

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

**Date of zero draft MoM sent to Chairman: 16/10/2021**

**Approval by Chairman: 21/10/2021**

**Uploading on PARIVESH: 21/10/2021**

**Summary record of the Forty Sixth (46<sup>th</sup>) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 11-12<sup>th</sup> October, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.**

The forty sixth meeting of the Expert Appraisal Committee (EAC) for Industry-1 Sector constituted as per the provisions of the EIA Notification, 2006 for Environment Appraisal of Industry-1 Sector Projects was held on 11-12<sup>th</sup> October, 2021 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 EAC attendees is as follows:

<b>S. No.</b>	<b>Name</b>	<b>Position</b>	<b>11/10/2021</b>	<b>12/10/2021</b>
1.	Dr. Chhavi Nath Pandey	Chairman	Present	Present
2.	Dr. Kawaljeet Singh, Director, CPPRI.	Member	Present	Present
3.	<i>Dr. Siddharth Singh,</i>	<i>Member</i>	<i>Absent</i>	<i>Absent</i>
4.	Dr. Jagdish Kishwan	Member	Present	Present
5.	Dr. Tejaswini Ananth Kumar	Member	Present	Present
6.	Dr. G.V. Subramanyam	Member	Present	Present
7.	Shri. Ashok Upadhyaya	Member	Present	Present
8.	Shri. Rajendra Prasad Sharma	Member	Present	Present
9.	<i>Dr. Sanjay Deshmukh</i>	<i>Member</i>	<i>Absent</i>	<i>Absent</i>
10.	Prof. S.K. Singh	Member	Present	Present
11.	<i>Dr. R. Gopichandran</i>	<i>Member</i>	<i>Absent</i>	<i>Absent</i>
12.	Shri Jagannadha Rao Avasarala	Member	Present	Present
13.	Shri. J.S. Kamyotra	Member	Present	Present
<b>Officials from MoEF&amp;CC</b>				
14.	Shri. Sundar Ramanathan	Member Secretary	Present	Present
15.	Dr. Vipin Gupta	Scientist 'B'	Present	Present

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 45<sup>th</sup> meeting held during 28-29<sup>th</sup> September, 2021 were confirmed by the EAC as already uploaded on PARIVESH.

**11<sup>th</sup> October, 2021**

46.1 Proposed Greenfield Cement Plant of capacity 2.0 MTPA Clinker & 3.0 MTPA Cement, 10 MW Waste Heat Recovery Plant and 43 MW Thermal Power Plant by **M/s. Nuvoco Vistas Corporation Limited** located at Ravur Village, Chittapur Taluka, **Kalaburagi District, Karnataka**. [Online Proposal No. IA/KA/IND/118234/2019, File No. J-11011/306/2019-IA.II(I)] – **Environment Clearance– regarding.**

46.1.1 M/s. Nuvoco Vistas Corporation Limited (NVCL) has made an online application vide proposal no. IA/KA/IND/118234/2019 dated 22/09/2021 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(b) Cement Plants, 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**

46.1.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
17 <sup>th</sup> September, 2019	12 <sup>th</sup> meeting of EAC held on 21-23 <sup>rd</sup> October, 2019.	Terms of Reference	11 <sup>th</sup> December, 2019

46.1.3 The project of M/s. NVCL located in Village Ruvur, Taluka Chittapur, District Kalaburgi, Karnataka State is for proposed Greenfield Cement Plant of capacity 2.0 MTPA clinker and 3.0 MTPA Cement, 7 MW Waste Heat Recovery Plant and 43 MW Thermal Power Plant.

**Note:** Earlier the EC for same proposal was granted vide letter no J-11011/822/2007-IA.II(I) dated 30<sup>th</sup> September, 2009 in the name of M/s. Lafarge India Private Limited for setting up of Cement plant for production of 2.0 MTPA Clinker, 3.0 MTPA Cement Plant along with 43 MW CPP. Validity of EC was extended for another 5 years by MoEF&CC on 6<sup>th</sup> February, 2015 up to 29<sup>th</sup> September, 2019. The EC was transferred in the name of M/s. Nuvoco Vistas Corporation Limited on 4<sup>th</sup> September, 2017. As the EC was expired on 29<sup>th</sup> September, 2019, the PP applied for fresh ToR for the same proposal.

46.1.4 Environmental Site Settings:

SNo	Particulars	Details	Remarks		
i.	Total land	150 ha; Private single crop agricultural land which is totally acquired	Land use:		
			SNo	Particulars	Area (ha)
			1	Cement plant & CPPs	20.00
			2	Raw Material Storage areas	10.00
			3	Water Pond	4.00
			4	Railway Siding	13.00
			5	Parking area	6.00
			6	Colony	16.00
			7	Greenbelt	50.00
			8	Roads and	16.00

SNo	Particulars	Details	Remarks																
			Space in between the units																
			9	Future Expansion 15.00															
			<b>Total</b>	<b>150</b>															
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Complete land was acquired by Karnataka Industrial Area Development Board and handed over to M/s. NVCL.	-																
iii.	Existence of habitation & involvement of R&R, if any.	No habitation in the project area, No R&R is involved	-																
iv.	Latitude and Longitude 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>17°3'52.00"N</td> <td>77°0'26.00"E</td> </tr> <tr> <td>B</td> <td>17°3'31.00"N</td> <td>77°1'9.00"E</td> </tr> <tr> <td>C</td> <td>17°3'9.00"N</td> <td>77°0'59.00"E</td> </tr> <tr> <td>D</td> <td>17°3'9.00"N</td> <td>77°0'21.00"E</td> </tr> </tbody> </table>	Point	Latitude	Longitude	A	17°3'52.00"N	77°0'26.00"E	B	17°3'31.00"N	77°1'9.00"E	C	17°3'9.00"N	77°0'59.00"E	D	17°3'9.00"N	77°0'21.00"E	-	
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D	17°3'9.00"N	77°0'21.00"E																	
v.	Elevation of the project site	425 m above MSL	-																
vi.	Involvement of Forest land if any.	No Forest Land Involved	-																
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> <p>1. Kagina River – 6.5 km – WNW</p> <p>2. Bhima River – 8.5 km – WSW</p>	-																
viii.	Existence of ESZ/ ESA/National Park/ Wildlife sanctuary/ biosphere reserve/ tiger reserve/elephant	Nil.	-																

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

S No	Name of Unit	No of unit	Capacity
1	Clinker Unit	1	2.0 MTPA
2	Cement Grinding Unit	1	3.0 MTPA
3	WHRB based power plant	1	10 MW*

S No	Name of Unit	No of unit	Capacity
4	Coal Based Captive Power Plant	1	43 MW

Note: \*Capacity of WHRB revised from 7 MW to 10 MW by optimizing the steam pressure.

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

S No	Item	Quantity MTPA	Source	Approx. distance from plant (km)	Mode of Transport	
1	Limestone	3.00	Captive mines (includes performance enhancer quantity)	0.5	Closed Belt Conveyor	
2	Bauxite/laterite	0.166	Belgaum, Goa & Kolhapur area	340	Trucks	
3	Gypsum	0.150	SPIC, Tuticorin, RCF Ltd., Bombay, EID Pary India Ltd., Chennai & Coramandel Fertilizers Ltd., Vizag.	800	Trucks	
4	Slag	1.65	JSW, Bellary	350	Rail	
5	Coal/ Pet coke	Cement plant	0.360	Coal: Singareni and WCL coal mines or imported coal.	300	Rail
			0.175	Pet coke: Mangalore Refinery & Petrochemicals Ltd, Mangalore.	360	Rail / Road
6	Coal	Power plant	0.2803	Singareni and WCL coal mines (E-Auction)	300	Rail
7	Ash requirement for PPC	0.850	From captive power plant and Raichur Thermal Power Station, NTPC Ramagundam and NTPC Sholapur etc.	80- 300	Bulkers	

46.1.7 The water requirement for the project is estimated as 1635 m<sup>3</sup>/day, Water requirement will be obtained from river Kagina. NVCL has obtained necessary permission from Govt. of Karnataka for withdrawal of 2500 m<sup>3</sup>/day of water from River Kagina vide Lr. NoJS.E.34 AAG 2020 dated 25/03/2021.

46.1.8 The power requirement for the project is estimated as 40 MW, the same will be sourced from proposed 43 MW Captive Coal based Thermal Power Plant & 10 MW Waste Heat Recovery Power Plant.

46.1.9 Baseline Environmental Studies:

Period	Winter Season, December 2019 to February 2020
AAQ parameters at 10 Locations (min and max)	PM <sub>2.5</sub> = 17.6 to 32.6 µg/m <sup>3</sup> PM <sub>10</sub> = 43.8 to 63.9 µg/m <sup>3</sup> SO <sub>2</sub> = 7.1 to 15.5 µg/m <sup>3</sup> NO <sub>2</sub> = 8.2 to 17.6 µg/m <sup>3</sup> CO: less than 1 ppm
AAQ modelling	PM <sub>10</sub> = 11.36 µg/m <sup>3</sup> at 0.1 km

(Incremental GLC)	PM <sub>2.5</sub> = 3.69 µg/m <sup>3</sup> at 0.1 km SO <sub>2</sub> = 5.14 µg/m <sup>3</sup> at 0.1 km NO <sub>x</sub> = 13.71 µg/m <sup>3</sup> at 0.1 km CO = 146 µg/m <sup>3</sup> (8-hourly) at 0.1 km
Ground water quality at 08 locations	pH: 6.90 to 7.56 Total Hardness: 222 to 581 mg/l, Chlorides: 49 to 416 mg/l, Fluoride: 0.47 to 1.32 mg/l. Heavy metals are within the limits.
Surface water quality at 04 Locations	pH: 7.61 to 7.74 DO: 5.3 to 5.8 mg/l BOD: 2 to 3 mg/l. COD from 11 to 17 mg/l
Noise levels (min and max)	52.1 to 59.8 dB (A) for the day time and 42.8 to 54.1 dB (A) for the Night time.
<b>Traffic assessment study Findings</b>	
<ul style="list-style-type: none"> <li>• Traffic study was done on National Highway (NH-150) connecting Sedam–Gulbarga Road near to plant site.</li> <li>• NVCL will provide railway siding for transportation of raw material and finished product.</li> <li>• Taking that 70% transportation is through Rail and Balance 30% quantity by road.</li> <li>• Raw material/Finished product transport by Road - 1.966 MTPA (15 trucks/hr (20 T Capacity)</li> <li>• Present peak traffic is 592 PCU/Hr. The maximum trucks which would add to the existing traffic will be 15 trucks / hour (60 PCU/Hr) in duration of 16 hours due to the proposed plant.</li> <li>• Carrying capacity of the road is reported to be 1500 PCU/Hr</li> <li>• The Level of Service which is at present in B Category (Very Good) will change to C Category (Good) <i>as per IRC-106:1990</i></li> <li>• <b>PARKING FACILITIES:</b> <ul style="list-style-type: none"> <li>• 6.0 ha (area allotted within plant)</li> <li>• 3 ha Area for roads and free movement of trucks</li> <li>• 1.8 ha area for 600 vehicles (@ 30 m<sup>2</sup> /truck)</li> <li>• 0.60 ha for greenbelt around the parking area</li> <li>• 0.60 ha for facilities to truck drivers</li> </ul> </li> </ul>	
Flora and fauna	List of Flora and Fauna has been authenticated from Forest Department, Govt. of Karnataka. <b>Flora:</b> There are no endangered plant species observed or reported in the study area. <b>Fauna:</b> There are no Schedule-I species presented in study area.

46.1.10 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
1	Fly ash	Captive	97,000	Pneumatic Conveying

S No	Type of Waste	Source	Quantity Generated (TPA)	Mode of Treatment /Disposal
		power plant		System - Reused in Cement Plant
2	Spent Oil	Cement plant	800 lit/annum	Authorized Recyclers
3	Grease	Cement plant	400 kg/annum	Authorized Recyclers

46.1.11 Public Consultation:

Details of advertisement given	22 <sup>nd</sup> January, 2021
Date of public consultation	23 <sup>th</sup> February, 2021
Venue	At Project site, Adjacent To NH-150, Opposite to Indira Nagar, Ravur village, Chittapur Tehsil, Kalaburagi District, Karnataka
Presiding Officer	Smt. V.V. Jyothasna, I.A.S Deputy Commissioner, Kalaburagi District
Major issues raised	i. Environment & Crop protection ii. Skill training & Employment to locals iii. Water, Education, irrigation facility, community hall iv. Health problem due to pollution v. Corporate Social Responsibility (CSR) vi. Green Belt Development vii. Reason for the delay in Cement Plant construction & Name of the Cement Plant viii. Compensation to Land

**Action plan as per MoEF&CC O.M. dated 30/9/2020**

**Public hearing demands and need based assessment with Action Plan and Budget**

S No	Activity	Units	2022-23	2023-24	2024-25	Total (₹ in Lacs)	Remarks	
<b>SAKSHAM BHARAT (EMPLOYABILITY)</b>								
<b>Skill Development</b>								
1	Project Daksh - Skill development for 300rural youths as per the employability potential over a period of 3 years Training charges @Rs 10,000/- and Stipend of Rs 5,000 / pm for 3 months (Rs. 25000 per youth)	Numbers	100	100	100		300 youths	
		Village	10 km radius					Villages in 10 km radius
		Budget	25	25	25	<b>75</b>		
<b>Livelihood</b>								
2	Project Aakriti - Self Help Groups for women With Facilities for Handicraft making, Female hygiene products, Paper products, and other suitable micro enterprise activities, with provision of seed capital for each group	Numbers	30 groups	50 groups	20 Groups		100 SHG	
		Village	10 km radius					Villages in 10 km radius
		Budget	30	50	20	<b>100</b>		

S No	Activity	Units	2022-23	2023-24	2024-25	Total (₹ in Lacs)	Remarks
3	Project Samridhi - Project on introducing modern and improved agriculture techniques to reduce cost and increase agricultural productivity along with farm bunding, farm ponds and introducing new irrigation techniques to reduce water consumption in agriculture	Numbers	100 farmers	100 farmers	100 farmers		300 farmers
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar		6 villages
		Budget	150	150	150	<b>450</b>	
<b>SHIKSHIT BHARAT (EDUCATION)</b>							
<b>Promoting Quality Education</b>							
1	Strengthening Government schools by providing Digital Class Rooms - with Digital Boards connected Computer, projectors and Smart boards with preloaded content of state board and CBSE	Numbers	12				12 Digital Class
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar				6 villages
		Budget	36			<b>36</b>	
2	Developing Science and language labs in senior secondary government schools	Numbers		2			2 Schools
		Village		Ravoor & Wadi			2 villages
		Budget		20		<b>20</b>	
<b>Providing Amenities in School</b>							
3	Refurbishment of government schools, construction of toilets, furniture for class room and provision of clean drinking water	Numbers	3	3			6 schools
		Village	Ravoor, Khammarwadi, Khammarwaditanda	Wadi, Indira Nagar, Gandhi Nagar			6 villages
		Budget	15	15		<b>30</b>	
4	Providing sports equipment in schools and installation of playing equipment in school grounds	Numbers	6	-	-		6 schools
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	-	-		6 villages
		Budget	9	-	-	<b>9</b>	
<b>SWASTH BHARAT (HEALTH)</b>							
<b>Strengthening Health Infrastructure</b>							

S No	Activity	Units	2022-23	2023-24	2024-25	Total (₹ in Lacs)	Remarks
1	Renovation of primary health centers (PHC) and strengthening of infrastructure facility including equipment	Numbers	2	-	-		2 PHCs
		Village	Ravoor, Wadi	-		-	2 villages
		Budget	10	--	-	<b>10</b>	
<b>Preventive Health Care</b>							
3	Project Angan - Developing Anganwadis as model Anganwadi centers - Painting and repair work in Anganwadi, providing, playing equipment, utensils, furniture and quality Ante Natal Checkup facility at each Anganwadi	Numbers	30	30	30		90 Anganwad is spread across 3 sectors
		Village	All Anganwadis in a sector of ICDS	All Anganwadis in a sector of ICDS	All Anganwadis in a sector of ICDS		3 sectors of Chitapur block
		Budget	45	45	45	<b>135</b>	
<b>SANRACHIT BHARAT (INFRASTRUCTURE DEVELOPMENT)</b>							
<b>Infrastructure Development in Villages</b>							
1	Construction of concrete road in villages	Numbers	5 kms	5 kms			10 kms
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar			6 villages
		Budget	75	75		<b>150</b>	
2	Construction of community halls	Numbers	2	1			3 halls
		Village	Ravoor	Khammarwadi			3 villages
		Budget	30	15		<b>45</b>	
3	Construction of elevated water tank (5000 liters) and water supply system from elevated water tank	Numbers	2	1			3 water tanks
		Village	Ravoor, Khammarwadi	Ravoor			2 villages
		Budget	10	5		<b>15</b>	
4	Installation of community-based RO water system	Numbers	6		6		12 RO systems
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar		Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar		6 villages
		Budget	30		30	<b>60</b>	
<b>Water Harvesting and Natural Resource Management</b>							

S No	Activity	Units	2022-23	2023-24	2024-25	Total (₹ in Lacs)	Remarks
5	Plantation in villages (Budget includes cost of seedling 6-7 feet, pit digging, fertilizer, 3-year maintenance and tree guards, Rs 650 per plant)	Numbers	3000 saplings	3000 saplings	3000 saplings		9000 saplings
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar		6 villages
		Budget	19.5	19.5	19.5	<b>58.5</b>	
6	Desilting and strengthening of bunds for existing water ponds in the impact villages.	Numbers	2		-		2 ponds
		Village	Ravoor&Khammarwadi				2 villages
		Budget	6			<b>6</b>	
7	Installation of RWHS in 3 government buildings in each village	Numbers	6	6	6		18 buildings
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar		6 villages
		Budget	4.8	4.8	4.8	<b>14.4</b>	
<b>Promoting Renewable Energy</b>							
8	Installation of solar Lights in Villages @ 15000 per light	Numbers	200	200	200		600 solar lights
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar, Gandhi Nagar		6 villages
		Budget	30	30	30	<b>90</b>	
<b>Swachh Bharat</b>							
9	Construction of 50 numbers of toilets in 6 villages @ 0.50 lacs each	Numbers	50				50 toilets
		Village	Ravoor, Khammarwadi, Khammarwaditanda, Wadi, Indira Nagar,				6 villages

