-IA.II(I)] - **Prescribing of Terms of Reference – regarding.**

1.15.1 M/s. Saraswati Power & Industries (P) Ltd., (SPIPL) has made an online application vide proposal no. IA/AP/IND/256140/2022 dated 11/02/2022 in prescribed format (Form-1), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(b) Cement Plants & 1(d) Thermal Power Plants under Category "A" of the schedule of the EIA Notification, 2006 under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

1.15.2 The project proponent and their EIA consultant namely M/s. B.S. Envitech Private Limited participated in the meeting. During the meeting, the proponent has requested for withdrawal of the proposal.

Recommendations of the Committee

1.15.3 In view of the foregoing and after deliberations, EAC recommended that proposal to be returned in its present form as the PP has requested for withdrawal of the proposal.

1.16 Establishment of Smelting Arc Furnaces (Titanium Slag – 36,000 TPA & Pig Iron – 20,000 TPA), Rotary Kiln with Ball Mill (Titanium Dioxide Pigment- 30,000 TPA), Producer gas plant (Producer gas -12,000 Nm^3/Hr), Sulphuric Acid Plant (Sulphuric Acid -99,000 TPA), Power plant (WHRB based Power Plant – 12 MW & CFBC based Power Plant - 30 MW) & Brick Manufacturing unit (3,00,00,000 Bricks/Annum) by **M/s. Shri Bajrang Steel Corporate Limited** at located at Nakti Khapri & Jalso Villages, Tilda Tehsil, **Raipur District, Chhattisgarh** [Online Proposal No. IA/CG/IND/256705/2022; File no: IA-J-11011/304/2021-IA-II(IND-I)] - **Prescribing of Terms of Reference – regarding.**

1.16.1 M/s. Shri Bajrang Steel Corporate Limited (SBSCL) has made an application online vide proposal no. IA/CG/IND/256705/2022 dated 15/02/2022 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3 (a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA notification, 2006 and being appraised at Central Level.

Details submitted by Project proponent

1.16.2 The project of M/s. Shri Bajrang Steel Corporate Limited (SBSCL) located at Nakti Khapri & Jalso Villages, Tilda Tehsil, Raipur District, Chhattisgarh is for establishment of Smelting Arc Furnaces (Titanium Slag – 36,000 TPA & Pig Iron – 20,000 TPA), Rotary Kiln with Ball Mill (Titanium Dioxide Pigment- 30,000 TPA), Producer gas plant (Producer gas -

12,000 Nm3/Hr), Sulphuric Acid Plant (Sulphuric Acid -99,000 TPA), Power plant (WHRB based Power Plant – 12 MW & CFBC based Power Plant - 30 MW) & Brick Manufacturing unit (3,00,00,000 Bricks/Annum).

1.16.3 Environmental site settings:

<table>
<tr><th>S.No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>i.</td><td>Total land</td><td>55.89 Ha. (138.08 Acres) [Private Land & Govt Land]</td><td>Land use: Agricultural land & Govt. Land</td></tr>
<tr><td>ii.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>Request has been submitted to State govt for land allotment. Agreements have been entered with land owners for the entire private land.</td><td>-</td></tr>
<tr><td>iii.</td><td>Existence of habitation & involvement of R&R, if any.</td><td>No R&R is involved.
Study Area:
<table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Nakti Kapri Village</td><td>0.8 Kms</td><td>NEE</td></tr></table></td><td>-</td></tr>
<tr><td>iv.</td><td>Latitude and Longitude of all corners of the project site.</td><td><table><tr><th>POINT</th><th>LATITUDE</th><th>LONGITUDE</th></tr><tr><td>1</td><td>21°28'09.39" N</td><td>81°47'18.51" E</td></tr><tr><td>2</td><td>21°28'04.52" N</td><td>81°47'19.39" E</td></tr><tr><td>3</td><td>21°28'04.75" N</td><td>81°47'22.20" E</td></tr><tr><td>4</td><td>21°28'06.95" N</td><td>81°47'22.36" E</td></tr><tr><td>5</td><td>21°28'09.47" N</td><td>81°47'31.42" E</td></tr><tr><td>6</td><td>21°28'10.83" N</td><td>81°47'30.94" E</td></tr><tr><td>7</td><td>21°28'12.65" N</td><td>81°47'34.85" E</td></tr><tr><td>8</td><td>21°28'17.36" N</td><td>81°47'32.38" E</td></tr><tr><td>9</td><td>21°28'14.48" N</td><td>81°47'29.74" E</td></tr><tr><td>10</td><td>21°28'13.52" N</td><td>81°47'23.91" E</td></tr><tr><td>11</td><td>21°28'11.16" N</td><td>81°47'18.46" E</td></tr><tr><td>12</td><td>21°28'15.37" N</td><td>81°47'29.39" E</td></tr><tr><td>13</td><td>21°28'22.04" N</td><td>81°47'34.77" E</td></tr><tr><td>14</td><td>21°28'18.94" N</td><td>81°47'41.13" E</td></tr><tr><td>15</td><td>21°28'21.31" N</td><td>81°47'45.41" E</td></tr><tr><td>16</td><td>21°28'26.56" N</td><td>81°47'47.49" E</td></tr><tr><td>17</td><td>21°28'29.87" N</td><td>81°47'51.51" E</td></tr><tr><td>18</td><td>21°28'32.01" N</td><td>81°47'00.35" E</td></tr><tr><td>19</td><td>21°28'45.49" N</td><td>81°47'59.27" E</td></tr><tr><td>20</td><td>21°28'45.45" N</td><td>81°47'53.90" E</td></tr><tr><td>21</td><td>21°28'36.38" N</td><td>81°47'53.91" E</td></tr><tr><td>22</td><td>21°28'34.67" N</td><td>81°47'49.74" E</td></tr><tr><td>23</td><td>21°28'34.26" N</td><td>81°47'43.40" E</td></tr><tr><td>24</td><td>21°28'34.75" N</td><td>81°47'40.03" E</td></tr><tr><td>25</td><td>21°28'33.34" N</td><td>81°47'37.02" E</td></tr><tr><td>26</td><td>21°28'34.91" N</td><td>81°47'35.87" E</td></tr></table></td><td></td></tr>
</table>

