

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

**Date of zero draft MoM sent to Chairman: 20/04/2022**

**Approval by Chairman: 25/04/2022**

**Uploading on PARIVESH: 25/04/2022**

**Summary record of the Third(3<sup>rd</sup>) meeting of Expert Appraisal Committee (EAC) held on 11-12<sup>th</sup> April, 2022 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.**

The Third 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 11-12<sup>th</sup> April, 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 list of participants is annexed.

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	11/04/2022	12/04/2022
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	Absent	Absent
11.	Representative of CPCB	Member	Absent	Absent
12.	Dr. S. Raghavan, Scientist 'D' National Institute of Occupational Health (NIOH)	Member	Absent	Absent
13.	Dr. Sanjay Bist, Scientist 'E' Indian Meteorological Department	Member	Present	Present
<b>Officials from MoEF&amp;CC</b>				
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. The minutes of 2<sup>nd</sup> meeting held during 22-23<sup>rd</sup> March, 2022 were confirmed by the EAC as already uploaded on PARIVESH except the following:

Item No.	Point & Para No.	Existing	To be read as																																																															
2.12a	vii & 2.12a.13	PP committed for adaptation of villages	PP committed for adaptation of following 19 villages																																																															
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**11<sup>th</sup> APRIL, 2022**

3.1 Expansion of Ferro Alloy Plant, Captive Power Plant and Installation of Steel Melting Shop, Mineral Fibre Plant by **M/s. Sarda Metals & Alloys Limited** located at APIIC Industrial Park, Kantakapalli Village, Kothavalasa Mandal, **Vizianagaram District, Andhra Pradesh** [Online Proposal No. IA/AP/IND/260192/2017, File No. J-11011/164/2009- IA.II(I)] – **Environment Clearance – regarding.**

3.1.1 M/s. Sarda Metals & Alloys Limited has made an online application vide proposal no. IA/AP/IND/260192/2017 dated 17/03/2022 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**

3.1.2 The details of the ToR are furnished as below:

<b>Date of application</b>	<b>Consideration</b>	<b>Details</b>	<b>Date of accord</b>	<b>Validity of ToR</b>
17/04/2020	Standard Terms of Reference	Standard ToR issued	22/04/2020	21/04/2024

3.1.3 The project of M/s. Sarda Metals & Alloys Limited (SMAL) is located at APIIC Industrial Park, Kantakapalli Village, Kothavalasa Mandal, Vizianagaram District, Andhra Pradesh State is for Expansion of Ferro Alloy Plant, Captive Power Plant and Installation of Steel Melting Shop, Mineral Fibre Plant.

3.1.4 Environmental Site Settings:

<b>S No</b>	<b>Particulars</b>	<b>Details</b>			<b>Remarks</b>	
i.	Total land:	<b>113.7 ha (280.96 acres)</b> [Private land: 113.7 ha]			Land use: Industrial	
		<b>S No</b>	<b>DETAILS</b>	<b>Existing</b>		<b>Total (After Expansion)</b>
		01	Process Area	32.69		117.91
		02	Common utility area	21.43		21.43
		03	Green Belt			
			a. Developed Greenbelt	93.23		93.23
		b. Proposed Miyawaki Plantation	-	1.12		
		04	Vacant Land	133.61	47.27	
			<b>Total Area</b>	<b>280.96</b>	<b>280.96</b>	
ii.	Land acquisition details as per	Expansion project is proposed within existing project area of 113.7 ha. Total land of 113.7 ha is			--	

S No	Particulars	Details	Remarks															
	MoEF&CC O.M. dated 7/10/2014	owned by project proponent. No additional land is required for the expansion project.																
iii.	Existence of habitation & involvement of R&R, if any.	Project Site: NIL Study Area: <table border="1"> <thead> <tr> <th>Habitation</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Kantakapalli Village</td> <td>0.46 km</td> <td>North</td> </tr> <tr> <td>Katakapalli Village</td> <td>1.0km</td> <td>NNE</td> </tr> <tr> <td>Kothavalasa</td> <td>0.70 km</td> <td>NNW</td> </tr> </tbody> </table>	Habitation	Distance	Direction	Kantakapalli Village	0.46 km	North	Katakapalli Village	1.0km	NNE	Kothavalasa	0.70 km	NNW	No R&R. is required for proposed project.			
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iv.	Latitude and Longitude of all corners of the project site.	<table border="1"> <thead> <tr> <th>S No</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>17°56'47.70"N</td> <td>83°13'4.60"E</td> </tr> <tr> <td>B</td> <td>17°56'12.89"N</td> <td>83°13'31.44"E</td> </tr> <tr> <td>C</td> <td>17°56'39.92"N</td> <td>83°12'46.32"E</td> </tr> <tr> <td>D</td> <td>17°56'31.16"N</td> <td>83°13'47.88"E</td> </tr> </tbody> </table>	S No	Latitude	Longitude	A	17°56'47.70"N	83°13'4.60"E	B	17°56'12.89"N	83°13'31.44"E	C	17°56'39.92"N	83°12'46.32"E	D	17°56'31.16"N	83°13'47.88"E	-
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v.	Elevation of the project site	102 m above mean sea level	-															
vi.	Involvement of Forest land if any.	No forest Land is involved	-															
vii.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	<b>Project Site:</b> NIL <b>Study area:</b> <table border="1"> <thead> <tr> <th>Water Body</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Pond</td> <td>0.27 km</td> <td>West</td> </tr> <tr> <td>Pedda Gedda</td> <td>5.55 km</td> <td>SE</td> </tr> <tr> <td>Meghadri Gedda</td> <td>3.45 km</td> <td>SW</td> </tr> <tr> <td>Vagu (Nala)</td> <td>7.1 km</td> <td>NE</td> </tr> </tbody> </table>	Water Body	Distance	Direction	Pond	0.27 km	West	Pedda Gedda	5.55 km	SE	Meghadri Gedda	3.45 km	SW	Vagu (Nala)	7.1 km	NE	-
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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 within study area: <ul style="list-style-type: none"> <li>• Advanapalem RF – 1.3 km – SE</li> <li>• Muchcherla RF - 7.2 km – ESE</li> </ul>	-															

3.1.5

Chronology of existing Environmental Clearance given as below:

Date	Detail of Environmental Clearance
26/11/2009	EC accorded Ministry vide letter no J- 11011/164/2009 – IA II (I) dated 26/11/2009.
04/05/2010	Amendment in Environmental Clearance accorded Ministry letter dated 04/05/2010
04/06/2015	Extension of Validity of EC accorded Ministry letter dated 04/06/2015 for 2 years from 26/11/2014 to 25/11/2016.

Date	Detail of Environmental Clearance
06/12/2016	Extension of Validity of EC accorded Ministry letter dated 06/12/2016 for 3 years from 26/11/2016 to 25/11/2019.
02/07/2018	Amendment in Environmental Clearance accorded Ministry letter dated 02/07/2018

Consent & Authorization Order(CAO) is accorded Andhra Pradesh Pollution Control Board (APPCB) vide consent Order No. APPCB/VSP/VZN/200/CFO/HO/2021- dated 19/10/2021. Validity of CAO is up to 31/05/2023.

3.1.6 Implementation status of the existing EC:

S No	Facilities	EC dated 26/11/2009	EC Amended on 04/05/2010	EC Amended on 02/07/2018	Implementation Status as on 17/03/2021	Production as per CTO
1.	Ferro Alloys *	2x33 MVA (1,50,000 TPA)	No change	<b>3x33 MVA (1,50,000 TPA)</b>	2x33 MVA 1,00,000 Implemented	2x33 MVA (1,00,000 TPA)
2.	Sinter Plant	<b>1x24m<sup>2</sup> (1,25,000 TPA)</b>	No change	No change	Not Implemented	
3.	Thermal Power Plant	4x60 (240 MW)	Configuration change as <b>3x80 (240 MW)</b>	No change	1x80 MW Implemented	1x80 MW
4.	Coke Oven with Stamp Charging	4,00,000 TPA	No change	Drop the facility	Not Implemented	--
5.	Sponge Iron Plant	<b>2x500 TPD (3,00,000 TPA)</b>	No change	No change	Not Implemented	--
6.	Blast Furnace	<b>1x350 m<sup>3</sup> (2,50,000 TPA)</b>	No change	No change	Not Implemented	--
7.	SMS					
7a	Induction Furnace	5x15 T (2,50,000 TPA)	No change	<b>4x22T (3,50,000 TPA)</b>	Not Implemented	--
7b	ARC Furnace	1x40 T (2,50,000 TPA)	No change	Drop the facility	--	--
8.	Rolling Mills	4,50,000 TPA	No change	<b>3,50,000 TPA</b>	Not Implemented	--
9.	Iron Ore Crushing Plant	6,00,000 TPA	No change	Drop the facility	--	--
10.	Pellet Plant	<b>6,00,000 TPA</b>	No change	No change	Not Implemented	--
11.	Railway Siding	--	No change	No change	Not Implemented	--
12.	Briquetting Plant**	--	--	--	1,05,000 TPA Implemented	1,05,000 TPA
* As per CFO dated 19/10/2021 PP shall manufacture only Ferro Silicon, Ferro Manganese & Silico Manganese only.						

S No	Facilities	EC dated 26/11/2009	EC Amended on 04/05/2010	EC Amended on 02/07/2018	Implementation Status as on 17/03/2021	Production as per CTO
**Briquetting Plant does not require the Environmental Clearance and is now categorized as Green Category as per CPCB guidelines. Hence, CFE dated 10/08/2021 for the Briquetting Plant of capacity 1,05,000 TPA was obtained by PP.						

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

SNo	Nam of the product	Units implemented as per EC dated 26/11/2009 and amended on 04/06/2016 & 02/07/2018 (A)		Proposed expansion (B)		Total (A+B)	
		Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)	Config-uration	Capacity (TPA)
1.	Ferro Alloys	2x33 MVA	1,00,000	Existing 2x33 MVA upgraded to 2x36 MVA and add new 3x36 MVA	2,50,000	5x36 MVA	2,50,000
2.	Captive Power Plant	1x80 MW	80 MW	1x80 MW	80 MW	2x80 MW	160 MW
3.	Steel Melting Shop	--	--	IF: 4x22 T	3,00,000	IF: 4x22 T	3,00,000
4.	Mineral Fiber Plant- 5 lines	--	--	--	Add New unit 1,50,000	--	1,50,000
5.	Briquetting Plant	--	1,05,000	--	--	--	1,05,000

3.1.8 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	Unit	Raw Material	Tones Per Annum			Source	Mode of Transportation
			Existing	Additional	Total		
1	Ferro Alloys	Manganese Ore	200000	300000	500000	South Africa, Australia, Brazil, Gabon, India	Ship/Road / Rail
		Coal	69000	103500	172500	South Africa	Ship/Road /Rail
		Coke	12000	18000	30000	India / China	Ship/Road /Rail
		FeMn Slag	100000	150000	250000	Japan/ India	Ship/Road
		Quartz	10000	15000	25000	India	Road
		Dolomite	20000	30000	50000	India	Road
2	Captive Power Plant	Coal	505476	505476	1010952	Indonesia	Ship/Road
3	SMS & Rolling Mill	Scrap	-	274305	274305	India / Import	Ship/Road
		DRI	-	68575	68575	India	Road
		Ferro Alloys	-	3349	3349	In house	-
		Aluminum	-	80	80	India	Road
		Fluxes	-	3508	3508	India	Road
4	Briquetting Plant	GCP Dust	3000	4500	7500	In-house	-
		Mn Ore Dust	28672	43008	71,680	In-house	-

S No	Unit	Raw Material	Existing	Additional	Total	Source	Mode of Transportation
			Tones Per Annum				
		Binder	700	1400	2100	India	Road
		Additive	350	700	1050	India	Road
		Coke Fines	2450	4900	7350	In house	-
5	Mineral Fibre Plant	SiMn Slag	-	1,50,000	1,50,000	In house / India	Road

3.1.9 The present water consumption of the plant is 980 m<sup>3</sup>/day and is supplied by Greater Visakhapatnam Municipal Corporation (GVMC). The total water requirement after expansion will be about 2700 m<sup>3</sup>/day. SMAL has obtained in principle permission for 2700 m<sup>3</sup>/day water drawl from GVMC vide Lr.No.53/2012-13/E. II(WS-M) dated 16/01/2013.

3.1.10 Existing power requirement of 54.30 MW which is being met from 80 MW Captive Generation. Total power requirement after proposed expansion will be 117.5 MW which will be met from captive power plant of 160 MW. In addition to these, 1x600 kVA DG set are proposed for emergency backup.

3.1.11 Baseline Environmental Studies:

Period	December, 2020 to February, 2021
AAQ parameters at 08 Locations (min and max)	PM <sub>10</sub> = 30.6 to 67.2 µg/m <sup>3</sup> PM <sub>2.5</sub> = 20.6 to 32.8 µg/m <sup>3</sup> SO <sub>2</sub> = 8.5 to 16.4 µg/m <sup>3</sup> NO <sub>2</sub> = 10.2 to 17.8 µg/m <sup>3</sup> CO = < 1 ppm
AAQ modelling (Incremental GLC)	PM = 7.56 µg/m <sup>3</sup> SO <sub>2</sub> = 4.49 µg/m <sup>3</sup> NO <sub>x</sub> = 4.49 µg/m <sup>3</sup>
Ground water quality at 09 locations	pH = 6.72 – 7.48 Total Hardness = 195 - 575 mg/l Chlorides = 40-198 mg/l Fluoride = 0.29 – 1.36 mg/l Heavy Metals (Zinc) = 0.02 – 1.69 mg/l
Surface water quality at 0 Locations	There are no rivers in the study area. However, there are many dry tanks and Geddas (nalla or streams) which are not perennial. Surface water samples could not be collected during the study period since there was no water in tanks and Geddas
Noise Levels At 08 Locations (day and night)	51.6 to 71.8 dB (A) for the day time and 41.3 to 67.4 dB (A) for the Night time.
Traffic assessment study Findings	
<ul style="list-style-type: none"> <li>➤ Traffic study carried out at Kantakapally railway yard, Gangavaram Port, Vizag Port.</li> <li>➤ There are 3 sources from which the raw materials will reach the plant                             <ul style="list-style-type: none"> <li>• From Kantakapally railway siding (40%).</li> <li>• From Vizag port (30%).</li> <li>• From Gangavaram port (30%).</li> </ul> </li> </ul>	
<b>TRAFFIC SCENARIO OF STUDY ROADS AFTER ADDING THE TRUCKS</b>	

Period		December, 2020 to February, 2021				
Roads		Towards	V PCU's/day	C PCU's/day	V/C	LoS
NH-5 NH-16/ AH-45 (2+2 lanes divided)	Project site	Anakapalle	(9,441+9,440) = 18,881	60,000	0.31	B
SH-39 (2-Lanes Undivided)			12,392	15,000	0.82	E
Gangavaram Port (2+2) Lanes Divided	NH-5	Port	(4,937+4,735) = 9,672	60,000	0.16	A
GNT Road/ Port Road (2+2) Lanes Divided (Near Vizag Port)	NH-5	Port	(12,201+15,062) = 27,263	60,000	0.45	C
Vizianagaram road			7,851	15,000	0.52	C
Kotthuru road			5,465	15,000	0.36	B

\* Note: Capacity as per IRC-106:1990.

It is concluded that the expansion of the project from the existing do not have any adverse traffic impact based on the logistics developed and scientific analysis carried out.

Flora and fauna	There are no Schedule-I species presented in study area.
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3.1.12 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
			Existing	Proposed	Total	
<b>A</b>	<b>Solid waste</b>					
1.	Slag	Ferro Alloy plant	1,20,000	3,00,000	4,20,000	SiMn Slag will be provided to brick manufacturers / Raw material for Mineral Fiber Plant.
2.	Dust	Ferro Alloy plant	3,000	4,500	7,500	Recycled and used as feed material for Briquetting Plant
3.	slag	Induction furnace (IF)	--	31,880	31,880	Will be used as road Ballast/Road fill material
4.	Dust	IF primary fugitive emission system	--	3,640	3,640	Reused as feed material for Briquetting Plant.
5.	Dust	IF secondary fugitive emission system	--	1,680	1,680	Reused as feed material for Briquetting Plant.
6.	Mill scale	CCM & rolling Mill	--	3,000	3,000	Reused as a raw material in the Ferro Alloys plant

S No	Type of Waste	Source	Quantity generated(TPA)			Disposal
			Existing	Proposed	Total	
7.	Ash	CPP	90,000	90,000	1,80,000	Will be disposed to brick Manufacturers
<b>B Hazardous Waste</b>						
8.	Waste Oil/ Spent Oil	From plant	224 LPM	800 LPM	1024 LPM	Stored in covered HDPE Drums and Used for lubrication purpose & will be given to APPCB approved vendors

3.1.13

Public Consultation:

Details of advertisement given	07/11/2021: "Times of India" (English News Paper) and Sakshi (Telugu News Paper)
Date of public consultation	10/12/2021
Venue	Near to the existing industry premises of SMAL
Presiding Officer	Chairmanship of District Collector, Vizianagaram District.
Major issues raised	<ul style="list-style-type: none"> <li>i. Compensation to the land losers &amp; mango garden farmers</li> <li>ii. black dust pollution on mango and cashew plants</li> <li>iii. Water pollution to Marrigedda</li> <li>iv. Impact due to Rain water being discharged to RWH Pit.</li> <li>v. 75 to 80 % employment should be given for locals</li> <li>vi. Preference to local people for petty contracts like earth works, civil works etc.,</li> <li>vii. Construction of Hospital</li> <li>viii. Construction of burning shed in grave yard of Kantakapalli</li> <li>ix. Construction of Community Hall</li> <li>x. Development of roads, nallas and other Infrastructure</li> <li>xi. Skill Development Programs</li> </ul>

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

S No	Activity	Year			Total (Rs Lakhs)
		2022-23	2023-24	2024-25	
<b>1.</b>	<b>Land Related Issues</b>				
a)	Compensation to the land losers	Physical Nos @Village Budget Rs Lakhs	Nil Already paid to APIIC. Any discrepancies to be brought to APIIC Notice for resolution		-
b)	Compensation to the farmers whose mango garden was disturbed during	Physical Nos @Village Budget	An amount of Rs. 21,51,15032 /- has been paid to land owners on whose lands the towers were erected as stipulated by APTRANSCO. Those who have not received the compensation may		-



S No	Activity		Year			Total (Rs Lakhs)
			2022-23	2023-24	2024-25	
d)	Priority to local and unemployed youth					
e)	Preference to local people for petty contracts like earth works, civil works etc.,					
<b>6. Occupational safety related Issues</b>						
	Monitoring the heat near furnace	Physical Nos	Conducting industrial hygiene test and provision of full body heat retardant suits			Rs. 15.0 Lakhs
		@Village	Within the plant			
		Budget Rs Lakhs	5.0	5.0	5.0	
	PPE to all the workers	Physical Nos	PPE to all workers is provided			Rs. 10.5 Lakhs
		@Village	Nil			
		Budget Rs Lakhs	3.5	3.5	3.5	
<b>7. Rain water Harvesting Related Issues</b>						
a)	Rainwater Harvesting	Physical Nos	Nil Done within the plant site			*Rs. 60 Lakhs as part of EMP
		@Village				
		Budget Rs Lakhs	60.0			
<b>8. Compliance to Pollution Control Rules and Regulations Issues</b>						
a)	Comply with emission standards and follow the rules and regulation of MoEFCC / APPCB	Physical Nos	Nil			Budget for implementation of pollution control equipment (EMP Budget) already provided to comply with MoEFCC / APPCB Rules and Regulations Issues
		@Village				
		Budget Rs Lakhs				
<b>9 CSR Related Issues</b>						
a)	Charging for RO water	Physical Nos	SMAL has implemented the RO Plants and the village panchayat is charging for maintaining the RO Plant			-
		@Village				
		Budget Rs Lakhs				
b)	Medical camps, Issue of Health Cards and supply of medicines	Physical Nos	4 camps per village per year will be taken up			Rs. 30.0 Lakhs
		@Village	Kantakapalli	Kotturu	Sunkarapalem	
		Budget Rs Lakhs	10	10	10	
c)	CSR amount is not spent in the nearby villages	Physical Nos	District Collector has advised the govt. Officials to form a committee which will prioritize the needs of the villages and coordinate the implementation of CSR Budgets.			Rs. 200 Lakhs
		@Village				
		Budget Rs Lakhs	SMAL has earmarked the budget of Rs. 200 lakhs for this purpose			

MoM of 3<sup>rd</sup> meeting of the EAC for Industry-I sector held on 11 - 12<sup>th</sup> April, 2022

S No	Activity	Year			Total (Rs Lakhs)	
		2022-23	2023-24	2024-25		
d)	CSR amount should be 5% of the net profit	Physical Nos @Village	District Collector has advised the govt. Officials to form a committee which will prioritize the needs of the villages and coordinate the implementation of CSR Budgets.			
		Budget Rs Lakhs	SMAL has earmarked the budget of Rs. 200 lakhs for this purpose			
e)	Formation of Coordination committee with Govt. officials, PCB Officials and Local Villagers	Physical Nos @Village	District Collector has advised the govt. Officials to form a committee which will prioritize the needs of the villages and coordinate the implementation of CSR Budgets.			Rs. 1.0 lakhs per year
		Budget Rs Lakhs	SMAL has earmarked the budget of Rs. 1.0 lakhs per year for this purpose			
f)	Construction of Hospital	Physical Nos @Village	SMAL is regularly undertaking the health camps for the benefit of the local villagers. SMAL has started a polyclinic in which registered MBBS Doctor sits for alternate days to give free health check-up and consultancy. company also provides free medicines to all the villages as prescribed by the doctor. SMAL is providing the ambulance service to transport in case of emergency to local Government hospital which located at Kothavalasa within 6kms.			Rs. 30.0 Lakhs
		Budget Rs Lakhs	10.0	10.0	10.0	
			SMAL will try to contribute more to local health centers			
g)	Construction of burning shed in grave yard of Kantakapalli	Physical Nos @Village	1Nos Kantakapalli			Rs. 10 Lakhs
		Budget Rs Lakhs	10.0			
h)	Construction of Community Hall	Physical Nos @Village	This will be taken up in the district committee to be constituted by District collector. Since the land has to be identified by the village panchayat.			-
		Budget Rs Lakhs	CSR Budget			
i)	Construction of additional overhead tank in kantakapalli, Sunkurapalem	Physical Nos @Village	SMAL has upgraded the transformer capacity by spending Rs 5.0 Lakhs to ensure that 24X7 water supply in the villages. However, this issue will be taken up by the committee to be constituted by District Collector.			-
		Budget Rs Lakhs				
j)	Construction of RO plant in sambhayyapalem, sunkurapalem and supply RO water free of cost.	Physical Nos @Village	1 Kotturu	1 Sambhayyapalem	1 Sunkurapalem	Rs. 6.0 Lakhs Water Quality will be tested
		Budget Rs Lakhs	2.0	2.0	2.0	
k)	Development of roads, nallas and other Infrastructure needs of the village under CSR activities	Physical Nos @Village	This will be taken up in the district committee to be constituted by District collector. SMAL will provide the necessary budget from the CSR Funds			Rs. 200 lakhs
		Budget Rs Lakhs				
l)	Skill Development	Physical	Tie up with local ITI or Polytechnic Colleges and			Rs. 30.0 Lakhs

S No	Activity		Year			Total (Rs Lakhs)
			2022-23	2023-24	2024-25	
	Programs	Nos	sponsoring of students.			
		@ Village	Kantakapalli	Kotturu	Sunkarapalem	
		Budget Rs Lakhs	10.0	10.0	10.0	
m)	Support to rural primary education for weaker sections	Physical Nos	Identification of Weaker section students and providing necessary education aids to ensure that they attend the school			Rs. 15.0 Lakhs
		@ Village	Kantakapalli	Kotturu	Sunkarapalem	
		Budget Rs Lakhs	5.0	5.0	5.0	
	<b>Total (in Rs.)</b>					<b>7883.5 Lakhs</b>

3.1.14 Existing capital cost of project was Rs.1242 Crores. The capital cost of the proposed expansion project is Rs. 1242 Crores and the capital cost for environmental protection measures is proposed as Rs. 170.47 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 17.194 Crores. The employment generation from the proposed project / expansion is 2523 both direct and indirect. The detail of cost for environmental protection measures is as follows:

S No	Particulars	Capital cost in Lakhs	Recurring Per Annum in Lakhs
1	Furnace-3, 4 & 5 (Bag House, FD cooler, Chimney)	8880	884
2	Mineral fibre plant-1 & 2 (Fume extraction system – 2Nos, Chimney)	537	54
3	MFB-3 Nos (Fume extraction system-2Nos)	1260	126
4	Steel Melting Shop (SMS) (Dust extraction System, Bag Filter)	2938	294
5	Power plant (ESP, Chimney, Ash Handling System, Dust Extraction System, Dust Suppression System, FGD) **	3002	300
6	Continuous Stack Emission Analyzer for Furnace – 3, 4 & 5	120	12
7	Continuous Stack Emission Analyzer for CPP	40	4
9	Continuous Stack Emission Analyzer for SMS	40	4
10	Continuous Ambient Air Quality Station, (1 No) *	60	6
11	Environmental Monitoring Program and Occupational Health Survey	0	20
12	Miyawaki Plantation (Greenbelt)	20	2
13	Rain Water Harvesting Ponds (1 & 2)	60	5
14	Storm Water Management	30	3
15	Effluent Treatment Plant	30	3
16	Three Modular Sewage Treatment Plant	30	2.4
	<b>Total</b>	<b>17047</b>	<b>1719.4</b>
17	Addressal to public consultation concerns	7883.5	--

Note: \*PP has already implemented three Continuous Ambient Air Quality Monitoring Stations (CAAQMS) at Main Gate, DM Plant and Coal Handling Plant. Budget has been provided to implement one more CAAQMS during the proposed expansion.

**\*\*PP is evaluating the various FGD technologies. Suitable Budget for implementation of FGD and NOx control will be provided in the expansion.**

- 3.1.15 Existing green belt has been developed in 37.73 ha (93.23 acres) area which is about 33.18% of the total project area of 113.7 ha with total sapling of 17000 Trees (@ 450 trees/ha). Proposed greenbelt will be developed in 0.45 Ha (1.12 acres). which is about 0.004% of the total project area. Thus, total of 38.18 ha (94.35 acres) area (33.58 % of total project area) will be developed as greenbelt. A 15 m wide greenbelt, consisting of at least 3 tiers around plant boundary was 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. The density of greenbelt will be developed by adding of 80000 saplings 3 years.
- 3.1.16 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.
- 3.1.17 Name of the EIA consultant: M/s B.S. Envi Tech Pvt. Ltd [Sl. No. 144, List of ACOs with their Certificate / Extension Letter No: NABET/EIA/1922/RA 0174 valid till 16/11/2022; Rev. Rev. 21, March 30, 2022]

**Certified compliance report from Regional Office**

- 3.1.18 The Status of compliance of earlier EC was obtained from Integrated Regional Office (IRO), Vijayawada vide letter dated 28/02/2022 on the basis of site visit carried out on 22/01/2022. The Action taken report regarding the partially/non-complied condition was submitted to IRO Vijaywada vide letter dated 02/03/2022. The details of the observations made by RO in the report dated 28/02/2022 along with its present status as furnished by the PP is given as below:

S No	Conditions	Observation of RO	Condition no.			Response by PP
			EC date	Specific	General	
1	All type of slag shall be used for road making only after passing through Toxic Chemical Leach-ability Potential (TCLP) test. Otherwise, toxic waste shall be recovered from the slag and output waste shall be disposed in secured landfill as per CPCB guidelines. Spent oil shall be sold	It is required to conduct Toxic Chemical Leach-ability Potential (TCLP) test to all types of slag and the test reports are to be submitted along with six monthly compliance reports on regular basis.	26/11/2009	xv		PP had approached NABL Accredited Laboratory for conducting Toxic Chemical Leach ability Potential (TCLP) test of slag and toxic metal contention the waste material and its composition.