S No	Activity	Units	2022-23	2023-24	2024-25	Total (₹ in Lacs)	Remarks
			Gandhi Nagar				
		Budget	25			25	
10	Construction of drains in villages	Numbers	1 <sup>st</sup> Phase	2 <sup>nd</sup> phase	3 <sup>rd</sup> phase		
		Village	Ravoor, Khammarw adi, Khammarw aditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammar wadi, Khammar waditanda, Wadi, Indira Nagar, Gandhi Nagar	Ravoor, Khammar wadi, Khammar waditanda, Wadi, Indira Nagar, Gandhi Nagar		6 villages
		Budget	60	60	60	180	
<b>Total Budget Expenditure in 3 years</b>			<b>610.3</b>	<b>514.3</b>	<b>384.3</b>	<b>1508.9</b>	

46.1.12 The capital cost of the project is Rs.1500 Crores and the capital cost for environmental protection measures is proposed Rs.172.0 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.15.0 Crores. The employment generation from the proposed project is 1200 (200 permanent and 1000contractual– locals will be preferred). The details of cost for environmental protection measures are as follows:

**Budget for Environmental Management Plan**

S No	Particulars	Description	Capital Cost (Rs. Crores)	Recurring Cost per annum (Rs. Crores)
1	Air Pollution  Cement Plant & Thermal Power Plant	<ul style="list-style-type: none"> <li>• Bag house system – 1 No. of raw mill/kiln flue gas</li> <li>• Bag houses – 2 nos (1 no coal mill and 1 no for Cement Mill)</li> <li>• 1 No. of ESP for cooler.</li> <li>• 88 Bag filter systems along with ventilation systems</li> <li>• Low NOx burner with multichannel burner for kiln and for Boiler</li> <li>• 1 No. of ESP for CFBC Boiler</li> <li>• Lime injection system for SO<sub>2</sub> control</li> <li>• Covered Sheds &amp; Silos for raw material storage</li> </ul>	150	12.0
2	Wastewater Management	<ul style="list-style-type: none"> <li>• Installation of STP</li> <li>• Neutralization pit for CPPs (WHRB and TPP)</li> <li>• Central Monitoring Basin</li> </ul>	2.0	0.50
3	Energy Conservation Measures	<ul style="list-style-type: none"> <li>• Solar Lights (20 nos) and LED Lights (12 W -1000 nos)</li> <li>• Variable Frequency Drives, High Tension motors (SPRS System) and Compressors</li> </ul>	3.0	0.20
4	Solid Waste Management	<ul style="list-style-type: none"> <li>• Alternate fuels – Waste processing facility</li> <li>• Pneumatic ash system for TPP</li> </ul>	10.0	0.50

S No	Particulars	Description	Capital Cost (Rs. Crores)	Recurring Cost per annum (Rs. Crores)
		• Colony waste handling system		
5	Greenbelt development	50 Ha Greenbelt Development	2.0	1.0
6	Rainwater Harvesting Structures	• 20 Rainwater Harvesting system • Pipeline for excess storage water at Mines	1.0	0.20
7	Environmental monitoring	<b>Meteorology</b> (Met station)	0.03	0.01
		Ambient Air Quality Monitoring (CAAQMS-3 no's)	1.30	0.07
		Stack Emissions (CEMS- 5 no's)	1.67	0.08
		Performance Monitoring of pollution control equipment	-	2.0
		Waste Water (CEMS for STP and ETP)	0.50	0.02
		Soil Quality	-	0.20
		Surface water quality	-	
		Ground Water Quality	-	
		Noise	-	
		Occupational Health (PPE and Checkups)	0.50	0.20
<b>Total</b>			<b>172.0</b>	<b>15.0</b>
8	Addresses to issues raised during public hearing		<b>15.0</b>	<b>--</b>
	<b>Grant total</b>		<b>187</b>	<b>15.0</b>

46.1.13 Greenbelt will be developed in 50.0 ha which is about 33% of the total project area. A 20-100 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 1,25,000 saplings will be planted and nurtured in 50.0 hectares in 05 years.

46.1.14 Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration is as furnished below:

#### **Litigation Pending Against the Project**

One of the land owners has filed a court case against KIADB in High Court of Karnataka, Kalaburgi Bench vide Case No – 201685 & 201689- 2017 making NVCL as one of the respondents.

**Name of the Petitioner:** Mr. Tulsiram Kishan Rao Kankurti, S/o Kishan Rao Kankurti

**Respondents:** 1. The State of Karnataka 2. KIADB & 4 Others, including M/s. Nuvoco Vistas Corporation Ltd. (Formerly known as M/s. Lafarge India Pvt. Ltd) as Respondent No.6.

**Reason stated in the Writ Petition for filing of the case:** The Petitioner is not satisfied with the compensation awarded by the KIADB for acquisition of his lands bearing survey numbers - 450, 46111, 46112 and 461/3.

**Present Status:** M/s. Nuvoco Vistas Corporation Ltd. has not received any Notice or Communication from the Hon'ble High Court of Karnataka, Kalaburagi Bench.

46.1.15 Name of the EIA consultant: M/s. B. S. Envi Tech Pvt. Ltd, [at S No. 142, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

46.1.16 M/s. Nuvoco Vistas Corp. Limited has earlier made an online application vide proposal no. IA/KA/IND/118234/2019 dated 11/08/2021. The proposal was considered in 43<sup>rd</sup> EAC held on 26-27<sup>th</sup>, August, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee held on 26-27<sup>th</sup> August, 2021**

46.1.17 The Committee observed the following:

- i. All maps and figures have been given in annexure. Difficult to read the documents as the reader has to refer to annexure every now and then. Annexure is a separate document. In view of this, the EIA report needs to be revised.
- ii. PP has not provided the % of sulphur content in raw material (limestone).
- iii. It is observed that PP is producing low pressure steam and hence the waste heat recovery is low for e.g. 34.2 T steam is producing 7 MW and 180 TPH steam is giving 43 MW only. Plant heat rate is 3000 Kcal/kwh, which is very high. It should not be more than 2600 KCal/Kwh.
- iv. Schedule for performance monitoring of Pollution Control Devices has not been included as part of Environment Monitoring Program.
- v. Deputy Manager Environment reports to the unit Head. TOR point 9 has not been complied.
- vi. Budget for Environment Management is given as Rs150 Cr on Capex of Rs 1500 Cr, which is low. Revised budget estimate to be worked out and submitted.
- vii. The physical targets along with the budget allocated furnished in the action plan is not covering all the issues raised during the public hearing. In view of this, revised action plan to address all the issues raised during public hearing shall be submitted as per the MoEF&CC O.M. dated 30/09/2020.
- viii. Per ton of cement energy consumption reported in the EIA report is observed to be higher side. Revised action plan is required to reduce the energy requirement [to achieve power consumption less than 65 units/tonne for Portland Pozzolona Cement (PPC) and 85 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker] with energy efficient process in the line of reducing carbon footprint.

**Recommendations of the Committee held on 26-27<sup>th</sup> August, 2021**

46.1.18 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings enumerated above.

46.1.19 M/s. Nuvoco Vistas Corp. Limited has again made an online application vide proposal no. IA/KA/IND/118234/2019 dated 22/09/2021. The proposal was considered in 46<sup>th</sup> EAC held on 11-12<sup>th</sup>, October, 2021. The observations and recommendations of EAC is given as below:

46.1.20 **Written submissions**

During the course of meeting, the proponent made following written submissions:

- i. Project proponent has submitted the total budget of Environment Management Plan (EMP) of 187 Crores including budget allocated for commitment made during public hearing of 15 crore. The updated table of EMP budget is given at 46.1.12 above.
- ii. PP has been submitted the revised chart for reporting to the Boards of director in case of Non conformity/ Violation of Environmental norms. According to revised chart in case of Non-conformities (NC) observed, Plant Environment Head will be communicated to Country Head (Safety and Sustainability) who in turn reports to the Managing Director. The Managing Director in turn reports to the Board of Directors.
- iii. NVCL will increase the Continuous Ambient Air Quality Monitoring Stations (CAAQMS) from 2 stations to 4 stations. 3 stations will be located in the plant and one station will be located at mines.
- iv. NVCL committed to develop 30 m wide greenbelt towards village Dhangarwadi.

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

46.1.21 The Committee observed the following:

- i. The Committee noted that the revised EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- ii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory
- iii. The EAC noted that the written submissions made by the project proponent during the course of meeting are addressing the concerns of the Committee.

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

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

#### **A. Specific conditions**

- i. The project proponent shall abide by all orders and judicial pronouncements, made from time to time by any court- particularly by the Hon'ble High Court of Karnataka, Kalaburgi Bench in Case No – 201685 & 201689- 2017.
- ii. Limestone shall be transported to the plant from mines by conveyor belt only. No road transportation of limestone is permitted.
- iii. Particulate matter emissions from the existing and revamped production units shall be less than 30 mg/Nm<sup>3</sup>.
- iv. Petcoke dosing shall be controlled automatically to control SO<sub>2</sub> emission from chimney within the prescribed limits.
- v. 50 ha of land shall be developed into green belt with a tree density of 2500 trees per ha in a time frame of three years from date of grant of EC. This shall include 30 m wide green belt development within the project area towards the Dhangarwadi village located at a distance of 600 meter from the project site.

- vi. Air cooled condensers shall be used in the captive power plant.
- vii. Dioxin and furans shall be monitored twice a year during co-processing of hazardous waste and report shall be submitted to the Regional Office of the MoEF&CC.
- viii. Connecting Road from highway to the storage area in the plant shall be constructed/Strengthened to actual MSA (Million Standard Axle) plying on each section of the road per Indian Road Congress (IRC) 37-2018. This shall be done prior to start of construction work of project to ensure that emissions are under control.

## **B. General conditions**

### **I. Statutory compliance:**

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

### **II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.
- iii. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- iv. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;
- v. The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;
- vi. Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.

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

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25<sup>th</sup> August, 2014 (Cement) and subsequent amendment dated 9<sup>th</sup> May, 2016 (Cement) and 10<sup>th</sup> May, 2016 (in case of Co-processing Cement) 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 regularly monitor ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
- v. Water meters shall be provided at the inlet to all unit processes in the cement plant.
- vi. The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.

**IV. Noise monitoring and prevention**

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

**V. Energy Conservation measures**

- i. Waste heat recovery system shall be provided for kiln and cooler.
- ii. The project proponent makes efforts to achieve power consumption less than 65 units/ton for Portland Pozzolona Cement (PPC) and 85 units/ton for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.
- iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
- iv. Provide the project proponent for LED lights in their offices and residential areas.

**VI. Waste management**

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

**VII. Green Belt**

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.

**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.
- 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; PM10, 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.

46.2 Proposed enhancement in production of sponge iron from 90,000 TPA to 2,25,000TPA, MS Billet of 1,76,400 TPA by installation of four number of induction furnace of capacity 15 TPH, one Captive power plant of 30 MW & 1,50,000 TPA TMT Barby **M/s. Ramgarh Sponge Iron Private Limited** located at Village Hosir, P.O. Dari, Tehsil Churchu, **District Hazaribagh, Jharkhand**. [Online Proposal No.IA/JH/IND/193612/2019, File No. IA-11011/309/2019-IA-II(I)] –**Environment Clearance**– regarding

46.2.1 M/s. Ramgarh Sponge Iron Private Limited has made an online application vide proposal no. IA/JH/IND/193612/2019 dated 29/09/2021 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) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

46.2.2 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>
29/09/2019	12 <sup>th</sup> meeting of EAC held on 21- 23 <sup>rd</sup> October, 2019	Terms of Reference	22/11/2019

46.2.3 The project of M/s. Ramgarh Sponge Iron Private Limited located in Hossir Village, Churchu Tehsil, Hazaribagh District, Jharkhand State is for enhancement in production capacity of existing sponge iron plant from 90,000 TPA (3x100 TPD) to 2,25,000 TPA with production from 1x100 TPD DRI & additional installation of 1x 350 TPD DRI Unit. Proposed MS Billet of 1,76,400 TPA by installation of 4 x 15 TPH Induction Furnace, Rolling Mill having capacity 1,50,000 TPA & Captive Power Plant having capacity 30 MW (WHRB - 16MW & AFBC-14 MW).

46.2.4 Environmental Site Settings:

<b>S No</b>	<b>Particulars</b>	<b>Details</b>	<b>Remarks</b>
i.	Total land	8.99 ha (22.2157 Acres) [Private:8.99ha]	Land use: Industrial land

S No	Particulars	Details	Remarks																								
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The proposed expansion will be come within the existing plant area of 8.99 ha. No additional land is required for proposed expansion.	--																								
iii.	Existence of habitation and involvement of R&R, if any.	Not involved R&R.	--																								
iv.	Latitude and Longitude 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>23°42'40.47"N</td> <td>85°24'05.69"E</td> </tr> <tr> <td>B</td> <td>23°42'38.56"N</td> <td>85°24'11.46"E</td> </tr> <tr> <td>C</td> <td>23°42'38.06"N</td> <td>85°24'19.61"E</td> </tr> <tr> <td>D</td> <td>23°42'33.26"N</td> <td>85°24'22.84"E</td> </tr> <tr> <td>E</td> <td>23°42'30.93"N</td> <td>85°24'18.21"E</td> </tr> <tr> <td>F</td> <td>23°42'29.86"N</td> <td>85°24'11.54"E</td> </tr> <tr> <td>G</td> <td>23°42'33.14"N</td> <td>85°24'05.60"E</td> </tr> </tbody> </table>	Point	Latitude	Longitude	A	23°42'40.47"N	85°24'05.69"E	B	23°42'38.56"N	85°24'11.46"E	C	23°42'38.06"N	85°24'19.61"E	D	23°42'33.26"N	85°24'22.84"E	E	23°42'30.93"N	85°24'18.21"E	F	23°42'29.86"N	85°24'11.54"E	G	23°42'33.14"N	85°24'05.60"E	--
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F	23°42'29.86"N	85°24'11.54"E																									
G	23°42'33.14"N	85°24'05.60"E																									
v.	Elevation of the project site	382 m AMSL	--																								
vi.	Involvement of Forest land if any.	Nil	--																								
vii.	Water body exists within the project site as well as study area	<p><b>Project Site:</b> Nil</p> <p><b>Study area:</b>                      Village Pond: 1.7 km/ SE                      Village pond:2.36km/ North                      Damodar River: 5Km, S</p>	--																								
viii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger Reserve / elephant reserve etc. if any within the study area	<p>Nil.</p> <p>However, following forests are present in the study area:                      Husir PF: 1.33km/ ESE                      Bundu PF: 3.86km/ South                      Chano PF: 4.45km/ NE</p>	--																								

46.2.5 The existing project was accorded Consent to Establish (CTE) by Jharkhand State Pollution Control Board (JSPCB) dated 09/04/2005 for 4x100 TPD DRI Kiln and investment of 36.9 Crores. Consent to Operate (CTO) obtained for 3x100 TPD DRI on 06/11/2006. Subsequently, PP applied for CTO to operate 4<sup>th</sup> DRI kiln. JSPCB denied operation of 4<sup>th</sup> DRI Kiln and instructed not to operate the same without obtaining EC. Since then, CTO is being renewed for operation of 3x100 TPD kilns only. CTO renewal is accorded by JSPCB dated 28.10.2020 and valid up to 30/09/2022.

46.2.6 Implementation status of the existing CTE dated 09/04/2005.

S No	Facilities as per CTE	Implementation Status as on date	Production as per CTO dated 28/10/2020
1	Sponge Iron: 90,000 TPA (DRI Kilns: 4 x 100 TPD)	Sponge Iron: 90,000 TPA DRI Kilns: 3x100 TPD	Sponge Iron: 90,000 TPA (DRI Kilns: 3x100 TPD)

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

S No	Name	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configuration	Production TPA	Configuration	Production TPA	Configuration	Production TPA
	DRI	3x100 TPD	90,000	1x100 TPD + 1x350 TPD	1,35,000	4x100TPD +1x350TPD	2,25,000 TPA
	Induction Furnace (Steel Melting)	Nil	Nil	4x15 TPH	1,80,000 TPA (10 heat/day)	4x15 TPH	1,80,000 TPA (10 heat/day)
	Continuous Caster (for Billet making)	Nil	Nil	3x6/11 m Radius	1,76,400 TPA	3x6/11 m Radius	1,76,400 TPA
	Rolling Mill	Nil	Nil	1,50,000 TPA	1,50,000 TPA	1,50,000 TPA	1,50,000 TPA
	Slag Grinding Unit	Nil	Nil	40,000 TPA	40,000 TPA	40,000 TPA	40,000 TPA
	Captive Power Plant	Nil	Nil	WHRB-16MW AFBC-14MW	30 MW	WHRB-16MW AFBC-14MW	30 MW

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

S No	Raw Material	Quantity required per annum			Source	Distance from site (Kms)	Mode of Transportation
		Existing	Expansion	Total			
1	Iron Ore	1,44,000TPA	216000 TPA	360000TPA	Mines of Odisha and Jharkhand	400	by rail rake and by road
2	Non-Coking coal	1,17,000 TPA	175500 TPA	292500TPA	CCL	100	by Rail rake and by Road
3	Dolomite/ Limestone	2700 TPA	4050 TPA	6750TPA	Chhattisgarh	500	by Road
4	Sponge Iron	Nil	1,80,000 TPA	1,80,000 TPA	Captive production	0.5	by Road
5	Scrap	Nil	43,200 TPA	43,200 TPA	Open market	50	by Road
6	Billet	Nil	154500 TPA	154500 TPA	Captive Production	0.5	by Road
7	Char	Nil	58050TPA		Captive Production	0.5	by Road
8	Coal Fines	Nil	38400TPA		CCL mines	100	by Road

46.2.9 **Existing water requirement:** 233 KLD; Drinking – 6 KLD (Tanker water); Plantation: 2 KLD; Process requirement – 225 KLD (RWH ponds 2 nos (40x40x5m) and nearby quarry of CCL during summer for 3 months.