<table>
<tr><th>S.No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>27</td><td>21°28'35.03" N</td><td>81°47'35.43" E</td></tr>
<tr><td>28</td><td>21°28'33.41" N</td><td>81°47'34.66" E</td></tr>
<tr><td>29</td><td>21°28'32.99" N</td><td>81°47'32.83" E</td></tr>
<tr><td>30</td><td>21°28'34.04" N</td><td>81°47'32.51" E</td></tr>
<tr><td>31</td><td>21°28'33.76" N</td><td>81°47'29.21" E</td></tr>
<tr><td>32</td><td>21°28'31.54" N</td><td>81°47'28.53" E</td></tr>
<tr><td>33</td><td>21°28'25.32" N</td><td>81°47'18.21" E</td></tr>
</table>
</td><td></td></tr>
<tr><td>v.</td><td>Elevation of the project site</td><td>283 m to 291 m above MSL.</td><td>-</td></tr>
<tr><td>vi.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is involved.</td><td>-</td></tr>
<tr><td>vii.</td><td>Water body exists within the project site as well as study area</td><td>Project site: Nil

Study area
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Bhatapara Branch canal</td><td>0.28 Kms</td><td>N to W</td></tr>
<tr><td>Kirna Tank</td><td>0.25 Kms.</td><td>SWW & S</td></tr>
<tr><td>Kumhari Tank</td><td>10.2 Kms</td><td>E</td></tr>
<tr><td>Pindraon Tank</td><td>9.4 Kms</td><td>SE</td></tr>
<tr><td>Jamuniya nadi</td><td>3.7 Kms</td><td>E</td></tr>
<tr><td>Dhumma Nala</td><td>1.0 Kms</td><td>W</td></tr>
</table>
</td><td></td></tr>
<tr><td>Viii</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>Project Area: Nil

Study Area:
Mohrenga PF – 7.5 Kms (SEE)</td><td></td></tr>
</table>

1.16.4 The unit configuration and capacity of proposed project is given as below:

S.No.	Units (Products)	Plant Configuration	Production Capacity
1.	Smelting Arc Furnaces (Titanium Slag)	2x12 MVA	36,000 TPA
2.	Smelting Arc Furnaces (Pig Iron)		20,000 TPA
3.	Rotary Kiln, Ball Mill (Titanium Dioxide Pigment)	2x50 TPD	30,000 TPA
4.	Sulphuric Acid Plant (Sulphuric Acid)	1x300 TPD	99,000 TPA
5	Producer gas plant (Producer gas)	3 x 4,000 Nm^3/Hr	12,000 Nm^3/Hr

S.No.	Units (Products)		Plant Configuration	Production Capacity
6.	Brick Manufacturing Unit		3,00,00,000 Brick/ Annum	3,00,00,000 Brick/ Annum
7.	Power Plant	WHRB Power Plant	2 x 6 MW	12 MW
		CFBC Power Plant	1 x 30 MW	30 MW

1.16.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

S.No.	Raw Material	Quantity (TPA)	Sources	Distance FromSite (in Kms.)	Mode of Transport
1.	**For Smelting Arc Furnaces (Titanium Slag – 36,000 TPA & Pig iron – 20,000 TPA)**				
a)	Ilmenite	72,000	IREL Orissa	550	By Rail/ Road (Through covered trucks)
b)	Anthracite Coal/ coke	12,600	Imported/Open Market	-	Through sea route, rail route & by road (Through covered trucks)
c)	Graphite	900	Open market	-	By road (Through covered trucks)
2.	**For Rotary Kiln, Ball Mill (Titanium Dioxide Pigment - 30,000 TPA)**				
a)	Ilmenite	25530.0	IREL Orissa	550	By Rail/Road (Through covered trucks)
b)	High Titanium Slag	25530.0	Own production	-	By road (Through covered trucks)
c)	Iron Powder	3300.0	Open market	-	By road (Through covered trucks)
d)	Sodium Hydroxide	8100.0	Open market	-	By road (Through covered trucks)
e)	Diatomite	159.0	Open market	-	By road (Through covered trucks)
f)	Flocculating Agent	213.0	Open market	-	By road (Through covered trucks)
g)	Charcoal Powder	17.7	Open market	-	By road (Through covered trucks)
h)	Aluminium Powder	18.3	Open market	-	By road (Through covered trucks)
i)	Potassium Hydroxide	150.0	Open market	-	By road (Through covered trucks)
j)	Zinc Oxide	180.0	Open market	-	By road (Through covered trucks)
k)	Hydrochloric Acid (30%)	3450.0	Open market	-	By road (Through covered trucks)
l)	Zirconium Sulphate	690.0	Open market	-	By road (Through covered trucks)
m)	Sodium Meta Aluminate	1560.0	Open market	-	By road (Through covered trucks)
n)	Lime	5217.9	Open market	-	By road (Through covered trucks)
3.	**For Sulphuric Acid Plant (Sulphuric Acid – 99,000 TPA)**				
a)	Sulphur	21780.0	Open market	-	By Rail/Road (Through covered trucks)