S No	Conditions	Observation of RO	Condition no.			Response by PP
			EC date	Specific	General	
	to APPCB authorized recyclers.					
2	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 shall be submitted to the Ministry's Regional Office at Bangalore, APPCB and CPCB.	It is required to submit report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste to Ministry's Integrated Regional Office, Vijayawada along with six monthly compliance report on regular basis.	26/11/2009	xvi		The order has been placed and the reports shall be submitted by the laboratory within 15 days.

### Observations of the Committee

3.1.19

The Committee noted the following:

- i. PP has not provided the rain water harvesting details.
- ii. AAQ modeling was carried out for the proposed project without taking in to account the impacts arising out of the material transportation.
- iii. 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 has not been made available.
- iv. Engineering drawing layout of the project site has not been submitted.
- v. Water balance details has not been submitted by project proponent.
- vi. Existing green belt is done in 37.73 ha (33.18 % of the total project area) with 450 trees/ ha.
- vii. As per the traffic study submitted by PP, Level of Service of road is very poor. PP has not proposed any additional measures to improve the level of service of the road.
- viii. An issue was raised during public consultation related to black dust on mango and cashew plantation due to industry, PP has not provided additional mitigation measures in this regard.
- ix. Technological details of the metal fibre plant has not been provided in the EIA report.
- x. Action plan to address the issues raised during public consultation is not as per the Ministry O.M. dated 30/09/2020.

- xi. As per IRO, Vijayawada observation report dated 28/02/2022, there are two major noncompliance of existing EC:
  - a. It is required to conduct Toxic Chemical Leach-ability Potential (TCLP) test to all types of slag and the test reports are to be submitted along with six monthly compliance reports on regular basis.
  - b. It is required to submit report regarding toxic metal content in the waste material and its composition, end use of solid/ hazardous waste to Ministry's Integrated Regional Office, Vijayawada along with six monthly compliance report on regular basis.

### **Recommendations of the Committee**

3.1.20 In view of the foregoing and after detailed deliberations, the committee recommended to defer the proposal and sought for additional information on the following points:

- i. Project proponent shall provide the action plan for rain water harvesting.
- ii. AAQ modeling shall be carried out by taking in to account the impacts arising out of the material transportation and submitted.
- iii. 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.
- 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. Water balance details shall be submitted.
- vi. 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 also include gap filling in the existing area to achieve the green belt density not less than 2500 trees per hectare. 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.
- vii. Additional measures to be adopted to improve the level of service of the material transportation route shall be provided.
- viii. PP shall be provided the Action taken report for noncompliance observed by IRO, Vijayawada in the observation report dated 28/02/2022.
- ix. PP shall revise the action plan to address the issues of public consultation in monitor able physical terms as per the Ministry O.M. dated 30/09/2020.
- x. Mitigation measures to be adopted regarding the black dust issue pointed out in the public consultation proceedings shall be submitted.
- xi. Technological details of the metal fibre plant shall be submitted.
- xii. As per topo sheet natural drainage appears to falling with in the project area, a robust and full proof Drainage Conservation scheme along with Soil conservation and multiple Erosion control measures should be proposed.
- xiii. PP shall provide the mitigation measures for Occupational health and safety related to dust emission from coke, coal and mineral handling areas.

3.2 Project for installation of production facilities for production of Sponge iron (245000 TPA); Mild Steel billet (179550 TPA) and/or Rerolled Steel Products through Hot Charging (131970 TPA); Rerolled Steel Product through Reheating Furnace (42194 TPA); Ferro alloys (75000 TPA) or Pig iron (150000 TPA), Captive Power 56 MW (16 MW through WHRB and 40 MW through AFBC) and Fly Ash Brick (150000 TPA) by **M/s. Kusum Smelters Pvt. Ltd.** located at Village Dhamni, Tehsil Patharia, **District Mungeli, Chhattisgarh** [Online Proposal No. IA/CG/IND/190436/2020; File No. J-11011/197/2020-IA.II(I)] – **Environment Clearance – regarding.**

3.2.1 M/s. Kusum Smelters Private Limited has made an online application vide proposal no. IA/CG/IND/190436/2020 dated 09/03/2022 along with copy of EIA/EMP Report, Form - 2 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 Schedule 1(d) Thermal Power Plant under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

3.2.2 The details of the ToR are furnished as below:

<b>Date of application</b>	<b>Consideration</b>	<b>Details</b>	<b>Date of accord</b>	<b>Validity of ToR</b>
04/09/2020	23 <sup>rd</sup> meeting of REAC (Industry-I) held on 28 <sup>th</sup> -30 <sup>th</sup> September, 2020.	Issued Terms of references	22/10/2020	21/10/2024
30/12/2020	28 <sup>th</sup> meeting of REAC (Industry-I) held on 18 <sup>th</sup> -20 <sup>th</sup> January, 2021.	Issued amendment in ToR	08/02/2021	

3.2.3 The project of M/s.Kusum Smelters Private Limited is located in Village Dhamni, Tahsil Patharia, District Mungeli, Chhattisgarh is for installation of production facilities for production of Sponge iron (245000 TPA); Mild Steel billet (179550 TPA) and/or Rerolled Steel Products through Hot Charging (131970 TPA); Rerolled Steel Product through Reheating Furnace (42194 TPA); Ferro alloys (75000 TPA) or Pig iron (150000 TPA), Captive Power 56 MW (16 MW through WHRB and 40 MW through AFBC) and Fly Ash Brick (150000 TPA).

3.2.4 Environmental Site Settings:

<b>SNo</b>	<b>Particulars</b>	<b>Details</b>	<b>Remarks</b>
i.	Total land	10.6 ha [Private land: 10.6 ha]	Land use: Agriculture land
ii.	Land acquisition details as per MoEF & CC O.M. dated 7/10/2014	PP has acquired total 17.14 ha land out of which 10.6 ha land is proposed for steel Plant as cited above and 6.54 ha for Bio Ethanol Plant.	--
iii.	Existence of habitation & involvement of R&R, if any.	<b>Project Site:</b> NIL <b>Study area:</b>	R&R is not required.

SNo	Particulars	Details			Remarks																														
		Habitation	Distance	Direction																															
		Dhamni	1.2 km	SSW																															
		Bhakuridih	0.87	SE																															
iv.	Latitude and Longitude of the project site	Latitude: 21° 56' 12.67" N Longitude: 81° 58' 52.05" E			-																														
v.	Elevation of the project site.	245 m above MSL			-																														
vi.	Involvement of Forest land if any.	Not involved.			-																														
vii.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	<p><b>Project site:</b> NIL</p> <p><b>Study Area:</b></p> <table border="1"> <thead> <tr> <th>Water Body</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Maniari River</td> <td>0.67 km</td> <td>East</td> </tr> <tr> <td>Seonath River</td> <td>8.4 Km</td> <td>SE</td> </tr> <tr> <td>Tesua Nadi</td> <td>1.5 Km</td> <td>SW</td> </tr> <tr> <td>Ghongha Nadi</td> <td>6.5 Km</td> <td>North</td> </tr> <tr> <td>Agar Nadi</td> <td>8.5 Km</td> <td>NW</td> </tr> <tr> <td>Linjua Nala</td> <td>8.6 Km</td> <td>SW</td> </tr> <tr> <td>Turturia Nala</td> <td>0.8 Km</td> <td>NE</td> </tr> <tr> <td>Basanti Nala</td> <td>5.5 Km</td> <td>SE</td> </tr> <tr> <td>Stream</td> <td>0.2 Km</td> <td>ENE</td> </tr> </tbody> </table>			Water Body	Distance	Direction	Maniari River	0.67 km	East	Seonath River	8.4 Km	SE	Tesua Nadi	1.5 Km	SW	Ghongha Nadi	6.5 Km	North	Agar Nadi	8.5 Km	NW	Linjua Nala	8.6 Km	SW	Turturia Nala	0.8 Km	NE	Basanti Nala	5.5 Km	SE	Stream	0.2 Km	ENE	-
Water Body	Distance	Direction																																	
Maniari River	0.67 km	East																																	
Seonath River	8.4 Km	SE																																	
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Turturia Nala	0.8 Km	NE																																	
Basanti Nala	5.5 Km	SE																																	
Stream	0.2 Km	ENE																																	
viii.	Existence of ESZ/ESA / national park/wildlife sanctuary/ biosphere reserve/tiger reserve/ elephant reserve etc. if any within the study area	NIL.			-																														

### 3.2.5

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

SNo	Plant Equipment/Facility	Proposed Units	
		Configuration	Capacity
1.	Sponge Iron	DRI Kiln: 2x350 TPD	245000 TPA
2.	Mild Steel Billet	IF: 4x15 MT with LRF: 1x15 T	179550 TPA
3.	Rerolled Steel product (Hot Charging)	--	131970 TPA
4.	Rerolled Steel product (Reheat Furnace based)	--	42194 TPA
5.	Ferro Alloys	SAF: 4x9 MVA	75000 TPA
	and/or		and/or
	Pig Iron		150000 TPA
6.	WHRB Captive Power	--	16 MW
7.	AFBC Captive Power	--	40 MW

SNo	Plant Equipment/Facility	Proposed Units	
		Configuration	Capacity
8.	Fly Ash Bricks	Fly Ash Brick Making Plant	150000 TPA

3.2.6

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:

SNo	Raw Material	Quantity (TPA)	Source	Distance from site(Kms)	Mode of Transportation
1.	Iron Ore	396900.00	Odisha Iron Ore Mine and NMDC	500	By Road through covered vehicles
2.	Coal	306250.00	SECL Coal mines	100	By Road through covered vehicles
3.	Limestone/ Dolomite	8575.00	Open Market	100	By Road through covered vehicles
4.	Refractory Material	400.00	Open Market	100	By Road through covered vehicles
5.	Sponge Iron	189000.00	Captive production/ Local market	100	By Road through covered vehicles
6.	Pig Iron / CI Scrap	23381.00	Captive production/ Local market	0 to 100	By Road through covered vehicles/ Internally available
7.	Melting Scrap	3900.00	Captive generation/ Local market	0 to 100	Internally available/ By Road through covered vehicles
8.	Ferro Alloys	1890.00	Captive production/ Local market	0 to 100	Internally available/ By Road through covered vehicles
9.	Aluminum	189.00	Open Market/BALCO	100	By Road through covered vehicles
10.	Ramming Mass	473.00	Open Market	100	By Road through covered vehicles
11.	Steel Sheet Former	48.00	Open Market	100	By Road through covered vehicles
12.	LDO/LSHS for preheating at ladle	366.66	Open Market	100	By Road through Tankers
13.	Calcined Lime for Refining of Liquid Steel	9450.00	Open Market	100	By Road through covered vehicles
14.	Fluorspar and other additives for de phos	1890.00	Open Market	100	By Road through covered vehicles
15.	Electrode for Arc Furnace	378.00	Open Market	100	By Road through covered vehicles
16.	Hot Billets	134662.00	Captive production in Steel Melting shop	0	Internal Transfer
17.	Cold Billets	44888.00	Captive production/ Local market as per requirement	0	Internal Transfer/ By Road through covered vehicles
18.	Coal for producer gas	5387.00	SECL Mines/ Local Market	100	By Road through covered vehicles
19.	Mn Ore	153972.00	Open Market	400	By Road through covered vehicles
20.	High Mn Slag	29328.00	Open Market	0 to 100	By Road through covered vehicles
21.	Quartz	5866.00	Open Market	100	By Road through covered vehicles

SNo	Raw Material	Quantity (TPA)	Source	Distance from site(Kms)	Mode of Transportation
22.	Coke/Coal/Charcoal	43992.00	Open Market	100	By Road through covered vehicles
23.	Dolomite	2200.00	Open Market	100	By Road through covered vehicles
24.	Electrode Paste	2200.00	Open Market	100	By Road through covered vehicles
25.	M.S. Item	734.00	Open Market	100	By Road through covered vehicles
26.	Lancing Pipe and Canister Sheet	1100.00	Open Market	100	By Road through covered vehicles
27.	Oxygen Gas	220.00	Open Market	100	By Road
28.	Char dolochar	61250.00	Captive generation in SID	0	Internally available.
29.	Coal	202964.00	SECL mines	100	By road through covered vehicles
30.	Fluidizing bed media	200.00	Open market	100	By road through covered vehicles
31.	Fly Ash/ Coal Ash etc.	100750.00	Internally available.	0	Internal Transfer
32.	Granulated Ferro Alloys Slag	23250.00	Internally available.	0	Internal Transfer
33.	Gypsum and Cement	15500.00	Open market	50	By Road through covered vehicles
34.	Granulated slag from Induction Furnace	15500.00	Internally available.	0	Internal Transfer

3.2.7 The daily makeup water requirement for the proposed project is estimated to be 2400 m<sup>3</sup>/day out of which 36m<sup>3</sup>/day will be used for domestic purpose. Water will be source from Maniari River, 0.67 km in East for which application has been submitted to Water resources department of Govt. of CG.

3.2.8 The power requirement for the proposed project is estimated as 60 MW, out of which 56 MW will be met through captive power plant and 4 MW will be sourced through Chhattisgarh State Power Development Corporation Limited (CSPDCL). In addition to this total 2 Nos. of 3300 kVA DG sets are proposed for emergency backup.

3.2.9 Baseline Environmental Studies:

Period	Post monsoon season (1 <sup>st</sup> October 2020 – 31 <sup>st</sup> December 2020)
AAQ parameters at 8 Locations (min and max)	PM <sub>10</sub> = 43-89.3 µg/m <sup>3</sup> PM <sub>2.5</sub> = 15-33.8 µg/m <sup>3</sup> SO <sub>2</sub> = 13-25.2 µg/m <sup>3</sup> NO <sub>2</sub> = 13.5-29.4µg/m <sup>3</sup> CO = 0.222-0.356 mg/m <sup>3</sup> Ozone = 4.9-14.4µg/m <sup>3</sup> NH <sub>3</sub> = 5.2-16.0 µg/m <sup>3</sup>
Incremental GLC	PM <sub>10</sub> = 1.2µg/m <sup>3</sup> (Level at 1.0 km SSW and S Direction) PM <sub>2.5</sub> = 0.42 µg/m <sup>3</sup> (Level at 1.0 km SSW and S Direction) SO <sub>2</sub> =7.0 µg/m <sup>3</sup> (Level at 1.0 km SSW and S Direction) NO <sub>x</sub> = 3.8µg/m <sup>3</sup> (Level at 1.0 km SSW and S Direction)
Ground water quality at 8locations	pH:7.08-7.85, TotalHardness:273.21-671.87 mg/l, Fluoride: 0.32-0.58 mg/l,

	Chloride: 119.62-228.69 mg/l, TDS: 546-972 mg/l, Nitrate: 11.46-32.64 mg/l Sulphate: 23.63-54.81 mg/l																				
Surface water quality at 8 locations	pH: 7.23-7.76; DO: 6.0-6.3 mg/l; BOD: 12.61- 4.83 mg/l and COD: 35.88 – 13.64 mg/l; TDS: 456-486 mg/l; Total Hardness: 166.61-197.77 mg/l as CaCO <sub>3</sub>																				
Noise levels Leq. (Day and Night)	46.2 dBA to 66.4 dBA for day time and 37.3 dBA to 59.5 dBA for night time.																				
Traffic assessment study findings	<ul style="list-style-type: none"> <li>Traffic study has been conducted at NH-130 which is 2.4 km/ E from project site.</li> <li>The raw material will be transported through road by covered trucks.</li> <li>Existing PCU is 172 PCU/hr on NH- 130 and existing level of service (LOS) is:</li> </ul> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>NH 130</td> <td>172</td> <td>625</td> <td>0.27</td> <td>B</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>PCU load after proposed project will be 212PCU/hr (172 Existing + 40 Additional) and level of service (LOS) will be:</li> </ul> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>NH 130</td> <td>212</td> <td>625</td> <td>0.34</td> <td>B</td> </tr> </tbody> </table> <p><i>*Note: Capacity as per IRC: 64-1990 Guideline for capacity for roads.</i></p> <p><b>Conclusion:</b> The level of service will be “B” after including additional traffic due to proposed project.</p>	Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	Existing V/C Ratio	LOS	NH 130	172	625	0.27	B	Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	proposed V/C Ratio	LOS	NH 130	212	625	0.34	B
Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	Existing V/C Ratio	LOS																	
NH 130	172	625	0.27	B																	
Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	proposed V/C Ratio	LOS																	
NH 130	212	625	0.34	B																	
Flora and fauna	None of reported species in study area belongs to Rare, Endangered or Threatened category. No Schedule -I species observed in study area.																				

3.2.10 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.	Char Dolochar	DRI Kiln	61250.00	Used in own captive power plant	Used in own captive power plant	The Char dolochar has on an average more than 1800 Kcal/kg energy and hence is being used in Power Plants
2.	Bottom Flue Dust Ash	DRI Kiln	49000.00	Used in Brick making	Used in Brick making	It will be used by the company as

S No	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
						well as given free to other brick units and also to Cement Plants
3.	Kiln Accretion and Refractory waste	DRI Kiln	400.00	Used in Brick making and low-lying areas	Used in Brick making and low-lying areas	
4.	Defective Billets	Induction Furnace & Rolling Mill	5770.00	Used as melting scrap in own plant	Used as melting scrap in own plant	
5.	Mill Scale (CCM and RM)	Rolling Mill	3780.00	Used in own Ferro Alloys as raw material/ sold to Ferro Alloys / Pellet Plants.	Used in own Ferro Alloys as raw material/ sold to Ferro Alloys / Pellet Plants.	
6.	Slag from Induction Furnace	Induction Furnace	34256.00	Given/ Sold to metal recovery units. And also used in own plant to make Bricks	Given/ Sold to metal recovery units. And also used in own plant to make Bricks	
7.	Refractory and Ramming Mass waste		237.00	Given to refractory recycling units / used in Fly ash brick making unit / landfill.	Given to refractory recycling units / used in Fly ash brick making unit / landfill.	
8.	Defective and Miss Roll	Rolling Mill	2693.00	Reused in own Induction furnace	Reused in own Induction furnace	
9.	Mill Scale	Rolling Mill	2694.00	Reused in own Induction furnace	Reused in own Induction furnace	
10.	Ash from Coal firing in Mill	Rolling Mill	1886.00	Used in own Fly Ash Brick making unit and for	Used in own Fly Ash Brick making unit and for	
11.	Slag from Ferro Alloys Plant/ Pig Iron (Higher value)	Ferro Alloys Plant/ Pig Iron	150000.00	land fill	land fill	
12.	Fly Ash from Char Dolo Char from FBC	FBC	45938.00	Used in own Fly Ash Brick making unit and for	Used in own Fly Ash Brick making unit and for	
13.	Ash From Coal in FBC	FBC	71038.00	land fill	land fill	

S No	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
14.	Fluidized Bed Material	FBC	200.00	Used in own Fly Ash Brick making unit and for	Used in own Fly Ash Brick making unit and for	

### 3.2.11 Public Consultation:

Details of advertisement given	04/09/2021: Dainik Bhaskar (Hindi News Paper) and The Pioneer (English Newspaper)
Date of public consultation	07/10/2021
Venue	At Primary School Hall, Village Khamhardih, Tehsil Patharia, Dist. Mungeli (C.G).
Presiding Officer	Shri. Tirthraj Agrawal Additional District Magistrate, Mungeli
Major issues raised	<ol style="list-style-type: none"> <li>1. Impact of Air Pollution on Air Regime</li> <li>2. Water pollution and effluent flown outside the premises</li> <li>3. Employment to local peoples.</li> <li>4. Regarding Intimation about Public Hearing</li> <li>5. Impact on nearby agricultural fields</li> <li>6. Impact on human health due to air and water pollution</li> <li>7. Impact on Drinking Water quality due air emission</li> <li>8. Contribute toward Mahamaya Temple development</li> <li>9. Regarding road condition</li> </ol>

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

S No	Name of the Activity	Physicals Targets	Year of Implementation			Budget (Rs. Lacs)
			1 <sup>st</sup> year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	
1	Skill Development for employment generation	Skill development Centre with Building and Equipment and Furniture and Fixtures <b>Location:</b> Village Dhamani at community land provided by Village Panchayat/ Local Authority. <b>Size:</b> Approx. 1000 Sqft. (50x20 Sqft) <b>Quality:</b> RCC Roof and Floor, Fly Ash Brick Wall. <b>Facilities:</b> Welding Machine, Leith Machine, Computer, Weaving machine, embroidery machine, Tailoring Machine; Grinding machine to prepare Papad and Pickle, Computer, Printer etc.	-	Village: Dhamni (60 Lakhs)	-	60.00
2	Road Strengthening	<b>Location:</b> Village: Dhamni, Khamhardih, Rambod <b>Length:</b> Approx. 1 km, <b>Width:</b> minimum 2meter and maximum 4 meter (as present road/land available in the village.	Dhamni (40 Lakhs)	Khamhardih (30 Lakhs)	Rambod (30 Lakhs)	100.00

S No	Name of the Activity	Physicals Targets	Year of Implementation			Budget (Rs. Lacs)
			1 <sup>st</sup> year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	
		<b>Quality:</b> Pavement Road or Paver block roads				
3	Mahamaya Bhawan (Community Satsang Bhawan cum Waiting Hall) at Mahamaya Temple	<b>Location:</b> Village: Mahamaya Temple Village Dhamni <b>Size:</b> Approx. 2000 Sqft. (100 x 20 Sqft) <b>Quality:</b> RCC Roof and Floor, Fly Ash Brick Wall.	Dhamni (30.00 Lkhs)	-	-	30.00
4	Implementation of Vermicomposting pits towards Improvement for Agricultural field	<b>Location:</b> Village: Dhamni, Khamhardih, Rambod, Lohda and Umaria <b>Work:</b> Vermicomposting Training Centre and implementing of Vermicomposting Pits at Gauthan of Villages and at Village Ghurua (Cow Dund disposal area)	Dhamni, Khamhardih (10 Lakhs)	Rambod Lohda (10 Lakhs)	Umaria (10 Lakhs)	30.00
5	Deepening and cleaning of Pond and Beatification of ponds	<b>Location:</b> Village: Dhamni, Khamhardih, Rambod, Lohda and Umaria <b>Work:</b> Pond Cleaning, Pond Deepening, Beatification through Construction of Pachari and strengthening of side walls	Dhamni, Khamhardih (25 Lakhs)	Rambod Lohda (20 Lakhs)	Umaria (25 Lakhs)	70.00
6	Drinking Water Facility	<b>Location:</b> Village: Dhamni, Khamhardih, Rambod, Lohda and Umaria <b>Work:</b> Implementation of Bore well, Solar Water Pumps and Overhead Drinking Water Tank along with Water Filters/ RO system at Community Places or Panchayat to provide Drinking water to villages	Dhamni, Khamhardih (30 Lakhs)	Rambod Lohda (30 Lakhs)	Umaria (15 Lakhs)	75.00
7	Solar Lighting	<b>Location:</b> Village: Dhamni, Khamhardih, Rambod, Lohda and Umaria <b>Work:</b> Implementation of Solar Street Light with 5-year AMC at village road and connecting road <b>Qty.:</b> 100 Nos. x 0.25 Lakhs each = 25.00 Lakhs	Dhamni, Khamhardih (10 Lakhs)	Rambod Lohda (10 Lakhs)	Umaria (5 Lakhs)	25.00
8	. Community Sanitation support	<b>Location:</b> Village: Dhamni, Khamhardih, Rambod, Lohda and Umaria 5 no of Village Community Toilets with Sewage treatment Septic Tank system. Sqft. (10x20 Sqft)x5 Nos	Dhamni, Khamhardih (10 Lakhs)	Rambod Lohda (10 Lakhs)	Umaria (5 Lakhs)	25.00

S No	Name of the Activity	Physicals Targets	Year of Implementation			Budget (Rs. Lacs)
			1 <sup>st</sup> year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	
		<b>Quality:</b> RCC Roof and Floor, Fly Ash Brick Wall. With water supply and electricity For this a sum of Rs 5 Lakhs Rs each will be provided and the work will be completed by December 2025				
<b>Total</b>						<b>415.00</b>

3.2.12 The capital cost of the proposed project is Rs. 441.10 Crores and the capital cost for environmental protection measures is proposed as Rs. 36.15 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 3.20 Crores. The employment generation from the proposed project is 755 persons. The details of cost for environmental protection measures are as follows:

S No	Particulars	In Lakhs Rs.	
		Capital cost	Recurring cost
1	Dry ESP for DRI Kilns	600	60
2	Bag Houses for the Sponge Iron Kilns	600	60
3	Cost of common Chimney	400	40
4	Cost of Bag Houses and Chimney for Induction Furnaces	40	4
5	Cost of Rotary Vane Wet Scrubber for Rolling Mill for Reheating Furnaces	25	2.5
6	Cost of Bag Houses and Chimney for Ferro Alloys Plant	320	32
7	Cost of Dry ESP for FBC	300	30
8	Cost of Bag Houses for Boiler Furnaces for Power Plant Coal Handling and Ash Handling Area	150	15
9	Cost of Industrial ETP	200	20
10	Cost of STP for Domestic Waste	25	2
11	Occupational health and safety	25	3
12	Greenbelt development	25	3
13	Oil Trap in the drains system	20	2
14	Silt Arrestation Pit in Storm Water Drains	20	2
15	Fugitive dust Control Spray system in Plant	10	1
16	Movable Vacuum cleaning system	20	2
17	Wheel Washing System in Security area	10	1
18	Internal Road and other construction work	35	2
19	Drainage system	35	5
20	Carbon Emission study	05	-
21	Rain Water Harvesting and Recharge system with Roof Harvesting	15	1.5
22	Environment Monitoring systems	320	32
23	Addressal to the public consultation concerns	<b>415</b>	<b>--</b>
	<b>Total cost</b>	<b>3615</b>	<b>320</b>

- 3.2.13 Proposed greenbelt will be developed in 3.52 Ha. which is about 33 % of the total project area. A 9.50 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 8800 saplings will be planted and nurtured in 3.52 Ha. in 3 years.
- 3.2.14 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.
- 3.2.15 Name of the EIA consultant: M/s. Anacon Laboratories Pvt. Ltd. Nagpur, [S No 67, List of ACOs with their Certificate / Extension Letter No: NABET/EIA/1922/RA0150 valid till 30/09/2022; Rev. 21, March 30, 2022].