**Proposed water requirement:** The water requirement for the project is estimated as 2488 m<sup>3</sup>/day, out of which 2488 m<sup>3</sup>/day of fresh water requirement will be obtained from the Damodar Valley Corporation. The permission for drawl of surface water of 0.6 MGD is reported to be under process. In this regard, Chief Engineer, Water

resource department, Jharkhand, Ranchi, vide letter no. 894/Hazaribagh dated 29/12/2020 has sent the recommendations to DVC for consideration.

46.2.10 The power requirement for the project is estimated as 30 MW, out of which 1MW will be obtained from the JSEB. (Power will be initially sourced from JSEB for construction / erection and preliminary work. Presently 1 MW load has been sanctioned. Later on power will be sourced through the CPP as it will be commissioned simultaneously with the other units. After the installation the power requirement will met through its captive power plant).

46.2.11 Baseline Environmental Studies:

Period	October – December 2019
AAQ parameters at 8 Locations (min and max)	PM <sub>2.5</sub> = 29.2 to 58.1 µg/m <sup>3</sup> PM <sub>10</sub> = 46.2 to 89.3 µg/m <sup>3</sup> SO <sub>2</sub> = 4.1 to 16.3 µg/m <sup>3</sup> NO <sub>2</sub> = 12.4 to 38.7 µg/m <sup>3</sup> CO=0.21to0.60mg/m <sup>3</sup>
AAQ modelling (Incremental GLC)	PM <sub>10</sub> = 0.44 µg/m <sup>3</sup> at 2.4 km / SE PM <sub>2.5</sub> = 0.0 µg/m <sup>3</sup> at 2.4 km SO <sub>2</sub> = 1.78 µg/m <sup>3</sup> at 3.7 km/ SE NO <sub>x</sub> = 1.0 µg/m <sup>3</sup> at 4.0 km/ SE
Ground water quality at 8 locations.	pH: 6.5 to 7.7, Total Hardness:58 to 428 mg/l, Chlorides: 14 to 58 mg/l, Fluoride: 0.14 to 1.69 mg/l. Heavy metals are within the limits.
Surface water quality at 8 locations.	pH: 7.1 to 7.9, DO: 6.1 to 7.4 mg/l BOD: 1 to 7 mg/l COD: 5 to 48 mg/l
Noise levels at 8 locations (min and max)	40 to 72 dBA for the day time and 30 to 68 dBA for the Night time.
Traffic assessment study findings	Existing traffic load = 218 PCUs/ hr Additional traffic load due to proposed project = 32 PCUs/hr Total Traffic load = 250 PCUs/hr
Flora and fauna	<b>Flora:</b> None endangered plant species found in the study area. <b>Fauna:</b> No Schedule I fauna observed in the study area.

46.2.12 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
	Dolochar	DRI	58050	This expansion project envisages 100% utilization of Dolochar by installing AFBC boilers. The dolochar produced from the existing unit is being sold to the nearby power plants

S No	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment /Disposal
	ESP Dust	DRI	37125	Sale outside agency for process use
	Wet Scrapper sludge	DRI	13500	Sale to brick manufacturers
	Bag filter dust	DRI	20250	Sale outside agency for process use
	Acceration Dust	DRI	2025	Nonmagnetic dust Utilized for Brick manufacturing Magnetic dust utilized in SMS
	IF Bag filter dust	IF	10800	Sale outside agency for process use
	End Cut	IF	3900	Utilized in IF
	Fly ash	AFBC	49400	Sale to Brick manufacturing unit
	Bottom Ash	AFBC	12360	Saleable
	Non-Magnetic slag	IF	16200	Sale to Brick manufacturing unit
	Magnetic Slag	IF	1800	Reused in SMS

46.2.13 Public Consultation:

Details of advertisement given	30.09.2020
Date of public consultation	31.10.2020
Venue	Samudayik Sabha Bhawan, Giddi, Hazaribagh
Presiding Officer	Sri Abhay Kumar Sinha, Deputy Development Commissioner, Hazaribah.
Major issues raised	Local employment Infrastructure development Drinking water facility Health Facility Road construction and Maintenance Pollution Control Electricity supply

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

S No	Proposed social development activities	Monitorable Physical Targets				Total Budget proposed in Lakhs
		Year 1	Year 2	Year 3	Year 4	
1.	Employment generation for local people	Out of the contractual workers (Unskilled and semiskilled) required for construction 80% will be hired from the local villages	Out of the contractual workers (Unskilled and semiskilled) required for construction 80% will be hired from the local villages	During the operational phase 80% of the local people will be employed in the plant (Un skilled)	--	--
2.		Promotion and scholarship for 10 nos for ITI study and give employment in the	Promotion and scholarship for 10 nos for ITI study and give employment in the	Promotion and scholarship for 10 nos for ITI study and give employment in the	Promotion and scholarship for 10 nos for ITI study and give employment in the	8.0

S No	Proposed social development activities	Monitorable Physical Targets				Total Budget proposed in Lakhs
		Year 1	Year 2	Year 3	Year 4	
		plant from 3 <sup>rd</sup> years onwards (Rs. 2,00,000 per annum)	the plant from 3 <sup>rd</sup> years onwards (Rs. 2,00,000 per annum)	plant from 3 <sup>rd</sup> years onwards (Rs. 2,00,000 per annum)	the plant from 3 <sup>rd</sup> years onwards (Rs. 2,00,000 per annum)	
3.	Medical Facility	Quarterly health camp for Dari, Hossir and Napo village for 100 people (Rs.2,00,000)	Quarterly health camp for Dari, Hossir and Napo village for 100 people (Rs.2,00,000)	Quarterly health camp for Dari, Hossir and Napo village for 100 people (Rs.2,00,000)	Quarterly health camp for Dari, Hossir and Napo village for 100 people (Rs.2,00,000)	8.0
4.				Dedicated vehicle to be used for medical emergency for local people (Rs.16,00,000.00)	Maintenance (Rs.3,00,000.00)	19.0
5.	Repair and maintenance of the road	Repair and maintenance of the road connecting Plant site – Kuju – Giddi Road (600m) Rs,20,00,000.00)	Repair and maintenance of the road connecting Hossir village-Plant site – Kuju – Giddi Road (800m) Rs,30,00,000.00)	Regular maintenance of the 1400m road (Rs,10,000,00.00)	Regular maintenance of the 1400m road (Rs,10,000,00.00)	50.0
6.	Plantation	Plantation of 600 nos of saplings along the village road connecting Plant site to Kuju-Giddi Road (600m) @Rs.200/- per saplings with tree guard (Rs. 120000)	Plantation of 800 nos of saplings along the village road connecting Plant site to Kuju-Giddi Road (800m) @Rs.200/- per saplings with tree guard (Rs. 180000)			3.00
7.	Formation of village committee	Village committee will be formed	--			--
8.	Pollution control	Pollution control measures to be installed as per statutory requirement and design criteria	To be monitored by village committee	To be monitored by village committee	To be monitored by village committee	
9.	Reduce in soil fertility	Monitoring of soil quality and Water quality on quarterly basis ( 4 locations) (Rs.1,00,000.00)	Monitoring of soil quality and Water quality on quarterly basis (4 locations) (Rs.1,00,000.00)	Monitoring of soil quality and Water quality on quarterly basis (4 locations) (Rs.1,00,000.00)	Monitoring of soil quality and Water quality on quarterly basis ( 4 locations) (Rs.1,00,000.00)	4.0
10.	Supply of Fertilizers	Fertilizer supply to 20 farmers	Fertilizer supply to 20 farmers	Fertilizer supply to 20 farmers	Fertilizer supply to 20 farmers	16.0

S No	Proposed social development activities	Monitorable Physical Targets				Total Budget proposed in Lakhs
		Year 1	Year 2	Year 3	Year 4	
		@20,000 per farmer per year (Rs.4,00,000.00)				
11.	Drinking water facility	One solar water system with pump and water filtration system and pipe supply in Chano village) Place as decided by village committee) Rs.5,00,000.00)	One solar water system with pump and pipe supply in Hossir village) Place as decided by village committee) Rs.5,00,000.00)	One solar water system with pump and water filtration system and pipe supply in Dari village) Place as decided by village committee) Rs.5,00,000.00)	One solar water system with pump and water filtration system pipe supply in Dari village) Place as decided by village committee) Rs.5,00,000.00)	20.0
12.	Education facility	Support to Hossir and Dari Primary school for developmental activities (RWH, Maintenance of furniture, Toilet water supply etc as per requirement of school) Rs.3,00,000.00	Support to Hossir and Dari Primary school for developmental activities (RWH, Maintenance of furniture, Toilet water supply etc as per requirement of school) Rs.3,00,000.00	Support to Hossir and Dari Primary school for developmental activities (RWH, Maintenance of furniture, Toilet water supply etc as per requirement of school) Rs.3,00,000.00	Support to Hossir and Dari Primary school for developmental activities (RWH, Maintenance of furniture, Toilet water supply etc as per requirement of school) Rs.3,00,000.00	12.0
13.	Electricity Supply			Installation of solar street light in Hossir village (20 nos) Rs. 8,00,000.00	Installation of solar street light in Dari village (20 nos) Rs. 8,00,000.00	16.00
<b>Total</b>						<b>176.00</b>

46.2.14 The capital cost of the project is Rs 346 Crores and the capital cost for environmental protection measures is proposed as Rs 38 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 2.2 Crores. The employment generation from the proposed project / expansion is 530. The details of cost for environmental protection measures is as follows:

S No	Description of Item	Existing (Rs. In Crores)	
		Capital Cost	Recurring Cost
i.	Air/Noise Pollution Control	30	0.6
ii.	Water Pollution Control	3	0.5
iii.	Environmental Monitoring and Management	2	0.2
iv.	Green Belt Development	0.5	0.1
v.	Miscellaneous	2.5	0.8
	<b>Total</b>	<b>38.0</b>	<b>2.2</b>
vi.	Addressed to Public Consultation concerns	1.76	Nil

46.2.15 **Existing Green Belt:** Existing green belt has been developed in 5.6-acre area with 1500 no of saplings. **Proposed green belt:** green belt will be developed in 7.5 acres which is about 34 % of the total project area. A 7.5 m wide green belt, consisting of at least 3 tiers around plant boundary will be developed as green belt 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 7550 saplings will be planted and nurtured in 3.035 hectares in 2 years.

46.2.16 The proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

46.2.17 Name of the EIA consultant: M/s. Kalyani Laboratories Private Limited [S. No.96, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified Compliance report from the Jharkhand State pollution control Board:**

46.2.18 The Status of compliance of earlier CTO was obtained from Regional Office, Jharkhand State Pollution Control Board, Hazaribagh *vide* letter no. 588 dated 07.06.2021 in the name of M/s. Ramgarh Sponge Iron Private Limited. As per the report, PP is complying with the conditions prescribed in the CTO.

**Observations of the Committee**

46.2.19 The Committee noted the following:

- i. On perusal of the KML file, visible emissions are found to be emanating from the stacks. No explanation has been furnished by the PP in this regard.
- ii. BOD levels in the surface water quality samples have been reported as below **BDL**. No explanation is furnished by the proponent/consultant in this regard.
- iii. No information was made available by the proponent and consultant regarding installation date of 4th DRI kiln, CTE obtained for the installation of 4th kiln and reasons for denial of CTO by JSPCB for 4th kiln.
- iv. Existing green belt development is very poor as per the KML file made available and needs improvement.
- v. Action plan to address the public hearing issues is not in conformity to the MoEF&CC O.M. dated 30/09/2020.
- vi. Permission obtained for the water withdrawal of 235 KLD for the existing unit has not been made available.
- vii. TOR point # 9 pertaining to Corporate Environment Policy has not been addressed in EIA Report.

**Recommendations of the Committee**

46.2.20 In view of foregoing and after deliberations, the Committee deferred the consideration of the proposal and sought following additional information from the proponent:

- i. Reasons for the visible emissions which are found to be emanating from the stacks. Details of the existing pollution control systems to control the PM, SO<sub>2</sub> and NO<sub>x</sub> shall be submitted.
- ii. Fresh analysis of surface water samples shall be carried out and report shall be submitted.

- iii. Details regarding installation date of 4th DRI kiln, CTE obtained for the installation of 4th kiln and reasons for denial of CTO by JSPCB for 4th kiln along with the relevant supporting documents shall be submitted.
- iv. Revised green belt development action plan covering 33% of the area with a tree density of 2500 trees per hectare shall be submitted.
- v. Action plan to address the public hearing issues as per MoEF&CC O.M. dated 30/09/2020 shall be submitted.
- vi. Permission obtained for water withdrawal of 235 KLD for the existing unit shall be submitted.
- vii. Compliance to the TOR point # 9 pertaining to Corporate Environment Policy shall be submitted.

46.3 Proposed expansion-cum-modification of existing Integrated Steel Plant for ultimate production of 3.0 MTPA Pellets, 1.11 MTPA Sinter, 0.45 MTPA Coke, 84000 Nm<sup>3</sup>/hour Producer Gas, 2.25 MTPA Sponge Iron, 0.77 MTPA Hot Metal/Pig Iron, 2.88 MTPA Billets, 1.65 MTPA Long Steel Products, 0.25 MTPA DI Pipe, 0.48 MTPA L D Converter, 10000 m<sup>3</sup>/day Oxygen Plant, 1.2 MTPA Cement Grinding Unit, 0.1 MTPA Ferro alloys & 316 MW Captive Power Plant by **M/s. Shyam Sel and Power Limited** located at Village Dhasna, P.S. Jamuria, P.O. Bahadurpur, **District Paschim Burdwan, West Bengal**. [Online Proposal No. IA/WB/IND/6700/2008; File No.: J-11011/887/2007.-IA.II(I)] – **Environment Clearance– regarding.**

46.3.1 M/s. Shyam Sel and Power Limited has made an online application vide proposal no. IA/WB/IND/6700/2008 dated 29/09/2021 along with copy of EIA/EMP report and Form-2 seeking Environmental 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), 1 (d) Thermal Power Plants and 4 (b) Coke Oven Plant under Category “A” of the schedule of the EIA notification, 2006 and appraised at the Central level.

**Details submitted by Project proponent**

46.3.2 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>
20 <sup>th</sup> October, 2020	Standard Terms of Reference was granted	Terms of Reference	11 <sup>th</sup> November, 2020

46.3.3 The project of M/s. Shyam Sel and Power Limited located at Village Dhasna, P.S. Jamuria, P.O. Bahadurpur, District Paschim Burdwan, West Bengal is for proposed expansion-cum-modification of existing Integrated Steel Plant for ultimate production of 3.0 MTPA Pellets, 1.11 MTPA Sinter, 0.45 MTPA Coke, 84000 Nm<sup>3</sup>/hour Producer Gas, 2.25 MTPA Sponge Iron, 0.77 MTPA Hot Metal/Pig Iron, 2.88 MTPA Billets, 1.65 MTPA Long Steel Products, 0.25 MTPA DI Pipe, 0.48 MTPA L D Converter, 10000 m<sup>3</sup>/day Oxygen Plant, 1.2 MTPA Cement Grinding Unit, 0.1 MTPA Ferro alloys & 316 MW Captive Power Plant.

46.3.4 Environmental Site Settings:

S No	Particulars	Details	Remarks
i.	Total land	284.09 ha [Private:284.09 ha]	Land use: Industrial- 284.09ha
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	284.09ha	Total land 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.	Total land under the possession of the company
iv.	Latitude and Longitude of the project site	Latitude 23°40'02.06"N to 23°41'50.13"N Longitude 87°07'00.06"E to 87°07'53.20"E	
v.	Elevation of the project site	341.2feet (104meters)	
vi.	Involvement of Forest land if any.	Nil	
vii.	Water body exists within the project site as well as study area	<b>Project site:</b> 8 numbers Water bodies and 1 number Nallah  <b>Study area:</b> Ajay River-7.0Km in NE direction	-
viii.	Existence of ESZ/ ESA/ national park/ wildlife Sanctuary/ biosphere Reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil	

46.3.5 The existing project was accorded environmental clearance vide Ir. no. F. No. J-11011/887/2007-IA.II(I) dated 26<sup>th</sup> December, 2019 for expansion of Integrated Steel Plant for ultimate production of 1.8 MTPA Pellets, 0.85 MTPA Sinter, 0.3 MTPA Coke, 36000 Nm<sup>3</sup>/hour Producer Gas, 0.89 MTPA Sponge Iron, 0.6 MTPA Hot Metal/Pig Iron, 1.51 MTPA Billets, 1.0 MTPA Long Steel Products, 0.1 MTPA DI Pipe, 1.2 MTPA Cement Grinding Unit, 0.1 MTPA Ferro alloys & 136 MW Captive Power Plant. Consent to Operate for the existing units were accorded by West Bengal Pollution Control Board as given below:

- (i) Consent Letter No. CO110131, Memo No. 1682-WPBA/Red(Bwn)/Cont(609)/10 dated 24.07.2018 valid up to 31.07.2023
- (ii) Consent Letter No. CO128901, Memo No. 133-as-co-s/10/0041 dated 16.12.2019 valid upto 31.07.2023
- (iii) Consent Letter No. CO128924, Memo No. 189-as-co-s/10/0041 dated 17.02.2020 valid upto 31.07.2023

- (iv) Consent Letter No. CO128939, Memo No. 216-WPBA/Red(Bwn)/Cont(609)/10 dated 06.03.2020 valid up to 31.07.2023
- (v) Memo No. 2050/WPBA/Red(Bwn)/Cont(669)/10(Part-IV) dated 05.10.2018
- (vi) Consent Letter No. CO131914, Memo No. 11-WPBA/Red(Bwn)/Cont(669)/10(Part-V) dated 22.01.2021 valid up to 31.07.2023.