S.No.	Raw Material	Quantity (TPA)	Sources	Distance FromSite (in Kms.)	Mode of Transport
4.	**For Producer gas plant (Producer gas –12,000 Nm^3/Hr)**				
a)	Coal	66,000	Imported /SECL	500	Through sea route, rail route & by road (Through covered trucks)
5.	**For Brick Manufacturing Unit (Bricks 3,00,00,000 per annum)**				
a)	Fly Ash	69,000	Captive	-	By road (Through covered trucks)
b)	Cement	4,500	Open market	-	By road (Through covered trucks)
c)	Gypsum	4,500	Open market	-	By road (Through covered trucks)
d)	Stone Dust	3,000	Open market	-	By road (Through covered trucks)
6.	**For CFBC Boiler [Power 30 MW]**				
a)	Indian Coal	2,37,600 TPA	SECL Chhattisgarh	~ 500 Kms.	By rail & road (Through covered trucks)
	OR				
b)	Imported Coal	1,48,504 TPA	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag Port)	Through sea route, rail route & by road (Through covered trucks)

1.16.6 Water required for the proposed project will be 6,426 KLD, and will be sourced from Shivnath River (which is at a distance of 14.9 Kms. from the project site). Water drawl permission from Water Resource Department, Chhattisgarh will be obtained for the proposed project.

1.16.7 Power required for the proposed project will be 42.0 MW and same will be sourced from Captive Power Plant & from State Grid.

1.16.8 The capital cost of the project is Rs.950.0 Crores and Capital Cost for Environment Protection Measures is proposed as Rs. 50.0 Crores. The employment generation from proposed project will be 600 nos. through direct employment and 400 nos. through indirect employment.

1.16.9 The project proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.16.10 Name of the EIA consultant: M/s. Pioneer Enviro Laboratories & Consultants Pvt. Ltd. [S No 140, List of ACOs with their Certificate / Extension Letter no. NABET/EIA/1922/RA0149; valid upto 22/03/2022; Rev. 19, February 14, 2022].

1.16.11 Proposed Terms of Reference (**Baseline data collection period: 1st March 2021 to 26th May 2021)**:

Attributes	**Sampling**		**Remarks**
	No. of Stations	**Frequency**	
1) Air			
i) Meteorological parameters	1	On hourly basis for one season	• Wind Speed • Wind Direction • Temperature • Relative Humidity • Rainfall
ii) AAQ parameters	8	24 hourly Twice a week for 3 months (One Season)	Parameters to be Monitored: • $PM_{2.5}$ • PM_{10} • SO_2 • NOx • CO
2) Noise	8	On hourly basis for 24 Hrs. at each station	Parameters to be Monitored: • Day equivalent • Night equivalent
3) Water			
i) Ground Water	8	One sample at each of the locations	Parameters to be Monitored: as per IS: 10500
ii) Surface Water	5	One sample at each of the locations	Parameters tobe Monitored: as per BIS: 2296
4) Land			
i) Soil quality	8	One sample at each of the locations	Parameters to be Monitored: Texture, infiltration rate, SAR bulk density, CEC, pH, Ca, Mg, Na, K, Zn, Mn
ii) Land use	--	--	LU map to be prepared by concerned FAE for study area
5) Biological			
i) Aquatic	--	Once in Season	---
ii) Terrestrial	--	Once in Season	---
6) Socio economic parameters	--	Once in Season	Social Impact Assessment to be carried out by concerned FAE for study area
7) Traffic Density	--	Once in Season	Vehicular traffic study tobe carried out at Transportation route.

Observations of the Committee

1.16.12 The Committee noted the following:

i. The instant proposal is for seeking ToR for undertaking EIA study for establishment of Smelting Arc Furnaces (Titanium Slag – 36,000 TPA & Pig Iron – 20,000 TPA), Rotary Kiln with Ball Mill (Titanium Dioxide Pigment- 30,000 TPA), Producer gas plant (Producer gas -12,000 Nm3/Hr), Sulphuric Acid Plant (Sulphuric Acid -99,000 TPA), Power plant (WHRB based Power Plant – 12 MW & CFBC based Power Plant - 30 MW) & Brick Manufacturing unit (3,00,00,000 Bricks/Annum) located at Nakti Khapri & Jalso Villages, Tilda Tehsil, Raipur District, Chhattisgarh.

ii. Total area for proposed project is 55.89 ha in two patches separated by a canal. PP proposed to develop green belt in a patches located in southern side of the main project area.

iii. Nakti Khapri Village is located at 0.75 km in ENE from project site.

iv. Baseline for the project has already been collected during Jan to March, 2021. The location of the AAQ stations are not in consonance with the windrose diagram. In view of this, the Committee opined that additional AAQ monitoring for one more month. The location of the sampling stations shall be as per the wind rose diagram.

Recommendations of the Committee

1.16.13 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study under the provision of EIA Notification, 2006 in addition to the generic ToRs enclosed at Annexure-1 read with additional ToRs at Annexure-2.

i. Project proponent shall carryout one-month additional AQQ data. The locations of the monitoring stations shall be chosen as per the wind rose diagram.

ii. A canal is passing through project site, Action plan for landscaping of the canal with green belt covering 10-meter land on both the sides of the canal. This shall be in addition to the 33% green belt development.

iii. An action plan for Green Belt development consisting of 3 tiers of plantations of native species all along the periphery of the project of adequate width shall be raised in 33% of total area with a tree density of not less than 2500 per ha within a time frame of one year shall be submitted. This shall include green belt development of 20 meter width from the project site towards Nakti Khapri Village located at 0.75 km in ENE from project site. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.

iv. Project proponent shall prepare layout plan showing all internal roads minimum 6m width and 9m turning radius for smooth traffic flow inside including fire tender as per NBC. Road network shall connect all service areas in layout. This drawing shall include area statement showing plot area, area under roads, parking, green belt with calculations and % with respect to plot area of project site and proper indexing.

v. Project proponent shall submit contour map of project site along with drainage disposal system with calculations and drawings supported with proper indexing including rain water harvesting details with calculations mentioning about GW recharge along with relevant drawing.

vi. Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and

supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.

vii. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration. In this regard, time bound action plan as per the MoEF&CC Office Memorandum dated 30/09/2020 shall be submitted.

viii. Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm^3 shall be furnished.

ix. Action plan for fugitive emission control in the plant premises shall be provided.

x. Action plan for rain water harvesting shall be submitted.

xi. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.

xii. Action plan for developing connecting and internal road in terms of MSA as per IRC guidelines shall be submitted.