#### **Observations of the Committee**

- 3.2.16 The committee noted the following:
- i. A drainage is passes through the project site. PP has not provided conservation plan for natural drainage. (Flow characteristics, time period of flow).
  - ii. PP has proposed to lay pipeline across the natural drainage. Permission for same from concern authority was not provided.
  - iii. Maniari River is located at 0.67 km form the project site. Authenticated HFL data of the river was not provided.
  - iv. As per AAQ modeling submitted by PP. Maximum GLC for all parameters are located at same point, clarification for same was not given by PP and consultant.
  - v. PP was provided the result for NH<sub>3</sub> in baseline data, but PP was not given satisfactory reply for source of the NH<sub>3</sub>.
  - vi. There are some constructions at project site, PP has not given the detail about the constructed shed in EIA report.
  - vii. As per AAQ modeling the GLC for SO<sub>2</sub> is high, PP has not provided the measures taken for control and monitor for SO<sub>2</sub> emission.
  - viii. PP proposed for steel plant and Bio Ethanol Plant with adjacent to each other with sharing common facilities. PP has not provided the details of common facilities for both plants and how to inter connect the bioethanol and steel plant.
  - ix. The KML file provided by the project proponent was not matched with plant layout.
  - x. Latitudes and longitudes for all corners of the proposed project site is not provided by PP.

#### **Recommendations of the Committee**

- 3.2.17 In view of the foregoing and after detailed deliberations, the committee recommended to defer the proposal and sought additional information on the following points. On receipt of the additional information, the proposal shall be placed before the EAC in its next meeting for consideration by the EAC.
- i. As a natural drainage is passing through the middle of the project area, so a robust and full proof Drainage Conservation scheme to protect the natural drainage and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures shall be provided.
  - ii. The PP shall present to the EAC regarding mitigation measures against the social issues raised in Public consultation.

- iii. Permission for laying the pipeline across the natural drainage from concern authority shall be provided.
- iv. Authenticated HFL data of Maniari River shall be provided.
- v. Clarification for maximum GLC for all parameters are located at same point shall be provided.
- vi. PP shall provide the source of the NH<sub>3</sub> monitored in ambient air quality.
- vii. PP shall provide clarification on the sheds constructed at the project site. Further, PP shall submit an undertaking in the form of affidavit stating that no construction activity has been commenced at the project site pertaining to the project under consideration.
- viii. PP shall be provided the additional measures to be taken for control SO<sub>2</sub> emission and monitoring plan.
- ix. PP shall be provided the detail of common facilities for Steel Plant and Bio-Ethanol Plant and how the connectivity to be exists within the site.
- x. PP shall provide the coordinates for all corners of the project site.
- xi. PP shall submit the KML file in consonance with the engineering drawing layout of the project site.
- xii. 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.

3.3 Change in EC Configuration from 5.5 MTPA to 4.5 MTPA by **M/s. Bhushan Power and Steel Limited** located at Village Thelkoloi, Tehsil Rengali, **District Sambalpur, Odisha** [Online Proposal No. IA/OR/IND/257254/2022; File No. IA-J-11011/40/2009-IA-II(I)] – **Environment Clearance under the provision of para 7 (ii) of EIA Notification, 2006 – regarding.**

3.3.1 M/s. Bhushan Power and Steel Limited has made an online application vide proposal no. IA/OR/IND/257254/2022 dated 15/03/2022 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), 2 (a) Coal Washeries, 2(b) Mineral Beneficiation, 1(d) Thermal Power Plants and 4(b) Coke oven plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by the project proponent**

3.3.2 The project of M/s Bhushan Power and Steel Limited is located at Village Thelkoloi, Tehsil Rengali, District Sambalpur, Odisha is for Change in EC Configuration from 5.5 MTPA to 4.5 MTPA.

3.3.3 Environmental site settings:

<b>S No</b>	<b>Particulars</b>	<b>Details</b>	<b>Remarks</b>
i)	Total land	<b>789.24 ha</b> (1950.25 acre) [Private: 789.24 ha]	Land use – Industrial land.

S No	Particulars	Details	Remarks																																							
		As per earlier EC dated 06/12/2016 total project area was 829.726 ha (plant area: 789.24 ha + Township: 40.48 ha). As per instant proposal, PP excluded the township area of 40.48 ha and kept plant area of 789.24 ha only. As per EC dated 06/12/2016 total land is 789.24 ha out of which 505.96 ha land is existing land and 283.28 ha is expansion land)																																								
ii)	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The proposed change in configuration will take place within existing plant area of 789.24 ha. Out of total 789.24 ha land existing land 505.96 ha is in possession of the company and for expansion 283.28 ha land acquisition process is in progress. No additional land is required for proposed change in configuration.	--																																							
iii)	Existence of habitation & involvement of R&R, if any	<b>Project site:</b> Village Thelkoloji and Khadiapalli having Project displacement families- 111 of 2 villages.  Study area: <table border="1"> <thead> <tr> <th>Habitation</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Thelkoloji</td> <td>50 m</td> <td>West</td> </tr> <tr> <td>Sripura</td> <td>1.5 km</td> <td>NE</td> </tr> <tr> <td>Lapanga</td> <td>0.5 km</td> <td>SW</td> </tr> </tbody> </table>	Habitation	Distance	Direction	Thelkoloji	50 m	West	Sripura	1.5 km	NE	Lapanga	0.5 km	SW	R&R is in progress.																											
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v)	Elevation of the project site	222 m above mean sea level (MSL)	-																																							
vi)	Involvement of Forest land if any	Not Applicable																																								

S No	Particulars	Details	Remarks															
vii)	Water body exists within the project site as well as study area	Project site: NIL Study area: <table border="1"> <thead> <tr> <th>Water Body</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Ib river</td> <td>7.0 km</td> <td>West</td> </tr> <tr> <td>Matwali river</td> <td>4.7 km</td> <td>SSE</td> </tr> <tr> <td>Bheden river</td> <td>0.88Km</td> <td>NW</td> </tr> <tr> <td>Hirakud Reservoir</td> <td>1.0 km</td> <td>SSW</td> </tr> </tbody> </table>	Water Body	Distance	Direction	Ib river	7.0 km	West	Matwali river	4.7 km	SSE	Bheden river	0.88Km	NW	Hirakud Reservoir	1.0 km	SSW	-
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viii)	Existence of ESZ/ESA/ national park/wildlife sanctuary/biosphere reserve/tiger reserve/ elephant reserve etc. if any within the study area	NIL	-															

3.3.4 The chronology of earlier EC is given as below:

Date	Detail
12/05/2004	EC obtained from MOEF&CC vide letter no J-11011/228/2003-IA II for setting up of <b>1.2 MTPA Steel Plant</b> in the name of M/s. Bhushan Power & Steel Limited
29/03/2007	EC expansion from MOEF&CC vide letter no J-11011/372-IA-II(I) for <b>1.2 MTPA to 2.2 MTPA.</b>
02/04/2010	EC expansion from MOEF&CC vide letter no J-11011/40/2009-IA-II(I) for <b>2.2 MTPA to 2.8 MTPA.</b>
17/10/2012	Amendment in EC for <b>2.8 MTPA to 3.0 MTPA</b>
06/12/2016	Expansion in EC for <b>3.0 MTPA to 5.5 MTPA</b>
26/07/2017	BPSL went into NCLT and was under administrative control of RP (Resolution Professional) as per CIRP (Corporate Insolvency Resolution Procedure).
26/03/2021	M/s. JSW Steel Ltd took over the M/s. BPSL on and has full administrative control of its operations.

Renewal of consents to operate for the existing plant was accorded by State Pollution Control Board, Odisha dated 25/03/2022 and same is valid up to 31/03/2023.

3.3.5 Implementation status of the existing Environmental Clearances:

S.No.	Facilities	As per EC dated 06/12/2016	Implementation Status	Production as per CTO
1	Coal Washery	1x1.0MTPA+ 1x3.5MTPA	Commissioned	1x1.0MTPA+ 1x3.5MTPA
2	Beneficiation Plant	1x1200TPH (6.5MTPA Product)	Commissioned	1200 TPH
3	Pellet Plant	4.0MTPA	3.5 MTPA commissioned	3.5MTPA
4	DRI Kiln	14x500TPD (2.3MTPA)	12x500 TPD commissioned	(12x500 TPD) 1.92MTPA

S.No.	Facilities	As per EC dated 06/12/2016	Implementation Status	Production as per CTO
5	Coke Oven	2x0.45MTPA (Non-Recovery Type) 1x1.2MTPA (Recovery Type)	1x0.45MTPA (Non recovery commissioned and 1.0 MTPA recovery type coke oven has been commissioned. Detail engineering for upgradation to 0.2 MTPA is in progress.	0.45 MTPA-Non-Recovery Type; 1.0 MTPA-Recovery Type
6	Sinter Plant	1x105 m <sup>2</sup> + 1x450 m <sup>2</sup>	1x105 m <sup>2</sup> commissioned; 1x450 m <sup>2</sup> under construction	1x105 m <sup>2</sup>
7	Blast Furnace	1x1008 m <sup>3</sup> + 2x2015 m <sup>3</sup>	1x1008 m <sup>3</sup> + 1x2015 m <sup>3</sup> commissioned and	(1x1008 m <sup>3</sup> ) 0.8 MTPA + (1x2015 m <sup>3</sup> ) 1.55 MTPA
8	EAF	6x100 Ton	2x90T, 2x100T and 1x70 T commissioned	2x90 T + 2x100 T + 1x70
9	LF	6x100 ton + 2x250 ton	2x90T, 2x100T and 1x70 T commissioned	2x90 T + 2x100T + 1x70 T
10	Alloy Smelter	4x16 MVA	Not commissioned	--
11	BOF	2x250 ton	Not commissioned	--
12	VD/AOD	2x100 ton + 2x250 ton	Not commissioned	--
13	RH	2x250 ton	Not commissioned	--
14	HMDP	2x250 ton	Not Commissioned	--
15	Lime Plant	3x300 TPD + 2x600 TPD	3x300 TPD- commissioned	3x300 TPD
16	Dolo Plant	1x300 TPD + 1x100 TPD + 1x600 TPD	1x600 under construction.	--
17	Oxygen Plant	1x400 TPD + 1x660 TPD + 1x1250 TPD	1x400 TPD + 1x660 TPD – Commissioned; 1000 TPD under construction	1x400 TPD + 1x660 TPD
18	Billet Caster	(1x2) + (2x4) + (1x5) Strand	(1x2) + (1x4) + (1x3) Strand	1x5 + 1x2 + 1x4, strand
19	Bloom Caster	2x2 Strand	Not commissioned	--
20	Thin Slab Caster	3x1 Strand	2x1 strand Commissioned.	2x1 strand
21	CSP	4.0 MTPA	1.8 commissioned	1.8 MTPA
22	Cold Rolling Mill	2.5 MTPA	1 MTPA commissioned 1.5 MTPA under engineering	1 MTPA
23	Pipe and Tube Mill	0.8 MTPA	0.2 MTPA commissioned 0.6 MTPA under implementation	0.2 MTPA
24	Galvanising / Galvalume Line	1.3 MTPA	0.5 MTPA commissioned 0.8 MTPA under implementation	0.5 MTPA
25	Colour Coating Unit	0.7 MTPA	0.45 MTPA commissioned 0.25 MTPA under implementation	0.45 MTPA
26	Wire and Rod Mill	0.45 MTPA	0.45 commissioned	0.45 MTPA
27	Bar and Rod Mill	0.55 MTPA	0.55 under implementation	--
28	Captive Power Plant	710 MW (Coal fired, & WHRB)	506 MW Commissioned	3x130 MW + 60 MW + 40 MW + 2x8
29	Cement Plant	1.0 MTPA	Under engineering stage	--

3.3.6

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

S No	Facility	Configuration as per EC dated 06/12/2016	Configuration after proposed amendment	Remarks
1	Coal Washery	1x1.0 MTPA + 1x3.5 MTPA	1x1.0 MTPA + 1x3.5 MTPA	No change
2	Beneficiation Plant	1x1200 TPH (6.5 MTPA Product)	1x1200 TPH (6.5 MTPA Product)	No change
3	Pellet Plant	4.0 MTPA	4.0 MTPA	No change
4	Sinter Plant	1x105 m <sup>2</sup> + 1x450 m <sup>2</sup> (Total: 5.9 MTPA)	1x105 m <sup>2</sup> + 1x450 m <sup>2</sup> (Total: 5.9 MTPA)	No change
5	DRI Kiln	14x500 TPD (2.3 MTPA)	12x500 TPD (2.0 MTPA)	2x500 TPD surrendered
6	Coke Oven	2x0.45 MTPA (Non-Recovery Type) 1x1.2 MTPA (Recovery Type)	1x0.45 MTPA (Non-Recovery Type) 1x1.2 MTPA (Recovery Type)	1x0.45 MTPA Non-Recovery Coke Oven surrendered
7	Blast Furnace	1x1008 m <sup>3</sup> + 2x2015 m <sup>3</sup> (Total: 3.9 MTPA)	1x1120 m <sup>3</sup> + 1x2015 m <sup>3</sup> (Total: 2.35 MTPA)	Augmentation of BF from 1008 m <sup>3</sup> to 1120 m <sup>3</sup> and 1x2015 m <sup>3</sup> BF surrendered
8	EAF/Zero Power Furnace (ZPF)	SMS-1: EAF: 4x100 T SMS-2: EAF: 2x100 T (Total: 600 T)	SMS-1: EAF: 4x105 T SMS-2: EAF: 1x75 T + ZPF: 1x75 Ton (Total: 570 T)	4x100 is upgraded to 4x105 T and 2x100 T EAF change to 1x75 T EAF +1x75 T ZPF
9	LF	6x100 ton + 2x250 ton (Total 1050T)	6x100 Ton + 2x75 Ton (Total 675T)	250T LF changed to 75 T LF
10	Alloy Smelter	4x16 MVA	NIL	All units surrendered
11	BOF	2x250 ton	NIL	All units surrendered
12	VD/AOD	2x100 ton + 2x250 ton	2x100 Ton + 2x75 Ton	250T LF changed to 75 T VD/AOD
13	RH	2x250 ton	NIL	All units surrendered
14	HMDP	2x250 ton	2x100 Ton	300 T surrendered
15	Lime Plant	3x300 TPD + 2 x 600 TPD	3x300 TPD + 2x600 TPD	No change
16	Dolo Plant	1x300 TPD + 1 x 100 TPD + 1x600 TPD	1x600 TPD	1x300 TPD + 1x100 TPD surrendered
17	Oxygen Plant	1x400 TPD + 1x660 TPD + 1x1250 TPD	1x400 TPD + 1x660 TPD + 1x1000 TPD + 3x200 TPD	Reduction of capacity of 1250 TPD to 1028 TPD Addition of 3x200 TPD (VPSA)
18	Billet caster	(1x2) +(2x4) +(1x5) Strand	(1x3) + (2x4) Total Strands 11 Nos	4 Strands surrendered
19	Bloom Caster	2x2 Strand	NIL	All units surrendered
20	Thin Slab Caster	3x1 Strand	2x1 Strand	1x1 strand surrendered
21	CSP	4.0 MTPA	4.0 MTPA	No change
22	Cold Rolling Mill	2.5 MTPA	2.5 MTPA	No change
23	Pipe and Tube Mill	0.8 MTPA	0.8 MTPA	No change
24	Galvanising / Galvalume Line	1.3 MTPA	1.3 MTPA	No change
25	Colour Coating	0.7 MTPA	0.7 MTPA	No change
26	WRM	0.45 MTPA	0.60 MTPA	Addition of 0.15 MTPA
27	Bar and Rod Mill	0.55 MTPA	0.60 MTPA	Addition of 0.05 MTPA

S No	Facility	Configuration as per EC dated 06/12/2016	Configuration after proposed amendment	Remarks
28	Captive Power Plant	710 MW (Coal fired, & WHRB)	Total 546 MW: 3x130 MW (CFBC-Coal & WHRB of DRI 5-12) + 40MW (AFBC & DRI 1-4) + 60MW (AFBC&DRI1-4) + 16MW WHRB of HR coke oven + 40 MW (250 TPH process steam boiler (Coal/Gas based))	Surrender of 150 MW coal fired CPP and addition of 40 MW (250 TPH coal/gas-based boiler.)
29	Cement Plant (Slag cement grinding and blending unit)	1.0 MTPA	2.0 MTPA	Addition of 1.0 MTPA
30	Slag processing for aggregates	-	300TPH + 150 TPH	New
31	Iron ore crusher for quality improvement	-	350TPH	New

3.3.7

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:

S No	Raw Materials	Estimated Quantity (in TPA)			Source	Distance from project site (km)	Mode of transport
		As per EC (5.5 MTPA)	Revised (at 4.5 MTPA)	Change			
1	Iron Ore Lump	350,000	260,000	-90,000	Barbil region	500	Road/Rail
2	Iron Ore Fines	10,270,000	9,786,209	-483,791	Joda/ barbil/ Koira region		Road/Rail
3	DRI Coal	2,268,000	1,850,000	-418,000	Import - M/s Glencore South Africa	400	Sea
4	Coking Coal (semi soft)	1,109,600	1,015,200	-94,400	Australia/ SA/ China/ Mozambique	400	Sea
5	Coking Coal (hard)	937,400	930,600	-6,800	Australia/ SA/ China/ Mozambique	400	Sea
6	Limestone	1,428,700	885,000	- 543,700	International market	400	Sea
7	Dolomite	219,800	180,000	-39,800	Baradwar region	180	Rail
8	Ferro Alloy	50,150	12,000	-38,150	Joda/ barbil/ Koira region	500	Road/Rail
9	Thermal Coal	3,678,200	2,835,800	-8,42,400	Coal India Ltd. mines	13	Rail
10	Purchased Coke	228,500	0	-2,28,500	-	-	-
11	Purchased DRI	123,600	145,262	21,662	Local market	100	Road/Rail
12	Quartzite	65,000	40,400	-24,600	Local source	120	Rail
13	Bentonite	40,000	40,000	0	Import	400	Sea
<b>Total</b>		<b>20,768,950</b>	<b>17,980,471</b>	<b>-2,788,479</b>			

3.3.8 Existing Water requirement is 108600 m<sup>3</sup>/day which will be reduce to 85608 m<sup>3</sup>/day after proposed change in configuration. Water requirement is obtained from backwater reservoir of Hirakud Dam and permission for 45 cusecs (~ 110095 m<sup>3</sup>/hr) has been from obtained Office of Executive Engineer, Main Dam Division, Burla Department of Water Resource (Government of Odisha) vides letter No. 1739 dated 14/02/2020.

3.3.9 Existing power requirement of 672 MW, which will be reduced to 605.6 MW after proposed change in configuration. Power is obtained from 546 MW of captive power plant and remaining from Grid.

3.3.10 Baseline Environmental Studies:

Period	December, 2020 to February, 2021 from Post project monitoring data
AAQ parameters at 6 Locations (min and max)	PM <sub>2.5</sub> = 37.1 to 49.3 µg/m <sup>3</sup> PM <sub>10</sub> = 70 to 92.4 µg/m <sup>3</sup> SO <sub>2</sub> = 9.9 to 16.1 µg/m <sup>3</sup> NO <sub>x</sub> = 21.1 to 31.8 µg/m <sup>3</sup>
Incremental GLC level	PM <sub>10</sub> = 2 µg/m <sup>3</sup> (Level at 2.6.km in NE Direction) SO <sub>2</sub> =5 µg/m <sup>3</sup> (Level at 2.6 km in NE Direction) NO <sub>x</sub> = 5 µg/m <sup>3</sup> (Level at 2.6 km in NE Direction)
Ground water quality at 4 locations	pH: 7.17 to 7.41, Total Hardness: 65.33 to 94 mg/l, Chlorides: 23.33 to 29.33 mg/l, Fluoride: 0.24 to 0.33 mg/l. Heavy metals (Chromium):<0.05 mg/l
Surface water quality at 4 locations	pH: 7.11 to 7.32; DO: 3.6 to 6.43 mg/l BOD: 0.6 to 2.1.mg/l. COD from 13.4 to 26.8 .mg/l
Noise levels Leq (Day and Night)	50 to 58.7 dBA for the day time and 42.5 to 49.8 dBA for the Night time.
Traffic assessment study findings	The projected raw material transported by road would be at 5.5 MTPA is 10,334,890 TPA. The revised quantity at 4.5 MTPA would be 8,626,485 TPA. Considering 35 tons trucks, the number of trucks per day at 5.5 MTPA and 4.5 MTPA are 809 and 675 respectively. So, there would be a net reduction of 134 trucks per day or 17% reduction.
Flora and fauna	No Schedule I and endangered species in present in the study area.

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

S No	Type	Quantity in TPA			Utilization/ Remark
		As per EC of 5.5 MTPA	Revised Configuration of 4.5 MTPA	Change	
1	BF Slag	1,241,400	1,032,450	Reduced 208,950	To be used for Cement Making.
2	SMS Slag	1,089,300	889,300	Reduced 200,000	To be used for Road construction/ Land filling purpose, Paver Block Making after recovering metal from Slag Crushing unit

S No	Type	Quantity in TPA			Utilization/ Remark
		As per EC of 5.5 MTPA	Revised Configuration of 4.5 MTPA	Change	
3	Mill Scale	1,09,083	90150	Reduced 18933	To be used in Sinter Plant
4	Flue Dust	1,50,000	108,000	Reduced 42,000	To be used in Sinter Plant
5	Fly Ash	1,521,234	1,089,104	Reduced 432,130	To be used for Brick making and also in Captive Cement Plant
6	Bottom Ash	352,936	272,276	Reduced 80,660	To be used for Road construction/ Land filling purpose
7	Lime/Dolo Fines	14,400	14,400	No change	To be sold to WBPCB authorized Vendor
<b>Hazardous Waste</b>					
1	Used /Spent oil	180	150	Reduced 30	Storage in container on impervious floor under well ventilated covered shed followed by disposal through actual users having valid authorization from SPCB, Odisha
2	Waste residue containing oil	305	250	Reduced 55	Storage in impervious pits/ con-tainers under well ventilated covered shed followed by disposal through Authorized HW incinerator / Co-Processing in Cement Kiln authorized by SPCBs/PCCs / CHWTSDF, Jajpur
3	Oil and grease skimming residues	306	250	Reduced 56	Storage in impervious pits/ con-tainers under well ventilated covered shed followed by disposal through Authorized HW incinerator / Co-Processing in Cement Kiln authorized by SPCBs/PCCs / CHWTSDF, Jajpur
4	Chemical Sludge from Waste water Treatment	856	700	Reduced 156	Storage in impervious floor/ pit under well ventilated covered shed followed by disposal in CHWTSDF, Jajpur
5	Acid Residues	31	25	Reduced 6	Storage in impervious floor/pit under well ventilated covered shed followed by disposal in CHWTSDF, Jajpur
6	Alkali Residues	31	25	Reduced 6	Storage in impervious pits I con-tainers under covered shed followed by disposal in CHWTSDF, Jajpur
7	Spent Ion Exchange Resin Containing Toxic Metals	7	6	Reduced 1	Storage in impervious pits / containers under well ventilated covered shed followed by disposal through Authorized HW incinerator / Co-Processing in Cement Kiln authorized by SPCBs/PCCs / CHWTSDF, Jajpur
8	Decanter Tank Tar Sludge	300	300	No change	Storage in impervious pits/ containers under well ventilated covered shed followed by disposal through Authorized HW incinerator / Co-Processing in Cement Kiln authorized by SPCBs/PCCs / CHWTSDF, Jajpur
9	Process wastes, Residues & Sludge	244	200	Reduced 44	Storage in impervious pits/ containers under well ventilated covered shed followed by disposal through Authorized HW incinerator / Co-Processing in Cement

S No	Type	Quantity in TPA			Utilization/ Remark
		As per EC of 5.5 MTPA	Revised Configuration of 4.5 MTPA	Change	
					Kiln authorized by SPCBs/PCCs / CHWTSDF, Jajpur
10	Empty Barrels/ Containers/ Liners Contaminated with hazardous Chemicals / Wastes	24	20	Reduced 4	Storage on impervious floor under well ventilated covered shed followed by captive reuse / disposal through original supplier / Actual Users authorized by SPCB, Odisha
11	Zinc dross	2500	2500	No change	Storage in impervious pits / containers over impervious floor under well ventilated covered shed followed by disposal through Actual Users authorized by SPCB, Odisha
12	ETL Sludge	-	120	Increased 120	Storage in impervious pits / containers over impervious floor under well ventilated covered shed followed by disposal through Actual Users authorized by SPCB, Odisha

3.3.12 Public Consultation (Part of the Original EC accorded on 06/12/2016)

Details of advertisement given	12/01/2016: National Paper 'New Indian Express' and 13/01/2016: local daily newspaper 'Sambad'.
Date of public consultation	17/02/2016
Venue	Playground of Lapanga High School
Presiding Officer	Shri Manish Agarwal, Additional District Magistrate, Sambhalpur.
Major issues raised	<ol style="list-style-type: none"> <li>1. Air and Water Quality</li> <li>2. Road Construction</li> <li>3. Employment</li> <li>4. Establishment of technical training center.</li> <li>5. Health facilities</li> <li>6. Drinking water facility.</li> </ol>

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

S No	Area	2022	2023	2024	Total budget in crore
1	Road Infrastructure	Construction of road in Derba (Repairing 3 km) and Thelkoloji service road (1km)	Construction of road in Sripura (2 km) and Khadiapalli (1km)	- Construction of road in Dubhenchapper (3 km) and Lapanga (1km)	7
2	Rainwater harvesting	Construction of village pond at Lapanga	Construction of village pond at Dhuhenchapper	Construction of village pond at Khariapalli	1.5
3	Healthcare facilities	Healthcare facility for local people in vicinity of the plant to address respiratory, skin, ENT issues etc. related to environmental pollution	Completion of construction	Procurement of equipment and engagement of medical staff (operational)	30

S No	Area	2022	2023	2024	Total budget in crore
		- Commencement of construction of building		expenditure like staff salary and consumables to be borne by BPSL)	
4	Drinking water & sanitation	Allocation of funds towards government drinking water mission and Sanitation in the close vicinity. The approved programmed would be communicated to MoEFCC through 6 monthly compliance report	-	-	5
5	Vocational training arrangements for women and youth	Vocational training courses arrangements for women through various Govt departments/ NGOs- Tailoring, beautician and mushroom cultivation etc. - 200 women Vocational Training courses for local youth through local ITIs for following trade- Electrician, Welder Fitter Electrician Mason Moto winding Machining etc for about 100 local youth	Tailoring, beautician and mushroom cultivation course - additional 200 women  Electrician, welding, fitting and machining course for additional 100 local youth	Tailoring, beautician and mushroom cultivation course - additional 200 women  Electrician, welding, fitting and machining course for additional 100 local youth	1.7
6	Education	Strengthening of village school library – 4 Nos. of PCs and 500 books with bookshelves to Thekoloji Hugh School and Dhubenchapar upper Primary school, Sripura High School & Bir Surendra Sai High School	Strengthening of village school library – 4 Nos. of PCs and 500 books with bookshelves to Thekoloji Upper Primary School, Lapanga High School, Saraswati Sishu Vidya Mandir & Sripura Upper Primary School	Strengthening of village school library – 4 Nos. of PCs and 500 books with bookshelves to Bisadhi Upper Primary School, Bir Surendra Sai Upper Primary School, Lapanga Upper Primary School & Sripura Upper Primary School	3
7	Electrification/Solar Street Lighting	Solar LED lights at Lapanga, Thekoloji - 50 each village	Solar LED lights at Dhubenchapper, Derba - 50 each village	Solar LED lights at Khariapalli, Khinda - 50 each village	1.8
<b>Total</b>					<b>50</b>

3.3.13 Existing capital cost of project was Rs. 9090 Crore for expansion project from 3 MTPA to 5.5 MTPA. The capital cost of the proposed project for 3.0 MTPA to 4.5 MTPA is Rs. 4900 Crores and the capital cost for environmental protection measures is proposed as Rs. 495.7 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 24.64 Crores. The employment generation from the proposed project/expansion is 2700. The detail of cost for environmental protection measures is as follows:

S No	Description of Item	Existing (Rs. In Crores) (As per EC of 5.5 MTPA)		Proposed for 4.5 MTPA (Rs. In Crores)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
1.	Air Pollution Control Measure	200	--	302.5	10.51
2.	Water Pollution, rainwater harvesting & solid waste management	90	--	107.2	11.43
3.	Environmental monitoring	30	--	6	0.9
4.	Greenbelt development	3	--	30	1.8
5.	Addressal of public consultation concern	164	--	50	--
<b>Total</b>		<b>457</b>	<b>10</b>	<b>495.7</b>	<b>24.64</b>

3.3.14 Existing green belt was developed in 73.25 ha area which is about 8.82% of the total project area of 829.73 ha (including 40.48 ha of Township) with total sapling of 147700 Trees (@ 2016 trees/ ha). Proposed greenbelt will be developed in additional 187.2 ha. Thus, total of 260.45 ha area (33% of total project area of 789.24 ha after excluding the 40.48 ha area of township) will be developed as greenbelt. A minimum 10 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 about 2500 trees per hectare. Total no. of 6,51,125 saplings will be planted and nurtured in additional 260.45 ha in 3 years.