46.3.6 Implementation status of the existing EC:

S No	Capacity as per EC			Consent Status		Implementation Status	Remarks
	Facilities envisaged	Capacity	Ultimate Capacity	CTE	CTO		
1	Sinter Plant	0.85 MTPA	0.85 MTPA	0.85 MTPA	-	To be implemented	Capacity Enhancement from 0.85 MTPA to 1.11 MTPA proposed in current proposal
2	Pellet Plant 1	0.6 MTPA	1.8 MTPA (1800000 TPA)	0.6 MTPA	0.6 MTPA	Implemented	Capacity Enhancement from 0.6 MTPA to 0.9 MTPA proposed in current proposal
	Pellet Plant 2	0.6 MTPA		0.6 MTPA	0.6 MTPA	Implemented	Capacity Enhancement from 0.6 MTPA to 0.9 MTPA proposed in current proposal
	Pellet Plant 3	0.6 MTPA		0.6 MTPA	-	To be implemented	Capacity Enhancement from 0.6 MTPA to 1.2 MTPA proposed in current proposal
3	Blast Furnace	0.6 MTPA (1x450 m <sup>3</sup> )	0.6 MTPA (600000 TPA)	0.6 MTPA (1x450 m <sup>3</sup> )	-	To be implemented	Capacity Enhancement from 450 m <sup>3</sup> to 550 m <sup>3</sup> proposed in current proposal
4	Direct Reduced Iron (DRI) Plant	2x100 TPD	0.89 MTPA (890000 TPA)	2x100 TPD	2x100 TPD	Implemented	Capacity Enhancement from 100 TPD to 150 TPD proposed in current proposal
		3x300 TPD		3x300 TPD	3x300 TPD	Implemented	Capacity Enhancement from 300 TPD to 450 TPD proposed in current proposal
		2x90 TPD		2x90 TPD	2x90 TPD	Implemented	Capacity Enhancement from 90 TPD to 150 TPD proposed in current proposal
		4x350 TPD		4x350 TPD	1x350 TPD	1x350 TPD Implemented 2x350 TPD under implementation 1x350 TPD to be implemented	Capacity Enhancement from 350 TPD to 450 TPD Capacity Enhancement from 350 TPD to 700 TPD proposed in current proposal
5	Ferro Alloys Plant	3x9 MVA 2x4.5 MVA	0.1 MTPA	0.1 MTPA	0.1 MTPA	Implemented	
6	Steel Melting Shop (SMS) (Induction)	12x18 T	1.51 MTPA (1.11 MTPA+)	1.51 MTPA	0.71 MTPA	4x18T, 2x15T, 4x5T, 8x8T Implemented	

S No	Capacity as per EC			Consent Status		Implementation Status	Remarks
	Facilities envisaged	Capacity	Ultimate Capacity	CTE	CTO		
	Furnace route)		0.4 MTPA)			4x18T under implementation 4x18T, 1x45T to be implemented	
		2x15 T 4x5 T 8x8 T					
	SMS (Electric Arc Furnace route)	1x45 T (0.4 MTPA)					
7	Rolling Mill 1 - Structural	0.15 MTPA	1 MTPA (1000000 TPA)	0.15 MTPA	0.15 MTPA	Implemented	Capacity Enhancement From 0.15 MTPA to 0.2 MTPA proposed in current proposal
	Rolling Mill 2 - TMT Bars	0.15 MTPA		0.15 MTPA	0.15 MTPA	Implemented	-
	Rolling Mill 3 - Wire Rods	0.2 MTPA		0.2 MTPA	0.2 MTPA	Implemented	Capacity Enhancement from 0.2 MTPA to 0.3 MTPA proposed in current proposal
	Rolling Mill 4 - Long Product	0.3 MTPA		0.3 MTPA	-	To be implemented	Capacity Enhancement from 0.3 MTPA to 0.5 MTPA proposed in current proposal
	Rolling Mill 5 - Long Product	0.2 MTPA		0.2 MTPA	-	Under implementation	-
8	Coke Oven Plant	0.3 MTPA	0.3 MTPA (300000 TPA)	0.3 MTPA	-	To be implemented	Capacity Enhancement from 0.3 MTPA to 0.45 MTPA proposed in current proposal
9	DI Pipe Plant	0.1 MTPA	0.1 MTPA (100000 TPA)	0.1 MTPA	-	To be implemented	Capacity Enhancement from 0.1 MTPA to 0.25 MTPA proposed in current proposal
10	Captive Power Plant	WHRB - 93 MW CFBC - 43 MW	136 MW	136 MW	91 MW	91 MW Implemented 45 MW to be implemented	-
11	Cement Grinding Unit	1.2 MTPA	1.2 MTPA	-	-	To be implemented	-
12	Producer Gas Plant	36,000 Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	36,000 Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	36,000 Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	36,000 Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	Implemented	-

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

S No	Name of Unit	Capacity as per EC		Units under Operation	Units under Implementation / To be Implemented	Proposed Project	Ultimate Capacity
		Capacity	Ultimate Capacity				
1	Sinter Plant	0.85 MTPA	0.85 MTPA	-	0.85 MTPA*	Capacity Enhancement from 0.85 MTPA to 1.11 MTPA	1.11 MTPA*
2	Pellet Plant 1	0.6 MTPA	1.8 MTPA (1800000 TPA)	0.6 MTPA*	-	Capacity Enhancement from 0.6 MTPA to 0.9 MTPA	0.9 MTPA*
	Pellet Plant 2	0.6 MTPA		0.6 MTPA*	-	Capacity Enhancement from 0.6 MTPA to 0.9 MTPA	0.9 MTPA*
	Pellet Plant 3	0.6 MTPA		-	0.6 MTPA*	Capacity Enhancement from 0.6 MTPA to 1.2 MTPA	1.2 MTPA*
3	Blast Furnace	0.6 MTPA (1x450 m <sup>3</sup> )	0.6 MTPA (600000 TPA)	-	0.6 MTPA* (1x450 m <sup>3</sup> )	Capacity Enhancement from 450 m <sup>3</sup> to 550 m <sup>3</sup>	0.77 MTPA* (1x550 m <sup>3</sup> )
4	Direct Reduced Iron (DRI) Plant	2 x 100 TPD	0.89 MTPA (890000 TPA)	2x100 TPD*	-	Capacity Enhancement from 100 TPD to 150 TPD	2x150 TPD*
		3 x 300 TPD		3x300 TPD*	-	Capacity Enhancement from 300 TPD to 450 TPD	3x450 TPD*
		2 x 90 TPD		2x90 TPD*	-	Capacity Enhancement from 90 TPD to 150 TPD	2x150 TPD*
		4 x 350 TPD		1x350 TPD*	3x350 TPD*	Capacity Enhancement from 350 TPD to 450 TPD	3x450 TPD*
		-		-	-	Capacity Enhancement from 350 TPD to 700 TPD	1x700 TPD*
-	-	-	-	-	4x700 TPD (New)	4x700 TPD(New)	
5	Ferro Alloys Plant	3 X 9 MVA 2 x 4.5 MVA	0.1 MTPA	0.1 MTPA	-	-	0.1 MTPA (3 X 9 MVA 2 x 4.5 MVA)
6	Steel Melting Shop (SMS) (Induction Furnace route)	12x18 T	1.51 MTPA (1.11 MTPA + 0.4 MTPA)	4x18 T	8x18 T	2 x 8 T (New) 20 x 20 T (New)	12x18 T
		2x15 T		2x15 T	-		2x15 T
		4x5 T		4x5 T	-		4x5 T 2 x 8 T (New)
		8x8T		8x8T	-		20 x 20 T (New) 8 x 8T
	SMS (Electric Arc Furnace route)	1 x 45 T (0.4 MTPA)	-	-	1 x 45 T (0.4 MTPA)	-	1 x 45 T (0.4 MTPA)
7	Rolling Mill 1 -	0.15 MTPA	1 MTPA (1000000 TPA)	0.15 MTPA*	-	Capacity Enhancement From 0.15 MTPA to 0.2 MTPA	0.2 MTPA*

S No	Name of Unit	Capacity as per EC		Units under Operation	Units under Implementation / To be Implemented	Proposed Project	Ultimate Capacity
		Capacity	Ultimate Capacity				
	Structurals						
	Rolling Mill 2 - TMT Bars	0.15 MTPA		0.15MTPA	-	-	0.15 MTPA
	Rolling Mill 3 - Wire Rods	0.2 MTPA		0.2MTPA*	-	Capacity Enhancement from 0.2 MTPA to 0.3 MTPA	0.3 MTPA*
	Rolling Mill 4 - Long Product	0.3 MTPA		-	0.3 MTPA*	Capacity Enhancement from 0.3 MTPA to 0.5 MTPA	0.5 MTPA*
	Rolling Mill 5 - Long Product	0.2 MTPA		-	0.2 MTPA	-	0.2 MTPA
	Cold Rolling Mill 6 - Long Product	-		-		0.3 MTPA - New	0.3 MTPA - New
8	Coke Oven Plant	0.3 MTPA	0.3 MTPA (300000 TPA)	-	0.3 MTPA*	Capacity Enhancement from 0.3 MTPA to 0.45 MTPA	0.45 MTPA* (450000 TPA)
9	DI Pipe Plant	0.1 MTPA	0.1 MTPA (100000 TPA)	-	0.1 MTPA*	Capacity Enhancement from 0.1 MTPA to 0.25 MTPA	0.25 MTPA* (250000 TPA)
10	Captive Power Plant	WHRB - 93 MW CFBC - 43 MW	136 MW	WHRB - 48 MW CFBC - 43 MW	WHRB - 45 MW	WHRB - 86 MW (New) CFBC - 94 MW (New)	WHRB - 179 MW CFBC - 137 MW  Total : 316 MW
11	Cement Grinding Unit	1.2 MTPA	1.2 MTPA	-	1.2 MTPA	-	1.2 MTPA
12	Producer Gas Plant	36,000Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	36,000Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	36,000Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr)	-	48,000Nm <sup>3</sup> /Hr (12 Nos. x 4000 Nm <sup>3</sup> /Hr) - New	84,000Nm <sup>3</sup> /Hr (12 Nos. x 3000 Nm <sup>3</sup> /Hr) + 12 Nos. x 4000 Nm <sup>3</sup> /Hr)
13	L D Converter Plant	-	-	-	-	0.48 MTPA 60 Ton/ Heat - New	0.48 MTPA 60 Ton/ Heat - New
14	Oxygen Plant	-	-	-	-	10000 M <sup>3</sup> / Day - New	10000 M <sup>3</sup> / Day - New

S No	Name of Unit	Capacity as per EC		Units under Operation	Units under Implementation / To be Implemented	Proposed Project	Ultimate Capacity
		Capacity	Ultimate Capacity				
Note: * Denotes Capacity enhancement of units under operation / units under implementation / units to be implemented for which EC has already been granted.							

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

S No	Raw Material	Annual Requirement (in TPA)			Source	Distance (in km)	Transportation		
		Under Operation	Expansion + Under implementation / to be implemented	Total			Internal	Rail	Road
<b>COKE OVEN PLANT</b>									
1	Coking Coal		600000	600000	Imported-Haldia Port	290-300	-	540000	60000
<b>SINTER PLANT</b>									
1	Iron ore fines		998000	998000	Barbil-Joda, Orissa	300-350	-	898200	99800
2	Limestone		88700	88700	Birmitrapur, Orissa Bilaspur Raipur CG Katni MP	300 700 800 900	-	-	88700
3	Quicklime		55440	55440	Katni, MP	900	-	-	55440
4	Dolomite		44350	44350	Raipur CG Katni MP	800 900	-	-	44350
5	Coke Breeze		66530	66530	In House-Conveyor, Local Market	200	21500	-	45030
<b>BLAST FURNACE</b>									
1	Iron ore Lumps		123200	123200	Barbil-Joda, Orissa	350	-	110880	12320
2	Coke		494000	494000	In House - Conveyor, Local Market	200	428500	58950	6550
3	PCI Coal		154000	154000	Imported-Haldia Port	290-300	-	138600	15400
4	Limestone		15400	15400	Birmitrapur, Orissa Bilaspur Raipur CG Katni MP	300 700 800 900	-	-	15400
5	Dolomite		7700	7700	Raipur CG Katni MP	800 900	-	6930	770
6	Quartzite		7700	7700	Belpahar, Orissa Bilaspur, Raipur CG	350 700	-	-	7700
7	Sinter		1108800	1108800	In-house	-	1108800	-	
<b>SPONGE IRON PLANT</b>									
1	Iron Ore	89890	285110	375000	Barbil-Joda, Orissa	350	-	337500	37,500
2	Coal	591690	1876710	2468400	Imported-Haldia Port	290-300	-	2221560	246840
3	Dolomite	322716	1023584	1346300	Raipur CG Katni MP	800 900	-	1211670	134630
4	Pellet	719118	2280882	3000000	In-house - Conveyor	-	3000000	-	
<b>PELLET PLANT</b>									
1	Iron ore Fines	1440000	2160000	3600000	Barbil-Joda, Orissa	350	-	3240000	360000

S No	Raw Material	Annual Requirement (in TPA)			Source	Distance (in km)	Transportation		
		Under Operation	Expansion + Under implementation / to be implemented	Total			Internal	Rail	Road
2	Limestone	12000	18000	30000	Birmitrapur, Orissa Bilaspur Raipur CG Katni MP	300 700 800 900	-	27000	3000
3	Bentonite	102000	153000	255000	Gujarat	2200	-	-	255000
4	Coal	48000	72000	120000	Imported-Haldia Port	290-300	-	108000	12000
<b>PRODUCER GAS PLANT</b>									
1	Coal	158400	211200	369600	Imported-Haldia Port	290-300	-	332640	36960
<b>DUCTILE IRON PIPE</b>									
1	Pig Iron		225000	225000	In-house	-	225000	-	-
2	Zinc		1750	1750	Local Market	200	-	-	1750
3	Scrap		25000	25000	In-house	-	25000	-	-
<b>SMS (EAF ROUTE)</b>									
1	Sponge		400000	400000	Local Market	100	-	-	400000
2	Scrap		19370	19370	In-house	-	19370	-	-
3	Ferro		750	750	In-house	-	750	-	-
4	Lime		39204	39204	Katni, MP	900	-	-	39204
5	DRI		66825	66825	In-house	-	66825	-	-
<b>SMS (IF ROUTE)</b>									
1	Pig Iron	109885	330835	440720	In-house Conveyor Local Market	200	69800	-	370920
2	Scrap	30952	93188	124140	In-house	-	124140	-	-
3	Ferro	1238	3727	4965	In-house	-	4965	-	-
4	DRI	619036	1863764	2482800	In-house - Conveyor Local Market	100	2249600	-	233200
<b>L D CONVERTOR</b>									
1	Pig iron		475200	475200	In-house	-	475200	-	-
2	Scrap		124140	124140	In-house	-	124140	-	-
3	Ferro Alloys		5760	5760	In-house	-	5760	-	-
<b>ROLLING MILL</b>									
1	Billet	525000	1207500	1732500	In-house	-	1732500	-	-
<b>CEMENT GRINDING UNIT</b>									
1	Clinker		708000	708000	Satna, MP	900	-	637200	70800
2	Gypsum		60000	60000	Katni, MP	900	-	-	60000
3	Slag from BF		163800	163800	In-house	-	163800	-	-
4	Fly Ash from CPP		288000	288000	In-house	-	288000	-	-
<b>FERRO ALLOYS</b>									
1	Ore	226300		226300	Imported-Haldia Port Odisha, Barbil	290-300 200	-	203670	22630
2	Coke & Coal	70300		70300	Jharkhand Assam	200 1100	-	63270	7030

S No	Raw Material	Annual Requirement (in TPA)			Source	Distance (in km)	Transportation		
		Under Operation	Expansion + Under implementation / to be implemented	Total			Internal	Rail	Road
3	Quartzite	32750		32750	Belpahar, Orissa Bilaspur, Raipur CG	350 700	-	-	32750
4	Dolomite	30000		30000	Raipur CG Katni MP	800 900	-	27000	3000
CAPTIVE POWER PLANT									
1	Coal	211296	461904	673200	Imported-Haldia Port Local market	290- 300 100	-	605880	67320
2	Dolochar	211296	461904	673200	In-House		673200	-	
TOTAL		5921924	18499870	24421794			10806850	10768950	2845994
Percentage (%)							44%	44%	12%

46.3.9 **Existing Water requirement:** Existing water requirement was 5573 m<sup>3</sup>/day and sourced from Ajay River. **Total water requirement after expansion:** The water requirement for the project is estimated as 16706 m<sup>3</sup>/day (overall project after expansion), out of which 11,365 m<sup>3</sup>/day of fresh water requirement will be obtained from Irrigation & Waterways Department, West Bengal and 7000 m<sup>3</sup>/day will be obtained from Asansol Municipal Corporation. The permission for drawl of water is obtained from Irrigation & Waterways Department, West Bengal for 2.5 MGD of water from river bed of Ajay vide Memo No. 63-I/I-4M-26/2006 dated 11.09.2008 and from Asansol Municipal Corporation Municipal Corporation vide Ref.No.0853/B-1/J/A.M.C dated 29.06.2021.

46.3.10 Existing power requirement was 141 MW. Total after expansion the power requirement is estimated as 472 MW, out of which 316 MW shall be obtained from CPP and balance 156 MW from Damodar Valley Corporation (DVC) & India Power Corporation Limited (IPCL).