1.17 Establishment of Sponge Iron Plant – 0.768 MTPA, Steel Melting Shop – 0.96 MTPA, Power Plant – 100 MW (4x12.5 MW- WHRB & 50 MW- AFBC), Hot Rolled Strip- 0.9 MTPA, Tubular Products (Black Tubes – 0.35 MTPA & Galvanized Tubes – 0.15 MTPA), Pickling Line – 0.45 MTPA, Cold Rolling Line – 0.3 MTPA, Cold Rolled Galvanizing Line – 0.3 MTPA, Hot Rolled Galvanizing Line – 0.15 MTPA, HR Cut to Length Plates & Sheets – 0.1 MTPA And Oxygen Plant – 0.0495 MTPA by **M/s. Khayati Pipes and Power Private Limited** located at Village Hirebaganal, Taluk and **District Koppala Hobli, Karnataka** [Online Proposal No. IA/KA/IND/255371/2022; File no: IA-J-11011/50/2022- IA-II(IND-I)] - **Prescribing of Terms of Reference – regarding.**

1.17.1 M/s. Khayati Pipes and Power Private Limited has made an online application vide proposal no. IA/KA/IND/255371/2022 dated 18/02/2022 in prescribed format (Form-1), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA Notification, 2006 under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

Details submitted by Project proponent

1.17.2 The project of M/s. Khayati Pipes and Power Private Limited located in Hirebaganal Village, Koppala Tehsil , Koppala District, Karnataka State is for setting up of a new Integrated Steel Plant for production of Sponge Iron Plant – 0.768 MTPA, Steel Melting Shop – 0.96 MTPA, Power Plant – 100 MW (4x12.5 MW- WHRB & 50 MW- AFBC), Hot Rolled Strip- 0.9 MTPA, Tubular Products (Black Tubes – 0.35 MTPA & Galvanized Tubes – 0.15 MTPA), Pickling Line – 0.45 MTPA, Cold Rolling Line – 0.3 MTPA, Cold Rolled Galvanizing Line – 0.3 MTPA, Hot Rolled Galvanizing Line – 0.15 MTPA, HR Cut to Length Plates & Sheets – 0.1 MTPA And Oxygen Plant – 0.0495 MTPA.

1.17.3 Environmental site settings:

SL. No	Particulars	Details	Remarks
i	Total Land	42.57 ha [Private]	Land Use: Agricultural Land Converted for Industrial use.
ii	Land Acquisition details as per MoEF O.M dated 7/10/2014.	The proponent has purchased land of 96 Acres from M/s. Kasturi Ispat Private limited dated 13/10/2021 and additional land of 7 acres 23 G dated 13/10/2021 for the establishment of Integrated Steel Plant.	1. M/s. Kasturi Ispat Private limited proposed for establishment of an Integrated Steel Plant at the proposed site. 2. M/s. Kasturi Ispat Private limited obtained Environmental Clearance Vide No. J- 11011/70/2009-IA II (I) dated 27th October 2010 and Consent for Establishment from Karnataka State Pollution Control Board dated 21st May 2011. 3. There was blanket ban on Iron ore mining in Karnataka in the period of 2011 and 2012, due to closure of mining activities, it became difficult to get the required raw material, and hence the proponent could not take up the project. 4. Subsequently M/s, Khayati Pipes and Power Private Limited purchased the land on 03/10/2021. 5. Since the project site was identified by M/s Kasturi Ispat Private Limited and cleared by MoEF&CC and KSPCB by issuing EC and CFE respectively, M/s, Khayati Pipes and Power Private Limited finalise