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

Particulars	As per EC dated 6/12/2016	After proposed change under para 7(ii)	% Decrease
Land	829.73 ha	789.24 ha	4.88%
Greenbelt	33%	33%	-
Water	4525 m <sup>3</sup> /hr	3567 m <sup>3</sup> /hr	21.17%
Power	672 MW	605.6	9.88%
Raw materials	18137100	17980471	0.86%
Product	Crude Steel: 5.5 MTPA	Crude Steel: 4.5 MTPA	18.18%

3.3.16 Pollution load assessment:

Particulars	As per EC dated 6/12/2016	After proposed change under para 7(ii)	% Decrease
Air	PM ; 390.21 kg/hr SO <sub>2</sub> : 762.03 kg/hr NOx: 456.92 kg/hr	PM ; 361.4 kg/hr SO <sub>2</sub> : 610.7 kg/hr NOx: 420.3 kg/hr	PM: 7.38% SO <sub>2</sub> : 19.85% NOx: 8.01%

Particulars	As per EC dated 6/12/2016	After proposed change under para 7(ii)	% Decrease
Water	Zero discharge	Zero discharge	-
Solid and Hazardous waste	Solid Waste: 4478353 MTPA Hazardous waste: 4784 MTPA	Solid Waste: 3495680 MTPA Hazardous waste: 4546 MTPA	Solid Waste: <b>21.94%</b> Hazardous waste: <b>4.97%</b>
Traffic load	Additional 103 trucks per day	Additional 84 trucks per day	<b>18.44%</b>

3.3.17 Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration are given as below:

Types of direction	Description	Letter No & Date	Issues	Status
Closure direction	OSPCB Closure direction under Section 31(A) of Air(P&CP) Act,1981 and 33(A) of Water(P&CP) Act,1974 amended thereafter	Letter No-6989/IND_I_CON-4650, dated-07.05.2021	Regarding Stack emission from power plant and zero discharge issues	Reply to closure direction was sent to OSPCB vide our Letter dated 08/05/2021. Action plans and progress was sent to OSPCB vide our letter dated 31/05/2021. Performance Bank Guarantee No 1025521 BG 0000003 dated 06/08/2021 submitted to OSPCB vide our Letter No JSw/BPSL/Env/OSPCB/011 dated 06/08/2021 Modifications in ESPs of 40 MW, 60 MW and Boiler 1 of unit 3x130 MW completed and emissions achieved within norm. Accordingly, compliance status was submitted to OSPCB vide our letter no-JSWBPSL/ENV/OSPCB/050 dated 26/02/2022. <b>Revocation of Closure direction received from OSPCB vide Letter No-11721/IND-I-CON-4650 dated - 09/08/2021.</b>
Direction	OSPCB Direction under Section 31(A) of Air(P&CP) Act,1981 and 33(A) of Water(P&CP) Act,1974 amended thereafter	Letter No-11377/IND-I-CON-4650-Dated-07/08/2021	Regarding issues at solid waste disposal site Derba	Compliance submitted at OSPCB by BPSL vide Letter No-SWBPSL/ENV/OSPCB/017 on 24/08/2021
Direction	OSPCB Direction under Section 31(A) of Air(P&CP) Act,1981 and 33(A) of Water(P&CP) Act,1974 amended thereafter	Letter No-17816/IND-CON-4650, Dated-12/11/2021	Regarding issues at solid waste disposal site Derba	Compliance Report submitted by BPSL bearing letter No-JSWBPSL/ENV/OSPCB/028 dated 29/11/2021

- 3.3.18 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/22/2285; valid up to 23/06/2022; Rev. 21, March 30, 2022].

**Certified compliance report from Regional Office:**

- 3.3.19 The Status of compliance of earlier EC was obtained from Integrated Regional Office, Bhubaneswar vide letter no. 101-595/EPE/1560 dated 11/11/2021 in the name of M/s. Bhushan Steel and Power Limited on basis of site inspection carried out on 28/10/2021. The Action taken report regarding the partially/non-complied condition was submitted by project proponent to regional officer MoEF&CC, Bhubaneswar vide letter dated 28/11/2021. MoEF&CC (RO) evaluated the same and has issued closure report vide his letter No 101-595 EPE/1560 dated 07/12/2021. The details of the observations made by RO in the above closure report are as below:

S No	Non-compliances details	Observation of RO (abridged)	Condition no.			Re-assessment by RO
			EC date	Specific	General	
1.	Phase IR&R is completed and for phase 2 additional 700 acre has been acquired.	Project authorities are requested to provide R&R detail.	6/12/2016	ii		Condition is treated as 'Assured to Comply'.
2.	PP initiated action for constructing Rainwater harvesting	Progress made w.r.t. Rainwater harvesting will be submitted.	6/12/2016	v		Condition is treated as 'Assured to Comply'.
3.	Roads to be made of concrete or black topped to reduce fugitive emission or to be cleaned by water Spray.	Road within the plant area got damaged and create dust pollution	6/12/2016	vii		Being complied.
4.	PP assured to comply with in June, 2022	RO plant along with CETP to treat 100% wastewater.	6/12/2016	xii		Condition is treated as 'Assured to Comply'.
5.	Complied in a phased manner	Status of commitment of public hearing is to be submitted.	6/12/2016	xix		Condition is treated as 'Assured to Comply'.
6	Physical target under CER are given. BPSL will furnish progress status in 6 monthly reports.	Information on Enterprise social commitment and constitution of committee should be submitted.	6/12/2016	xx & xxii		Being complied

S No	Non-compliances details	Observation of RO(abridged)	Condition no.			Re- assessment by RO
			EC date	Specific	General	
7.	PP spent 60 crores for development of peripheral area but progress made should be communicated.	Detail information regarding CSR activities should be submitted.	6/12/2016	xxi		Complied
8.	Adequate no of canteen and launch shelters have been planned and constructed within March, 2022.	Sitting place for workforce		xxv		Condition is treated as 'Assured to Comply'
9.	Progress made to be communicated.	Housekeeping Needs improvement		-		Being complied.
10.	Greenbelt will be developed up to 33%.	Plantation in vacant area and road side.		-		Being complied
11.	PP submitted that information and regular health check-up is carried out.	Details of occupational health surveillance carried out with findings.		-	vi	complied
12.	Submitted information regarding intake, consumption, recycling and reuse.	Detail water budget plan should be submitted		-		complied
13.	Construction work will be started from 2022	Development of rainwater harvesting		-	vii	Condition is treated as 'Assured to Comply'
14.	PP replied in detail later.	Detail information (item wise) to be Submitted.			ix	Complied
15.	A new website is being developed by PP	The URL address of the company's Website regarding uploading 6 months report should be submitted.			xi	Condition is treated as 'Assured to Comply'

S No	Non-compliances details	Observation of RO(abridged)	Condition no.			Re- assessment by RO
			EC date	Specific	General	
16.	PP submitted environmental statement in Form-IV	A copy of Environmental statement in Form-IV should be submitted			xiii	Complied
17.	PP submitted that document	Date of financial closure, final approval and date of commencing of land developmental work of the project should be submitted			xv	Complied

3.3.20 M/s. Bhushan Power & Steel Limited (BPSL) had earlier applied for EC under para 7(ii) of EIA Notification vide proposal no. IA/OR/IND/234756/2021 dated 04/01/2022 and the proposal was considered 52<sup>nd</sup> meeting of the Re-constituted EAC (Industry-I) held on 27<sup>th</sup> January, 28<sup>th</sup> January and 31<sup>st</sup> January, 2022. The observations and recommendations of the EAC are as follows:

**Observations of the Committee held on 27<sup>th</sup> January, 2022:**

3.3.21 The committee noted following discrepancies:

- i. As per the KML file uploaded on Parivesh, there are five parcels of land indicated as a project site in the KML file. However, the said file is not in consonance with the plant lay out given in the slide no. 5 of the presentation made before the EAC.
- ii. As per the EC accorded on 06/12/2016, the total land requirement for the expansion was 284 ha. Further, as per the EIA report submitted as part of expansion EC, the total area available with the proponent was reported to be 2050.32 acres. Now, the total land under para 7(ii) has been projected as 2348.07 acres. Thus, conflicting statements have been made with respect to land area available with the PP. No explanation is made available in this regard.
- iii. As per the implementation status, it has been reported that 1.0 MTPA coke oven plant has been commissioned. However, as per the CTO uploaded on Parivesh, only 0.5 MTPA has been commissioned.
- iv. As per the implementation status, it has been reported that 506 MW power plant has been commissioned. However, as per the CTO uploaded on Parivesh, only 406 MW has been commissioned.
- v. As per the application submitted, green belt will be developed in 328 acres of land (only 17.5 % of the total area). PP has proposed to plant 450 acres greenery outside the plant area at two -three locations away from the plant to make it 41.5 % of the total area. Besides, there is a 518 acres of land vacant in the existing plot left for future expansion. PP does not have adequate land for within the project site to develop 33% of total area as a green belt.
- vi. Pollution load calculations have not been furnished with respect to the EC granted on 6/12/2016 vis-à-vis proposed modification sought under instant proposal.

- vii. The EAC opined that the presentation given by the Consultant was not up to the mark. The consultant and PP shall come well prepared.
- viii. The R&R issues of land acquisition shall be presented in detail before the EAC

**Recommendations of the Committee held on 27<sup>th</sup> January, 2022**

- 3.3.22 In view of the aforementioned discrepancies, the Committee recommended to return the proposal in its present form and submit the revised application as per the provisions of EIA Notification, 2006.
- 3.3.23 The project proponent has again applied for EC under para 7(ii) of EIA Notification vide proposal no. IA/OR/IND/257254/2022 dated 15/03/2022 and the proposal is considered in the 3<sup>rd</sup> meeting of the EAC held on 11-12<sup>th</sup> April, 2022. The observations and recommendations of the EAC are as follows:

**Observations of the Committee**

- 3.3.24 The Committee noted the following:
  - i. As per the closure report obtained from IRO, Bhubaneswar on 07/12/2021, there several non-compliances. PP did not mention current status with ATR of the EC noncompliance conditions in the presentation made before the EAC.
  - ii. As per AAQ modeling submitted by PP. Maximum GLC for all parameters are located at same point, clarification for same was not given by PP and consultant.
  - iii. There are three directions issued by Odisha Pollution Control Board for the instant proposal, PP has not submitted the detail of closure notice and the current status of the closure notice in s.no. 37 of Form 2.

**Recommendations of the Committee**

- 3.3.25 In view of the foregoing and after detailed deliberations, the committee recommended to defer the proposal to seek the additional information on following points:
  - i. Project proponent shall submit condition wise action taken report to the non-compliances reported by IRO along with the relevant supporting documents.
  - ii. Project proponent shall submit the details of notices/directions issued by the SPCB in the last two years along with its present status. Further, the project proponent shall submit explanation for not furnishing the said details in s.no. 37 of Form 2.
  - iii. Project proponent shall clarify the reasons for as the incremental ground level concentrations for all the pollutants are falling in the same distance and direction.
  - iv. Project proponent shall provide the details regarding litigations pending against the proposed project.

- 3.4 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. Shyampur, 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 based on ADS reply– regarding.**

3.4.1 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**

3.4.2 The details of the ToR are furnished as below:

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

3.4.3 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).

3.4.4 Environmental Site Settings:

SNo	Particulars	Details	Remarks		
i.	Total land	58.27 ha [Private land: 58.27 ha] Land Use:	Land Use – Industrial		
		<b>S No</b>		<b>Particulars</b>	<b>Area after expansion (Ha)</b>
		1.		Plant Area	20.81
		2.		Admin Building/ Canteen	0.50
		3.		Internal Road	2.50
		4.		Raw Material Yard/ Product House	4.00
		5.		Railway Siding	4.00
		6.		Parking	1.50
		7.		Reservoir	1.50
		8.		Greenbelt	20.39
		9.		Open Space	3.07
		<b>Total Area</b>	<b>58.27</b>		
ii.	Land acquisition details as per MoEF&CC O.M.	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	-		

SNo	Particulars	Details	Remarks																																																
	dated 7/10/2014	company. No additional land is required for proposed expansion.																																																	
iii.	Existence of habitation & involvement of R&R, if any.	<p><b>Project site:</b> NIL.</p> <p><b>Study Area:</b></p> <table border="1"> <thead> <tr> <th>Habitation</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <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> </tbody> </table>	Habitation	Distance	Direction	Gokulpur	1 km	N	Kharagpur	3.0 km	SE	Shyamraipur	0.5 km	N	Bargai	1.5 km	ENE	Dhekia	1 km	SW	R&R is not required																														
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iv.	Latitude and Longitude of all corners of the project site	<table border="1"> <thead> <tr> <th>Point</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <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> </tbody> </table>	Point	Latitude	Longitude	A	22°22'03.35"N	87°17'48.23"E	B	22°21'33.15"N	87°17'57.50"E	C	22°21'25.23"N	87°17'40.37"E	D	22°21'19.67"N	87°17'39.96"E	E	22°21'17.94"N	87°17'37.36"E	F	22°21'18.63"N	87°17'34.59"E	G	22°21'21.47"N	87°17'30.64"E	H	22°21'24.04"N	87°17'30.84"E	I	22°21'25.54"N	87°17'30.31"E	J	22°21'32.04"N	87°17'27.59"E	K	22°21'32.60"N	87°17'25.96"E	L	22°21'29.44"N	87°17'15.24"E	M	22°21'31.75"N	87°17'14.49"E	N	22°22'00.25"N	87°17'43.72"E	O	22°22'02.74"N	87°17'45.96"E	--
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v.	Elevation of the project site	32 m to 35 m above mean sea level	--																																																
vi.	Involvement of Forest land if any.	No Forest Land is involved in the proposed expansion project area.	--																																																
vii.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	<p><b>Project site:</b> One Rain Water Harvesting Pond exists within the plant site.</p> <p><b>Study area:</b></p> <table border="1"> <thead> <tr> <th>Water body</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>*The nala water after treatment in ETP of associate company is/will be used for industrial purpose. Permission obtained from competent Authority.</p> <p>Ponds like Shabhaspally pond, Bhagwanpur pond, Vidyasagarpur pond, Chandabila pond,</p>	Water body	Distance	Direction	Nala*	Adjacent to plant	SE	Kasai River	4 km	NNE	Medinipur high level canal	6 km	NE	-																																				
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SNo	Particulars	Details	Remarks
		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	<u>NIL.</u> However, following forests are located in study area: Protected Forest: ~ 6 km in North direction Protected Forest: ~ 6 km in South direction	-

### 3.4.5

#### Chronology of the existing Environmental Clearance:

EC date	EC detail
12/06/2008	EC accorded Ministry letter no J-11011/227/2007-IA.II (I) dated 12/06/2008 for 5,00,000 TPA steel plant.
09/10/2009	EC accorded SEIAA, West Bengal vide letter no EN/2567/T-II-1/047/2009 dated 09/10/2009 for DI Pipe plant of 2,00,000 TPA.
12/02/2015	Extension of Validity of EC accorded Ministry letter no J-11011/227/2007-IA.II (I) dated 12/02/2015.
17/04/2015	Amendment in EC accorded SEIAA, West Bengal vide letter no 962/EN/T-II-1/047/2009 dated 17/04/2015.
03/10/2016	Extension of Validity of EC accorded SEIAA, West Bengal vide letter no 2222/EN/T-II-1/047/2009 dated 03/10/2016.
06/12/2016	EC accorded Ministry letter no J-11011/372/20014-IA.II (I) dated 06/12/2016 for regularisation of 9,00,000 TPA Pellet plant.
06/01/2017	EC transfer accorded Ministry Letter J-11011/227/2007-IA.II (I) dated 06/01/2017 for transfer of Sponge Iron Unit of 6,00,000 TPA ( DRI Kiln: 10x100 TPD + 3x350 TPD) with AFBC and WHRB power plant from M/s. Rashmi Metaliks Limited to M/s. Orissa Metaliks Pvt. Ltd.

Consent to Operate renewal for the existing unit was accorded by West Bengal Pollution Control Board vide Ir. no. CO113629 dated 28/02/2022. The validity of CTO is up to 31/03/2027.

### 3.4.6

#### Implementation status of the existing EC:

S. No.	Facilities	Units	As per EC dated 17/05/2019	Implementation Status as on 30/03/2022	Production as per CTO
1.	Mini Blast Furnace	TPA	1,80,000 (1x215 m <sup>3</sup> )	Operational	1,80,000 (1x 215 m <sup>3</sup> )
2.	Sinter Plant	TPA	10,90,000 (2x25 m <sup>2</sup> + 1x70 m <sup>2</sup> )	Operational	10,90,000 (2x25 m <sup>2</sup> + 1x70 m <sup>2</sup> )
3.	Pig	TPD	600	Operational	600

S. No.	Facilities	Units	As per EC dated 17/05/2019	Implementation Status as on 30/03/2022	Production as per CTO
	Casting Machine				
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 capacity after obtaining valid CTO.	4,44,000
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 <sup>3</sup> /hr	6000	Operational	6000
11.	Railway Siding	TPA	88,50,000	Operational	88,50,000

3.4.7 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		Configurat ion	Capacit y	Config uration	Capacit y	
		Configura tion	Capacit y	Configura tion	Capacity	Configurat ion	Capacity	Configurat ion	Capacit y					
1.	Mini Blast Furnace	1 x 215 m <sup>3</sup>	1,80,000 TPA	1 x 215 m <sup>3</sup>	1,80,000 TPA	Nil	Nil	1 x 215 m <sup>3</sup>	1,80,000 TPA	1 x 450 m <sup>3</sup>	3,20,000 TPA	1 x 450 m <sup>3</sup>	5,00,000 TPA	Capacity enhancement by revamping of existing MBF by changing core size
2.	Sinter Plant	2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup>	10,90,000	2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup>	10,90,000 TPA	Nil	Nil	2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup>	10,90,000	No change	3,50,000 TPA	2 x 25 m <sup>2</sup> +	14,40,000	Capacity enhance

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					
			TPA						TPA			1 x 70 m <sup>2</sup>	TPA	ment
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 I.F./AOD	5,00,000 TPA	7 x 20 T I.F./AOD	5,00,000 TPA	Nil	Nil	7 x 20 T I.F./AOD	4,44,000 TPA	Nil	Nil	7 x 20 T I.F./AOD	5,00,000 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 <sup>3</sup> /hr	-	6000 Nm <sup>3</sup> /hr	Nil	Nil	-	6000 Nm <sup>3</sup> /hr	Nil	Nil	-	6000 Nm <sup>3</sup> /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	

3.4.8 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,	100	Rail

S No	Raw Materials	Quantity required per annum (in TPA)			Source	Distance from site (kms)	Mode of Transportation
		Existing	Expansion	Total			
					VISA, Bengal Energy etc.)/ Imported		
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 / Katni MP	264/541	Rail
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	From 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	--	Rail

S No	Raw Materials	Quantity required per annum (in TPA)			Source	Distance from site (kms)	Mode of Transportation
		Existing	Expansion	Total			
					Limited Unit-II, Kharagpur		

*\*\*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.*

3.4.9 Existing Water requirement is 1950 m<sup>3</sup>/day, after expansion, total water requirement will be as 1955 m<sup>3</sup>/day (5 m<sup>3</sup>/day additional domestic water for drinking purpose only). No fresh industrial make up water is required for the proposed expansion. Currently water is being sourced from bore well of 1,453 m<sup>3</sup>/day, treated waste/ Nallah water of 400 m<sup>3</sup>/day and rain water harvesting pond 97 m<sup>3</sup>/day. 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 of 800 m<sup>3</sup>/day from Kharagpur Municipality vide memo no. 1293 PW dated 17/06/2021.

3.4.10 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.

3.4.11 Baseline Environmental Studies:

Period	Post Monsoon Season (October to December, 2019)	Additional study : 1 month January, 2021
AAQ parameters at 8 locations	PM <sub>2.5</sub> = 24.8 to 54.9 µg/m <sup>3</sup> PM <sub>10</sub> = 58.3 to 96.8 µg/m <sup>3</sup> SO <sub>2</sub> = 5.8 to 20.4 µg/m <sup>3</sup> NO <sub>2</sub> = 10.2 to 29.8 µg/m <sup>3</sup> CO = <0.5 to 1.54 mg/m <sup>3</sup>	PM <sub>2.5</sub> = 26.3 to 50.8 µg/m <sup>3</sup> PM <sub>10</sub> = 55.9 to 90.2 µg/m <sup>3</sup> SO <sub>2</sub> = 5.2 to 19.2 µg/m <sup>3</sup> NO <sub>2</sub> = 11.3 to 27.8 µg/m <sup>3</sup> CO = 0<0.5 to 1.39 mg/m <sup>3</sup>
Incremental GLC level	PM <sub>10</sub> = 7.87 µg/m <sup>3</sup> (Level at 0.78 km in SE Direction) SO <sub>2</sub> = 7.02 µg/m <sup>3</sup> (Level at 0.78 km in SE Direction) NO <sub>x</sub> = 6.80 µg/m <sup>3</sup> (Level at 0.78 km in SE Direction) CO = 2.30 µg/m <sup>3</sup> (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	pH: 6.66 to 7.03 Total Hardness: 125.02 to 403.64	

Period	Post Monsoon Season (October to December, 2019)	Additional study : 1 month January, 2021										
quality at 8 locations	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	<ul style="list-style-type: none"> <li>•Traffic study has been conducted at NH- 49 (formerly NH 6) which is approximately 1.5 km from the plant site.</li> <li>•Transportation of raw material, fuel &amp; finished product will be done 10 % by road.</li> <li>•Existing PCU is 868 PCU/hr on NH- 49 (formerly NH 6) and existing level of service (LOS) is: B</li> </ul>											
	<table border="1"> <thead> <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> </thead> <tbody> <tr> <td>NH 49 (formerly NH 6)</td> <td>868</td> <td>3600</td> <td>0.24</td> <td>B</td> </tr> </tbody> </table>		Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	Existing V/C Ratio	LOS	NH 49 (formerly NH 6)	868	3600	0.24	B
	Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	Existing V/C Ratio	LOS							
	NH 49 (formerly NH 6)	868	3600	0.24	B							
<ul style="list-style-type: none"> <li>• PCU load after proposed project will be 60 (Existing) + 19 (Additional) PCU/hr and level of service (LOS) will be: B</li> </ul>												
<table border="1"> <thead> <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> </thead> <tbody> <tr> <td>NH 49 (formerly NH 6)</td> <td>887</td> <td>3600</td> <td>0.246</td> <td>B</td> </tr> </tbody> </table> <p>* Note: Capacity as per IRC-106: 1990, Guide line for capacity for roads.</p> <p><b>Conclusion:</b> The level of service will be “B” after including additional traffic due to proposed project.</p>		Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	Existing V/C Ratio	LOS	NH 49 (formerly NH 6)	887	3600	0.246	B	
Road	V (Volume in PCU/hr.)	C (Capacity in PCU/hr.)	Existing V/C Ratio	LOS								
NH 49 (formerly NH 6)	887	3600	0.246	B								
Flora and fauna	There is no schedule - 1 species in the study area.											

3.4.12 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.

S. No.	Type of waste	Source	Quantity Generated (TPA)			Mode of Treatment/ Disposal
			Existing	Additional	Total after expansion	
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 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
<b>HAZARDOUS WASTE</b>						
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

3.4.13 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	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	
1	Development & construction of Pond	Restoration of Existing Pond (2000 m <sup>3</sup> ) at Village Barkola in 1 <sup>st</sup> year and (2000 m <sup>3</sup> ) at Village Gokulpur in 3 <sup>rd</sup> 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 2 <sup>nd</sup> year and 3 <sup>rd</sup> year respectively	--	21.00 Lakhs	9.00 Lakhs	30.00
3	Vocational Training Centre for Educated youth of villages and Skill development to unemployed local youth through National Skill Development Corporation, Govt. of India Scheme.	Providing training to local village youths for three months' period (15 persons in 1 <sup>st</sup> year and 15 persons in 3 <sup>rd</sup> year).  Contribution to DM, Paschim Medinipur & ITI, Kharagpur (Skill development fund - ₹ 5 Lakhs each in 2 <sup>nd</sup> year)	3.50 Lakhs	10.00 Lakhs	3.50 Lakhs	17.00
4	Development of parks, plantation of trees in the nearby areas.	Plantation alongside the road near factory (NH-6) – 670 Nos. in 1 <sup>st</sup> year, Beautification of Sushumapally park at Kharagpur – 500 Nos. in 2 <sup>nd</sup> year and Plantation in Village Shyamraipur – 500 Nos. In 3 <sup>rd</sup> year.	4.00 Lakhs	3.00 Lakhs	3.00 Lakhs	10.00
<b>NEED BASED ACTIVITIES</b>						
5	Financial Support to the Local School for extension of building / class room/ toilets/ development of school infrastructure & library facilities	Barkola High School in 1 <sup>st</sup> year, Gokulpur High School in 2 <sup>nd</sup> year and Baharpat Primary School in 3 <sup>rd</sup> 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 1 <sup>st</sup> year and Barkola-01 in 3 <sup>rd</sup> year	5.00 Lakhs	--	5.00 Lakhs	10.00
7	Street Lighting (Solar/Led) provision	Kalaikunda - 20 Nos. in 1 <sup>st</sup> year, Barkola - 20 Nos. in 2 <sup>nd</sup> year	0.33 Lakh	0.33 Lakh	0.33 Lakh	1.00

S No	Physical activity and action plan		Year of implementation (Budget in INR)			Total Expenditure (Rs. in Lakhs)
	Name of the Activity	Physical Targets	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	
	at suitable public places	year and Gokulpur - 20 Nos. in 3 <sup>rd</sup> year				
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 1 <sup>st</sup> year, Gokulpur in 2 <sup>nd</sup> year and Shyamraipur in 3 <sup>rd</sup> year	1.00 Lakh	1.00 Lakh	1.00 Lakh	3.00
<b>Total (Rs. In Lakh)</b>			<b>21.83</b>	<b>38.33</b>	<b>29.84</b>	<b>90.00</b>

3.4.14 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/	--	--	67.0	2.0	67.0	2.0	

S No	Description of Item	Cost (in Lakhs)						Remarks
		Existing		Proposed		Total		
		Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	
	up gradation)							
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 minimize impacts due to transportation and traffic	--	--	10.0	2.0	10.0	10.0	
11	Addressal of Public Consultation concerns	<b>413.0</b>	To be spent in 5 years	<b>90.0</b>	To be spent in 3 years	<b>503.0</b>	--	

3.4.15 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 1 year.