46.3.11 Baseline Environmental Studies:

Period	1 <sup>st</sup> October, 2020 – 31 <sup>st</sup> December, 2020
AAQ parameters at 8 locations (min and max)	PM <sub>2.5</sub> = 21 - 45 µg/m <sup>3</sup> PM <sub>10</sub> = 56 - 89 µg/m <sup>3</sup> SO <sub>2</sub> = 5 - 22 µg/m <sup>3</sup> NO <sub>2</sub> = 9 - 38 µg/m <sup>3</sup> CO = 0.163 - 1.346 mg/m <sup>3</sup>
AAQ modelling (Incremental GLC)	PM = 5.15 µg/ m <sup>3</sup> (1.0 km in SE) SO <sub>2</sub> = 7.69 µg/ m <sup>3</sup> (1.8 km in SSE) NO <sub>x</sub> = 7.63 µg/ m <sup>3</sup> (1.8 km in SSE)
Ground water quality at 8 locations	pH: 7.07 - 7.62, Total Hardness: 155 - 280 mg/l, Chlorides: 42 - 115 mg/l, Fluoride: 0.21 - 0.33 mg/l, Iron: 0.12 - 0.25 mg/l, TDS: 220 - 462 mg/l

<p>Surface water quality at 10 locations (2 River water &amp; 8 pond water samples)</p>	<p>River Water pH: 7.36 - 7.43, DO: 7.3 - 7.7 mg/l, BOD: 2 mg/l, COD: 4 mg/l, Fe: 0.06 - 0.07 mg/l, Coliform: 779 - 995 MPN/100ml, TDS: 118 - 131 mg/l, Total Hardness: 76 - 86 mg/l, Chloride: 23 - 26 mg/l</p> <p>Pond Water pH: 7.21 - 7.56, DO: 6.4 - 7.1 mg/l, BOD: 2 - 5 mg/l, COD: 8 - 24 mg/l, Fe: 0.08 - 0.21 mg/l, Coliform: 447 - 986 MPN/100ml, TDS: 219 - 372 mg/l, Total Hardness: 120 - 155 mg/l, Chloride: 42 - 86 mg/l</p>
<p>Noise levels (min and max)</p>	<p>54.5 to 70.6 dBA for day time and 46.0 to 58.4 dBA for night time</p>
<p>Traffic assessment study findings</p>	<p>Existing Load: 28844 PCU/day at NH-2 near Ranisayar More 10511 PCU/day at Jamuria Cinema More 11385 PCU/day at Chakdola More Bus stand</p> <p>Total Load after Expansion: 30278 PCU/day at NH-2 near Ranisayar More 11945 PCU/day at Jamuria Cinema More 12819 PCU/day at Chakdola More Bus stand</p> <p>As per IRC:106 – 1990 code, Guidelines for Capacity of Urban Roads in Plain Areas, PCU capacity per day is 86,400 for NH-2 near Ranisayar More, 36,000 for Jamuria Road at Jamuria Cinema More and 86,400 for NH-60 at Chakdola More Bus stand. The total traffic load during operation of the proposed expansion shall be well within the traffic capacity.</p>
<p>Flora and fauna</p>	<p>There are no endangered flora and Schedule I species in the study area.</p>

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

S No	Type	Quantity in Tons/Year			Utilization
		Existing Units	Proposed Units + Units to be implemented / under implementation	Total	
1	Dolochar from DRI Kilns	1,61,370	5,11,830	6,73,200	100% to be used in FBC boiler of CPP.
2	Slag from MBF	-	2,31,000	2,31,000	100% to be used in captive Cement Grinding Unit
3	Slag from Induction Furnaces, LD Converter & EAF	63,097	3,60,763	4,23,860	<p>The slag generated from the furnaces shall be 4,23,860 TPA considering 100% production in all furnaces. After metal recovery about 10% metal shall be recovered from the total slag and the balance 3,81,474 TPA (as stone chips / road construction materials) shall be used for road construction &amp; repairing / land filling purposes.</p> <p>Considering 7 m width &amp; depth 24 inch (0.6 m) of the road and density of the slag as 3.5 ton/cum, 14700 T slag may be consumed for 1.0 km stretch. Therefore, the entire quantity of slag generated in a year (4,23,860 TPA) can be utilized for the construction of around 26 km roads among which around 6 km are internal roads i.e. within the plant site. Development of additional land for the proposed project will also consume around 2,25,225 Tons which is around 60% of the total annual generation of the slag.</p> <p>As per an estimate, it was found that around 600 km undeveloped (Kuchha) road is existing in the surrounding villages in the 10 km radius area. Hence, there is lot of potential of slag utilisation during construction of these roads.</p>
4	Tar Sludge from Producer gas plant	21,000	7,000	28,000	Sold to WBPCB authorized vendor.
5	Coal Ash from PGP	82,875	27,625	1,10,500	To be used for Making construction Materials
6	Dust from ESP and Bag Filters of Sinter Plant		65,000	65,000	To be reused in process
7	Dust from ESP and Bag Filters of Pellet Plant	93,800	1,40,700	2,34,500	To be reused in process
8	Dust from GCP and Bag		77,200	77,200	100% to be reused in Sinter Plant

S No	Type	Quantity in Tons/Year			Utilization
		Existing Units	Proposed Units + Units to be implemented / under implementation	Total	
	Filters of Blast Furnace				
9	Dust from ESP and Bag Filters of DRI Plant	42,787.5	1,35,712.5	1,78,500	100% to be reused in Sinter Plant
10	Dust from Bag Filters of Induction Furnaces	26,323	1,08,177	1,34,500	To be reused in process
11	Mill scales from rolling mill and casting machines	10,000	23,000	33,000	To be reused in Induction Furnaces
12	Slag from Ferro Alloy Plant	80,000	-	80,000	<p>The maximum slag generation is 80,000 TPA considering 100% production. After metal recovery about 10% metal is recovered from the total slag and the balance 72,000 TPA (as stone chips / road construction materials) is being used for road construction &amp; repairing / land filling purposes.</p> <p>Considering 7 m width &amp; depth 24 inch (0.6 m) of the road and density of the slag as 2.5 ton/cum, 10,500 T slag is consumed for 1.0 km stretch. Therefore, the entire quantity of slag generated in a year (80,000 TPA) is being utilized for the construction of around 7 km roads. Besides, significant amount of slag is also used for landfilling purposes both inside &amp; outside the project site.</p>
13	Fly Ash from CPP	1,49,452	3,69,523	5,18,975	<p>Fly ash to be utilised for cement making / brick making.</p> <p>Bottom ash to be utilised for brick making / landfilling purposes.</p> <p>The company has proposed a cement grinding unit of 1.2 MTPA capacity with the current proposal.</p>
14	Bottom Ash from CPP	37,363	92,381	1,29,744	<p>Besides, the company is already operating a brick manufacturing plant within its existing plant premises with a capacity of 50,000 bricks per day.</p> <p>3,34,873 TPA fly ash shall be utilised in the proposed Cement Grinding unit.</p> <p>The balance 34,650 TPA fly ash shall be utilised in brick making.</p>

S No	Type	Quantity in Tons/Year			Utilization
		Existing Units	Proposed Units + Units to be implemented / under implementation	Total	
					<p>All the necessary calculations for both fly and bottom ash in brick making are presented below:                      Weight of each brick - 3.5 kg                      Weight of 50,000 bricks = 1,75,000 kg                      Weight of bricks manufactured in a year = 57750 TPA                      Composition of the bricks : Fly ash - 60%, Bottom Ash - 34% and Cement - 6%                      For manufacturing 57,750 TPA of bricks, 34,650 TPA fly ash and 19,635 TPA bottom ash is required.                      Hence, balance 72,746 TPA bottom ash shall be used for land filling purposes both inside and outside the plant premises.                      Alternatively, this balance bottom ash may also be disposed through filling of the abandoned mines of ECL the permission for which is already available.</p>

46.3.13 Public Consultation:

Details of advertisement given	Advertisement in the Newspapers Sanmarg (Hindi), Bartaman (Bengali) and The Times of India (English) were published on 06/02/2021, 05/03/2021 and 05/03/2021 respectively.
Date of public consultation	9 <sup>th</sup> March, 2021
Venue	Jamuria Town Hall, Jamuria, Dist. – Paschim Bardhaman, West Bengal
Presiding Officer	Sri. Apratim Ghosh, Additional District Magistrate, Paschim Bardhaman
Major issues raised	<ol style="list-style-type: none"> <li>1. Greenbelt development</li> <li>2. Source of water for the proposed expansion project</li> <li>3. Employment of local people</li> <li>4. Regarding Plastic Waste and its recycling</li> <li>5. Providing financial aid &amp; employment for local widows</li> <li>6. Regarding Medical Camp for Eye Care</li> <li>7. Regarding water spreading on road</li> <li>8. Regarding setting up of Cultural &amp; sports centre</li> <li>9. Improvement of local school</li> </ol>

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

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Greenbelt development in the area	There is proposal for development of parks, plantation of trees (greenbelt development) in the nearby areas.	Physical Target	Development of 1 park Plantation of 3000 nos. of trees	Development of 1 park Plantation of 3000 nos. of trees	Development of 1 park Plantation of 1000 nos. of trees
		Budget: Rs. 111 Lakhs	43 Lakhs	43 Lakhs	25 Lakhs
Source of water for the proposed expansion project	Requirement of the total 16,706 KLD water (Existing : 9605 KLD and Expansion : 7101 KLD) will be sourced from Ajay river and Asansol Municipal Corporation.	Physical Target	-	-	-
		Budget	-	-	-
Employment of local people	In the proposed project, top most priority will be given to the local people based on their academic qualification. Skill development for unemployed local youths through National Skill Development Corporation, Govt. of India Scheme. Construction of a building along with the necessary infrastructures for this purpose like different machineries for industries.	Physical Target	Construction of 6 - room training building and installation of 20 sewing machines, 10 computer systems & 10 machines for making hand craft items along with necessary raw materials, developing 5 workshops for practical training, providing equipment, machinery and raw materials based on the need of the local people		
		Budget: Rs. 114 Lakhs	34 Lakhs	45 Lakhs	35 Lakhs

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Regarding Plastic Waste and its recycling	The plant premises shall be declared as a plastic free zone. Plastic waste generation shall be minimized and the waste generated shall be disposed at a designated site from where it shall be collected at regular intervals and disposed through registered vendors.	Physical Target	The physical Target for the entire activities shall be achieved in 3years.		
		Budget	Included in the EMP Cost.		
<ul style="list-style-type: none"> <li>• Providing financial aid &amp; employment for local widows</li> <li>• Regarding present poor condition of the local women</li> </ul>	Women of Mamudpur village along with their existing self-help group shall be involved in various activities like jute handcraft, sewing, jam jelly and sauce making project etc.	Physical Target	Workshop centre with latest tailoring machines for training of women especially widows in activities like jute handcraft, sewing, jam jelly and sauce making project etc., financial assistance to the local self-help groups already operational in the area, working for the upliftment of women.		
		Budget: Rs. 78 Lakhs	35 Lakhs	25 Lakhs	18 Lakhs
Regarding Medical Camp for Eye Care	Medical camp for eye checkup for local people suffering from eye ailment shall be organized. Arrangements shall be made for cataract operation in Shankar Netralaya, Kolkata, at free of cost.	Physical Target	It will be done on regular basis.		
		Budget	As per requirement		

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Regarding pollution control by installing proper pollution control equipment	Adequate control measures like installation of ESP, Bag filters, dust suppression system, fume extraction system, sprinklers & stacks of adequate height at relevant places will be installed. <ul style="list-style-type: none"> <li>• Air borne dust shall be controlled by mobile water tanker inside the plant premises.</li> <li>• Maintenance of air pollution control equipment shall be done at regular intervals.</li> <li>• All roads shall be paved on which movement of raw materials or products will take place inside the plant premises.</li> <li>• No waste water will be discharged outside the</li> </ul>	Physical Target	The physical target for the entire activities shall be achieved in 3years.		
		Budget	Included in the EMP Cost.		

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
	<p>plant area. The plant is designed as a zero discharge plant. The entire wastewater will be recirculated and recycled.</p> <ul style="list-style-type: none"> <li>The equipment shall comply with the Statutory limit of 85 dB(A) (at 1 m. from the source). Noise Reduction Systems will be provided.</li> </ul>				
Regarding water spreading on road	Procurement of Mobile tankers for water sprinkling on Jamuria-Haripur Road.	Physical Target	Procurement of 1 tanker	Procurement of 1 tanker	-
		Budget: Rs. 30 Lakhs	Rs. 15 Lakhs	Rs. 15 Lakhs	-
Regarding setting up of Cultural & Sports centre	Development of cultural & Sports centre at Chandipur for carrying out various events / activities will be started after visiting Chandipur village	Physical Target	Development of cultural & Sports centre at Chandipur for carrying out various events / activities		
		Budget: Rs. 68 Lakhs	Rs. 30 Lakhs	Rs. 25 Lakhs	Rs. 13 Lakhs

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Regarding improvement of the local Adibashi school	Development of building infrastructure, playground, class rooms, library facilities and providing computers in the Local Adibashi School.	Physical Target	Renovation & repairing of school building and constructing 4 extra classrooms in the school	Supplying desks, benches, chairs, blackboards, Development of playground in the school and providing sports goods to the students	Development of library and providing books, Providing 10 nos. of computers to the school
		Budget: Rs. 40 Lakhs	Rs. 15 Lakhs	Rs. 15 Lakhs	Rs. 10 Lakhs
<b>Total Budget - Public Hearing related: Rs. 441 Lakhs</b>					

Need based Activities	Particulars	Year of Implementation		
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Construction of W/C/Toilet (2) each - 10 numbers (@ Rs. 3.00 Lakhs per set of 2 Toilets).	Physical Target:	Construction of 4 nos. Toilets	Construction of 3 nos. Toilets	Construction of 3 nos. Toilets
	Budget: Rs. 30 Lakhs	Rs. 12 Lakhs	Rs. 9 Lakhs	Rs. 9 Lakhs
Construction & Repairing of roads in the surrounding areas	Physical Target:	Construction of 2 km and repairing of existing roads	Construction of 2 km and repairing of existing roads	Construction of 1 km and repairing of existing roads
	Budget: Rs. 50 Lakhs	Rs. 20 Lakhs	Rs. 20 Lakhs	Rs. 10 Lakhs
Street Lighting (Solar) provision at suitable public places in and around the nearby villages (150 numbers, @ Rs. 20,000/- per Solar Light)	Physical Target:	Providing 50 nos. Solar light	Providing 50 nos. Solar light	Providing 50 nos. Solar light
	Budget: Rs. 30 Lakhs	Rs. 10 Lakhs	Rs. 10 Lakhs	Rs. 10 Lakhs
Creation of irrigation and other agricultural infrastructures in the peripheral villages	Physical Target:	Development of pipelines to carry the irrigation water from Ajay / Damodar river to the fields		Supplying crop harvesting machines and pest control machines
	Budget: Rs. 107 Lakhs	Rs. 47 Lakhs	Rs. 45 Lakhs	Rs. 15 Lakhs
Drinking water supply facility for the local villagers by treating (Ajay / Damodar) river water.	Physical Target:	Setting up of a water treatment plant	-	-
	Budget: Rs. 20 Lakhs	Rs. 20 Lakhs	-	-
Development and maintenance of existing ponds in the local villages	Physical Target:	Development & maintenance of 4 ponds	Development & maintenance of 3 ponds	Development & maintenance of 3 ponds
	Budget: Rs. 25 Lakhs	Rs. 10 Lakhs	Rs. 7.5 Lakhs	Rs. 7.5 Lakhs

Need based Activities	Particulars	Year of Implementation		
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Construction of Rain Water Harvesting structures in nearby villages for groundwater recharging	Physical Target:	Construction of 40 nos. RWH structures	Construction of 34 nos. RWH structures	Construction of 20 nos. RWH structures
	Budget: Rs. 28.5 Lakhs	Rs. 12 Lakhs	Rs. 10.5 Lakhs	Rs. 6 Lakhs
Rain Water Harvesting ponds in nearby villages	Physical Target:	Development of 4 ponds	Development of 3 ponds	Development of 3 ponds
	Budget: Rs. 30 Lakhs	Rs. 12 Lakhs	Rs. 9 Lakhs	Rs. 9 Lakhs
Providing green and blue dustbins in local villages (under Swachh Bharat Scheme) for waste segregation and handling	Physical Target:	Providing 500 green dustbins and 500 blue dustbins	Providing 500 green dustbins and 500 blue dustbins	Providing 250 green dustbins and 250 blue dustbins
	Budget: Rs. 2.5 Lakhs	Rs. 1 Lakh	Rs. 1 Lakh	Rs. 0.5 Lakh
Procurement of buses to facilitate transportation of school students	Physical Target:	Procurement of 1 bus	Procurement of 1 bus	-
	Budget: Rs. 28 Lakhs	Rs. 14 Lakhs	Rs. 14 Lakhs	-
Reformation of Singaran River by clearing of water hyacinth and plastic waste	Physical Target:	Cleaning of the Singaran River twice in a year, by clearing of water hyacinth and plastic waste being dumped into the river. Setting up of awareness message printed placards along the shore to spread consciousness and prevent the locals from dumping waste into the river.		
	Budget: Rs. 20 Lakhs	Rs. 7 Lakh	Rs. 7 Lakh	Rs. 6 Lakh
Total Budget - Need based activities: Rs. 371 Lakhs				
Overall Budget (Public Hearing related + Need based Activities): Rs. 812 Lakhs				

46.3.14 The capital cost of the project is Rs. 1987.36 Crores and the capital cost for environmental protection measures is proposed as Rs.192.84 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 18.42 Crores. The employment generation from the proposed project / expansion is 2750 persons. The details of cost for environmental protection measures is as follows:

S. No.	Description of Item	Proposed (Rs. in Crores)	
		Capital Cost	Recurring Cost
i.	Air Pollution Control/Noise	89.0	8.9
ii.	Water Pollution Control	18.0	1.8
iii.	Green Belt Development	8.43	0.42
iv.	Solid/Hazardous Waste Management	16.0	1.6
v.	Noise Reduction	17.0	1.7
vi.	Occupational Health Management	15.0	1.5
vii.	Risk Mitigation & Safety Plan	18.0	1.8
viii.	Environmental Management Department	7.0	0.7
ix.	Addressed to Public Consultation concerns	4.41	-
<b>TOTAL</b>		<b>192.84</b>	<b>18.42</b>

- 46.3.15 The Company has earmarked 97.1 hectares (239.94 acres) for Green Belt Development, which is around 34% of the total plant area of 284.09 hectares (702 acres) of land. Out of this 97.1 hectares (239.94 acres) of land for greenery, 87.4 hectares (216 acres) of land is already developed as greenery within the plant premises where around 2,21,990 number of trees (@2540 trees per hectares) have been planted. Remaining 9.7 hectares (24 acres) of land will be utilized for greenery development in the plant area where around 24,250 numbers of trees (@2500 trees per hectares) will be planted. Thus, finally total 2,46,240 numbers of trees shall come under green belt in the plant premises. In addition to that around 18.4 hectares (45.5 acres) of land will be used for greenbelt development purpose outside the plant premises. This 18.4 Hectares (45.5 acres) of land is just adjacent to the main plant. Around 46,000 numbers of trees @2500 trees per hectares will be planted in this additional land. Thus, total plantation area will be 28.1 hectares (69.5 acres). Local and native species will be planted.
- 46.3.16 The proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration:
- 46.3.17 Name of the EIA consultant: M/s. Envirotech East Pvt. Ltd and the validity of consultant is up to 3<sup>rd</sup> January, 2022. (Reference: Letter No. QCI/NABET/ENV/ACO/21/1999 dated 4/10/2021).