<table>
<tr><th>SL. No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td></td><td>the land to establish integrated steel plant.</td></tr>
<tr><td>iii</td><td>Existence of habitation involvement of R&R, if any</td><td>There is no habitation on the proposed project area. Land is converted for Industrial use. R&R is not involved in the proposed project.</td><td></td></tr>
<tr><td>iv</td><td>Latitude and Longitude of all the corners of project site</td><td>
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>15°17'18.93" N</td><td>76°14'37.48" E</td></tr>
<tr><td>B</td><td>15°17'18.80" N</td><td>76°14'35.83" E</td></tr>
<tr><td>C</td><td>15°17'18.41" N</td><td>76°14'34.41" E</td></tr>
<tr><td>D</td><td>15°17'17.46" N</td><td>76°14'32.25" E</td></tr>
<tr><td>E</td><td>15°17'16.93" N</td><td>76°14'31.82" E</td></tr>
<tr><td>F</td><td>15°17'15.00" N</td><td>76°14'25.84" E</td></tr>
<tr><td>G</td><td>15°17'11.28" N</td><td>76°14'27.48" E</td></tr>
<tr><td>H</td><td>15°17'07.26" N</td><td>76°14'28.05" E</td></tr>
<tr><td>I</td><td>15°17'06.98" N</td><td>76°14'26.59" E</td></tr>
<tr><td>J</td><td>15°17'04.78" N</td><td>76°14'26.76" E</td></tr>
<tr><td>K</td><td>15°17'04.89" N</td><td>76°14'30.66" E</td></tr>
<tr><td>L</td><td>15°17'01.36" N</td><td>76°14'30.45" E</td></tr>
<tr><td>M</td><td>15°16'59.51" N</td><td>76°14'24.60" E</td></tr>
<tr><td>N</td><td>15°16'55.99" N</td><td>76°14'25.08" E</td></tr>
<tr><td>O</td><td>15°16'15.61" N</td><td>76°14'23.08" E</td></tr>
<tr><td>P</td><td>15°16'54.35" N</td><td>76°14'23.14" E</td></tr>
<tr><td>Q</td><td>15°17'52.15" N</td><td>76°14'10.06" E</td></tr>
<tr><td>R</td><td>15°17'00.09" N</td><td>76°14'09.29" E</td></tr>
<tr><td>S</td><td>15°17'06.20" N</td><td>76°14'07.97" E</td></tr>
<tr><td>T</td><td>15°17'08.06" N</td><td>76°14'16.02" E</td></tr>
<tr><td>U</td><td>15°17'12.34" N</td><td>76°14'14.75" E</td></tr>
<tr><td>V</td><td>15°17'15.25" N</td><td>76°14'13.29" E</td></tr>
<tr><td>W</td><td>15°17'14.34" N</td><td>76°14'05.59" E</td></tr>
<tr><td>X</td><td>15°17'21.92" N</td><td>76°14'02.95" E</td></tr>
<tr><td>Y</td><td>15°17'23.10" N</td><td>76°14'10.95" E</td></tr>
<tr><td>Z</td><td>15°17'18.76" N</td><td>76°14'11.60" E</td></tr>
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<tr><td>AB</td><td>15°17'17.98" N</td><td>76°14'24.30" E</td></tr>
<tr><td>AC</td><td>15°17'18.62" N</td><td>76°14'24.18" E</td></tr>
<tr><td>AD</td><td>15°17'19.74" N</td><td>76°14'31.86" E</td></tr>
<tr><td>AE</td><td>15°17'23.27" N</td><td>76°14'32.56" E</td></tr>
<tr><td>AF</td><td>15°17'23.65" N</td><td>76°14'35.11" E</td></tr>
<tr><td>AG</td><td>15°17'20.83" N</td><td>76°14'34.44" E</td></tr>
<tr><td>AH</td><td>15°17'20.23" N</td><td>76°14'37.99" E</td></tr>
<tr><td>AI</td><td>15°17'19.84" N</td><td>76°14'37.96" E</td></tr>
</table>
</td><td></td></tr>
</table>

<table>
<tr><th>SL. No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>v</td><td>Elevation of the project site</td><td>506 m above mean sea level</td><td>-</td></tr>
<tr><td>vi</td><td>Involvement of Forest land if any</td><td>No involvement of Forest Land</td><td>-</td></tr>
<tr><td>vii</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><u>Project site:</u>
Nala is passing within the project site.

<u>Study area</u><table><tr><td>Water Body</td><td>Distance</td><td>Direction</td></tr><tr><td>Tungabhadra Reservoir</td><td>250 m</td><td>NE</td></tr><tr><td>Ginigera Lake</td><td>6.8 km</td><td>N</td></tr></table></td><td><u>Project site:</u>
Required buffer has been considered for Nala and flow of nala will not be disturbed.

<u>Study area</u>
Authenticated HFL data procurement is under process.
The present proposal is planned at the site area for which environmental clearance has been obtained vide No. J- 11011 /70/2009-IA II (I) dated 27th October 2010.</td></tr>
<tr><td>viii</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary / biosphere reserve / tiger reserve / elephant reserve etc. if any within the study area</td><td>Nil</td><td></td></tr>
</table>

1.17.4 The unit configuration and capacity of proposed project is given as below:

Sl. No.	Plant Equipment/ Facility	Proposed Units		Remarks
		Configuration	Capacity	
1	DRI Kilns	4 x 600 TPD	0.768 MTPA	
2	Steel Melting Shop (SMS)	2 x 80 TPD- Electrical Arc Furnace/ Induction furnace 2 x 80 TPD- Ladle Furnace 1 x 8 M Two Strand Slab Caster	0.96 MTPA	
3	Rolling Mill	900000 TPA – Hot Strip Mill	0.9 MTPA	

Sl. No.	Plant Equipment/ Facility	Proposed Units		Remarks
		Configuration	Capacity	
4	Cold Rolling Complex			
	Pickling Line	1 x 450000 TPA	0.45 MTPA	
	Cold Rolling Line	1 x 300000 TPA	0.3 MTPA	
	CR Galvanizing Line	1 x 300000 TPA	0.3 MTPA	
	HR Galvanizing Line	1 x 150000 TPA	0.15 MTPA	
5	Tube Plant			
	Black Tubes	1 x 350000 TPA	0.35 MTPA	
	Galvanized Tubes	1 x 150000 TPA	0.15 MTPA	
6	HR Cut to Length Plates & Sheets	1 x 100000 TPA	0.1 MTPA	
7	Power Plant	4 x12.5 MW WHRB (DRI Based) 1x50 MW AFBC	100 MW	
8	Oxygen Plant	49500 TPA	0.0495 MTPA	

1.17.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

Sl No.	Raw Material	Quantity (TPA)	Source	Distance from site (Kms)	Mode of Transport
	DRI PLANT				
1	Iron Ore	11,52,000	Bellary mines	<100 km	Road
2	Coal (DRI plant)	691,200	Imported	-	Road
3	Dolomite	46,080	Bagalkot	<150 km	Road
	STEEL MELTING SHOP				
4	DRI	7,68,002	DRI Plant	Within site	
5	Scrap	3,19,220	Local market	<200 km	Road
6	Scrap	45,300	Local market	<200 km	Road
7	Fluxes	1,14,784	Local market	<200 km	Road
8	Ferro Alloys	14,348	Local market	<200 km	Road
	SLAB CASTER				
9	Liquid Metal	9,56,527	Furnace	Within site	-
	ROLLING STRIPS				
10	Slabs	9,27,835	EAF-Slab Caster	Within site	-
	PICKLING LINE				
11	HRC	4,50,000	Hot Rolling Mill	Within site	-
	COLD ROLLING LINE				
12	Pickled Coils	2,88,000	Pickling line	Within site	
	COLD GALVANIZING LINE				
13	CRC	2,85,120	Cold Rolling Line	Within site	-
14	Zn & Alloys	11,094	Local market	<100 km	Road
	HOT GALVANIZING LINE				
15	Pickled HRC	1,44,000	Pickling line	Within site	-