3.4.16 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.

3.4.17 Name of the EIA consultant: M/s. J.M. EnviroNet 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. 21, March 30, 2022].

**Certified compliance report from Regional Office**

3.4.18 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	17 <sup>th</sup> 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 gates however the same was not observed.	17 <sup>th</sup> May, 2019	-	General Condition No. 7 (V)	It has been observed that PA have installed tyre washing facilities.

3.4.19 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 47<sup>th</sup> Reconstituted Expert Appraisal Committee (Industry 1 sector) meeting held on 28-29<sup>th</sup> October, 2021. The EAC observation and recommendation is given as below:

**Observations of the Committee held on 28-29<sup>th</sup> October, 2021**

3.4.20 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 7x20T 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<sup>3</sup> against the requirement of 30 mg/Nm<sup>3</sup> 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<sup>3</sup>.
- 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 28-29<sup>th</sup> October, 2021**

- 3.4.21 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.
- 3.4.22 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 1<sup>st</sup> Expert Appraisal Committee (Industry 1 Sector) meeting held on 5-6<sup>th</sup> March, 2022. The EAC was recommended for deferred the proposal to seek additional information. Accordingly Ministry sought additional information on 14/03/2022.
- 3.4.23 M/s. Rashmi Metaliks Limited submitted the ADS reply on 16/03/2016. Detail of ADS and their point wise reply submitted by pp are given as below:

S No	ADS point	Reply/ Response of PP												
1	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.	<p>For verification of the GLC data remodeling for the proposed projects was carried out. Salient features are given below:</p> <p>a) The emission factors of the generating sources:</p> <table border="1"> <thead> <tr> <th>S No</th> <th>Particulars</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>PM emissions complying with valid CTO &amp; EC permissible limit for existing operational, under construction, unimplemented and expansion units / projects.</td> <td>a) Point source and traffic emission from existing RML plant (with all APCEs). b) Point source &amp; traffic emission from RML plant after proposed expansion (with all APCEs)</td> </tr> <tr> <td>2.</td> <td>Revised PM emissions complying with stringent emission norms of 30 mg/Nm<sup>3</sup> for all the industrial units of the Group.</td> <td>c) Point source and traffic emission from modified RML plant and all existing plant (OASPL, OMPL, OMPL-I, OMPL-II, BCPL, TML, MFPL) in the study area (with all APCEs)</td> </tr> <tr> <td>3.</td> <td>SO<sub>2</sub> emissions based on fuel consumption with control measures or prescribed limits, where available (variable for various units).</td> <td>d) Point source and traffic emission from all existing plant (OASPL,</td> </tr> </tbody> </table>	S No	Particulars	Details	1.	PM emissions complying with valid CTO & EC permissible limit for existing operational, under construction, unimplemented and expansion units / projects.	a) Point source and traffic emission from existing RML plant (with all APCEs). b) Point source & traffic emission from RML plant after proposed expansion (with all APCEs)	2.	Revised PM emissions complying with stringent emission norms of 30 mg/Nm <sup>3</sup> for all the industrial units of the Group.	c) Point source and traffic emission from modified RML plant and all existing plant (OASPL, OMPL, OMPL-I, OMPL-II, BCPL, TML, MFPL) in the study area (with all APCEs)	3.	SO <sub>2</sub> emissions based on fuel consumption with control measures or prescribed limits, where available (variable for various units).	d) Point source and traffic emission from all existing plant (OASPL,
S No	Particulars	Details												
1.	PM emissions complying with valid CTO & EC permissible limit for existing operational, under construction, unimplemented and expansion units / projects.	a) Point source and traffic emission from existing RML plant (with all APCEs). b) Point source & traffic emission from RML plant after proposed expansion (with all APCEs)												
2.	Revised PM emissions complying with stringent emission norms of 30 mg/Nm <sup>3</sup> for all the industrial units of the Group.	c) Point source and traffic emission from modified RML plant and all existing plant (OASPL, OMPL, OMPL-I, OMPL-II, BCPL, TML, MFPL) in the study area (with all APCEs)												
3.	SO <sub>2</sub> emissions based on fuel consumption with control measures or prescribed limits, where available (variable for various units).	d) Point source and traffic emission from all existing plant (OASPL,												

S No	ADS point	Reply/ Response of PP																	
		4.	NO <sub>x</sub> emission based on prescribed limits or industry norms, where limits not available (variable for various units).	<p>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)</p> <p>e) Worst <b>case scenario</b>- The situation considered for this AAQ modeling is with the assumption that all major pollution control equipment will totally fail at once during full production of the Plant. This is a hypothetical situation and can occur only in a natural calamity. <i>However, in such a situation the whole plant will in any case be stopped immediately and hence, these emission levels will never occur.</i></p> <p>b) Air quality prediction modelling by incorporating terrain features of the study area- Elevation of receptors from Google earth/Bhuvan-NRSC.</p> <p>c) Geo referencing of all the process stacks and Stack locations as per approved layout plan for under construction/ unimplemented units.</p> <p>d) Meteorological data as monitored at site using automatic weather station.</p> <p>e) Latitude and longitude of the place under consideration.</p> <p>f) Wash out due to rain is not considered.</p> <p>g) The stack tip down wash is not considered.</p> <p>h) Base map of the study area prepared using Open Series Map.</p> <p>i) Software used for the current study is standard model i.e. AERMOD VIEW.</p> <p>j) GLCs are obtained in µg/m<sup>3</sup> for pollutants.</p> <p>k) Output of modelling gives concentration at uniform Cartesian receptors to get the resultant concentration with reference to baseline data.</p> <p>l) <b>Max GLC observed for all the scenarios at stated in point no-(a), after remodeling remains same as previous predicted value and found within permissible norms.</b></p> <p>GLC data with inputs used in modeling is already submitted to ministry</p>															
2	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	<p>RML will increase the existing tree density from 1787 trees/Ha. to 2500 trees/Ha and will develop additional greenery in 1.16 Ha (@ 2500 trees/Ha) to reach total Greenbelt (20.39 Ha) i.e. 35% of the total area consisting of 3 tiers of plantations of native species all along the periphery of the project in 1<sup>st</sup> year by FY 22-23. Revised action plan for the same is given in table below:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Sapling Nos.</th> <th>Replacement and increase in Density per hectare to 2500</th> <th>Additional Area to reach 35% green belt target</th> <th>Species Type</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>2022-23</td> <td>18,700</td> <td>19.23 ha. (Total sapling- 15,800)</td> <td>1.16 ha. (Total sapling- 2,900)</td> <td>Kadam, Radhachura, Akashmoni, Krishnachura, Tabulia, Neem, Bakul, Ashok, Arjun, Chhatim, Sal,</td> <td>Inside the plant boundary wall along the boundary, Canteen Area and Administrative building, Sinter Plant Area, Raw</td> </tr> </tbody> </table>						Year	Sapling Nos.	Replacement and increase in Density per hectare to 2500	Additional Area to reach 35% green belt target	Species Type	Location	2022-23	18,700	19.23 ha. (Total sapling- 15,800)	1.16 ha. (Total sapling- 2,900)	Kadam, Radhachura, Akashmoni, Krishnachura, Tabulia, Neem, Bakul, Ashok, Arjun, Chhatim, Sal,	Inside the plant boundary wall along the boundary, Canteen Area and Administrative building, Sinter Plant Area, Raw
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S No	ADS point	Reply/ Response of PP					
	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.					Sisoo, Mahogany	Material Area, Railway siding area, Rain Water harvesting, Truck Parking area
<b>20.39 Ha. (35% of total plant area)</b>							
For green belt development / maintenance dedicated manpower is deployed and 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.							

3.4.24 Based on the ADS reply submitted by PP on 16/03/2022 proposal was considered in 3<sup>rd</sup> meeting of Expert Appraisal Committee (industry-1 Sector) held on 11-12<sup>th</sup> April, 2022. The EAC observation and recommendation is given as below:

**Observations of the Committee**

3.4.25 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 with respect to the compliance status of all the existing EC and it is noted that PP has to comply with following EC condition:
  - a. It was observed that the PA's have not raised three-tier plantation as mentioned in CPCB guidelines
  - b. It is mentioned that wheel washing facilities are to be provided at the entrance of the plant gates however the same was not observed.

Further EAC deliberated up on the corrective action by PP based on action taken report, 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, as per the report EAC noted the following.

  - c. It has been observed that PA has taken initiative to develop three-tier plantation as mentioned in CPCB guidelines within a time frame of one year.
  - d. It has been observed that PA have installed tyre washing facilities.
- iv. The EAC also deliberated on the additional information submitted by the proponent and found it satisfactory.
- v. PP committed that the dependency on Ground water of proposed project will be reduced to 100 m<sup>3</sup>/day from 1,453 m<sup>3</sup>/day by FY 2024-25 (reduction of 93%). 100 m<sup>3</sup>/day of the groundwater will be used for domestic and miscellaneous purpose only.

**Recommendations of the Committee**

3.4.26 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under provision 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. 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.
- ii. Sinter Plant
  - Sinter cooler waste recovery system shall be installed to generate process steam or power.
  - Equipped with MEROS technology to reduce emission of SO<sub>2</sub>, NO<sub>x</sub> and heavy metals.
- iii. Secondary fume extraction system shall be installed on converters of Steel Melting Shop.
- iv. Top Recovery Turbine, Dry Gas Cleaning and Stove gas waste heat recovery systems shall be installed in BF.
- v. 85 - 90 % hot charging shall be practiced for direct rolling of billets.
- vi. Covered sheds and toe walls shall be provided for raw material storage to check any attrition of raw materials. Storage sheds shall have garland drains, material traps and shall be built on concrete platforms.
- vii. Total water requirement is 1955 m<sup>3</sup>/day which is currently sourced from ground water (bore well) of 1,453 m<sup>3</sup>/day, treated waste/ Nallah water of 400 m<sup>3</sup>/day and rain water harvesting pond 97 m<sup>3</sup>/day. Further, dependency on Ground water of proposed project shall be reduced to 100 m<sup>3</sup>/day from 1,453 m<sup>3</sup>/day by financial year 2024-25 as committed. Only 100 m<sup>3</sup>/day of the groundwater shall be permitted for domestic and miscellaneous purpose.
- viii. Three tier Green Belt shall be developed in a time frame of one year covering 35% 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.
- ix. Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface
- x. Plant runoff water shall be treated for removal of Total Suspended Solids and Oil and Grease.
- xi. Bag houses shall be designed as per ACGIH recommendations to maintain PM emissions less than 30 mg/Nm<sup>3</sup>.
- xii. 100% solid waste utilization shall be adopted.
- xiii. Particulate matter emissions from all the stacks shall be less than 30 mg/Nm<sup>3</sup>.
- xiv. All plant roads shall be paved and industrial vacuum cleaners shall be used to clean the roads regularly.
- xv. All stock piles shall be constructed over impervious soil and garland drains with catch pits to trap run off material shall be provided.

- xvi. 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.
- xvii. 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<sup>3</sup>.
  - f. ETP with recycling facility shall be included
- xviii. 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.

## **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. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- x. 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 31<sup>st</sup> March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30<sup>th</sup> May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> 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. 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 31<sup>st</sup> March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30<sup>th</sup> May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time;
- iv. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- 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 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 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; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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.

3.5 Proposed Integrated Cement Plant with capacity of Clinker 2.5 MTPA, Cement – 2.5 MPTA and WHRS - 12 MW by **M/s. Jindal Panther Cement Pvt. Ltd.** located at Villages: Kosampali, Barmuda, Dhanagar, Saraipali, **District Raigarh, Chhattisgarh.** [Online Proposal No. IA/CG/IND/260478/2022; File No. IA-J-11011/92/2022-IA-II(INDI)] – **Prescribing of Terms of Reference – regarding.**

3.5.1 M/s. Jindal Panther Cement Pvt. Ltd has made an application online vide proposal no. IA/CG/IND/260478/2022 dated 17/03/2022 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 ‘A’ of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

3.5.2 The project of M/s. Jindal Panther Cement Pvt. Ltd is located at Villages: Kosampali, Barmuda, Dhanagar, Saraipali, District Raigarh, Chhattisgarh proposes for Proposed Integrated Cement Plant with capacity of Clinker 2.5 MTPA, Cement – 2.5 MPTA and WHRS - 12 MW.

3.5.3 Environmental site settings:

SNo	Particulars	Details	Remarks																		
i.	Total land	69.561 ha (171.88 acres) [Private land: 61.643 ha; Govt land: 6.744 ha; Forest land:1.174 ha]	Land Use -																		
ii.	Land acquisition details as per MoEFCC O.M. dated 7/10/2014	Total land of 69.561 ha (171.88 acres) to be acquired by PP (Out of total 69.561 ha land, 58.772 ha in the name of Jindal Steel & Power Ltd which will be transferred to JPCPL and remaing 10.789 ha land also to be acquired.																			
iii.	Existence of habitation & involvement of R&R, if any.	<p><b>Plant Site</b> – 02 habitation exists at the plant site.</p> <p><b>Study Area</b></p> <table border="1"> <thead> <tr> <th>Habitation</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Gejamuda</td> <td>0.18</td> <td>East</td> </tr> <tr> <td>Kosampalli</td> <td>Adjacent</td> <td>East</td> </tr> <tr> <td>Muralipali</td> <td>1.02</td> <td>East</td> </tr> <tr> <td>Patrapali</td> <td>1.64</td> <td>NE</td> </tr> <tr> <td>Patrapali</td> <td>1.64</td> <td>NE</td> </tr> </tbody> </table>	Habitation	Distance	Direction	Gejamuda	0.18	East	Kosampalli	Adjacent	East	Muralipali	1.02	East	Patrapali	1.64	NE	Patrapali	1.64	NE	R&R is applicable.
Habitation	Distance	Direction																			
Gejamuda	0.18	East																			
Kosampalli	Adjacent	East																			
Muralipali	1.02	East																			
Patrapali	1.64	NE																			
Patrapali	1.64	NE																			

SNo	Particulars	Details			Remarks
		Jorpali	1.74	SE	
	Latitude and Longitude of all corners of the plant site	<b>Point</b>	<b>Latitude</b>	<b>Longitude</b>	--
		A	21° 55' 19.17" N	83° 20' 16.56" E	
		B	21° 55' 10.26" N	83° 20' 09.64" E	
		C	21° 55' 04.42" N	83° 20' 12.72" E	
		D	21° 54' 84.69" N	83° 20' 09.68" E	
		E	21° 54' 52.21" N	83° 20' 13.85" E	
		F	21° 54' 23.96" N	83° 20' 00.07" E	
		G	21° 54' 22.69" N	83° 20' 03.04" E	
		H	21° 54' 46.72" N	83° 20' 15.89" E	
		I	21° 54' 44.26" N	83° 20' 20.86" E	
		J	21° 54' 46.66" N	83° 20' 22.40" E	
		K	21° 54' 45.98" N	83° 20' 23.95" E	
		L	21° 54' 31.71" N	83° 20' 16.10" E	
		M	21° 54' 31.00" N	83° 20' 17.68" E	
		N	21° 54' 28.54" N	83° 20' 16.31" E	
		O	21° 54' 26.63" N	83° 20' 20.43" E	
		P	21° 54' 24.70" N	83° 20' 22.37" E	
		Q	21° 54' 24.85" N	83° 20' 23.56" E	
		R	21° 54' 39.37" N	83° 20' 30.55" E	
		S	21° 54' 41.40" N	83° 20' 25.54" E	
		T	21° 54' 47.84" N	83° 20' 28.60" E	
		U	21° 54' 48.12" N	83° 20' 27.15" E	
		V	21° 54' 50.09" N	83° 20' 27.94" E	
		W	21° 54' 50.24" N	83° 20' 27.38" E	
		X	21° 54' 51.23" N	83° 20' 27.40" E	
		Y	21° 54' 51.48" N	83° 20' 26.35" E	
		Z	21° 55' 02.67" N	83° 20' 32.26" E	
		A1	21° 55' 06.10" N	83° 20' 36.54" E	
		B1	21° 55' 14.24" N	83° 20' 26.00" E	
		C1	21° 55' 10.69" N	83° 20' 24.55" E	
		D1	21° 55' 11.75" N	83° 20' 21.39" E	
		E1	21° 55' 15.29" N	83° 20' 23.37" E	
		F1	21° 55' 16.96" N	83° 20' 22.93" E	
iv.	Elevation of the plant site	236 m above mean sea level			--
v.	Involvement of Forest land if any.	1.174 ha area under forest land involved. Application for diversion of the said forest land is under preparation and will be submitted shortly.			
vi.	Water body exists within the plant site as well as study area	<b>Project Site:</b> There are ponds existing in the proposed plant area and the in-principle approval has been granted for re-locating the ponds <i>vide</i> letter no. Sr. 1752 dated 23/02/2022.  <b>Study area:</b>			--

SNo	Particulars	Details				Remarks
		SNo	Water body	Distance	Direction	
		1.	Kokritaral Tal	~2 Km	NW	
		2.	Tipakhol Tal	~2.5km	NNE	
		3.	Kanthi Tal	3.5 km	SSW	
		4.	Doliva Nala	~4.5 km	WSW	
		5.	Kelo river	~6 km	ENE	
		6.	Mand river	~6 km	WSW	
		7.	Pathari Nala	~6.5 km	WSW	
		8.	Sanapkhar Nala	~6.5 km	ENE	
		9.	Ramjharan Nala	~7 Km	W	
vii.	Existence of ESZ/ ESA/ National Park / Wildlife sanctuary / Biosphere reserve / Tiger reserve / Elephant reserve etc. if any within the study area	NIL However, Forests are existing within the Study area are as follows: <ul style="list-style-type: none"> <li>• Protected Forest (~8.5 km in North)</li> <li>• Protected Forest (~ 7 km in NE)</li> <li>• Lakha PF (~7.5 km in NNE)</li> <li>• Barkachhar RF (~8.5 km in NNE)</li> <li>• Dungapani PF (~8 km in NE)</li> <li>• Barlia PF (~9 km in NE)</li> <li>• Boidadar RF (~7.5km in ENE)</li> <li>• Gajmar RF (~8.5 km in ESE)</li> <li>• Lamhidarha PF (~7.5KM IN ENE)</li> <li>• Protected Forest (~6 km in NE)</li> <li>• Urdana RF (~5 km in ENE)</li> </ul>				--

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

S. No.	Plant equipment / Facility	Proposed Units	
		Configuration	Capacity
1.	Clinker	-	2.5 Million TPA
2.	Cement	VRM	2.5 Million TPA
3.	WHRS	-	12 MW
1.	DG set	-	500 KVA

3.5.5 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	Name of Raw Material	Quantity (Million TPA)	Source	Approx. Distance from Plant site (Km)	Mode of Transportation
1.	Limestone	3.88	Godadih Mahal No.2 Tehsil Masturi, District Bilaspur	153	By road to the captive railway siding located at Jairamnagar and thereafter by Rail upto Raigarh IU
2.	Iron ore/NOF slag	0.075	JSPL Raigarh	< 1	Will be transported through tippers

S No	Name of Raw Material	Quantity (Million TPA)	Source	Approx. Distance from Plant site (Km)	Mode of Transportation
3.	BF Slag	1	JSPL Raigarh Steel Plant	< 1	Will be transported through tippers
4.	Gypsum (mineral and chemical)	0.075	Coromandel Fertilizers, Visakhapatnam OR Imported from Middle East	630	By Rail
5.	Fly ash & pond ash	0.375	JSPL Raigarh Power plant	< 1	Through bulkers
6.	Coal (Indian/ Imported Coal)	0.463/ 0.324	Korba coal fields/ imported	120	By Road & Rail
7.	Petcoke	0.241	Indian petroleum industry	Import/ Indian	Petcoke will be sourced from India/ abroad petroleum industry depending upon economic viability.

3.5.6 The water requirement for the plant is estimated as 1000 KLD, which will be sourced from Mahanadi River.

3.5.7 The power requirement for the proposed cement plant will be 35 MVA which will be sourced from Captive power generation and existing power plant of JSPL Raigarh.

3.5.8 The capital cost of the Proposed Integrated Cement Plant is Rs. 2119 Crores and the Capital cost for Environmental Protection Measures is proposed as approximately Rs. 100 Crores. The employment generation from the proposed plant is 80 persons during Implementation Phase and 574 Persons (335 Permanent & 239 Contractual) during Operation Phase.

3.5.9 Proposed Terms of Reference (Baseline data collection period: March to May, 2022):

Attributes	Parameters	Sampling		Remarks
		No. of Stations	Frequency	
A. Meteorology	Temperature, Relative Humidity, Wind Speed, Wind Direction	01 (Plant site)	Hourly	-
B. Air	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , CO and PAH	09	Twice a week (24 Hourly)	-
C. Noise	Equivalent noise levels in Leq in dB (A)	09	Once in a season (Day &	-

Attributes	Parameters	Sampling		Remarks
		No. of Stations	Frequency	
			Night-time)	
<b>D. Water</b>				
a.Surface water/ b.Ground water quality parameters	Parameters as per IS 10500 - 2012	Surface Water - 04 Ground water - 08	Once in a season	-
<b>E. Land</b>				
a. Soil Quality	Parameters As per IS 2720/USDA	08	Once in a season	-
b. Land Use	Agriculture, Habitation, Industry, Stony waste/ Quarries, Forest area, Plantation/ Vegetation, Open scrub, Water bodies etc.	10 km radius Study Area	Once in a Study period Season	-
<b>F. Biological</b>				
a. Aquatic	Flora and fauna	Study area	Once in a season	-
b. Terrestrial				
G. Socio- economic parameters	Economic Demography	Study area	Once in a season	-

3.5.10 It has been reported by PP that, court cases related to the project under consideration given as below:

The two court cases (WPC/6171/2011 & WPC/2290/2011) are pending before the Hon'ble High Court of Chhattisgarh, Bilaspur.

- i. The matter related to case no. WPC/6171/2011 has been filed by the Petitioner claiming that notice of the land acquisition proceeding was not served to him due to which he could not have filed proper objection against the land acquisition proceedings. The matter is sub-judice and is pending for final hearing. The Hon'ble High Court has not passed any stay order in the matter.
- ii. The matter related to case no. WPC/2290/2011 has been filed by the petitioner alleging that his objections during the land acquisition proceedings were not properly considered and also alleging inadequate land compensation. The matter is sub-judice and is pending for final hearing. The Hon'ble High Court has not passed any stay order in the matter.

3.5.11 Name of the EIA consultant: M/s. J.M. EnviroNet 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. 21, March 30, 2022].

#### **Observations of the Committee**

3.5.12 The EAC noted the following:

- i. Three natural water pond are located in project site.
- ii. Two villages are located adjacent to the proposed project site in East and West boundary wherein thick habitation is observed.
- iii. There are some constructed sheds located at project site.
- iv. Adjacent to the plant site, there is a cement grinding unit and integrated steel plant of the same project proponent.
- v. Limestone source for the project is located at distance of 115km and will be transported to the plant site by trucks.
- vi. Project proponent has not carried out the alternate site analysis.

#### **Recommendations of the Committee**

- 3.5.13 In view of the foregoing and after deliberations, the Committee recommended that subcommittee of EAC Industry-1 shall undertake a site visit to the project site and based on the site visit report the instant proposal for ToR shall be considered.
- 3.6 Proposed tannery project for production capacity of 300 hides by **M/s. Tasmiya Tannery Udyog** located at Village Mussa Sher Nagar, Janshat Road, **Muzaffarnagar District, Uttar Pradesh**. [Online Proposal No. IA/UP/IND/72687/2018; File No. IA-J-11011/406/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference as per SOP dated 07/07/2021 – regarding.**
- 3.6.1 M/s. Tasmiya Tannery Udyog has made an application online vide proposal no. IA/UP/IND/72687/2018 dated 21/03/2022 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 schedule 4(f) Leather/skin/hide processing industry Under Category ‘A’ of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 3.6.2 The committee noted that the ToR application submitted by PP is incomplete and having following shortcoming. Further, PPT was not in order as well as PP was unable to present the proposal before EAC:
- i. Form 1 was filled in generic form, project specific quantified data was not submitted by PP.
  - ii. PFR submitted by PP was in sketchy and does not explain the salient features of the project PFR was not prepared as per the Ministry’s guideline dated 30/12/2010.
  - iii. Proposed ToR was not submitted with study area map earmarking baseline monitoring locations for the parameters along with the frequency to be monitored with wind rose diagram.
- 3.6.3 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. 3.6.2 and submit the revised application as per the provisions of EIA Notification, 2006.
- 3.7 Expansion of Baliapal Ferro Alloys Plant by addition of 2x9 MVA and 3x5 MVA capacity Submerged Arc Furnace (from 12,500 TPA to 66,000 TPA) and chrome ore beneficiation plant (from 36,000 TPA to 48,000TPA), located at Village Balipal, Tehsil Danagadi, **District Jajpur, Odisha** by **M/s B.C. Mohanty & Sons Private Limited** [Online Proposal No.IA/OR/IND/260408/2022; File No. J-11011/316/2012-IA.II (I)] – **Extension of Validity of Environment Clearance – regarding.**

3.7.1 M/s. B.C. Mohanty & Sons Private Limited has made an online application vide proposal no IA/OR/IND/260408/2022 dated 18/03/2022 along with Form-6 and sought for Extension of validity of Environment Clearance (EC) accorded by Ministry vide letter no. J-11011/316/2012-IA.II (I) dated 06/10/2015 and subsequent corrigendum dated 16/03/2016.

**Details submitted by Project proponent**

3.7.2 The project was granted Environmental Clearance vide letter no J-11011/316/2012-IA.II (I) dated 06/10/2015 from MoEF&CC in the name of M/s. B.C. Mohanty & Sons for Expansion of Baliapal Ferro Alloys Plant by addition of 2x9 MVA and 3x5 MVA capacity Submerged Arc Furnace (from 12,500 TPA to 66,000 TPA) and chrome ore beneficiation plant (from 36,000 TPA to 48,000 TPA). Subsequently, the EC corrigendum was issued vide MoEF&CC letter dated 16/03/2016.

3.7.3 The unit obtained consent to establish (CTE) vide order no. 1900/IND-II-NOC-6108 date 19/02/2018 for SAF: 2x9 MVA and 3x5 MVA (12,500 TPA to 66,000 TPA) and CTE vide order no 2260/KNG/IBG-345 dated 04/12/2020 for Chrome ore Beneficiation Plant: 48,000 TPA. CTO vide order no. 459/KNG/IND/01 dated 25/02/2022 for Ferro Alloys Plant: 1x45 MVA and 1x9 MVA (30198 TPA) and CTO is valid till 31/03/2023.