**Certified compliance report from Regional Office**

- 46.3.18 The Status of compliance of earlier EC was obtained from Regional Office, Kolkata vide letter no. 102-494/14/EPE dated 25/05/2021 in the name of M/s. Shyam Sel & Power Ltd. The Action taken report regarding the partially/non-complied condition was submitted to Kolkata Regional Office of MoEF&CC vide letter no. SSPL/JMR/ATR/21-01 dated 17<sup>th</sup> July, 2021. Accordingly, the Closure Report on Non-Compliances was obtained from Regional Office, Kolkata on 29/07/2021 which is presented below:

S. N.	Non-compliances reported if any	Corrective action taken	Present Status
1	It has been observed that the PA's have not installed CAAQMS in the plant. It is required to install 4 CAAQMS in or outside the Project Boundary as recommended by the WBPCB.	Purchase order for 4 Nos of Continuous ambient air quality monitoring station (USEPA / MCERT) using high quality laser sensors (Beta Rays Attenuation) technology already issued (PO No. J9/PA217-00043/21-22 dated 8th June, 2021) in compliance to point no –II. Air Quality Monitoring and Preservation Condition No. iii of EC dated 26.12.2019.	Complied
2	It has been observed that the PA has not yet developed a fully functional tyre washing area. The PA is required to do the same at the designated place in the trucking parking area.	The tyre washing facility in the truck parking area has been installed. Now the trucks tyre are washed before entering and leaving the plant premises.	Complied

S. N.	Non-compliances reported if any	Corrective action taken	Present Status
3	The PA is required to provide GCP of SMS to reduce PH in circulating water to ensure optimal recycling of treated water for converter gas cleaning. It should be done and report must be submitted.	The existing Steel Melting Shops are equipped with Induction Furnaces (IF) with charge mix mostly with DRI and small part of scrap or pig iron. As such, during charging and initial heating, generated fumes are sucked by ID Fans of adequate capacity through hood, passes through respective bag house to Chimneys of adequate height to ensure State/ Central Pollution norms. It may be noted the circulating cooling water systems of these furnaces are by soft water and there is no connection between GCP and pH in circulating water.	Complied
4	The PA is required to Provide solar 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.	In accordance with the observation no. 4 that is to provide solar power generation and installation of solar lighting system, PP has made a contract / agreement has already been signed between M/S ShyamSel& Power ltd and VSV Renewable Pvt. Ltd. (Floating Type & Roof Top Type) and work regarding the same are already in progress.	Complied
5	The PA shall install waste recycling plant to recover scrap, metallic and flux for recycling to SMS.	The metal recovery plant to recover scrap, metallic and flux for recycling to SMS has already been installed.	Complied

46.3.19 M/s. Shyam Sel & Power Limited had earlier made an application vide proposal no. IA/WB/IND/6700/2008 dated 22/07/2021. The proposal was considered by the REAC (Industry 1) in its 41<sup>st</sup> meeting held on 29 - 30<sup>th</sup> July, 2021 wherein the proposal was returned in present form due to the shortcomings as recorded in the minutes of meeting available on PARIVESH.

**Observations of the Committee held during 29-30<sup>th</sup> July, 2021**

46.3.20 The Committee noted the following:

- i. As per the form 2 and structure of the EIA report, KML file is an important document which facilitates the EAC to carryout due diligence of the proposal. However, the consultant failed to explain the features of the KML file and made the appraisal process infructuous.

- ii. The Consultant misinform the EAC deliberately by not disclosing the natural features of the site as indicated by the KML file.

**Recommendations of the Committee held during 29-30<sup>th</sup> July, 2021**

- 46.3.21 After deliberations, the Committee recommended that the consultant may be issued a Show Cause Notice(SCN) for deliberately misinforming the EAC about the natural features of the site as indicated in the KML file. The Committee also recommended to return the proposal in its present form.
- 46.3.22 It was apprised to the EAC that SCN was issued to the EIA consultant on 31/08/2021.
- 46.3.23 M/s. Shyam Sel & Power Limited has again made an online application vide proposal no. IA/WB/IND/6700/2008 dated 03/09/2021. Subsequently, the proposal was considered by REACin its 44<sup>th</sup> meeting held on 13<sup>th</sup> – 14<sup>th</sup> September, 2021 wherein the proposal was again returned in present form due to the shortcomings as recorded in the minutes of meeting available on PARIVESH:

**Observations of the Committee held on 13-14<sup>th</sup> September, 2021**

- 46.3.24 The Committee noted the following:
- i. Existing green belt is poor. It is noted that green belt is not available in existing plant. PP is required to submit a revised action plan for development of green belt all along the periphery of the project site covering 33% of the project area with a tree density of 2500 saplings per hectare.
  - ii. There are 8 water bodies inside the proposed complex and one nallah is passing through the project site. Conservation plan for protection of the said water bodies has not been submitted.
  - iii. On NE side there is a primary school only 50 mt. away from the plant boundary where DI plant is proposed, within the 500 m from the school premises no activities taken place except to plantation, PP need to relooked in to and submit a revised plant lay out.
  - iv. Present status of installation of CAAQMS has not been made available as reported in the RO report.
  - v. Road from high way to plant is a single road and the same road has three steel plants on it. PP has not furnished any plan to widen and maintain this road.
  - vi. 90 m<sup>2</sup>Sinter Plant is proposed without Sinter Cooler waste heat recovery.
  - vii. Stove waste gas heat recovery, Dry gas cleaning, CH and SH ventilation, Slag granulation Dog house for emission control from LD converter, land based bag filter for coke side emission control, PLL, PLD, PLO and charging emission control for coke ovens have not been proposed.
  - viii. BF gas and BOF gas shall be cleaned in dry system. Secondary Fume Extraction System for LD converter has not been proposed.
  - ix. Performance testing of PCDs has not been proposed in monitoring plan.
  - x. ToR point #9 pertaining Corporate Environment Policy has not been complied.
  - xi. As per the letter dated 11/09/2008 of Irrigation & Waterways Department, West Bengal, PP was supposed to obtain necessary permission for withdrawal of 2.5 MCD water from State Water Investigation Directorate (SWID). However, copy of the said permission has not been made available.

**Recommendations of the Committee held on 13-14<sup>th</sup> September, 2021**

- 46.3.25 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings enumerated at para number 46.3.24.
- 46.3.26 M/s. Shyam Sel and Power Limited has again made an online application vide proposal no. IA/WB/IND/6700/2008 dated 29/09/2021. The proposal was considered in 46<sup>th</sup> Reconstituted Expert Appraisal Committee (Industry- 1) held on 11 - 12<sup>th</sup> October, 2021.
- 46.3.27 During the meeting, project proponent submitted written submission on the following points:
- Confirmation regarding installation of 4 CAAQMS by 31<sup>st</sup> October, 2021
  - Land based bag filter for coke side emission control should be provided
  - Physical target for the issues raised during Public Hearing should be completed within 3 years

**Observations of the Committee**

- 46.3.28 The Committee noted the following:
- i. The EAC found that the revised EIA/EMP report is in order reflecting the present environmental concerns and the projected scenario for all the environmental components arising out of the proposed project with respective mitigation measures. The EAC also noted that the baseline data reported and incremental GLC due to the proposed project were within National Ambient Air Quality standards.
  - ii. The EAC also deliberated on the certified compliance report of RO, written submissions, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.

**Recommendations of the Committee**

- 46.3.29 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 following specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 pertaining to integrated steel plants based on project specific requirements.

**A. Specific Conditions**

- i. Four Continuous Ambient Air Quality monitoring stations under installation shall be commissioned and connected to the SPCB/CPCB server by end of October, 2021. Compliance status in this regard shall be submitted to the Ministry and Regional Office of the MoEF&CC.
- ii. The nallah passing through the project site shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides of the nallah.
- iii. Green Belt shall be developed in 97 hectares of land (34 % of total land) with tree density of 2500 trees per ha by 31/12/2024 all along the periphery of the project site. This shall include, gap filling which shall be done in existing green belt developed area wherever tree density is less than 2500 trees per ha. In addition to this, 18.4 hectares (45.5acres) of land outside the project premises located adjacent

- to the main plant shall also be brought under green belt development as committed by the PP.
- iv. Project proponent shall conserve eight water bodies exist in the project site by developing green belt development all along the boundary of the water body.
  - v. Solid waste utilization
    - Maximum 90 days of slag storage area shall be permitted inside the plant.
    - PP shall recycle/reuse 100 % solid waste generated in the plant.
    - Used refractories shall be recycled.
  - vi. Sinter Plant shall be equipped with sinter cooler waste recovery system to generate process steam or power.
  - vii. BF 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.
  - viii. Secondary fume extraction system shall be installed on converters of Steel Melting Shop.
  - ix. Basic Furnace (BF) and LD gas shall be cleaned dry.
  - x. Submerged Arc Furnace and Electric Arc Furnace shall be closed type with 4th hole extraction system.
  - xi. 85-90 % of billets/slabs shall be rolled directly in hot stage. Only 10-15 % rolling shall be done through RHF using only Light Diesel Oil or BF gas.
  - xii. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm<sup>3</sup>.
  - xiii. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.
  - xiv. Cold Rolling Mill (CRM) shall have ETP to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.
  - xv. DI plant shall have the following provisions:
    - a. Wet scrubbers for Volatile Organic Compounds in annealing furnace.
    - b. Bag filter for Zn coating and Mg converter area.
    - c. Wet scrubbers in paint and bitumen coating area.
    - d. Bag Filter in Cement lining area.
    - e. PTFE dipped bags shall be used in the plant.
    - f. PM emissions from BF in Zinc coating area shall be 5 mg/Nm<sup>3</sup>.
    - g. ETP with recycling facility shall be included. All scrubber effluent shall be treated in ETP.
  - xvi. Parking area for trucks/dumpers shall be provided within the plant. No truck/dumper shall be parked outside the plant premises.
  - xvii. Water requirement for the plant shall be met from Ajay River bed and Asansol Municipal Development Authority. Ground water abstraction is not permitted.

## **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 with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS 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. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- xiii. 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 to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time;
  - 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.

#### **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.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

#### **X.Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, 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.

46.4 Addition of two Induction Furnace [capacities 15TPH & 30 TPH] LRF, Concast and increasing the capacity of existing Rolling Mill for production of Steel Ingots/Billets - 2,83,500 TPA (Rounds, Bars, Hexa Bar, Wire rode and Flats from 2,10,000 TPA to 2,83,500TPA) by **M/s. TK Steels** located at Village Paharuwal, Tehsil Kumkalan, **District Ludhiana, Punjab**. [Online Proposal No. IA/PB/IND/221041/2021; File No.: IA-J-11011/354/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference** –regarding.

46.4.1 M/s. TK Steels has made an online application vide proposal no. IA/PB/IND/221041/2021 dated 20/09/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under category “B” of the schedule of the EIA Notification and attracts general condition as the unit falls within 5 km radius boundary of Critically Polluted Area of Ludhiana (Punjab). Hence, the project is being appraised at Central level.

**Details submitted by Project proponent**

46.4.2 The project of M/s. TK Steels located at Village Paharuwal, Tehsil Kumkalan, District Ludhiana, Punjab is for addition of two Induction Furnace [capacities 15TPH & 30 TPH] LRF, Concast and increasing the capacity of existing Rolling Mill for production of Steel Ingots/Billets - 2,83,500 TPA (Rounds, Bars, Hexa Bar, Wire rode and Flats from 2,10,000 TPA to 2,83,500 TPA).

46.4.3 Environmental site settings:

S No	Particulars	Details	Remarks
i)	Total Land	10.425 acres	Industrial Land
ii)	Existence of habitation & involvement of R&R, if any	No habitation exists in the vicinity of the project area thus, it does not involve the displacement of any human settlement	
iii)	Latitude and Longitude of the project Site	<b>Latitude</b>	<b>Longitude</b>
		30°53'39.04"N	76°00'05.26"E
		30°53'44.53"N	76°00'07.33"E
		30°53'44.57"N	76°00'00.01"E
		30°53'43.03"N	76°00'00.06"E
		30°53'43.13"N	75°59'56.04"E
30°53'39.04"N	75°59'56.14"E		
iv)	Elevation of the Project Site	251.46 m AMSL	
v)	Involvement of forest land, if any	Nil	
vi)	Water body exists within the Project as well as study area	<b>Project site:</b> Nil <b>Study area:</b> Sirhind canal about 9.5 km SE Sutlej River about 11 km N	
vii)	Existence of ESZ/ESA/ National park/Wildlife sanctuary/ biosphere reserve/ elephant reserve etc. if any within the study area	Nil	

46.4.4 The existing project has valid Consent to Operate accorded by Punjab Pollution control Board. CTO of Air was obtained under act, 1981 vide Ir no. CTOA/Fresh/LDH1/2020/14296421 valid up to 31/03/2022. CTO of water was obtained under the act, 1974 vide Ir no. CTOW/Fresh/LDH1/2020/14306821 valid up to 31/03/2022.

46.4.5 Implementation Status of the existing CTE/ CTO:

S No	Facilities as per CTO	Implementation Status as on date
1	Rounds Bars, Hexa Bars, wire rods, Flats- 600 TPD (2,10,000 TPA)	Rounds Bars, Hexa Bars, wire rods, Flats- 600 TPD (2,10,000 TPA)

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

Name	Existing Units		Proposed Units		Total Units	
	Configuration	Production	Configuration	Production	Configuration	Production
Rolling Mill	25 Ton/hr	Rounds Bars, Hexa Bars, wire	Upgradation of existing	Rounds Bars, Hexa Bars, wire	40 Ton/hr	Rounds Bars, Hexa Bars, wire

Name	Existing Units		Proposed Units		Total Units	
	Configuration	Production	Configuration	Production	Configuration	Production
		rode, Flats- 2,10,000 TPA	rolling mill to 40 Ton/hr	rode, Flats - 73,500 TPA		rode, Flats - 2,83,500 TPA
Induction Furnace	-	-	1x15 TPH 1x30 TPH	Steel Ingots/ Billets - 2,83,500 TPA	1x15 TPH 1x30 TPH	Steel Ingots/ Billets - 2,83,500 TPA
LRF	-	-	30 TPH	Steel Ingots/ Billets- 2,83,500 TPA	30 TPH	Steel Ingots/ Billets- 2,83,500 TPA
Concast Machine	-	-	01 No.	Steel Ingots/ Billets- 2,83,500 TPA	01 No.	Steel Ingots/ Billets- 2,83,500 TPA

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

S No	Raw Material	Quantity required (TPA)			Source	Distance from site (Kms)	Mode of Transportation
		Existing	Expansion	Total			
a)	MS Scrap (TPA)	Nil	3,02,100	3,02,100	Local & International Markets	Raw material will be brought from Various local and international market	Transport through covered Trucks
b)	Ferro-alloys (TPA)	Nil	4500	4500			

46.4.8 Total water requirement was for the project is estimated as 40.5 m<sup>3</sup>/day. The existing water demand is 6.0 5 m<sup>3</sup>/day, in addition 34.55m<sup>3</sup>/day of water will be required. The total water requirement will be met from the tube well. The permission for drawl of groundwater is under process from PWRDA.

46.4.9 The existing Power requirement is 1.8MW. For expansion, additional power of 15 MW will be required. Thus after expansion total power requirement will be 16.8MW which will be met from Punjab State Power Corporation Limited.

46.4.10 The capital cost of the project is Rs. 88.56 Crore including Rs. 70.0 Crore as cost of expansion. The capital cost of environmental protection measures is measured as Rs 350 Lacs. The employment generation from the proposed/expansion is estimated as 190.

46.4.11 Proposed Terms of Reference (**Baseline data collection period: after obtaining ToR**):

Attributes	Sampling		Remarks
	No. of stations	Frequency	
<b>A. Air</b>			
a. Meteorological Parameters	1	3 Months	Previous 1 year data & 3 months site data
b. AAQ Parameters	8	24	Twice a week on two consecutive days
<b>B. Noise</b>	8	2	Day and Night time
<b>C. Water</b>			
Surface water/ground water quality parameters	Surface water-1 Ground water-8		Upstream & Downstream

Attributes	Sampling		Remarks
	No. of stations	Frequency	
<b>A. Air</b>			
<b>D. Land</b>			
a. Soil quality	a. 8	a. 1	Land Use pattern for 10 km of study area
b. Land Use	b. --	b. --	
<b>E. Biological</b>			
➤ Aquatic	a. –	a. 1	--
➤ Terrestrial	b. Core zone & Buffer zone	b. --	
<b>F. Socio-economic parameters</b>	8	1	--

46.4.12 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.

46.4.13 Name of the EIA Consultant: M/s. Chandigarh Pollution Testing Laboratory- EIA Division [S. No. 98, List of ACOs with their Certificate no. NABET/EIA/1922/RA0146 and valid up to 12/02/2022; Rev. 14, September 15, 2021].

46.4.14 The proposal was considered in 46<sup>th</sup> Reconstituted Expert Appraisal Committee (Industry-1) held on 11 - 12<sup>th</sup> October, 2021. The observations and recommendations of the committee are given as below:

#### Observations of the Committee

46.4.15 The EAC noted the following:

- i. M/s TK Steels is an existing steel manufacturing unit and it has installed 1 rolling mill of capacity 25 Ton/hr for manufacturing of Rounds Bars, Hexa Bars, Flats and wire Rods @ 600TPD or 2,10,000TPA located at Village- Paharuwal, Tehsil-Kumkalan, Chandigarh Road, Ludhiana, Punjab. The unit has been established and under operation based on the periodic consent obtained from Punjab Pollution Control Board (PPCB).
- ii. Instant proposal is for enhancing the capacity of its unit by installing two Induction Furnaces of capacities 1X15TPH, 1X30TPH, a Laddle Refining Furnace of 30TPH, a concast and by increasing of capacity of rolling mill to 40 Ton/hr. The production capacity after expansion will be 2,83,500TPA of Steel Ingots/Billets, Rounds, Bars, Hexa bars, Flats.
- iii. As per the provisions of the EIA notification, 2006 All non-toxic secondary metallurgical units >5000 TPA are covered under **Category-B**; However, in case of secondary metallurgical units, those projects involving operation of furnaces only such as induction and electric arc furnace, submerged arc furnace, and cupola with capacity **more than 30,000 TPA** would require EC. Accordingly, the existing unit of M/s. TK Steel falls under the purview of EC.
- iv. The Hon'ble NGT vide its Order dated 12/02/2020 in OA No. 55 of 2019, held that re-rolling units to fall within the EC regime by granting a period of at least one year to operate for the purpose. In this regard, MoEF&CC vide O.M. dated 22/10/2020 requested all the State Pollution Control Boards to submit the list of such units operating without EC and take action to comply with the directives of the Hon'ble NGT. In response to this, PPCB vide letter dated 4/3/2021 submitted the list of re-

rolling mills wherein the M/s TK Steels detail has not been included.