Sl No.	Raw Material	Quantity (TPA)	Source	Distance from site (Kms)	Mode of Transport
16	Zn & Alloys	5,643	Local market	<100 km	Road
	TUBE PLANT				
17	HRC	3,50,000	Hot Rolling Mill	Within site	-
	GALVANIZED TUBE PLANT				
18	Galvanized HRC	1,48,500	Galvanizing Line	Within site	-
	CUT TO LENGTH LINE				
19	HRC	1,00,000	Hot Rolling Mill	Within site	-
	POWER PLANT (1 X 50 MW AFBC)				
20	Coal	2,79,050	Imported	-	Road
21	Char	1,53,600	DRI Plant	Within site	-
	Total	**72,50,303**			

1.17.6 The water requirement for the proposed project is estimated as 20,846 m3 /day, and requirement will be obtained from the Tungabhadra Dam. The permission for drawl of surface water is yet to be obtained.

1.17.7 The power requirement for the proposed project is estimated as 144.9 MW, out of which 80 MW will be met through the Power Plant of capacity 100 MW (4 x 12.5 MW-WHRB & 50 MW -AFBC) and remaining 64.9 MW will be sourced from Gulbarga Electricity Supply Company (GESCOM).

1.17.8 The capital cost of the project is Rs 2885 Crores and the capital cost for environmental protection measures is proposed as Rs 200 Crores. The employment generation from the proposed project is 1205 numbers.

1.17.9 The project proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

1.17.10 Name of the EIA consultant: M/s. Enviro Resources, Mumbai [S No 70, List of ACOs with their Certificate / Extension Letter no. NABET/EIA/1922/SA 0133; valid upto 30/03/2022; Rev. 19, February 14, 2022].

1.17.11 Proposed Terms of Reference (**Baseline data collection period: 1st March, 2022 to 31st May, 2022)**:

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
A. Air				
Meteorological parameters	Wind speed, Direction, Relative humidity Temperature and Rainfall	1	Hourly	--
AAQ parameters	PM_{10}, $PM_{2.5}$, SO_2, NO_x, O_3, Pb, CO, NH_3, C_6H_6, BaP,	8	24 hours, twice a week for	Based on Wind rose

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
	As, Ni		three months during study period	
B. Noise	Sound pressure level (Leq)	8	Hourly observations for 24 hours per location	--
C. Water				
Surface water	Physical, Chemical and Bacteriological Parameters	8	Once during the study season	Various locations in core and buffer zone
Ground water quality parameters	Physical, Chemical and Bacteriological Parameters	2	Once during the study season	
D. Land				
Soil quality	Physical & Chemical	8	Once during the season.	--
Land use	10 Km Buffer zone	--	--	--
E. Biological				
Aquatic Terrestrial	--	Core and Buffer zone Primary data/Secondary data	Once during the study period	--
F. Socio-economic parameters	Demographic structure resource base. Economic resource base. Cultural and aesthetic attributes, Health Education	Core and Buffer zone Primary data/Secondary data	Once during the study period	--

Observations of the Committee

1.17.12 The Committee noted the following:

i. The proposed site is located at only 50 m distance from the Tungabhadra reservoir. HFL details of the Tungabhadra reservoir from irrigation department has not been made available by the proponent.

ii. Control measures to be adopted for protection of Tungabhadra reservoir has not been submitted.

iii. Project proponent has not explored the alternate sites for the proposed project.

iv. Engineering drawing layout has not been made available. PP shall provide the lay out map including contour map of project site along with drainage disposal system with calculations and drawings supported with proper indexing including Rain Water

Harvesting details with calculations mentioning about GW recharge along with relevant drawing.

v. Pollution control measures to the adopted in the proposed project has not been presented.

vi. Water requirement for green belt shall be taken in account while preparing water balance and also in EMP cost.

Recommendations of the Committee

1.17.13 In view of the foregoing and after deliberations, the Committee recommended that proposal to be returned in its present form to address the technical shortcomings enumerated at para no. 1.17.12 and submit the revised application as per the provisions of EIA Notification, 2006.

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ANNEXURE –1

GENERIC TERMS OF REFERENCE (ToR) IN RESPECT OF INDUSTRY SECTOR

1. **Executive Summary**
2. **Introduction**
   i. Details of the EIA Consultant including NABET accreditation
   ii. Information about the project proponent
   iii. Importance and benefits of the project
3. **Project Description**
   i. Cost of project and time of completion.
   ii. Products with capacities for the proposed project.
   iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
   iv. List of raw materials required and their source along with mode of transportation.
   v. Other chemicals and materials required with quantities and storage capacities
   vi. Details of Emission, effluents, hazardous waste generation and their management.
   vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man/power requirement (regular and contract)
   viii. The project proponent shall furnish the requisite documents from the competent authority in support of drawl of ground water and surface water and supply of electricity.
   ix. Process description along with major equipment and machineries, process flow sheet (Quantitative) from raw material to products to be provided
   x. Hazard identification and details of proposed safety systems.
   xi. Expansion/modernization proposals:
      a. Copy of <u>all</u> the Environmental Clearance(s) including Amendments thereto obtained for the project from MoEF&CC/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment, Forest and Climate Change as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in <u>all</u> the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB/PCC shall be attached with the EIA/EMP report.
      b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005/2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. **Site Details**
   i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco/sensitive areas and environmentally sensitive places)
iii. Co/ordinates (lat/long) of all four corners of the site.
iv. Google map/Earth downloaded of the project site.
v. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
vi. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
vii. Landuse break/up of total land of the project site (identified and acquired), government/private / agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
viii. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
ix. Geological features and Geo/hydrological status of the study area shall be included.
x. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
xi. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
xii. R&R details in respect of land in line with state Government policy.