3.7.4 The implementation status of the existing EC is as follows:

S No	Products	As per EC dated 06/10/2015 and corrigendum dated 16/03/2016		As per CTO dated 25/02/2022	Balance Quantity	Estimated date of completion
		Configuration	Capacity			
1	Ferro Alloys Plant	SAF: 2x9 MVA and 3x5 MVA	66,000 TPA High Carbon Ferro Chrome <b>or</b> Fe-Mn <b>or</b> Si-Mn <b>or</b> Fe- Si <b>or</b> Pig Iron <b>or</b> a combination thereof	1x45 MVA and 1x9 MVA  (30198 TPA)	SAF: 2x5 and 1x9 MVA  (35,802 TPA)	05/10/2026
2	Chrome ore Beneficiation Plant	--	48,000 TPA	--	48,000 TPA	June, 2022

3.7.5 **Reasons for delay:** Due to the financial crisis of the proponent and subsequent COVID - 19 pandemic situation. PP has further submitted that the unimplemented portion of Environment Clearance will be implemented by 05/10/2026 as per the implementation schedule submitted along-with Form 6.

3.7.6 Validity of EC vide Ministry letter dated 06/10/2015 is up to 05/10/2023 as per the provision of Ministry Notification dated 18/01/2021. Therefore, the proponent has requested for extension of validity of EC dated 06/10/2015 for further 3 years from 05/10/2023 i.e. up to 05/10/2026.

3.7.7 During deliberations, the proponent made conflicting statements by stating that the existing units are not under operation and unable to explain the rejects disposal arising out from the existing chrome ore beneficiation plant.

### Observations of the Committee

- 3.7.8 The Committee noted the following:
- i. Original EC is accorded Ministry letter no J-11011/316/2012-IA.II (I) dated 06/10/2015 in the name of M/s. B.C. Mohanty & Sons Private Limited and subsequent EC corrigendum dated 16/03/2016.
  - ii. PP in the instant proposal requested for extension of validity of environment clearance dated 06/10/2015 for further a period of 3 years.
  - iii. PP made conflicting statement about commissioning of the existing and proposed units.
  - iv. PP was unable to explain the rejects disposal arising out from the existing chrome ore beneficiation plant.

### Recommendations of the Committee

- 3.7.9 In view of the foregoing and after deliberations, the Committee recommended to return the instant proposal in its present form. Further, committee recommended that the Ministry may seek the report/ information from IRO, Bhubaneshwar regarding the implementation status of the existing EC and the compliance to the existing EC conditions.

### 12<sup>th</sup> April, 2022

- 3.8 Expansion of Coke production from 0.425 MTPA to 0.78 MTPA by installation of a new Stamp charged by-product recovery type Coke Oven Battery within the existing steel plant by **M/s. Jindal Coke Limited** located at Kalinga Nagar Industrial Complex, Village & Tehsil Danagadi, **District Jajpur, Odisha** [Online Proposal No. IA/OR/IND/261427/2021, File No. IA-J-11011/111/2018-IA-II(I)] – **Environment Clearance – regarding.**

- 3.8.1 M/s. Jindal Coke Limited has made an online application vide Proposal No. IA/OR/IND/261427/2021 dated 25/03/2022 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. 4(b) Coke oven plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

### Details submitted by Project proponent

- 3.8.2 The details of the ToR are furnished as below:

<b>Date of application</b>	<b>Consideration</b>	<b>Details</b>	<b>Date of accord</b>	<b>Validity of ToR</b>
24/03/2021	Standard Terms of Reference	Terms of Reference	27/03/2021	26/03/2025

- 3.8.3 The project of M/s. Jindal Coke Limited is located in Kalinga Nagar Industrial Complex, PO Danagadi, Tehsil Danagadi, Jajpur District, Odisha is for expansion of Coke Production from 0.425 MTPA to 0.78 MTPA by installation of a new Stamp charge by-product Recovery Coke Oven Battery (COBP # 2) in the existing Coke Oven Complex.

- 3.8.4 Environmental Site Settings:

S No	Particulars	Details	Remarks																																																																
i.	Total land	72.46 acre (29.324 ha) [Govt. Land]	Land use: Industrial land; Existing Plant of JCL																																																																
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The proposed project does not require additional land and would be set up within the available vacant land area of 27 Acre within the existing plant boundary. Total land of 72.46 acre (29.324 ha) for the proposed project is already under the possession of the Company.																																																																	
iii.	Existence of habitation & involvement of R&R, if any	There is no habitation and no involvement of R&R. Project site: Kalinga Nagar Industrial Complex <table border="1"> <thead> <tr> <th>Habitation</th> <th>Direction</th> <th>Distance</th> </tr> </thead> <tbody> <tr> <td>Danagadi</td> <td>East</td> <td>2 km</td> </tr> </tbody> </table>	Habitation	Direction	Distance	Danagadi	East	2 km																																																											
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V.	Elevation of the project site.	66 meters AMSL																																																																	
vi.	Involvement of Forest land if any.	Not Applicable																																																																	
vii.	Water body exists within the project site as well as study area	<b>Project Site:</b> No water body in the project site.  <b>Study area:</b> <table border="1"> <thead> <tr> <th>Waterbody</th> <th>Direction</th> <th>Distance</th> </tr> </thead> <tbody> <tr> <td>Brahmani</td> <td>South</td> <td>7.3 km</td> </tr> <tr> <td>Ganda Nala</td> <td>East</td> <td>3.6 km</td> </tr> </tbody> </table>	Waterbody	Direction	Distance	Brahmani	South	7.3 km	Ganda Nala	East	3.6 km																																																								
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viii.	Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve	Nil																																																																	

S No	Particulars	Details	Remarks
	/ tiger reserve / elephant reserve etc. if any within the study area		

3.8.5 The existing project was initially accorded environmental clearance by the Ministry for Integrated Stainless Steel Plant (1.6 MTPA) vide letter No J-11011/155/2005- IA.II(I) dated 05/08/2005 in the name of M/s Jindal Stainless Ltd. Further, M/s Jindal Stainless Ltd was granted Environmental Clearance for modification-cum-expansion of the Integrated Stainless Steel Ltd., vide letter no. J-11011/281/2007-IA.II(I) dated 01/11/2007 for modification and addition of new facilities. Thereafter, transfer of environment clearance envisaging 0.425 MTPA Coke Oven Battery (Recovery Type) from M/s Jindal Stainless Limited to M/s Jindal Coke Limited was granted by the Ministry vide letter No. IA-J-11011/111/2018-IA-II(I) dated 25/05/2018. The latest Consent to Operate for the existing unit was accorded by Odisha State Pollution Control Board vide letter. No. 4919/IND-I-CON-6566, dated 29/03/2023. The validity of CTO is up to 31/03/2023.

3.8.6 Implementation status of the existing EC dated 25/05/2018:

S No	Facilities	Units	As per EC dated 25/05/2018	Implementation Status	Production as per CTO
1	Coke oven battery (Recovery Type)	Coke oven & By-product plant.	0.425 MTPA	0.425 MTPA	0.425 MTPA

3.8.7 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 25/05/2018								Proposed Units		Final (Existing + Proposed)		Remark
		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	Coke from Stamp charged coke oven batteries	64 ovens	0.425 MTPA	64 ovens	0.425 MTPA	-	-	64 ovens	0.425 MTPA	56 ovens	0.355 MTPA	64 ovens + 56 ovens	0.78 MTPA	-
2	Coke oven gas	-	21,941 Nm <sup>3</sup> /hr	-	21,941 Nm <sup>3</sup> /hr	-	-	-	21,941 Nm <sup>3</sup> /hr	-	18,327 Nm <sup>3</sup> /hr	-	40,268 Nm <sup>3</sup> /hr	-
3	Tar recovery unit	-	17,552 TPA	-	17,552 TPA	-	-	-	17,552 TPA	-	15,000 TPA	-	32,552 TPA	-
4	Aluminium sulphate plant	-	4,871 TPA	-	4,871 TPA	-	-	-	4,871 TPA	-	4,270 TPA	-	9,141 TPA	-
5	CDQ	-	-	-	-	-	-	-	-	-	120 TPH	-	120 TPH	-
6	Power from WHRB	-	-	-	-	-	-	-	-	65 TPH	15 MW	65 TPH	15 MW	-

S No	Plant Equipment/ Facility	Existing facilities as per EC dated 25/05/2018								Proposed Units		Final (Existing + Proposed)		Remark
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacity	Config-uration	Capa-city	
		Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity	Config-uration	Capacity					
	through CDQ													

3.8.8 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 (Kms)	Mode of Transportation
		Existing	Expansion	Total			
1	Coke	0.62 MTPA	0.503 MTPA	1.123 MTPA	Imported through Paradeep Port	114	Rail through Paradeep port
2	Sulphuric acid	3928 TPA	3,250 TPA	7178 TPA	Domestic Market	100	Road
3	Sodium hydroxide	750 TPA	715 TPA	1465 TPA	Domestic Market	100	Road

3.8.9 Existing water requirement for M/s. JCL is 672 m<sup>3</sup> /day which is obtained from River Bramhani. The water requirement for the proposed project is estimated as 3000 m<sup>3</sup> /day, will be obtained from River Bramhani. Thus the total water requirement would be 3672 m<sup>3</sup> /day. The permission for drawl of surface water is obtained from Govt. of Odisha, Department of Water Resources vide letter No. Irr.-II-WRC-60/05/26805/WR dated 23/08/2005.

3.8.10 Existing power requirement of 5 MW is obtained from existing captive power plant from group companies of M/s. JSL or grid. The power requirement for the proposed project is estimated as additional 5 MW, which will be obtained from the existing Captive Power Plant from group companies of JSL.

3.8.11 Baseline Environmental Studies:

Period	October 2020 to December 2020
AAQ parameters at 10 locations	PM <sub>10</sub> = 60.2 to 91.58 µg/m <sup>3</sup> PM <sub>2.5</sub> = 19.36 to 51.23 µg/m <sup>3</sup> SO <sub>2</sub> = 5.0 to 38.72 µg/m <sup>3</sup> NO <sub>x</sub> = 2.93 to 40 µg/m <sup>3</sup> CO = 0.02 to 1.7 mg/m <sup>3</sup>
Incremental level	GLC <u>Impact due to JCL</u> PM <sub>10</sub> = 3.8 µg/m <sup>3</sup> (Level at 2.23 km in North Direction) SO <sub>2</sub> = 4.1 µg/m <sup>3</sup> (Level at 2.23 km in North Direction) NO <sub>x</sub> = 2.5 µg/m <sup>3</sup> (Level at 2.23 km in North Direction)  <u>Impact due to Jindal Group Company</u>

Period	October 2020 to December 2020												
	PM <sub>10</sub> = 6.7µg/m <sup>3</sup> (Level at 2.23 km in North Direction) SO <sub>2</sub> = 6.8µg/m <sup>3</sup> (Level at 2.23 km in North Direction) NO <sub>x</sub> = 6.6 µg/m <sup>3</sup> (Level at 1.79 km in South Direction)												
Ground water quality at 8 locations	pH: 4.90 – 6.91 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												
Surface water quality at 8 locations	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												
Noise levels (min and max)	56.03 – 69.4 dBA for the day time and 45.44 – 57.94 dBA for the Night time												
Traffic assessment study findings	<ul style="list-style-type: none"> <li>• Traffic study has been conducted at SH 20 at the junction towards entry gates of JCL which is adjacent to the plant site.</li> <li>• Transportation of raw material, fuel &amp; finished product will be done 10% by road.</li> <li>• 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</li> </ul> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>SH 20</td> <td>Traffic Gate</td> <td>421</td> <td>3600</td> <td>0.12</td> <td>B</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• PCU load after proposed project will be <b>421 (Existing) + 0.275 (Additional)</b> PCU/hr and level of service (LOS) will be: <b>B</b></li> </ul> <p><b>The additional PCU considering entire JSL complex would be 5.275 PCU/h</b></p> <p>* Note: Capacity as per <b>IRC-106-1990</b> Guideline for capacity for roads.</p> <p>Conclusion: The level of service will remain <b>B</b> after including additional traffic due to proposed project.</p>	Road	Location	V (Vol in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS	SH 20	Traffic Gate	421	3600	0.12	B
Road	Location	V (Vol in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS								
SH 20	Traffic Gate	421	3600	0.12	B								
Flora and fauna	No endangered flora is present in the study area. No Schedule I species is present in the study area.												

3.8.12 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)			Treatment Before Disposal	Mode of Disposal
			Existing	Proposed	Total		
1.	Coke Breeze/Coke fines	Coke Oven	35,000	21,300	56,300	-	Reuse in Sinter Plant of Group Company
2.	BOD Sludge	BOD Plant	300	300	600	Stored in dedicated covered shed with concrete flooring storage shed.	100 % Reuse in Coke Oven Battery.
3.	Tar Sludge	Tar Storage Tank	200	200	400	Stored in MS Covered Bin	100 % Reuse in Coke Oven Battery.
4.	Used Oil	All plant source	50 KL	50 KL	100 KL	Stored in Hazardous Waste Storage Shed	100 % send to authorized recycler.
5	Waste Oil	All plant source	50 KL	50 KL	100 KL	Stored in Hazardous Waste Storage She	100 % send to authorized recycler.

### 3.8.13 Public Consultation:

Details of advertisement given	Advertisement dated 27/10/2021 published in The Indian Express (English) Advertisement dated 27/10/2021 published in The Prameya (Odia)
Date of public consultation	26/11/2021
Venue	Danagadi Bhawan, Danagadi, Jajpur
Presiding Officer	Additional District Magistrate, Kalinganagar, Jajpur
Major issues raised	a. Education b. Health c. Environment d. Plantation e. Employment f. Women Empowerment

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

Major Issue Raised	Action Plan	Time Line for Execution			Total Budget
		Year 1 <sup>st</sup>	Year 2 <sup>nd</sup>	Year 3 <sup>rd</sup>	
<b>Area Development</b>					
Development of park	Set up of park along with area development at two nos. of places.	Development of park with construction of tennis court at village panikoili.	Development of park at village Telibahali by construction of boundary wall, landscaping, Temple development	Continuation of Development work of park at village Telibahali by arrangement of permanent entire walkway, sitting arrangement.	180
Development of public community hall	New establishment of community hall at 5 nos. Of villages.	Set up in villages namely: Khurunti Malikasahi by providing new building with	Set up in villages namely: Ostapal by providing new building with electrification.	Set up in villages namely: Karadapal, Suanlo by providing new building with electrification.	60

Major Issue Raised	Action Plan	Time Line for Execution			Total Budget
		Year 1 <sup>st</sup>	Year 2 <sup>nd</sup>	Year 3 <sup>rd</sup>	
		electrification.			
Plantation activities in peripheral villages	Plantation drive at five numbers of village.	Village: Solei 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: Marutikar, Danagadi 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: Patrangi, Mantira: 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.	30
<b>Medical Facilities</b>					
Provision of health care facilities	Establishment of Homeopathic clinic at six numbers of viilages.	At village: Kumbirgadia, Marutikar Construction of building for homeopathic clinic along with supply of essential medicines.	At village: Mantira, Olala Construction of building for homeopathic clinic along with supply of essential medicines.	At village: Tikara, Danagadi Construction of building for homeopathic clinic along with supply of essential medicines.	70
<b>Local Employment</b>					
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 40 Nos. and Indirect employment of 200 Nos & during operation phase direct employment of 150 Nos. and Indirect employment of 120 Nos.. 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.			-
<b>Education</b>					
Renovation/Construction of additional new 2 Nos. of classrooms and electrification with sanitation facility at four nos. school.		At village : Danagadi	At village : Kharadi, Kankadajhar:	At village : JK Road	60
Facilitate students in providing special training on Stainless Steel related works to make knowledgeable in getting jobs in steel sector.		At : Ragadi Polytechnic College	Shall Continue	Shall Continue	15
<b>Women Empowerment</b>					
Strengthening of women empowerment measures in peripheral villages.	Focus on various livelihood programme for women empowerment in peripheral villages.	Livelihood promotion that includes tailoring, beauty parlor training, skill development training at village mantita.	Livelihood promotion that includes dairy farming, poultry, goatery, wheat grinding at village Lakhmapure.	Establishment of skill development center to provide training in Computer education, electrical, mechanical at village Trijanga.	150

Major Issue Raised	Action Plan	Time Line for Execution			Total Budget
		Year 1 <sup>st</sup>	Year 2 <sup>nd</sup>	Year 3 <sup>rd</sup>	
<b>Environment</b>					
Air and Water pollution control	Effective APC devices to be in place during plant operation and set up of ETP for treatment of process effluent. No waste water discharge to be ensured.	Effective pollution control equipments 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
<b>Total</b>					<b>565</b>

3.8.14 The existing capital cost of project as per existing EC was Rs. 244 Crores. The capital cost of the proposed project is Rs 470 Crores and the capital cost for environmental protection measures is proposed as Rs 126.65 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 10.5 Crores. The employment generation from the proposed expansion during construction is 240 (both direct & Indirect) & during operation, it is 270 (both direct and indirect). The details of cost for environmental protection measures is as follows:

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.	Water Conservation and Wastewater Treatment	40	0.2	2.5	0.2	42.5	0.4
2.	Air Pollution Control Measure	12	1.0	115	10	127	11
3.	Solid Waste management	1.5	0.1	1	0.1	2.5	0.2
4.	On-line Monitoring and Environmental Laboratory	1	0.1	2	0.1	3	0.2
5.	Greenbelt Development	2	0.1	0.5	0.1	2.5	0.2
6.	Rain Water Harvesting	2	0.1	-	-	2	0.1
7.	Address of Public Consultation concerns	-	-	5.65	-	5.65	
<b>TOTAL</b>		<b>58.5</b>	<b>1.6</b>	<b>126.65</b>	<b>10.5</b>	<b>185.15</b>	<b>12.1</b>

3.8.15 Existing green has been developed in 6.07 ha area which is about 20.7% of the total project area of 29.324 ha with total sapling of 9810 Trees. Proposed greenbelt will be developed in 3.64 ha which is about 12.40% of the total project area with total sapling of 5775 Trees. Thus total of 9.71 ha area (33% of total project area) will be developed as greenbelt. A 10 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 1605 trees per hectare.

3.8.16 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.

3.8.17 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/22/2285 Valid upto 23/06/2022, Rev. 21, March 30, 2022].

**Certified compliance report from Regional Office:**

3.8.18 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 Coke Limited. The Action taken report regarding the minor non-compliance was submitted to Regional officer MoEF&CC, Bhubaneswar vide letter no. JCL/JRD/ENV/2021-22/32 dated 13/01/2022. MoEF&CC (RO) evaluated the same and has issued letter dated 14/01/2021 for closure of non-compliance. The details of the observations made by RO in the report along with its re-assessment / present status as furnished by the PP is given as below:

S No	Non-Compliances details	Observation of RO (abridged)	Condition no.			Response by PP
			EC date	Specific	General	
1	The industry should follow coke oven standards as per Environment(P) Act, 1986. VOC from the coke oven shall be monitored and controlled as per CPCB guideline.	VOC emission from stack is not measured and report on monitored data for VOC is not submitted to the office.	25/05/2018	(i)	-	PP vide their 3 <sup>rd</sup> party environment laboratory, M/S. Visiontek Consultancy has submitted monitored data report for VOC emission from stack, vide letter reference no. Envlab/21/R-0073 dated 13/01/2022.

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

- i. PP submitted an affidavit to undertake the following:
  - a. Green belt covering 33% total area will be completed by December, 2022.
  - b. PP has committed to adopt 4 nearby villages for development activities. The village names are Siaria, Banshipur, Hudi Shai and Katipur.
  - c. Cost incurred for Environment Management Plan (EMP) for existing plan is submitted. Detail of existing EMP is given at para 3.8.14 above

**Observations of the Committee**

3.8.20 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**

3.8.21 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. Coke Dry Quenching (CDQ) and Zero Liquid Discharge (ZLD) facilities shall be installed in the Coke Oven Plant as committed by PP.
- ii. Tar sludge from BOD plant of Coke Oven shall be reused in coke oven plant.
- iii. Coke Oven Gas shall be desulfurized.
- iv. Out of 24 acres area for green belt development, PP has been developed green belt in 15 acres area. Remaining 9 acres area of green belt shall be completed by December, 2022. Three tier Green Belt shall be developed after consult with local forest department 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.
- v. Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.
- vi. PM<sub>10</sub> values are almost near the threshold limit, the PP shall prepare and implement a project specific Air Quality Management Plan with best practices. Develop a control strategy and incorporates in the pollution control measures. Emission control measures related to transportation shall include with the use of cleaner fuels.
- vii. The progress made in CER shall be submitted along with six monthly compliance report to the IRO and also upload on the company web site.
- viii. 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.
- ix. All internal roads and connecting roads 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.
- x. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.
- xi. Particulate matter emission from stacks shall be less than 30 mg/Nm<sup>3</sup>.
- xii. 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.

## **B. General Condition**

### **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 O<sub>2</sub> 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.
- xv. Dry quenching (CDQ) system shall be installed along with power generation facility from waste heat recovery from hot coke.

### **III. Water quality monitoring and preservation**

- i. The project proponent shall provide appropriate ETP for effluents discharged from coke oven and by-product to meet the standards prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012 (applicable to Coke oven plants) as amended from time to time.
- 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. Water meters shall be provided at the inlet to all unit processes in the coke oven 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. 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;
- ii. Provide LED lights in their offices and residential areas.

### **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 program 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 namely Siaria, Banshipur, Hudi Shai and Katipur.
- ii. The company shall have a well laid down environmental policy duly approved 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 report 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 environmental 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<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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.

3.9 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/262014/2021, File No. J-11011/281/2007-IA.II(I)] –**Environment Clearance – regarding.**

3.9.1 M/s. Jindal Stainless Limited has made an online application vide proposal No. IA/OR/IND/249316/2021, dated 23/03/2022 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**

3.9.2 The detail of the ToR is furnished as below:

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

3.9.3 The project of M/s. Jindal Stainless Limited (JSL) is 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.

3.9.4 Environmental site settings

Sl. No.	Particulars	Details			Remarks	
i.	Total land	437.13 ha [Govt. Land]			Land use: Industrial land; Existing Steel Plant of JSL	
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The proposed project does not require additional land and will be implemented within the existing land.				
iii.	Existence of habitation & involvement of R&R, if any.	Project site: Nil			R&R not applicable	
		Complex:				
		<b>Habitation</b>	<b>Direction</b>	<b>Distance</b>		
		Danagadi	East	2 km		
iv.	Latitude and Longitude of all corners of the project site.	<b>Point</b>	<b>Direc-tion</b>	<b>Latitude</b>	<b>Longitude</b>	
		1	N	20°58'02.15"N	86°02'58.51"E	
		2	NE	20°57'59.68"N	86°03'18.99"E	
		3	E	20°57'20.17"N	86°03'42.57"E	
		4	SE	20°57'10.49"N	86°03'23.62"E	
		5	SE	20°56'58.96"N	86°03'29.76"E	
		6	SW	20°56'23.33"N	86°02'21.42"E	
		7	W	20°57'21.61"N	86°01'53.30"E	
		8	W	20°57'24.40"N	86°01'54.21"E	
		9	W	20°57'22.16"N	86°02'08.52"E	
		10	W	20°57'14.81"N	86°02'35.32"E	
		11	N	20°57'38.84"N	86°02'45.80"E	
		12	NW	20°57'58.21"N	86°02'27.20"E	
		13	NW	20°58'09.82"N	86°02'34.20"E	
v.	Elevation of the project site	120 m above mean sea level				
vi.	Involvement of Forest land if any.	No Forest Land is involved.				
vii.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project	<b>Project site:</b> Nil				
		<b>Study area:</b>				
		<b>Waterbody</b>	<b>Direction</b>	<b>Distance</b>		
		Brahmani	South	7.3 km		
		Ganda Nalla	East	3.6 km		

Sl. No.	Particulars	Details	Remarks
	site as well as study area		
viii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil	

3.9.5 The existing project was accorded environmental clearance vide Ir. 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 Ir. No. 4555/ IND-I-CON-5136 dated 19/03/2021. The validity of CTO is up to 31/03/2023.