- v. In the instant case, PP has not applied for EC and also informed that no information/direction has been received from Punjab Pollution Control Board (PPCB) in this regard.

**Recommendations of the Committee**

46.4.16 In view of the foregoing and after deliberations, the committee recommended to return the proposal in its present form and recommended that the Ministry may seek clarification from PPCB regarding the renewal of consents by PPCB to M/s. TK Steels without requisite environment clearance as required under the provisions of EIA, 2006 and reasons for not including the M/s. TK Steels name in the list submitted to the Ministry on 4/03/2021.

46.5 Establishment of New DRI Kilns (2,31,000 TPA), Induction Furnace with matching LRF & CCM (Billets / Ingots) (99,000 TPA), Ferro Alloy Unit 2 x 9 MVA (FeSi- 14000 TPA / FeMn-50400 TPA / SiMn-28,800 TPA / FeCr-30000 TPA), Briquetting Plant - 200 kg/hr, WHRB based Power Plant – 20 MW (2 x 8 MW), AFBC based Power Plant - 12 MW, Brick Manufacturing Unit of 30,000 Bricks/day by **M/s. Phil Steel & Power Pvt. Ltd** located at Ghutku & Nirtu Villages, Takhatpur Tehsil, **Bilaspur District, Chhattisgarh**. [Online Proposal No. IA/CG/IND/230623/2021; File No.: IA-J-11011/395/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference**– regarding.

46.5.1 M/s. Phil Steel & Power Private Limited has made an online application vide proposal no. IA/CG/IND/230623/2021 dated 22/09/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

46.5.2 The project of M/s. Phil Steel & Power Private Limited at Ghutku & Nirtu Villages, Takhatpur Tehsil, Bilaspur District, Chhattisgarh is for Establishment of New DRI Kilns (2,31,000 TPA), Induction Furnace with matching LRF & CCM (Billets / Ingots) (99,000 TPA), Ferro Alloy Unit 2x9 MVA (FeSi- 14000 TPA / FeMn-50400 TPA / SiMn-28,800 TPA / FeCr-30000 TPA), Briquetting Plant - 200 kg/hr, WHRB based Power Plant – 20 MW (2x8 MW), AFBC based Power Plant - 12 MW, Brick Manufacturing Unit of 30,000 Bricks/day.

46.5.3 Environmental site settings:

S No	Particulars	Details	Remarks	
i.	Total Land	15.91 ha. (39.32 Acres) [Private Land]	<b>Land Use:</b> Agriculture.	
ii.	Existence of habitation & involvement of R & R, if any	No habitation exists in project site; Hence no R & R is involved.	---	
iii.	Latitude and Longitude of the project site	Latitude and Longitude of the project site:	---	
		<b>Point</b>		<b>Coordinates</b>
		Point # 1		22°9'30.60"N, 82°5'32.70"E

S No	Particulars	Details	Remarks												
		Point # 2 22°9'28.93"N, 82°5'40.10"E													
		Point # 3 22°9'24.68"N, 82°5'38.86"E													
		Point # 4 22°9'24.00"N, 82°5'43.58"E													
		Point # 5 22°9'21.16"N, 82°5'43.13"E													
		Point # 6 22°9'20.06"N, 82°5'49.87"E													
		Point # 7 22°9'17.80"N, 82°5'49.46"E													
		Point # 8 22°9'13.69"N, 82°5'48.60"E													
		Point # 9 22°9'12.96"N, 82°5'45.21"E													
		Point #10 22°9'10.57"N, 82°5'43.07"E													
		Point # 11 22°9'12.54"N, 82°5'35.90"E													
		Point # 12 22°9'22.87"N, 82°5'38.08"E													
		Point # 13 22°9'22.47"N, 82°5'36.84"E													
		Point # 14 22°9'17.44"N, 82°5'35.82"E													
		Point # 15 22°9'17.64"N, 82°5'34.44"E													
		Point # 16 22°9'24.07"N, 82°5'34.85"E													
		Point # 17 22°9'27.25"N, 82°5'30.23"E													
		Point # 18 22°9'29.35"N, 82°5'31.10"E													
		Point # 19 22°9'29.14"N, 82°5'32.28"E													
iv.	Elevation of the project site	MSL of the Project area – 284 m to 285 m	---												
v.	Involvement of Forest land, if any	Nil	---												
vi.	Water body exists within the project site as well as study area	<p><b>Project site:</b> Unnamed canal passes across the site in small portion of site on western side where culvert will be constructed.</p> <p><b>Study area:</b></p> <table border="1"> <thead> <tr> <th>Water Body</th> <th>Distance/ Direction</th> </tr> </thead> <tbody> <tr> <td>Two unnamed ponds</td> <td>100 m (S)</td> </tr> <tr> <td>Arpa river</td> <td>1.9 Kms. (E)</td> </tr> <tr> <td>Gokena Nallah</td> <td>2.9 Kms. (W)</td> </tr> <tr> <td>Kurung Right Bank Canal</td> <td>5.7 Kms. (E)</td> </tr> <tr> <td>GhonghaNadi</td> <td>7.7 Kms. (W)</td> </tr> </tbody> </table>	Water Body	Distance/ Direction	Two unnamed ponds	100 m (S)	Arpa river	1.9 Kms. (E)	Gokena Nallah	2.9 Kms. (W)	Kurung Right Bank Canal	5.7 Kms. (E)	GhonghaNadi	7.7 Kms. (W)	---
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Kurung Right Bank Canal	5.7 Kms. (E)														
GhonghaNadi	7.7 Kms. (W)														
vii.	Existence of ESZ/ESA/ National Park/Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve/ Elephant Reserve etc. if any within the study area	Nil	---												
viii.	Forest within the study area	Nil	--												
ix.	Industries in the area	Group company coal washery unit is adjacent to the site and facility of railway siding is available which will be utilized for the proposed project also.	--												

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

SNo	Units (Products)	Plant Configuration	Production Capacity	
1.	DRI Kilns (Sponge Iron)	2x350 TPD	2,31,000 TPA	
2.	Induction Furnace (Billets / Ingots)	2x15 T IF with 6/11 Caster	99,000 TPA	
3.	Ferro Alloys Unit (FeSi / FeMn / SiMn / FeCr)	2x9 MVA	FeSi-14,000 TPA / FeMn-50,400 TPA / SiMn-28,800 TPA / FeCr-30,000 TPA	
4.	Power Plant (28 MW)	WHRB	2x8 MW	16 MW
		AFBC	1x12 MW	12 MW
5.	Brick Manufacturing Unit	30,000 Bricks/day	30,000 Bricks/day	
6.	Briquetting Plant	200 kg/hr	200 kg/hr	

46.5.5 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	Raw Material	Quantity (TPA)	Sources	Distance from site (in Kms.)	Mode of Transport
1.	<b>For DRI Kilns (Sponge Iron) – 2,31,000 TPA</b>				
a)	Pellets (100 %)	3,46,500	Chhattisgarh / Orissa	~ 300 Kms.	By rail
	or				
b)	Iron ore (100%)	3,69,600	Barbil, Orissa NMDC, Chhattisgarh	~ 500 Kms.	By rail
c)	Coal	Indian	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By Rail & By Road (in covered trucks)
		Imported	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag Port)	Through sea route & by Rail
d)	Dolomite	11,550	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
2.	<b>For Steel Melting Shop (Billets/ Ingots) – 99,000 TPA</b>				
a)	Sponge Iron	1,00,000	Own generation	---	Through covered conveyers
b)	MS Scrap / Pig Iron	15,000	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
c)	Ferro alloys	5,000	Own generation	---	By road (through covered trucks)
3.	<b>For FBC Boiler [Power Generation 1 x 12 MW]</b>				
a)	Indian Coal (100 %)	80,190	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By rail & road
	<b>OR</b>				
b)	Imported Coal (100 %)	51,400	Indonesia / South Africa /	~ 600 Kms. (from Vizag)	Through sea route & By Rail

S No	Raw Material		Quantity (TPA)	Sources	Distance from site (in Kms. Port)	Mode of Transport
				Australia	Port)	
<b>OR</b>						
c)	Dolochar + Indian Coal	Dolochar	46,200	In house generation	---	through covered conveyors
		Indian Coal	57,100	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By Rail /By Road (through covered trucks)
<b>OR</b>						
d)	Dolochar + Imported Coal	Dolochar	46,200	In house generation	---	through covered conveyors
		Imported Coal	26,200	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag Port)	Through sea route &By Rail
4.	<b>For Ferro Alloys (2 x 9 MVA)</b>					
6 (i)	<i>For Ferro Silicon – 14,000 TPA</i>					
a)	Quartz		24,300	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
b)	LAM coke		18,900	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	MS Scrap / Mill scales		4,230	Inhouse Generation	---	By road (through covered trucks)
d)	Electrode paste		360	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
e)	Bagfilter dust		200	Own generation	---	---
6 (ii)	<i>For Ferro Manganese – 50,400 TPA</i>					
a)	Manganese Ore		68,400	MOIL / OMC	~ 500 Kms.	By Rail
b)	LAM coke		19,800	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	Dolomite		8,100	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
d)	MS Scrap / Mill scales		7200	Inhouse Generation	---	By road (through covered trucks)
e)	Electrode Paste		630	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
f)	Bagfilter dust		1000	Own generation	---	---
6 (iii)	<i>For Silico Manganese –28,800TPA</i>					
a)	Manganese Ore		48,600	MOIL / OMC	~ 500 Kms.	By Rail
b)	LAM Coke		16,200	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	FeMn. Slag		30,294	In house generation	---	----
d)	Dolomite		7,380	Chhattisgarh /	~ 500 Kms.	By road

S No	Raw Material	Quantity (TPA)	Sources	Distance from site (in Kms.)	Mode of Transport
			Andhra Pradesh		(through covered trucks)
e)	Electrode paste	630	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
f)	Quartz	7740	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
g)	Bagfilter dust	200	Own generation	---	---
6 (iv)	<i>For Ferro Chrome – 30,000 TPA</i>				
a)	Chrome Ore	56,700	Sukinda, Odisha Import, South Africa	~ 500 Kms. ~ 600 Kms. (from Vizag Port)	By Rail Through sea route & By Rail
b)	LAM Coke	19,800	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	Quartz	8,100	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
d)	MS Scrap / Mill Scale	2,700	In-house Generation	---	By road (through covered trucks)
e)	Magnetite / Bauxite	5,400	Chhattisgarh / Maharashtra	~ 500 Kms.	By road (through covered trucks)
f)	Electrode Paste	540	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
g)	Bagfilter dust	1,200	Own generation	---	---
<b>Note:</b> Railway siding of group company which is very close to the project site will be utilized for transportation of major raw materials.					

- 46.5.6 Water required for the proposed project will be 1,472 KLD, and will be sourced from Arpa River which is at a distance of 1.9Kms. from the proposed project site. Water drawl permission from Water Resource Department, Govt. of Chhattisgarh will be obtained.
- 46.5.7 Power required for the proposed project will be 33.0 MW and same will be sourced from Captive Power Plant (28.0 MW) and remaining (5.0 MW) from the State Grid.
- 46.5.8 The capital cost of the project is Rs.217 Crores and Capital Cost for Environment Protection Measures is proposed as Rs. 26.5 Crores. The employment generation from proposed project will be 250 nos. through direct employment and 500 nos. through indirect employment.
- 46.5.9 Proposed Terms of Reference (**Baseline data collection period: 15<sup>th</sup> October 2021 to 15<sup>th</sup> January 2022**):

Attributes	Sampling		Remarks
	No. of Stations	Frequency	
<b>A. Air</b>			
a. Meteorological parameters	1	On hourly basis for one season	<ul style="list-style-type: none"> <li>• Wind Speed</li> <li>• Wind Direction</li> <li>• Temperature</li> <li>• Relative Humidity</li> <li>• Rainfall</li> </ul>
b. AAQ parameters	8	24 hourly Twice a week for 3 months (One Season)	Parameters to be Monitored: <ul style="list-style-type: none"> <li>• PM<sub>2.5</sub></li> <li>• PM<sub>10</sub></li> <li>• SO<sub>2</sub></li> <li>• NO<sub>x</sub></li> <li>• CO</li> </ul>
<b>B. Noise</b>	8	On hourly basis for 24 Hrs. at each station	Parameters to be Monitored: <ul style="list-style-type: none"> <li>• Day equivalent</li> <li>• Night equivalent</li> </ul>
<b>C. Water</b>			
a. Ground Water	8	One sample at each of the locations	Parameters will be Monitored: as per IS: 10500
b. Surface Water	5	One sample at each of the locations	Parameters will be Monitored: as per BIS: 2296
<b>D. Land</b>			
a. Soil quality	8	One sample at each of the locations	Parameters will be Monitored: Texture, infiltration rate, SAR, bulk density, CEC, pH, Ca, Mg, Na, K, Zn, Mn, organic carbon
b. Land use	--	--	LU map will be prepared by concerned FAE for study area
<b>E. Biological</b>			
i. Aquatic	--	Once in Season	---
ii. Terrestrial	--	Once in Season	---
<b>F. Socio economic parameters</b>	--	Once in Season	Social Impact Assessment will be carried out by concerned FAE for study area
<b>G. Traffic Density</b>	--	Once in Season	Vehicular traffic study will be carried out at Transportation route.

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

46.5.11 Name of the EIA consultant: M/s. Pioneer Enviro Laboratories & Consultants Pvt. Ltd [S. No.135, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

### Observations of the Committee

- 46.5.12 The EAC noted the following:
- i. TOR is being sought for undertaking EIA study for the green field project for setting up 2x350 TPD DRI, 2x15 T IF, 99000 TPA steel products, 2x9 MVA SAF for Ferro Alloys manufacture including FeCr, 16 MW WHRB, 12 MW CFBC, 200 kg/hr briquetting plant and 30000 Nos per day brick manufacturing plant.
  - ii. 15.91 ha land is available with proponent. 5.34 ha land will be used for Green belt development.
  - iii. A canal passes through the plot proposed for green field plant.
  - iv. Ghutku Railway station is 850 m; Village Kanipara is 600 m South.
  - v. 1472 KLD water shall be sourced from Arpa River 1.9 km from site.
  - vi. Jigging and briquetting plants are proposed.
  - vii. AAQ stations selected are not as per Wind Rose. Project proponent shall re-orient the monitoring stations based on wind rose diagram.

### Recommendations of the Committee

- 46.5.13 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 ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:
- i. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - ii. Action plan for fugitive emission control in the plant premises shall be provided.
  - iii. The canal passing through the project site shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides of the canal.
  - iv. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted. This shall include 30-meter-wide green belt development within the project area towards the Kanipara village located at 600 m away from the project area. In addition to this, Project proponent shall conserve eight water bodies existing in the project site by developing green belt all along the boundary of the water bodies.
  - v. Action plan for 100 % solid waste utilization shall be submitted.
  - vi. Action plan for rain water harvesting shall be submitted.
  - vii. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
  - viii. Air Cooled condensers shall be used in Captive Power Plant.
  - ix. Jigging and briquetting plants shall be provided in FeCr Circuit.
  - x. 1472 KLD water shall be sourced from Arpa River 1.9 km from site. GW abstraction is not permitted.

46.6 Greenfield Project for establishment of 0.8 MTPA Iron ore Pellet Plant by **M/s. Siddhiriddhi International Pvt. Ltd.** located at Village - Salarapentha, Tehsil Keonjhar Sadar, **District Keonjhar, Odisha.** [Online Proposal No. IA/OR/IND/231844/2021; File No.: IA-J-11011/404/2021-IA-II(IND-I)]– **Prescribing of Terms of Reference** – regarding.

46.6.1 M/s. Siddhiriddhi International Private Limited has made an online application vide proposal no. IA/OR/IND/231844/2021 dated 29/09/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for

undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

46.6.2 The project of M/s. Siddhiriddhi International Private Limited at Village - Salarapentha, Tehsil Keonjhar Sadar, District Keonjhar, Odisha is for Greenfield Project for establishment of 0.8 MTPA Iron ore Pellet Plant.