5. **Forest and wildlife related issues (if applicable):**

i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable).
ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha).*
iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis/à/vis the project location and the recommendations or comments of the Chief Wildlife Warden/thereon.
v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area.
vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

6. **Environmental Status**

i. Determination of atmospheric inversion level at the project site and site/specific micro/meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.

ii. AAQ data (except monsoon) at 8 locations for PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre/dominant wind direction, population zone and sensitive receptors including reserved forests.

iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.

vi. Ground water monitoring at minimum at 8 locations shall be included.

vii. Noise levels monitoring at 8 locations within the study area.

viii. Soil Characteristic as per CPCB guidelines.

ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.

x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule/I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

xi. Socio/economic status of the study area.

7. **Impact Assessment and Environment Management Plan**

i. Assessment of ground level concentration of pollutants from the stack emission based on site/specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.

iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail/cum road transport or conveyor/cum/rail transport shall be examined.

iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
v. Details of stack emission and action plan for control of emissions to meet standards.
vi. Measures for fugitive emission control
vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste/minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
xii. Action plan for post/project environmental monitoring shall be submitted.
xiii. Onsite and Offsite Disaster (natural and Man/made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. **Occupational health**

i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre/designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre/placement and periodical examinations give the details of the same. Details regarding last month analysed data of abovementioned parameters as per age, sex, duration of exposure and department wise.
iii. Annual report of health status of workers with special reference to Occupational Health and Safety.
iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

9. **Corporate Environment Policy**
   i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
   ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
   iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
   iv. Does the company have system of reporting of non/compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
11. To address the Public Hearing issues, provisions contained under Ministry's Office Memorandum vide F.No. 22/65/2017/IA.III dated 30/09/2020 shall be complied.
12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
13. A tabular chart with index for point wise compliance of above ToRs.
14. The ToRs prescribed shall be valid for a period of three years for submission of the EIA/EMP reports along with Public Hearing Proceedings (wherever stipulated).

<u>The following general points shall be noted:</u>

   i. All documents shall be properly indexed, page numbered.
   ii. Period/date of data collection shall be clearly indicated.
   iii. Authenticated English translation of all material in Regional languages shall be provided.
   iv. The letter/application for environmental clearance shall quote the MOEF&CC file No. and also attach a copy of the letter.
   v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA/EMP Report.
   vi. The index of the final EIA/EMP report must indicate the specific chapter and page no. of the EIA/EMP Report
   vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF&CC vide O.M. No. J/11013/41/2006/IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry shall also be followed.
   viii. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCl)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the

Consultant and the Accreditation details shall be posted on the EIA/EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

ix. ToRs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA/EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA/EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district/wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA/EMP Report in a separate chapter and summarized in a tabular chart with financial budget (capital and revenue) along with time/schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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ANNEXURE/2

ADDITIONAL ToRS FOR INTEGRATED STEEL PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. For Large ISPs, a 3/D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land/use map based on satellite imagery. High/resolution satellite image data having 1m/5m spatial resolution like quickbird, Ikonos, IRS P/6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land/cover mapping of the area.
5. PM (PM_{10} and $P_{2.5}$) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM_{10} to be carried over.
6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
8. Plan for slag utilization
9. Plan for utilization of energy in off gases (coke oven, blast furnace)
10. System of coke quenching adopted with justification.
11. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
12. Trace metals in waste material especially slag.
13. Trace metals in water
14. Details of proposed layout clearly demarcating various units within the plant.
15. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs and outputs (material and energy balance).
16. Details on design and manufacturing process for all the units.
17. Details on environmentally sound technologies for recycling of hazardous materials, as per CPCB Guidelines, may be mentioned in case of handling scrap and other recycled materials.
18. Details on requirement of energy and water along with its source and authorization from the concerned department. Location of water intake and outfall points (with coordinates).
19. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
20. Details on toxic content (TCLP), composition and end use of slag.

ADDITIONAL ToRs FOR PELLET PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. Recent land/use map based on satellite imagery. High/resolution satellite image data having 1m/5m spatial resolution like quickbird, Ikonos, IRS P/6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land/cover mapping of the area.
4. PM(PM_{10} and $P_{2.5}$) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM_{10} to be carried over.
5. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
6. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
7. Plan for slag utilization
8. Plan for utilization of energy in off gases (coke oven, blast furnace)
9. System of coke quenching adopted with justification.
10. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
11. Trace metals in waste material especially slag.
12. Trace metals in water

ADDITIONAL ToRs FOR CEMENT INDUSTRY

1. Limestone and coal linkage documents along with the status of environmental clearance of limestone and coal mines
2. Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
3. Present land use shall be prepared based on satellite imagery. High/resolution satellite image data having 1m/5m spatial resolution like quickbird, Ikonos, IRS P/6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land/cover mapping of the area.
4. If the raw materials used have trace elements, an environment management plan shall also be included.
5. Plan for the implementation of the recommendations made for the cement plants in the CREP guidelines must be prepared.
6. Energy consumption per ton of clinker and cement grinding
7. Provision of waste heat recovery boiler
8. Arrangement for co/processing of hazardous waste in cement plant.
9. Trace metals in waste material especially slag.