3.9.6 Implementation status of the existing EC:

S No	Facilities Envisaged as per EC	Unit	As per EC dated 18/09/2019	Implementation Status as on date	CTE / CTO Status
1	2x150 T EAF 2x6 T + 1x200 Kg Testing Induction Furnace 1x30 T Holding Induction Furnace	SMS	05/08/2005 01/11/2007 18/09/2019	<b>Commissioned</b> 2 x 150 T EAF 2x6 T + 1x 200 Kg Testing Furnace 1x30 T Holding Induction Furnace	CTO Received
2	2x150 T LF 2x150 T AOD	Secondary Refining	05/08/2005 18/09/2019	<b>Commissioned</b> 1x150T LF 1x150T AOD	CTO Received
				<b>Under Construction</b> 1x150T LF 1x150T AOD	CTE received
3	2x1 – Strand Slab caster	Caster Shop	05/08/2005 18/09/2019	<b>Commissioned</b> 1x1 Strand Slab Caster	CTO Received
				<b>Under Construction</b> 1x1 Strand Slab Caster	CTE received

S No	Facilities Envisaged as per EC	Unit	As per EC dated 18/09/2019	Implementation Status as on date	CTE / CTO Status
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	<b>Commissioned</b> HAPL – 1x 0.8 MTPA CAPL – 1 x 0.45 MTPA Finishing Lines (Slitting, Cut to length, Skin Pass mill etc.)	CTO Received
				<b>Under Construction</b> HAPL – 1x 0.8 MTPA CAPL – 1 x 0.45 MTPA Finishing Lines (Slitting, Cut to length, Skin Pass mill etc.)	CTE Received
5	2x425 TPD (BOO Basis)	Air Separation Plant (ASP)	05/08/2005 18/09/2019	<b>Commissioned</b> 1x425 TPD	CTO Received
				<b>Under Basic Engineering</b> 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 Briquette Plant – 180 TPH & Jigging Plant	Ferro Alloy Plant	05/08/2005 01/11/2007 18/09/2019	<b>Commissioned</b> 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
				<b>Yet to install</b> 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	<b>Under Basic Engineering</b>	CTE received

S No	Facilities Envisaged as per EC	Unit	As per EC dated 18/09/2019	Implementation Status as on date	CTE / CTO Status
8	1 x 50 TPH 1 x 80 TPH (BOO Basis)	Metal Recovery Plant (MRP)	18/09/2019	Commissioned 1x50 TPH 1x40 TPH (BOO Basis)	CTO received
				Under Construction Metal Recovery Plant– 1x40 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 2x125 MW	CTO received

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

S No.	Plant Equipment/ Facility	Existing facilities as per EC dated 17 <sup>th</sup> May,2018 and subsequent expansion of facilities as per EC dated 18 <sup>th</sup> September,2019						Proposed Units		Final (Existing + Proposed)			
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacit-y	Configura-tion	Capacit-y
		Config-uration	Capacit-y	Config-uration	Capacit-y	Config-uration	Capacit-y	Config-uration	Capacit-y				
	<b>Iron Making</b>	-	-	-	-	-	-	-	-	2.35 MTPA	-	2.35 MTPA	
1	Blast Furnace	-	-	-	-	-	-	-	1x720 m <sup>3</sup> 1x1680 m <sup>3</sup>	2.35 MTPA	1x720 m <sup>3</sup> 1x1680 m <sup>3</sup>	2.35 MTPA	
2	Sinter Plant	-	-	-	-	-	-	-	1x120 m <sup>2</sup> 1x240 m <sup>2</sup>	3.64 MTPA	1x120 m <sup>2</sup> 1x240 m <sup>2</sup>	3.64 MTPA	
	<b>SMS</b>		2.2 MTPA		1.1 MTPA		1.1 MTPA		1.1 MTPA		2.3 MTPA	4.5 MTPA	
3	EAF	2x150 T	-	2x150 T	-	-	-	2x150 T	-	-	2x150 T	-	
4	Induction Furnace	2x6 T + 1x200 Kg + 1x30 T	-	2x6 T + 1x200 Kg + 1x30 T	-	-	-	2x6 T + 1x200 Kg + 1x30 T	-	2x30 T	3x30 T + 2x6 T + 1x200 kg	-	
5	Cr Converter	-	-	-	-	-	-	-	-	1x70 T	1x70 T	-	
6	BOF	-	-	-	-	-	-	-	-	1x110 T 1x150 T	1x110 T 1x150 T	-	
	AOD	2x150 T	-	1x150 T	-	1x150 T	-	1x150 T	-	1x150 T	3x150 T	-	
	LF	2x150 T	-	1x150 T	-	1x150 T	-	1x150 T	-	2 x 150 T	4x150 T	-	
7	Caster Shop	2x1 Strand	-	1x1 Strand	-	1x1 Strand	-	1x1 Strand	-	2x1 Strand	4x1 Strand	-	
	<b>CRM</b>	-	1.6 MTPA	-	0.8 MTPA	-	0.8 MTPA	-	0.8 MTPA	-	1.0 MTPA	2.6 MTPA	

S No.	Plant Equipment/ Facility	Existing facilities as per EC dated 17 <sup>th</sup> May,2018 and subsequent expansion of facilities as per EC dated 18 <sup>th</sup> September,2019								Proposed Units		Final (Existing + Proposed)	
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacit-y	Configura-tion	Capacit-y
		Config-uration	Capacit-y	Config-uration	Capacit-y	Config-uration	Capacit-y	Config-uration	Capacit-y				
8	HAPL	2 lines	2x0.8 MTPA	1 line	1x0.8 MTPA	1 line	1x0.8 MTPA	1 line	1x0.8 MTPA	1 line	1x1.0 MTPA	3 lines	2 x 0.8 MTPA + 1 x 1.0 MTPA
9	CAPL	2 lines	2x0.45 MTPA	1 line	1x0.45 MTPA	1 line	1x0.45 MTPA	1 line	1x0.45 MTPA	1 line	1x0.5 MTPA	3 lines	2 x 0.45 MTPA + 1 x 0.5 MTPA
10	Tandem mill	-	-	-	-	-	-	-	-	1 mill	1x1.0 MTPA	1 mill	1 x 1.0 MTPA
11	Z mill	-	-	-	-	-	-	-	-	2 mills	2x0.15 MTPA	2 mills	2 x 0.15 MTPA
12	Bright annealing	-	-	-	-	-	-	-	-	2 lines	2x0.075 MTPA	2 lines	2 x 0.075 MTPA
13	Finishing lines (Slitting, cut to length, Skin pass mill etc.)	10 lines	-	10 lines	-	-	-	10 lines	-	10 lines	-	20 lines	-
<b>Ferro Alloy Complex</b>		-	<b>0.25 MTPA</b>	-	<b>0.25 MTPA</b>	-	-	-	<b>0.25 MTPA</b>	-	<b>0.08 MTPA</b>	-	<b>0.33 MTPA</b>
14	Pelletisation & Sintering of Cr ore	-	-	-	-	-	-	-	-	1 unit	0.7 MTPA	1 unit	0.7 MTPA
15	SAF –Ferro Chrome	2x60 MVA + 3x27.6 MVA	0.25 MTPA	2x60 MVA + 3x27.6 MVA	0.25 MTPA	-	-	2x60 MVA + 3x27.6 MVA	0.25 MTPA	-	-	2x60 MVA + 3x27.6 MVA	0.25 MTPA Increase in Fe-Cr production by change of feed from briquette to palletized sinter)
16	WHRB	2x28.5 TPH	13 MW	2x28.5 TPH	13 MW	-	-	2x28.5 TPH	13 MW	-	-	2x28.5 TPH	13 MW
17	AFBC	50 TPH		50 TPH		-	-	50 TPH		-	-	50 TPH	
18	Briquette Plant	180 TPH	180 TPH	126 TPH	126 TPH	54 TPH	54 TPH	126 TPH	126 TPH	-	-	180 TPH	180 TPH
19	Jigging Plant	100 TPH	100 TPH	100 TPH	100 TPH	-	-	100 TPH	100 TPH	50 TPH	50 TPH	150 TPH	150 TPH
20	Thermal Power Plant	2x125 MW	250 MW	2x125 MW	250 MW	-	-	2x125 MW	250 MW	-	-	2x125 MW	250 MW
21	TRT (BF)	-	-	-	-	-	-	-	-	14 MW	14 MW	14 MW	14 MW
<b>Flux Complex</b>		-	<b>0.35 MTPA</b>	-	-	-	-	<b>0.35 MTPA</b>	-	-	<b>0.39 MTPA</b>	-	<b>0.74 MTPA</b>
22	Lime –Dolo Calcining Plant	1x600 TPD + 1x450 TPD	-	-	-	1x600 TPD + 1x450 TPD	-	-	-	2x600 TPD	-	3 x 600 TPD + 1x450 TPD	-
23	Hydrated Lime Plant	200 TPD	-	-	-	200 TPD	-	-	-	-	-	200 TPD	-

S No.	Plant Equipment/ Facility	Existing facilities as per EC dated 17 <sup>th</sup> May,2018 and subsequent expansion of facilities as per EC dated 18 <sup>th</sup> September,2019								Proposed Units		Final (Existing + Proposed)	
		Total (A+B)		Implemented (A)		Un-implemented (B)		As per CTO		Config-uration	Capacit-y	Configura-tion	Capacit-y
		Config-uration	Capacit-y	Config-uration	Capacit-y	Config-uration	Capacit-y	Config-uration	Capacit-y				
24	Air Separation Plant	2x425 TPD	850 TPD	1x425 TPD	425 TPD	1x425 TPD	425 TPD	1x425 TPD	425 TPD	1x900 TPD	900 TPD	2x425 TPD + 1x900 TPD	2 x 425 TPD + 1 x 900 TPD
25	Metal Recovery	1x50 TPH + 1x80 TPH	130 TPH	1x50 TPH + 1x40 TPH	90 TPH	40 TPH	40 TPH	1x50 TPH + 1x40 TPH	90 TPH	1x50 TPH + 2x80 TPH	210 TPH	2x50 TPH + 3x80 TPH	340 TPH
26	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	-

3.9.8 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

Sl. No.	Raw material	Quantity required per annum			Source	Distance from site (km)	Mode of Transportation
		Existing	Expansion	Total (MTPA)			
10.	Ferro Alloy	0.70	0.07	0.77	Open market	1000	Rail/Road

3.9.9 Existing Water requirement is 26,640 m<sup>3</sup>/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<sup>3</sup> /day, which will be obtained from River Brahmani and by Internal recycling of the effluents.

3.9.10 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.

3.9.11 Baseline Environmental Studies

Period	October 2020 to December 2020												
AAQ parameters at 10 Locations	PM <sub>2.5</sub> = 60.2 to 91.58 µg/m <sup>3</sup> PM <sub>10</sub> = 19.36 to 51.23 µg/m <sup>3</sup> SO <sub>2</sub> = 5.0 to 38.72 µg/m <sup>3</sup> NO <sub>x</sub> = 2.93 to 40 µg/m <sup>3</sup> CO = 0.02 to 1.7 mg/m <sup>3</sup>												
Incremental GLC level	PM <sub>10</sub> = 6 µg/m <sup>3</sup> (Level at 2.23 km in North Direction) SO <sub>2</sub> = 6.8 µg/m <sup>3</sup> (Level at 2.23 km in North Direction) NO <sub>x</sub> = 6.6 µg/m <sup>3</sup> (Level at 1.79 km in South Direction)												
Ground water quality at 8 locations	pH: 4.90 – 6.91 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												
Surface water quality at 8 locations	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												
Noise levels Leq (Day and Night)	56.03 – 69.4 dBA for the day time and 45.44 – 57.94 dBA for the Night time												
Traffic assessment study findings	<ul style="list-style-type: none"> <li>•Traffic study has been conducted at SH 20 at the junction towards entry gates of JSL which is adjacent to the plant site.</li> <li>•Transportation of raw material, fuel &amp; finished product will be done 10% by road.</li> <li>•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</li> </ul> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>SH 20</td> <td>Traffic Gate</td> <td>421</td> <td>3600</td> <td>0.12</td> <td>B</td> </tr> </tbody> </table>	Road	Location	V (Vol in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS	SH 20	Traffic Gate	421	3600	0.12	B
Road	Location	V (Vol in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS								
SH 20	Traffic Gate	421	3600	0.12	B								

	<p>•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.</p>
Flora and fauna	No schedule I fauna and endangered Flora is present in the Study area.

3.9.12 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 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	All plant	200 KL	100 KL	300 KL		Handed over to

Sl. No.	Type of Waste	Source	Quantity			Treatment Before Disposal	Mode of Disposal
			Existing	Proposed	Total		
	Waste	source					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.

### 3.9.13 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 1 <sup>st</sup>	Year 2 <sup>nd</sup>	Year 3 <sup>rd</sup>	
<b>Area Development</b>						
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

Major Issue Raised	Action Plan	Physical Target	Time Line for Execution			Total Budget in Lakh
			Year 1 <sup>st</sup>	Year 2 <sup>nd</sup>	Year 3 <sup>rd</sup>	
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 trees 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 trees 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 trees 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
<b>Medical Facilities</b>						
Provision of health care facilities	Establishment of 100 bedded super specialties hospital at village Jakhapura	Land acquisition process to be completed.	Construction of Buildings and utilities.	Provision of medicalequipment, furniture and fixtures and essential medicines.		2000
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
<b>Local Employment</b>						
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.				--
<b>Education</b>						
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.	At village: Asanbahali Establishment of skill development centre like computer education, beauty	----		20

Major Issue Raised	Action Plan	Physical Target	Time Line for Execution			Total Budget in Lakh
			Year 1 <sup>st</sup>	Year 2 <sup>nd</sup>	Year 3 <sup>rd</sup>	
			Financial assistance for four nos. of teachers to provided.	parlour, electrical machineries.		
<b>Drinking Water facility</b>						
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
<b>Women Empowerment</b>						
Strengthening of women empowerment measures in peripheral villages	Focus on various livelihood programme through Self Help Group (SHG) for women empowerment in peripheral villages.	Livelihood promotion through SHG that include dairy farming, poultry, goatery, Phenyl making, Agarwati making, Wheat grinding at 30nos. of villages in 7 GP of Danagadi block.	Establishment of sanitary napkin unit at Danagadi. Tailoring training at village Damdorpur, Kiapada and Dhabahali.	Establishment of neem powder and turmeric powder making unit at Danagadi/Jakhapura. Mushroom farming at Danagadi, Jakhapura.		300
<b>Environment</b>						
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 equipments 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 Jakhapura and Manpur.				20

3.9.14 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:

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.	Water Conservation and	65	5	80	5	145	10

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)
	Wastewater Treatment						
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	-

3.9.15 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.

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

3.9.17 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/22/2285 Valid upto 23/06/2022, Rev. 21, March 30, 2022].

#### **Certified compliance report from Regional Office**

3.9.18 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.

3.9.19 M/s. Jindal Stainless Limited had initially applied for Environment Clearance vide proposal no. IA/OR/IND/249316/2021 dated 12/02/2022 and the proposal was considered in 1<sup>st</sup> meeting of the EAC for Industry-I sector held on 5 - 6<sup>th</sup> March, 2022 wherein the Committee recommended the proposal to be returned in present form due to the shortcomings. The proponent has again made an online application vide proposal no. IA/OR/IND/249316/2021 dated 23/03/2022 addressing the shortcomings. The proposal is considered in the 3<sup>rd</sup> meeting of the EAC (Industry-I) held on 11-12<sup>th</sup> April, 2022. The observations and recommendations of the EAC are as follows:

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

- a. PP has committed to adopt 20 nearby villages for development activities. Out of 20 villages PP has already identified six villages namely Tikar, Kumbhiragadia, Manpur, Balungabandhi, Marurtikar and Khurunti villages.

- b. Cost incurred for Environment Management Plan (EMP) for existing plan is submitted. Detail of existing EMP is given at para 3.9.14 above.

#### **Observations of the Committee**

3.9.21 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**

3.9.22 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 Condition:**

- i. Three tier Green Belt shall be developed in a time frame of one year covering 35% of total area (as committed by PP) 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 concern Regional Office of the MoEF&CC.
- ii. Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.
- iii. 41,784 m<sup>3</sup>/day of water requirement after the proposed expansion shall be met from Brahmani River and by Internal recycling after prior approval of the Competent Authority. No ground water abstraction is permitted.
- iv. Cold Rolling Mill shall have its independent ETP. Hazardous waste generated in CRM shall be sent to TSDF and oily waste shall be sent to registered recyclers. Acid Recovery Plant shall be provided in CRM.
- v. Covered sheds and toe walls shall be provided for raw material storage to check any attrition of raw materials. Storage sheds shall have garland drains, material traps and shall be built on concrete platforms.
- vi. Top Recovery Turbine, Dry Gas Cleaning and Stove gas waste heat recovery systems shall be installed in BF.

- vii. Sinter Plant shall be equipped with Sinter cooler waste recovery system and suitable technology for control of dioxins and furans emissions from the plant.
- viii. TCLP analysis of the AOD slag shall be carried out periodically. In case of presence of hazardous material, the same shall be sent to TSDF. In case of non-hazardous material, AOD slag shall be utilized at project site for brick manufacturing and construction work after the recovery of metal.
- ix. The Oil scum and oily waste from CRM shall be sent to registered recyclers.
- x. 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.
- xi. 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.
- xii. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.
- xiii. Particulate matter emission from stacks shall be less than 30 mg/Nm<sup>3</sup>.
- xiv. 85-90 % of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil as a fuel.
- xv. Submerged Arc Furnace and Electric Arc Furnace shall be of closed type with 4<sup>th</sup> hole extraction system.
- xvi. The progress made in CER shall be submitted along with six monthly compliance report to the IRO and also upload on the company web site.

## **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 four 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 30<sup>th</sup> May 2008; G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF); S.O. 3305 (E) dated 7<sup>th</sup> 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) 31<sup>st</sup> 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, PP has committed to adopt 20 nearby villages for development activities. Out of 20 villages PP has already identified six villages namely Tikar, Kumbhiragadia, Manpur, Balungabandhi, Marurtikar and Khurunti villages.
- 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<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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.

- 3.10 Proposed Greenfield metallurgical Unit Sponge Iron 1,80,000.00 TPA (DRI Kiln (Coal Fired) 1 x 200 TPD & 1 x 350 TPD), Billets or TMT 2,16,000.00 TPA along with Captive Power Plant 20 MW by **M/s. Fuletra Steel LLP** located at Village Khijadiya, Tehsil Wankaner, **District Morbi, Gujarat**[Online Proposal No. IA/GJ/IND/228739/2021; File No. IA-J-11011/317/2021-IA-II(IND-I)] – **Environment Clearance – regarding.**

- 3.10.1 M/s. Fuletra Steel LLP has made an online application vide proposal no IA/GJ/IND/228739/2021 dated 26/03/2022 along with copy of EIA/EMP report and Form - 2 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 appraisal at Central Level.
- 3.10.2 On perusal of the KML file, the Committee noted that the project proponent has already commenced the construction activity at the project site without requisite environment clearance.

**Observations of the Committee**

- 3.10.3 The Committee noted the following:
- i. PP/ consultant informed that they have got the CTE for this project and after getting CTE they have constructed the boundary wall and some minor construction for administrative and security purpose.
  - ii. PP informed that this has been done unintentionally, because after getting CTE they can start some construction work. After knowing the factual situation that without EC they can't start any construction work, they stop the construction, after detail discussion PP/ Consultant decided to come before the committee for this case under violation category as per the provisions contained in the MoEF&CC Standard Operating Procedures dated 07/07/2021 pertaining to consideration of violation cases.

**Recommendations of the Committee**

- 3.10.4 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form. Further, the Committee also recommended that following points shall be complied with as per the provisions contained in SOP dated 7/07/2021.
- i. The State Government/SPCB shall 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.
  - ii. 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).
  - iii. 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.
  - iv. 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.
  - v. 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.
  - vi. 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.

- vii. Project proponent shall calculate penalty provisions i.e., 1% of project cost attributable to the expansion, incurred up to the date of filing of application along with the EIA/EMP report as contained in the paragraph 12 of the Standard Operating Procedure dated 7/07/2021 shall be complied with.

3.11 Greenfield project for production of Sponge Iron 231,000 TPA; Mild Steel Billets 232,848 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 225,863 TPA (171,144 TPA through Hot Charging & 54,719 TPA through Billet Reheating Furnace); Captive Power of 25MW (16MW through WHRB and 9MW through AFBC); Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA from 9 MVA x 2 Nos SAF; and Fly Ash Bricks 36,700 TPA by **M/s. VAP Ispat Private Limited** located at Villages Mudpar & Rampura, Tehsil Nawagarh, **District Bemetara, Chhattisgarh.** [Online Proposal No. IA/CG/IND/261323/2022; File No. IA-J-11011/307/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference – regarding.**

3.11.1 M/s. VAP Ispat Private Limited has made an application online vide proposal no. IA/CG/IND/261323/2022 dated 28/03/2022 in prescribed format (Form-I), copy of pre-feasibility report along-with 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 and 1(d) Thermal Power Plant under Category “A” of the schedule of the EIA Notification and appraised at central level.

**Details submitted by Project proponent**

3.11.2 The project of M/s. VAP Ispat Private Limited located at Village- Mudpar & Rampura, Tehsil - Nawagarh, District – Bemetara, State Chhattisgarh is proposed to implement greenfield project for production of Sponge Iron 231,000 TPA; Mild Steel Billets 232,848 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 225,863 TPA (171,144 TPA through Hot Charging & 54,719 TPA through Billet Reheating Furnace); Captive Power of 25MW (16 MW through WHRB and 9MW through AFBC); Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA from 9 MVA x 2 Nos SAF (Submerged Arc Furnace) ; and Fly Ash Bricks 36,700 TPA.

3.11.3 Environmental site settings:

S No	Particulars	Details	Remarks
i	Total land	30.80 Hectare	
ii	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Out of total 30.80 hectare, 23.78-hectare land has been registered in the name of the company and the same has also been applied to be diverted for industrial purpose.  The remaining area 7.02 Hectare is under purchase contract from land owners.	Registration of purchase deed for balance land will be completed before applying

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iii	Existence of habitation & involvement of R&R, if any.	<b>Project Site:</b> There is no habitation in the project area. <b>Study Area:</b> <table border="1"> <thead> <tr> <th>Habitation</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Rampura</td> <td>0.5 km</td> <td>West</td> </tr> <tr> <td>Mudpar</td> <td>0.97 km</td> <td>East</td> </tr> </tbody> </table>			Habitation	Distance	Direction	Rampura	0.5 km	West	Mudpar	0.97 km	East																																																																				
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v	Elevation of the project site	285 m AMSL																																																																															
vi	Involvement of Forest land if any.	Nil																																																																															
vii	Waterbody exists within the project site as well as study area	<b>Project Site:</b> Nil. <b>Study area:</b> <table border="1"> <thead> <tr> <th>S.No</th> <th>Name of the</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> </tbody> </table>			S.No	Name of the	Distance	Direction																																																																									
S.No	Name of the	Distance	Direction																																																																														

S No	Particulars	Details			Remarks	
		Water Body	(KM)			
		1.	Agar River	10.1	N	
		2.	Tesua Nadi	5.5	NE	
		3.	Sunari Nala	2.6	ENE	
		4.	Nakti canal	5.0	SW	
		5.	Nakti Nala	2.0	W	
		6.	Rampur Pond	1.0	W	
viii	Existence of ESZ/ESA/national park/wild life sanctuary/biosphere reserve /tiger reserve/elephant reserve etc. if any within the study area	Nil				

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

S. No.	Process plant	Proposed configuration of the plant	Product Name	Capacity (in TPA)
1	DRI Kiln (Coal based)	350TPD x 2 No.	Sponge Iron	231,000
2	Induction Furnace along with CCM and LRF	Induction Furnace (20 MT x 4 Nos) and LRF (20 MT x 1 No)	MS Billet	232,848
3	Hot Rolling Mill			225,863
	a. Hot Charging based Rolling Mill	Electrical driven Rolling Mill about 388 TPD	Rerolled Steel product (Wire Rod, TMT bar, Structure Steel etc.)	171,144
	b. Billet Reheating Furnace based Rolling Mill	Reheating Furnace based Rolling Mill about 124 TPD	Rerolled Steel products (Rerolled Structural Steel etc.)	54,719
4	Captive Power Plant (Boiler and TG based)	WHRB	Captive Power	16 MW
		AFBC		9 MW
5a)	Submerged Arc Furnace	2 nos of furnace with 9MVA as input power capacity	Silico Manganese	36,000
			And/ Or	
5b)			Ferro Manganese	46,000
			And/ Or	
5c)			Ferro Silicon	20,000
	And/ Or			
5d)			Pig iron	63,000
6	Fly Ash Bricks/Block making unit	Fly Ash Brick/Block Making	Fly Ash Bricks/ Blocks	36700
7	Producer Gas Plant (Based on Coal)	Coal Producer gas plant will be of 2.2 Meter dia and capable to gasify upto 1100 kg/Hour Coal to produce 1800 to 3600 Nm <sup>3</sup> per hour producer	Producer gas	30,240 NM <sup>3</sup>

S. No.	Process plant	Proposed configuration of the plant	Product Name	Capacity (in TPA)
		gas		

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

**For Sponge Iron Plant**

S. No.	Raw Material	Quantity required per annum	Source	Distance from site (Kms)	Mode of Transportation
1	Iron Ore	3,69,600	Odisha Iron Ore Mine and NMDC	500 Kilometers	By Road through covered vehicles
2	Coal	2,77,200	SECL Coal mines	200 KMs	
3	Limestone/Dolomite	8,085	Open Market	50 KMs	
4	Refractory Material	347	Open Market	100 KMs	
	<b>Total</b>		<b>6,55,232</b>		

**For Induction furnace**

S. No.	Raw Material	Quantity required per annum	Source	Distance from site (Kms)	Mode of Transportation
1	Sponge Iron	2,37,600.00	Captive production/ Local market	0.2 KMs	By Conveyor belts through covered vehicles
2	Pig Iron / CI Scrap	29,393.00	Local market	100 KMs	By Road through covered vehicles
3	Melting Scrap	4,900.00	Captive generation/ Local market	100 KMs	Internally available/ By Road through covered vehicles
4	Ferro Alloys	2,376.00	Captive Generation / Local market	100 KMs	Internally available/ By Road through covered vehicles
5	Aluminum	237.60	Open Market/BALCO	150 KMs	By Road through covered vehicles
6	Ramming Mass	594.00	Open Market	100 KMs	
7	Steel Sheet Former	60.00	Open Market	100 KMs	
8	LDO/LSHS for Ladle Preheating	460.94	Open Market	70 KMs	By Road through Tankers
9	Calcined Lime for Refining of	11,880.00	Open Market	250 KMs	By Road through covered vehicles

S. No.	Raw Material	Quantity required per annum	Source	Distance from site (Kms)	Mode of Transportation
	Liquid Steel				
10	Fluorspar and other additives for de phos	2,376.00	Open Market	300 KMs	
11	Electrode for Ladle refining furnace	475.20	Open Market	500 KMs	
	<b>Total</b>	<b>2,90,352.74</b>			

**For Hot Charging Rerolling Mill**

S. No.	Raw Material	Quantity required per annum	Source	Mode of Transportation
1	Hot Billets	174636.00	Captive Production in Steel Melting shop	Internal Transfer
	<b>Total</b>	<b>174636.00</b>		

**For Reheating Furnace based Rerolling Mill**

S. No.	Raw Material	Qty (in TPA)	Source	Distance from site (Kms)	Mode of Transportation
1	Cold Billets	58,212.00	Captive production/ Local market as per requirement	Within 100 kms	Internal Transfer/ By Road through covered vehicles
2	Coal	5,822.00	SECL Mines/ Local Market	Within 200 kms	By Road through covered vehicles
	<b>Total</b>	<b>64034.00</b>			

**Captive AFBC Power Plant (9MW)**

S. No.	Raw Material	Qty (in TPA)	Source	Distance from site (Kms)	Mode of Transportation
1	Char Dolochar	57,750.00	captive generation in SID	0.3 KM	Internally available transferred through conveyor belts/By covered trucks .
2	Coal	30,086.00	SECL Mines (200 KM)	Within 250 kms	By Road through covered vehicles
3	Fluidizing Bed Media	150.00	Open Market; (100 KMs)	Within 50 kms	By Road through covered vehicles
	<b>Total</b>	<b>87,986.00</b>			

**From Submerged Arc Furnace:**

**Option A: For producing 100% Silico Manganese – 36000TPA:**

S. N	Raw Material	Qty (in TPA)	Distance from site (Kms)	Source	Mode of Transportation
1	Manganese Ore	75,600.00	450 KM	Mines at Orissa and	By Road

S. N	Raw Material	Qty (in TPA)	Distance from site (Kms)	Source	Mode of Transportation
				Madhya Pradesh and Vidarbha region	through covered vehicles
2	High Manganese Ore Slag	14,400.00	150 KMs	Open Market/Internal available	
3	Quartz	2,880.00	150 KMs	Mines in Raigarh area	
4	Coke/Coal/Charcoal	21,600.00	150 KMs	Open Market	
5	Dolomite	1,080.00	100 KMs	Mines in Bilaspur	
6	Electrode Paste	1,080.00	150 KMs	Local Industries	
7	M.S. Item.	360.00	100 KMs	Local Industries	
8	Lancing Pipe and Canister Sheet	540.00	100 KMs	Local Industries	
	<b>Total</b>	<b>1,17,540.00</b>			

And/or

**Option B: For producing 100% Ferro Manganese – 45000TPA:**

S.No.	Raw Material	Qty (in TPA)	Source	Mode of Transportation
1	Manganese Ore	82,800.00	Mines at Orissa and Madhya Pradesh and Vidarbha region	By Road through covered vehicles
2	Coke/Coal/Charcoal	27,600.00	Open Market	
3	Dolomite	13,800.00	Mines in Bilaspur	
4	Electrode Paste	1,152	Local Industries	
	<b>Total</b>	<b>1,25,352</b>		

And/or

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

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

And/or

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

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

**Fly Ash Brick Plant**

S. No.	Raw Material	Qty (in TPA)	Distance from site (Kms)	Source & Mode of Transportation
1	Fly Ash/ Coal Ash etc	23,855.00	0.2 KMs	Internally available to be transported by covered trucks.
2	Gypsum and Cement	3,670.00	50 to 100 KM	Local market & through road by covered vehicles.
3	Granulated slag from Induction Furnace	9,175.00	0.2 KMs	Internally available to be transported by covered trucks..
	<b>Total :</b>	<b>36,700.00</b>	-	

3.11.6 The water requirement for the project is estimated as 1500 m<sup>3</sup>/day (495000 KLA). The company management had decided to implement 75,000 KL Rain water collection Tank which will be enough to cater water requirement of 50 days. In addition to it during 75 rainy days; water requirement will be met through rain water collections in it. Therefore, it is considered that at least about 75 days (1,12,500 KLA) water requirement will be met through rain water and rain water collection, and balance 255 days water (3,82,500 KLA) will be sourced from Surface Water i.e. from Agar River.

3.11.7 The power requirement for the project is estimated as 47 MW, out of which 25 MW will be obtained from captive power plant and 22 MW will be sourced through State Grid (CSPDCL).

3.11.8 The capital cost of the project is Rs. 32700 lakhs and the capital cost for environmental protection measures is proposed as Rs. 2000 Lakhs and Recurring cost of 50 Lakhs. The employment generation from the proposed project is 900.

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

3.11.10 Name of the EIA consultant: M/s Anacon Laboratories Pvt. Ltd., Nagpur [S No 67, NABET Certificate no. NABET/EIA/1922/RA0150 and valid upto 30/09/2022; Rev. 21, March 30, 2022].

3.11.11 Proposed Terms of Reference: **(Baseline data collection period: 1<sup>st</sup> March, 2021 – 31<sup>st</sup> May, 2021)**

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
<b>A. Ambient Air Quality</b>				
a. Meteorological parameters	Temperature, Relative Humidity, Rainfall, Wind direction & Wind speed.	1 (Project site)	Daily	
b. AAQ parameters	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , NH <sub>3</sub> , Benzene and Benzo(a)pyrene & Heavy metals: Ni, Pb, As.	9	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , NH <sub>3</sub> - <u>24 Hrly</u>	

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
			Ozone, CO-8 hrly.	
<b>B. Noise Environment</b>				
Noise	Leq (dB A) Day time and Night time with hourly measurement.	8	Hourly for 24 hrs. once in baseline period	
<b>C. Water Quality</b>				
Surface water quality parameters	<b>Physical Parameters:</b> TDS, TSS, Conductivity, Turbidity	5	Grab Sample	
Groundwater quality parameters	<b>Chemical Parameters (Inorganic):</b> pH, Alkalinity, Total hardness, Calcium hardness, Chloride, Sulphate, Fluoride, Sodium, Potassium, Heavy Metals: As, Cd, Cr, Cu, Pb, Fe, Mn, Zn, Ni, CO <b>Nutrient and Demand Parameters:</b> Total Nitrogen, Nitrate nitrogen, Total Phosphate, DO, BOD, COD <b>Organic Parameters:</b> Total hydrocarbon, oil & Grease <b>Note:</b> BOD & COD should be excluded for groundwater <b>Bacteriological Parameters:</b> Total Coliform & Faecal coliform And As per IS10500 : 2012 (Drinking Water – Specification)	8	once in Base line Period	
<b>D. Soil Quality</b>				
Land use and Soil quality	<b>Physical Parameters:</b> Bulk Density, Texture, Particle Size distribution, water holding capacity and infiltration rate. <b>Chemical Characteristics (from water extract 1:5):</b> pH, conductivity, Calcium, Magnesium, Sodium, Potassium, Chloride, Sulphate. <b>Exchangeable Cations:</b> Calcium, Magnesium, Sodium, Potassium, CEC. Fertility Status: NPK, Organic Matter, Organic Carbon. <b>Heavy Metals in Acid Extract:</b>	8	Once in Base line Period	

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
	As, B, Cd, Cr, Cu, Pb, Ni, Co, Fe, Mn, Zn, and Se.			
<b>E. Biological Environment</b>				
a. Aquatic b. Terrestrial	Biodiversity i.e. Flora and fauna studies within the entire study area depending on Ecological receptors in the study area. Aquatic Ecological Study 3 locations at Rampur Pond and Tesua & Agar River in study area	3	Once in Base line Period	
<b>F. Socio-economic environment</b>				
Socio-economic parameters	Demographic study, Literacy rate, Occupational Health monitoring of employees, Employment pattern, Infrastructure and Awareness and opinion of the respondents	8	Once in Base line Period	

### Observations of the Committee

3.11.12 The Committee noted the following:

- i. The instant proposal is for seeking ToR for undertaking EIA study for Greenfield project for production of Sponge Iron 231,000 TPA; Mild Steel Billets 232,848 TPA; Rolled Steel Products through Hot Charging and through Reheating Furnace 225,863 TPA (171,144 TPA through Hot Charging & 54,719 TPA through Billet Reheating Furnace); Captive Power of 25MW (16MW through WHRB and 9MW through AFBC); Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA from 9 MVA x 2 Nos SAF; and Fly Ash Bricks 36,700 TPA.
- ii. Total land of 30.80 ha is proposed for project out of which 33% area is proposed for green belt development.
- iii. Rampur village is located at 0.5 km and Mudpar village is located at 1.0 km from project site.
- iv. PP has been carried out baseline data for a period of March to May, 2021.

### Recommendations of the Committee

3.11.13 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 for treatment of phenolic wastewater in After Burn Chamber (ABC) of DRI Kilns. Tar shall be sold and burning of the same in DRI Kiln is not permitted.
- ii. A plan for closed type Submerged Arc Furnace (SAF) with 4<sup>th</sup> hole extraction system and jigging and Briquetting plant for Ferro Alloy section shall be provided.
- iii. Action plan for 100 % solid waste utilization shall be submitted.
- iv. Action plan for treatment of phenolic wastewater from producer gas plan shall be

- submitted.
- v. One-month additional baseline data shall be carried out to validate earlier baseline data carried out during March to May, 2021.
  - vi. 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. In addition to this, action plan for extra green belt towards Rampura and Mudpur Villages shall also be provided.
  - vii. 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.
  - viii. 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.
  - ix. 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.
  - x. 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.
  - xi. Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - xii. Action plan for fugitive emission control in the plant premises shall be provided.
  - xiii. Action plan for rain water harvesting shall be submitted.
  - xiv. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
  - xv. Action plan for developing connecting and internal road in terms of MSA as per IRC guidelines shall be submitted.
  - xvi. Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - xvii. The proposed project has agriculture land nearby, Action plan for utmost care to bring out the impacts on the surrounding area and with mitigation measures to protect the soil cover and ecology shall be incorporated in the EIA/ EMP report.

- 3.12 Greenfield project for setting up Submerged Arc Furnace of 9 MVA x 2 Nos to produce Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA by **M/s. Mashiva Metals LLP** located at Plot No.

255, 257(P), OP Jindal Industrial Park, Village Tumidh, Tehsil Gharghoda, **District Raigarh, Chhattisgarh.** [Online Proposal No. IA/CG/IND/261527/2022; File No. IA-J-11011/98/2022-IA-II(IND-I)] – **Prescribing of Terms of Reference – regarding.**

3.12.1 M/s. Mashiva Metals LLP has made an application online vide proposal no. IA/CG/IND/261527/2022 dated 25/03/2022 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 & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

3.12.2 The project of M/s. Mashiva Metals LLP proposed to be located at Plot No. 255, 257(P), OP Jindal Industrial Park, Village Tumidh, Tehsil Gharghoda, District Raigarh, Chhattisgarh for setting up of greenfield project to produce Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA through Submerged Arc Furnace of 9 MVA x 2 Nos.

3.12.3 Environmental site settings:

S. No.	Particulars	Details	Remarks	
I.	Total land	2.83 Ha.	The land is diverted for Industrial purposes.	
II.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The entire 2.83 Ha. land is located at Industrial Area namely “OP Jindal Industrial Park”. PP has reported that the land is allotted through letter of intent to the company for implementation of industry. Lease deed will be executed shortly.	-	
III.	Existence of habitation & involvement of R&R, if any.	<b>Project Site:</b> Nil	-	
		<b>Study Area:</b>		
		<b>Habitation</b>	<b>Distance</b>	<b>Direction</b>
		Tumidh	0.3 km	NNW
IV.	Latitude and Longitude of the project site	<b>Point</b>	<b>Latitude</b>	<b>Longitude</b>
		BP1	22° 3'51.95"N	83°19'44.76"E
		BP2	22° 3'52.55"N	83°19'48.34"E
		BP3	22° 3'43.78"N	83°19'49.96"E
		BP4	22° 3'43.04"N	83°19'47.19"E
V.	Elevation of the project site	292-297 m AMSL	Almost flat terrain	
VI.	Involvement of Forest land if any.	<b>Project Site:</b> Nil  <b>Forest in Study Area are as follows:</b> 1. Urdana RF- 7.2 Kms/S 2. Barkachhar RF- 9.1 Kms/SE 3. Kharidungri RF- 9.7 Kms/SE 4. Taraimal RF- 0.6 Kms/S 5. Rabo RF- 5.6 Kms/SW 6. Samaruma RF- 2.1 Kms/NW 7. Pinjipathra PF – 2.5 Kms/E 8. Pajhar P.F. – 5.1 Kms/ENE	No forest land is involved in the project area.	

S. No.	Particulars	Details	Remarks																																																															
		9. SUHAI R.F- 4.3 Kms/NNW																																																																
VII.	Water body exists within the project site as well as study area	<p><b>Project Area:</b> Nil</p> <p><b>Study area:</b></p> <table border="1"> <thead> <tr> <th>Name of the Water body</th> <th>In Kms</th> <th>Direction</th> </tr> </thead> <tbody> <tr><td>1. Kelo River</td><td>8.1</td><td>E</td></tr> <tr><td>2. Pajhar Nadi</td><td>8.0</td><td>ENE</td></tr> <tr><td>3. Jam Nala</td><td>3.5</td><td>SE</td></tr> <tr><td>4. Dewanmunda Nala</td><td>Adjacent</td><td>S</td></tr> <tr><td>5. Korapali Nala</td><td></td><td></td></tr> <tr><td>6. Barade Nala</td><td>2.8</td><td>SW</td></tr> <tr><td>7. Bodojuri Nala</td><td>5.9</td><td>WSW</td></tr> <tr><td>8. Kesh Nala</td><td>2.6</td><td>SW</td></tr> <tr><td>9. Kurket Nadi</td><td>6.6</td><td>WNW</td></tr> <tr><td>10. Kosam Nala</td><td>6.4</td><td>WNW</td></tr> <tr><td>11. Khalmura Nala</td><td>1.7</td><td>NW</td></tr> <tr><td>12. Bhendra Nala</td><td>9.0</td><td>NNW</td></tr> <tr><td>13. Ranai Nala</td><td>9.3</td><td>NNE</td></tr> <tr><td>14. Chui Nala</td><td>5.5</td><td>NE</td></tr> <tr><td>15. Gardharasi Nala</td><td>7.2</td><td>NE</td></tr> <tr><td>16. Ratrot Nala</td><td>6.0</td><td>NE</td></tr> <tr><td>17. Banjari Nala</td><td>7.5</td><td>E</td></tr> <tr><td>18. Gerwani Nala</td><td>4.5</td><td>E</td></tr> <tr><td>19. Karanara Nala</td><td>4.4</td><td>SE</td></tr> <tr><td></td><td>8.5</td><td>SE</td></tr> </tbody> </table>	Name of the Water body	In Kms	Direction	1. Kelo River	8.1	E	2. Pajhar Nadi	8.0	ENE	3. Jam Nala	3.5	SE	4. Dewanmunda Nala	Adjacent	S	5. Korapali Nala			6. Barade Nala	2.8	SW	7. Bodojuri Nala	5.9	WSW	8. Kesh Nala	2.6	SW	9. Kurket Nadi	6.6	WNW	10. Kosam Nala	6.4	WNW	11. Khalmura Nala	1.7	NW	12. Bhendra Nala	9.0	NNW	13. Ranai Nala	9.3	NNE	14. Chui Nala	5.5	NE	15. Gardharasi Nala	7.2	NE	16. Ratrot Nala	6.0	NE	17. Banjari Nala	7.5	E	18. Gerwani Nala	4.5	E	19. Karanara Nala	4.4	SE		8.5	SE	
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VIII.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	Nil																																																																

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

S. No.	Process plant	Proposed configuration of the plant	Product Name	Capacity (in TPA)
1	Sub-Merged Arc Furnace	Electrically operated Sub-Merged Arc Furnace 9MVA x 2 nos	Silico Manganese	36,000
			And/or	
			Ferro Manganese	46,000
			And/or	
			Ferro Silicon	20,000
And/or				
			Pig Iron	63,000

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

**Option A: For producing 100% Silico Manganese – 36,000 TPA:**

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Manganese Ore	75,600.00	Mines at Orissa and Madhya	Within 500 kms	By Road through covered vehicles

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
			Pradesh and Vidarbha region		
2	High Manganese Ore Slag	14,400.00	Open Market	Within 200 kms	
3	Quartz	2,880.00	Mines in Raigarh	Within 100 kms	
4	Coke/Coal/Charcoal	21,600.00	Open Market	Within 200 kms	
5	Dolomite	1,080.00	Mines in Bilaspur		
6	Electrode Paste	1,080.00	Local Industries	Within 100 kms	
7	M.S. Item.	360.00	Local Industries	Within 100 kms	
8	Lancing Pipe and Canister Sheet	540.00	Local Industries	Within 100 kms	
	<b>Total</b>	<b>1,17,540.00</b>			

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

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Manganese Ore	82,800.00	Mines at Orissa and Madhya Pradesh and Vidarbha region	Within 500 kms	By Road through covered vehicles
2	Coke/Coal/Charcoal	27,600.00	Open Market	Within 200 kms	
3	Dolomite	13,800.00	Mines in Bilaspur	Within 100 kms	
4	Electrode Paste	1,151.41	Local Industries	Within 100 kms	
	<b>Total</b>	<b>1,25,351.41</b>			

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

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Quartz	36,000.00	Mines in Raigarh	Within 100 kms	By Road through covered vehicles
2	Coke/Coal/Charcoal	21,800.00	Open Market	Within 200 kms	
3	Mill Scale/ Iron Ore	8,000.00	Local Industries	Within 100 kms	
4	Electrode Paste	1,000.00	Local Industries	Within 100 kms	
	<b>Total</b>	<b>66,800.00</b>			

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

S. No.	Raw Material	Qty (in TPA)	Source	Distance	Mode of Transportation
1	Iron Ore & Mill Scale	94,500.00	Mines at Chhattisgarh Orissa and nearby factories for mill scale	Within 300 kms	By Road through covered vehicles
2	Coke/Coal/Charcoal	37,800.00	Open Market	Within 200 kms	
3	Dolomite/Lime/Limestone	6,300.00	Mines in Bilaspur	Within 100 kms	
4	Electrode Paste	945.00	Local Industries	Within 100 kms	
5	M.S. Item.	441.00	Local Industries	Within 100 kms	
6	Lancing Pipe	189.00	Local Industries	Within 100 kms	
<b>Total</b>		<b>1,40,175.00</b>			

3.12.6 The water requirement for the project is estimated as 96 m<sup>3</sup>/day (33,600 KLA), which will be sourced from Ground Water for which NOC from CGWA has already been obtained. Further, the management had decided to implement a 7,200 KL Rain water collection Tank which will be able to collect sufficient rain water during rainy days which would continuously be collecting rain water during the rainy days. Which extends to almost 75 days. Thus water requirement will be met through rain water collections from it for 75 days. Therefore, the net requirement from surface source per annum will be about 26400KLA. However, permission from CGWA has been sought for 33600KLA.

3.12.7 The power requirement for the project is estimated as 17 MW, which will be sourced through JSPL.

3.12.8 The capital cost of the project is Rs. 4527 lakhs and the capital cost for environmental protection measures is proposed as Rs. 350 Lakhs and Recurring cost of Rs 15 Lakhs. The employment generation from the proposed project is 150 persons.

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

3.12.10 Name of the EIA consultant: M/s.Anacon Laboratories Pvt. Ltd., Nagpur [S No 67, NABET Certificate no. NABET/EIA/1922/RA0150 and valid upto 30/09/2022; Rev. 21, March 30, 2022].

3.12.11 Proposed Terms of Reference:(**Baseline data collection period: 1<sup>st</sup> October 2020 to 31<sup>st</sup> December 2020**)

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
<b>A. Ambient Air Quality</b>				

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
b. Meteorological parameters	Temperature, Relative Humidity, Rainfall, Wind direction & Wind speed.	1 (Project site)	Daily	
b.AAQ parameters	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , NH <sub>3</sub> , Benzene and Benzo(a)pyrene & Heavy metals: Ni, Pb, As.	8	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , NH <sub>3</sub> - 24 Hrly Ozone, CO- 8 hrly.	
<b>B. Noise Environment</b>				
Noise	Leq (dB A) Day time and Night time with hourly measurement.	6	Hourly for 24 hrs. once in baseline period	
<b>C. Water Quality</b>				
Surface water quality parameters	<b>Physical Parameters:</b> TDS, TSS, Conductivity, Turbidity	8	Grab Sample once in Base line Period	
Groundwater quality parameters	<b>Chemical Parameters (Inorganic):</b> pH, Alkalinity, Total hardness, Calcium hardness, Chloride, Sulphate, Fluoride, Sodium, Potassium Heavy Metals: As, Cd, Cr, Cu, Pb, Fe, Mn, Zn, Ni, CO <b>Nutrient and Demand Parameters:</b> Total Nitrogen, Nitrate nitrogen, Total Phosphate, DO, BOD, COD <b>Organic Parameters:</b> Total hydrocarbon, oil & Grease <b>Note:</b> BOD & COD should be excluded for groundwater <b>Bacteriological Parameters:</b> Total Coliform & Faecal coliform And As per IS10500 : 2012 (Drinking Water – Specification)	6	Grab Sample once in Base line Period	
<b>D. Soil Quality</b>				
Land use and Soil quality	<b>Physical Parameters:</b> Bulk Density, Texture, Particle Size distribution, water holding capacity and infiltration rate. <b>Chemical Characteristics (from water extract 1:5):</b> pH, conductivity, Calcium, Magnesium, Sodium, Potassium,	8	Once in Base line Period	

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
	Chloride, Sulphate. <b>Exchangeable Cations:</b> Calcium, Magnesium, Sodium, Potassium, CEC. Fertility Status: NPK, Organic Matter, Organic Carbon. <b>Heavy Metals in Acid Extract:</b> As, B, Cd, Cr, Cu, Pb, Ni, Co, Fe, Mn, Zn, and Se.			
<b>G. Biological Environment</b>				
a. Aquatic b. Terrestrial	Biodiversity i.e. Flora and fauna studies within the entire study area depending on Ecological receptors in the study area. Aquatic Ecological Study at Korkam nala and Kurket Nadi in study area.	3	Once in Base line study Period	
<b>H. Socio-economic environment</b>				
Socio-economic parameters	Demographic study, Literacy rate, Occupational Health monitoring of employees, Employment pattern, Infrastructure and Awareness and opinion of the respondents	8	Once in Base line study Period	

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

- i. PP submitted NOC from M/s. NR Steel and Ferro Private Limited for using environmental baseline data for preparation for project cited above of M/s. Mashiva Metals LLP carried out during 01/10/2020 to 31/12/2020.

#### Observations of the Committee

3.12.13 The Committee noted the following:

- i. The instant proposal is for seeking ToR for undertaking EIA for setting up of greenfield project to produce Silico Manganese 36,000TPA and/ or Ferro Manganese 46,000 TPA and/ or Ferro Silicon 20,000 TPA and/ or Pig iron 63,000 TPA through Submerged Arc Furnace of 9 MVA x 2 Nos study located at Plot No. 255, 257(P), OP Jindal Industrial Park, Village Tumidh, Tehsil Gharghoda, District Raigarh, Chhattisgarh.
- ii. Total land of 3.84 ha is proposed for project out of which 33% area is proposed for green belt development.
- iii. Tumdihi Village is located at 0.3 km from project site in NNW direction.
- iv. A Reserved Forest is located at 0.2 km in west from project site
- v. PP has requested to EAC for allow him to use environmental baseline data of M/s. NR Steel and Ferro Private Limited (located at 100 m from project cited above in North) for M/s. Mashiva Metals LLP carried out during 01/10/2020 to 31/12/2020.

### **Recommendations of the Committee**

- 3.12.14 In view of the foregoing and after detailed 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. 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. Further, an action plan for extra green belt towards Tumdihi village shall be provided. A plan shall be provided for extra green belt towards reserved forest located at 0.2 km in west from project site.
  - ii. Action plan for gradual phasing out of 96 KLD of ground water shall be submitted.
  - iii. 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.
  - iv. 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.
  - v. 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.
  - vi. 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.
  - vii. SAF shall be proposed of closed type with 4<sup>th</sup> hole extraction system.
  - viii. Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm<sup>3</sup> 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.
- 3.13 Expansion of existing Integrated steel plant to final capacity of Sponge Iron - 2,054,000 TPA, Billets (Mild & Alloy Steel)- 23,73,566 TPA, Rolled Products - 15,60,000 TPA, Captive Power-308 MW, Pellets-30,00,000 TPA, Producer Gas Plant-96,450 Nm<sup>3</sup>/Hr,

Sinter Plant- 5,90,625 TPA, Blast Furnace- 3,93,750 TPA by **M/s. Shyam Metalics and Energy Limited** located at Village - Pandloi, Block-Lapanga, **District Sambalpur, Odisha**. [Online Proposal No. IA/OR/IND/264265/2022; File No. J-11011/495/2006-IA-II(I)] – **Amendment in Terms of Reference – regarding.**

- 3.13.1 M/s. Shyam Metalics and Energy Limited has made an online application vide proposal no. IA/OR/IND/264265/2022 dated 29/03/2022 along with Form 3, revised Form-1 and revised PFR seeking amendment in Terms of Reference accorded by the Ministry vide letter no. J-11011/495/2006-IA-II(I) dated 14/01/2021. 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 appraised at Central level.

**Details submitted by the project proponent**

- 3.13.2 M/s. Shyam Metalics and Energy Limited had proposed expansion of existing Integrated steel plant to final capacity of Sponge Iron - 2,054,000 TPA, Billets (Mild & Alloy Steel)- 23,73,566 TPA, Rolled Products - 15,60,000 TPA, Captive Power-308 MW, Pellets- 30,00,000 TPA, Producer Gas Plant-96,450 Nm<sup>3</sup>/Hr, Sinter Plant- 5,90,625 TPA, Blast Furnace- 3,93,750 TPA located at Village Pandloi, Block Lapanga, District Sambalpur, Odisha. Application for ToR was submitted to MoEF&CC, New Delhi on 14/12/2020. The proposal was considered in 27<sup>th</sup> EAC (Industry- 1 Sector) meeting held on 30-31<sup>st</sup> December, 2020. Accordingly, ToR letter was issued vide letter no. J-11011/495/2006-IA-II(I) dated 14/01/2021. As per ToR, total land requirement for the project is 347.058 ha and there is no involvement of Forest land.
- 3.13.3 The project proponent had earlier applied for Environment Clearance vide proposal no. IA/OR/IND/187952/2020 dated 19/02/2022 along with copy of EIA/EMP report, Form – 2 and certified compliance report. The proposal was considered in the 2<sup>nd</sup> meeting of the EAC (Industry-I) held on 22<sup>nd</sup> – 23<sup>rd</sup> March, 2022. During the presentation, the project proponent informed the EAC that following is the total land requirement for the existing and proposed expansion project:

Details	Private (Ha)	Govt. (Ha)	Forest (Ha)	Total (Ha)
Existing	63.44	64.38	38.393	166.269
Proposed expansion	172.34	0	8.361	180.789
<b>Total</b>	<b>235.78</b>	<b>64.38</b>	<b>46.754</b>	<b>347.058</b>

EAC observed that as per the Form 1&2 application submitted to the Ministry, project proponent has not disclosed the involvement of forest land in the proposed expansion project. In view of the same, the committee recommended to return the proposal in its present form. Further, EAC recommended that project proponent shall first seek amendment in ToR dated 14/01/2021 w.r.t. involvement of forest land in the proposed expansion project.

- 3.13.4 The instant proposal of M/s. Shyam Metalics and Energy Limited is for seeking amendment in the ToR dated 14/01/2021 w.r.t. involvement of forest land in the proposed expansion project as below:

S No	Particular	Description as per Approved ToR	Description after Amendment			
			Particulars	Area	Involvement of Forest Land	Status
1	Project area	<b>Total: 347.058 ha</b> Forest land: Nil Non-forest land: 347.058 ha	<b>Total Area: 347.058 ha</b>			
			Existing	166.269 ha	38.393 ha. Forest clearance has been obtained vide letter no. 5-ORC-064/2008- BHU dated 27/01/2010.	Acquired
			Proposed	180.789 ha	8.361 ha. Stage-I Forest Clearance has been obtained vide letter No. 82/19769/F&E dated 9/01/2020. Stage-II Forest Clearance is in Process.	Land is allotted by IPICOL, acquisition under process
			<b>Total Project Area</b>	<b>347.058 ha</b>	<b>46.754 ha</b>	-

### Observations of the Committee

3.13.5 The Committee noted the following:

- i. Proposal was accorded Terms of Reference on 14/01/2021 for expansion of existing integrated steel plant at Village Pandloi, Block Lapanga, District Sambalpur, Odisha.
- ii. Expansion proposal has total land requirement of 347.058 ha (166.269 ha existing land and 180.789 ha proposed land) and there was not involvement of Forest land in proposed project area of 180.789 ha.
- iii. Now, PP want to amend the land use of the proposed project area. According to amendment application out of total project area of 347.058 ha proposed land of 180.789 ha involves forest land of 8.361 ha for which PP already obtained stage -1 forest clearance on 09/01/2020.

### Recommendations of the Committee

3.13.6 In view of the foregoing and after deliberations, the Committee recommended for amendments in ToR dated 14/01/2021 as mentioned at para 3.13.4 above. All terms and conditions shall remain same as mentioned in ToRs letter J-11011/495/2006-IA-II(I) dated 14/01/2021.

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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 all 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 30<sup>th</sup> May, 2012 on the status of compliance of conditions stipulated in all 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<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, 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).

The following general points shall be noted:

- 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 4<sup>th</sup> 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 (QCI)/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<sub>10</sub> and P<sub>2.5</sub>) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM<sub>10</sub> 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<sub>10</sub> and P<sub>2.5</sub>) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM<sub>10</sub> 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 its 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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4/25/22, 11:11 AM

Email

Email

Sundar Ramanathan

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**Re: Draft MoM after incorporating the EAC member comments**

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**From :** chairman eac ind 1  
<chairman.eac.ind.1@gmail.com>

Mon, Apr 25, 2022 09:51 AM

**Subject :** Re: Draft MoM after incorporating the EAC member comments

**To :** Sundar Ramanathan <r.sundar@nic.in>

**Cc :** sshemant 801 <sshemant\_801@rediffmail.com>, Member Secretary CPCB <mascb.cpcb@nic.in>, Santasabuj Das <director-nioh@gov.in>, NCCBM DIRECTOR GENERAL <dg@ncbindia.com>, JK PANDEY <jkpandey@cimfr.nic.in>, tejaswini acf <tejaswini.acf@gmail.com>, dshome61@gmail.com, jaikrishnapandey@gmail.com, ranjit met <ranjit.met@nitjsr.ac.in>, rangathan metals <ranganathan.metals@gmail.com>, Raghavan S <raghuharihar@gov.in>, raghuharihar@yahoo.co.in, rajuevr60@gmail.com, sksinghdce@gmail.com, sandeepan <sandeepan.bs@gov.in>

Deae Sundar ji,

The final minutes sent by you through email dated 25 April 2022 at 9:24 AM. are approved.

Please do the needful to upload the minutes on Parvesh Portal.

Best Wishes

Rajive Kumar

Chairman EAC (Industry-1)