ADDITIONAL ToRs FOR PULP AND PAPER INDUSTRY

i. A note on pulp washing system capable of handling wood pulp shall be included.
ii. Manufacturing process details for the existing and proposed plant shall be included. Chapter on Pulping & Bleaching shall include: no black liquor spillage in the area of pulp mill; no use of elemental chlorine for bleaching in mill; installation of hypo preparation plant; no use of potcher washing and use of counter current or horizontal belt washers. Chapter on Chemical Recovery shall include: no spillage of foam in chemical recovery plant, no discharge of foul condensate generated from MEE directly to ETP; control of suspended particulate matter emissions from the stack of fluidized bed recovery boiler and ESP in lime kiln
iii. Studies shall be conducted and a chapter shall be included to show that Soda pulping process can be employed for *Eucalyptus/Casuarina* to produce low kappa (bleachable) grade of pulp.
iv. Commitment that only elemental Chlorine/free technology will be used for the manufacture of paper and existing plant without chemical recovery plant will be closed within 2 years of issue of environment clearance.
v. A commitment that no extra chlorine base bleaching chemicals (more than being used now) will be employed and AOx will remain within limits as per CREP for used based mills. Plan for reduction of water consumption.

ADDITIONAL ToRs FOR LEATHER/SKIN/HIDE PROCESSING INDUSTRY

1. Justification for engaging a particular type of process (raw hide/skin into semi finishing or finished leather, semi/finished leather to finished leather, dry finishing operations, chrome/vegetable tanning, *etc.).*
2. Details regarding complete leather/ skin/ hide processing including the usage of sulphides, nitrogen compounds, chromium or other tanning agents, post/tanning chemicals, biocides, *etc.*, along with the material balance shall be provided.
3. In case of chrome tanning, details of the chrome recovery plant, management of shavings/solid waste including safe disposal.
4. Details on reuse of soak liquor / saline stream from membrane system, if applicable, to the extent possible in pickling activity after required treatment. Also, mention the salt recovery measures.

ADDITIONAL ToRs FOR COKE OVEN PLANT

1. Justification for selecting recovery/non/recovery (beehive) type batteries with the proposed unit size.
2. Details of proposed layout clearly demarcating various facilities such as coal storages, coke making, by/product recovery area,*etc* within the plant.
3. Details of coke oven plant (recovery/non/recovery type) including coal handling, coke oven battery operations, coke handling and preparation.
4. Scheme for coal changing, charging emission centre, Coke quenching technology, pushing emission control.
5. Scheme for coke oven effluent treatment plant details including scheme for meeting cyanide standard.

ADDITIONAL ToRs FOR ASBESTOS MILLING AND ASBESTOS BASED PRODUCTS

1. Type of the project – new/expansion/modernization
2. Type of fibres used (Asbestos and others) and preference of selection from techno/environmental angle should be furnished
3. As asbestos is used in several products and as the level of precautions differ from milling to usage in cement products, friction products gasketing, textiles and also differ with the process used, it is necessary to give process description and reasons for the choice for selection of process
4. Technology adopted, flow chart, process description and layout marking areas of potential environmental impacts
5. National standards and codes of practice in the use of asbestos particular to the industry should be furnished
6. In case of newly introduced technology, it should include the consequences of any failure of equipment/ technology and the product on environmental status.
7. In case of expansion project asbestos fibre to be measured at slack emission and work zone area, besides base line air quality.
8. In case of green field project asbestos fibre to be measured at ambient air.

ADDITIONAL ToRs FOR METALLURGICAL INDUSTRY (FERROUS AND NON/FERROUS)

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Emission from sulphuric acid plant and sulphur muck management.
3. Details on installation of Continuous Emission Monitoring System with recording with proper calibration system
4. Details on toxic metals including fluoride emissions
5. Details on stack height.
6. Details on ash disposal and management
7. Complete process flow diagram describing process of lead/zinc/copper/ aluminium, *etc.*
8. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
9. Details on Holding and de/gassing of molten metal from primary and secondary aluminium, materials pre/treatment, and from melting and smelting of secondary aluminium
10. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
11. Trace metals in waste material especially slag.
12. Plan for trace metal recovery
13. Trace metals in water

Executive Summary

Executive summary of the report in about 8/10 pages incorporating the following:

i. Project name and location (Village, Dist, State, Industrial Estate (if applicable)
ii. Products and capacities. If expansion proposal, then existing products with capacities and reference to earlier EC.
iii. Requirement of land, raw material, water, power, fuel, with source of supply (Quantitative)
iv. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes. Materials balance shall be presented.
v. Measures for mitigating the impact on the environment and mode of discharge or disposal.
vi. Capital cost of the project, estimated time of completion
vii. Site selected for the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of is acquisition, nearby (in 2/3 km.) water body, population, with in 10km other industries, forest, eco/sensitive zones, accessibility, (note – in case of industrial estate this information may not be necessary)
viii. Baseline environmental data – air quality, surface and ground water quality, soil characteristic, flora and fauna, socio/economic condition of the nearby population
ix. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
x. Likely impact of the project on air, water, land, flora/fauna and nearby population
xi. Emergency preparedness plan in case of natural or in plant emergencies
xii. Issues raised during public hearing (if applicable) and response given
xiii. CSR plan with proposed expenditure.
xiv. Occupational Health Measures
xv. Post project monitoring plan

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From: **Rajive Kumar** chairman.eac.ind.1@gmail.com
Subject: **Minutes of First EAC Meeting**
Date: 14-Mar-2022 at 17:10:43
To: **r.sunder@nic.in, sundarr2003@gmail.com**

Dear Mr. Sundar,
Please find attached the final and approved Minutes of Meeting of First EAC meeting held on 5-6 March 2022.
It is requested to upload the same on Parivesh.
Best Wishes
Rajive Kumar
Chairman EAC-Industry-1