46.6.3 Environmental site settings:

SNo	Particulars	Details	Remarks
i.	Total land	Total Land: 38.00Ac. (15.378 ha.)	Land use: Industrial.
ii.	Existence of habitation & involvement of R&R, if any.	R&R – Not Applicable. No habitation within the identified project area.	
iii.	Latitude and Longitude of the project site.	<b>Latitude:</b> 21° 40' 49.341" N to 21° 41' 9.039" N <b>Longitude:</b> 85° 30' 30.720" E to 85° 30' 49.379" E	
iv.	Elevation of the project site.	480 – 490 mtr from MSL	
v.	Involvement of Forest land if any.	No forest Land Involved.	
vi.	Water body exists within the project site as well as the study area	<b>Project site:</b> Nil <b>Study area:</b> Kadal Nadi – 0.10 km (W) Machakandana Nadi – 5.28 km (E) Bamni Nala – 7.07 km (WSW) Malijor Nala – 8.68 km (E) Barijori Nala – 9.11 km (EES) Sanladihi Nala – 9.65km (SSW)	Water for the project will be sourced from Kadal River through Pipeline.
vii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/tiger reserve/elephant reserve etc. if any within the study Area.	<b>Reserve Forest:</b> Ichinda RF (0.30 km, E) Nayagarh RF (3.90 km, N) Sanaghagara RF (4.40 km, SE) Suakati RF (5.92 km, S) Amjor RF (5.96 km, SES) Sidhamatha RF (7.20 km, SE) <b>Protected Forest:</b> Gandhamardan PF (1.04 km, W) Amuni PF (3.44 km, WNW) Jagar PF (5.42 km, SW) Kumundi PF (7.25 km, SW). No National Parks, Wildlife Sanctuaries, Biosphere Reserves within 10 Km radius	

SNo	Particulars	Details	Remarks
		of the proposed site	

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

S No	Plant Facilities	Configuration	Production Capacity (TPA)
1	Pellet Plant	1x0.8 MTPA	8,00,000 TPA
2	Producer gas plant	4 Nos x 5000 Nm <sup>3</sup> /hr	20,000Nm <sup>3</sup> /hr

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

Raw Material Required	Quantity (TPA)	Source	Distance From Site (Km)	Mode Of Transportation
Iron Ore Fines (Dry)	8,94,400	Mines of Keonjhar	10 km	Rail/Road
Coal	63,142	Mahanadi Coal Field	92 km	Rail/Road
Coke (Dry)	2,368	Rourkela	88 km	Rail/Road
Bentonite	8,552	Open Market	10 km	Road
Lime Stone/ Dolomite	8,912	Mines of Sundargarh	119 km	Road
LDO	1,600	Open Market	10 km	Road

46.6.6 The total water required is 421KLD (make-up) capacity of Primary ETP – 35 KLD, the capacity of Dedicated ETP for PGP– 5 KLD & capacity of STP – 10 KLD. Source of water – The annual required volume of water shall be drawn from river Kadal (permission of same will be obtained) except summer season. During summer, water will be used from the reservoir & Rain Water Harvesting. River Water will be drawn using 150-180 mtr. Length water pipeline from Kadal river bed.

46.6.7 The total power requirement is 6 MW which will be sourced from the nearest grids at Naranpur, Keonjhar which is at a distance of 20 Kms. and from Palaspanga which is at a distance of 18 km. from the plant site. The construction power is estimated at around 0.5 MVA. This power will be made available from the existing 33kV system at the plant site if spare capacity is available.

46.6.8 Total project cost is approx. Rs. 213.22 Crore, EMP Cost: Rs. 15.22 Crores (Capital) and Rs.92.335 Lakhs/yr (Recurring). Employment generation from the proposed project will be around 413, including direct and indirect employment.

46.6.9 Proposed Terms of Reference (**Baseline data collection period: October to December 2021**):

Environmental Aspect	Frequency/ Parameters / Locations
Micro Meteorology	<b>Frequency:</b> Continuous recording of hourly micro-meteorological parameters for 3 months <b>Parameters:</b> Temperature, Relative Humidity, Rainfall, Wind speed, Wind direction, Cloud cover,

Environmental Aspect	Frequency/ Parameters / Locations
	<b>Location:</b> At/Near Project Site
<b>Ambient Air Quality</b>	<b>Frequency:</b> Twice a week on 24 hrs basis for 12 weeks <b>Parameters:</b> PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, NH <sub>3</sub> , O <sub>3</sub> BaP & Fe <b>Locations:</b> 8 locations within the study area covering core zone, upwind directions, downwind directions, crosswind directions and nearby habitations based on the predominant wind rose as presented above.
<b>Ambient Noise Levels</b>	<b>Frequency:</b> Continuous monitoring for 24 hours (Day & Night) at each location, once in a month for 3 months <b>Parameters:</b> Leq Day Time, Leq Night Time <b>Locations:</b> 8 locations within the study area covering core zone, various land uses and nearby habitations.
<b>Surface Water Quality</b>	<b>Frequency:</b> Once during the study period (Three Month) <b>Parameters:</b> Colour, pH, Dissolved Oxygen (min), Conductivity, Total Hardness, Turbidity, Chlorine (Cl <sup>-</sup> ), Total Dissolved Solids, Oil & Grease (max), BOD (3) days at 27°C (max), Chemical Oxygen Demand (COD), Arsenic (As), Lead (Pb), Cadmium (Cd) (max), Hexa Chromium as Cr <sup>+6</sup> , Copper (Cu) (max), Zinc (Zn) (max), Selenium (Se) (max), Cyanide (CN) (max), Fluoride (F), Sulphates (SO <sub>4</sub> <sup>-</sup> ), Calcium (Ca), Magnesium (Mg), Manganese (Mn), Boron (B), Mercury (Hg), Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH (max), Iron (Fe) (max), Nitrate (NO <sub>3</sub> ), Anionic Detergents (max), Total Coliform. <b>Locations:</b> 8 locations within the study area covering major surface water bodies.
<b>Ground Water Quality</b>	<b>Frequency:</b> Once during the study period (Three Month) <b>Parameters:</b> Color, Odour, Taste, Turbidity, pH, Total Hardness (as CaCO <sub>3</sub> ), Iron (Fe), Chloride (Cl <sup>-</sup> ), Residual Free Chlorine, Total Dissolved Solids as TDS, Calcium (Ca), Magnesium (Mg), Copper (Cu), Manganese (Mn), Sulphate (SO <sub>4</sub> <sup>-</sup> ), Nitrate (NO <sub>3</sub> ), Fluoride (F), Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH, Mercury (Hg), Cadmium (Cd), Selenium (Se), Arsenic (As), Cyanide (CN), Lead (Pb), Zinc (Zn), Total Chromium as Cr, Mineral Oil, Alkalinity, Aluminium (Al), Boron (B), Total Coliform as TC, Amonia Total, Barium (Ba), Molybdenum (Mo), Nickel (Ni), PAH & Pesticide. <b>Locations:</b> 8 locations within the study area.
<b>Soil Quality</b>	<b>Frequency:</b> Once during the study period (Three Month) <b>Parameters:</b> Conductivity, Water Holding Capacity, Infiltration Rate, pH, Texture, Sand, Silt, Clay, Bulk Density, Exchangeable Calcium, Exchangeable Sodium, Exchangeable Magnesium, Available Potassium, Available Phosphorus, Available Nitrogen, Organic Matter, Organic Carbon, Water Soluble Chloride, Water Soluble Sulphate, Sodium Absorption Residue, Aluminium, Iron, Manganese, Boron, Zinc, Chromium, Hexavalent Chromium, Nickel, Copper, Cadmium, Iron, Silica, Lead, Available

<b>Environmental Aspect</b>	<b>Frequency/ Parameters / Locations</b>
	Phosphorus. <b>Locations:</b> 8 locations within the study area covering different land uses such as agriculture land, park, waste land, etc.
<b>Hydrogeology</b>	<b>Frequency:</b> During Winter & post-monsoon season <b>Parameters:</b> Drainage pattern, Ground water table depth, ground water quality, ground water yield, etc. <b>Locations:</b> villages within 10 km radius study area
<b>Land use land cover</b>	Satellite imagery based land use study and preparation of land use land cover maps based on latest LULC classifications & Ground truthing. <b>Parameters:</b> Agricultural area, Water bodies, Industrial land, Barren land, Built-up land, Forest area.
<b>Ecology &amp; Biodiversity</b>	<b>Frequency:</b> Primary survey during study period. Secondary data collection from Forest department <b>Parameters:</b> Terrestrial Flora & Fauna, Aquatic flora & fauna, Forests, etc. <b>Location:</b> 10 km radius study area
<b>Socio-economy</b>	<b>Frequency:</b> Primary survey during study period. Secondary data collection from Govt. offices, Village Panchayats, Census of India records <b>Parameters:</b> Demographic pattern, economic pattern, social amenities availability <b>Location:</b> 10 km radius study area

- 46.6.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.
- 46.6.11 Name of the EIA consultant: M/s. Visiontek Consultancy Services Pvt. Ltd [S. No.98, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

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

- 46.6.12 The EAC noted the following:
- i. TOR is being sought for undertaking EIA study for the greenfield project for 0.8 MT per annum pellets, and 20000 Nm<sup>3</sup>/hr Producer Gas Plant at Keonjhar Odisha. TOR was earlier given for a 0.6 MTPA pellet plant in 2013 at same location.
  - ii. 38 acres of land is available for plant installation.
  - iii. No R&R is involved.
  - iv. Water shall be sourced from Kodal River 100 m from site. River is flowing very near. HFL details and flood plain details have not been provided. During discussions PP agreed to bring water from Baitarni or Ardi River.
  - v. Ichinda Reserved Forests is 300 m East and Gandhamardan Protected Forests is 1.04 km W.
  - vi. Kodal River does not have water in summer. A large reservoir is constructed to store water to meet summer demand. No GW abstraction shall be done.
  - vii. 9 trees to be translocated.

**Recommendations of the Committee**

- 46.6.13 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 ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:
- i. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - ii. Action plan for fugitive emission control in the plant premises shall be provided.
  - iii. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted. This shall include 20-meter-wide green belt development within the project area towards the Ichinda RF, Naupada village (120 m S) and Talakanpadihi (670 m West).
  - iv. Action plan for 100 % solid waste utilization shall be submitted.
  - v. Action plan for rain water harvesting shall be submitted.
  - vi. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
  - vii. 421 KLD Water shall be sourced from Baitarni or Ardi Rivers. No ground water or canal water shall be abstracted. Kodal river water shall not be used.
  - viii. Hydrological study of the watershed around the Kodal River shall be carried out.
  - ix. HFL details of Kadal river from the concerned Competent Authority and impact on riverine ecology due to the proposed project shall be submitted in the EIA report.

46.7 Capacity Expansion 31,320 to 1,30,320 TPA Ferro alloys production by installation of additional 3x9 MVA + 1x24 MVA Submerged Arc Furnace (SAF) along with 1,50,000 TPA Briquetting Plant and 18,000 TPA Sinter Plant by **M/s. Anjaney Ferro Alloys Pvt. Ltd.** located at Pedabantupalli, **District Vizianagaram, Andhra Pradesh**. [Online Proposal No. IA/AP/IND/230880/2021; File No.: J- 11011/331/2008-IA.II (I)] – **Amendment in Environment Clearance w.r.t. Change in Configuration of Submerged Arc Furnace from 1x24 MVA to 2x9 MVA+1x6 MVA without changing Production Capacity** – regarding

46.7.1 M/s. Anjaney Ferro Alloys Pvt. Ltd has made online application vide proposal no. IA/AP/IND/230880/2021 dated 23/09/2021 along with Form 4 and sought for amendment in Environmental Clearance accorded by the Ministry vide letter no. J- 11011/331/2008-IA.II (I) dated 25/02/2020.

46.7.2 The project proponent vide email dated 06/10/2021 requested the Ministry for withdrawal of the instant proposal due to revised the configuration. The said email was circulated to all the EAC members.

46.7.3 In view of the foregoing and after detailed deliberations, the Committee accepted the request of the project proponent and recommended for withdrawal of the proposal.

**12<sup>th</sup> October, 2021**

46.8 Proposed Expansion of Sponge Iron /Sponge Pellets (2 Nos. of Kiln), Billets/Ingots (2 Nos. of Furnace), TMT bars & Channel/Angle (Rolling & Section Mill), CPP (2 MW) and Waste Heat Recovery Boiler (4 MW) Manufacturing Unit in existing premises by **M/s. Nilkanth**

**Concast Private Limited** located at Survey no. 221, Village Vadala, Taluka Mundra, **District Kutch, Gujarat** - [Online Proposal No. IA/GJ/IND/114302/2008, File No. J11011/85/2008-IA.II(I)] – **Reconsideration for grant of Environment Clearance based on ADS reply – regarding.**

46.8.1 M/s Nilkanth Concast Private Limited has made an online application vide proposal no. IA/GJ/IND/114302/2008 dated 12/09/2019 along with copy of EIA/EMP report, Form-2 and copy of certified EC Compliance report seeking Environmental 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.

46.8.2 The project was initially considered in 12<sup>th</sup> Meeting of Re-constituted EAC (Industry-I) held on 21<sup>st</sup> October 2019 wherein additional details were sought. M/s. Nilkanth Concast Private Limited submitted the ADS reply on dated 12<sup>th</sup> June 2021 and the proposal was listed for re-consideration by the EAC (Industry-I) in their 39<sup>th</sup> meeting scheduled on 30/06/2021. The project proponent did not participate in meeting and accordingly informed to the Ministry vide email dated 29/06/2021. The proponent has further submitted the clarifications on public representation dated 29/06/2021 along with ADS reply on 2/10/2021 on PARIVESH. The proposal is re-considered in the 46<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11<sup>th</sup> – 12<sup>th</sup> October, 2021.

**Details submitted by the project proponent**

46.8.3 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>
23/06/2015	45 <sup>th</sup> meeting of REAC held on 11 <sup>th</sup> - 12 <sup>th</sup> August 2015	Terms of Reference	14/09/2015
03/03/2016	5 <sup>th</sup> meeting of EAC held on 30 <sup>th</sup> -31 <sup>st</sup> March 2016	ToR Amendment	27/05/2016
30/ 01/2019	4 <sup>th</sup> meeting of EAC held on 20 <sup>th</sup> to 22 <sup>nd</sup> February 2019	Extension of ToR validity	01/05/2019

46.8.4 The project of M/s Nilkanth Concast Private Limited located in Village: Vadala, Taluka: Mundra, Dist: Kutch, State Gujarat State is for Expansion of 72,000 TPA Sponge Iron to 1,44,000 TPA by Installation of additional Two no. Kilns of 100 TPD each, Mild Steel (Ingots, Billets, TM Bars & Channel/ Angles) from 1,80,000 TPA to 3,60,000 TPA by installation of additional two nos. of Induction furnaces 20 T capacity each, Rolling & section mill, Captive power plant from 4MW to 6 MW and Waste Heat Recovery Power Plant (WHRB) from 6 MW to 10 MW.

46.8.5 Environmental site settings

S No	Particulars	Details	Remark
i.	Total land	35.38 ha [Proposed expansion will be carried out in 12.34 ha which is within the existing premises of 35.38 ha]	Land use: Industrial
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Entire land is in possession of the company.	Expansion will be carried out within Existing area
iii.	Existence of habitation & involvement of R&R, if any.	No R&R is involved.	-
iv.	Latitude and Longitude of the project site	A- 22°54'12.72"N, 69°52'13.91"E B- 22°54'27.66"N, 69°52'11.59"E C- 22°54'29.54"N, 69°52'25.79"E D- 22°54'32.58"N, 69°52'25.18"E E- 22°54'36.73"N, 69°52'42.48"E F- 22°54'33.34"N, 69°52'44.40"E G- 22°54'23.89"N, 69°52'36.90"E H- 22°54'16.98"N, 69°52'38.73"E I- 22°54'16.55"N, 69°52'36.03"E J- 22°54'18.67"N, 69°52'34.80"E K- 22°54'16.16"N, 69°52'17.77"E L- 22°54'10.33"N, 69°52'18.33"E	-
v.	Elevation of the project site	15 m AMSL	-
vi.	Involvement of Forest land if any.	Nil	-
vii.	Water body exists within the project site as well as study area	<b>Project site: Nil</b> <b>Study area :</b> Name with distance: Mitti Nadi – 0.5 km NE Sakra Nadi – 1.5 km E Chhela Nadi – 6.5 km E Ruparel Nadi – 6.5 km NE Sea Gulf of Kutch (3.0 km in South)	-
viii.	Existence of ESZ/ESA/national park /wildlife sanctuary/ biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	Nil	<ul style="list-style-type: none"> <li>• Bhadreswar Reserved Forest – 2.5 km S</li> <li>• Luna Reserved Forest – 4.0 km SSW</li> </ul>

46.8.6 The existing project was accorded environmental clearance vide Ir.no J-11011/85/2008 – IAI (I) dated 23/12/2008. Consent to Establish has been obtained vide letter no. PC/NOC/CCA-KUTCH-446 (2) dated 26/10/2009. Consent to Operate for existing unit has been renewed by GPCB vide consent order no. AWH -108619 dated 07/07/2020. The validity of CTO is up to 08/12/2024.

46.8.7 Implementation status of the existing EC:

S No	Facilities	Units	As per EC dated 23/12/2008	Implementation Status	Production as per CTO
1	Sponge Iron	72,000 TPA (2 Rotary kiln: 100 TPD each)	Operational	Operational	72000 TPA
2	Mild Steel (Ingots, Billets, TM Bars & Channel/ Angles)	1,80,000 TPA (2 Induction Furnaces 20 T capacity each & Rolling mill)	Operational	Operational	1,80,000 TPA
3	Captive Power Plant (AFBC) (24 TPH Boiler)	4 MW	Operational	Operational	4 MW
4	Waste Heat Recovery Boiler (WHRB)- Power Plant	6 MW	Operational	Operational	6 MW

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

S No	Product	Existing Capacity (TPA)	ToR obtained for additional capacity (TPA) (14/09/2015)	ToR Amendment requested for additional capacity (TPA) (27/05/2016)	Total Capacity after Proposed Expansion (TPA)
1	Sponge Iron	72,000 (2kiln: 100 TPD each)	72,000 (2kiln: 100 TPD each)	--	1,44,000 (4 kiln: 100 TPD each)
2	Mild Steel (Ingots, Billets, TM Bars & Channel/ Angles)	1,80,000 (2 Furnace: Rolling mill)	--	1,80,000 (2 Furnaces: Rolling & Section mill)	3,60,000 (4 Furnaces: Rolling & Section mill)
3	Captive	4 MW	--	2MW	6 MW

S No	Product	Existing Capacity (TPA)	ToR obtained for additional capacity (TPA) (14/09/2015)	ToR Amendment requested for additional capacity (TPA) (27/05/2016)	Total Capacity after Proposed Expansion (TPA)
	Power Plant (AFBC) (24 TPH boiler)				
4	Waste Heat Recovery Boiler (WHRB)- Power Plant	6 MW	--	4 MW	10 MW

46.8.9 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:

Raw Material	Quantity (TPA)			Source	Distance from Project site	Mode of Transport
	Existing	Proposed	Total			
1) Sponge Iron						
Iron Pellets	102240	102240	204480	Local, Jindal Limited Rajasthan	625 Km	Road
Coal	64,800	64,800	129600	Imported/ Kandla port	35 Km	Sea / Road
Dolomite	2160	2160	4320	Local , Dhreeji Dolomite, Ahmedabad	275 Km	Road
2) Mild Steel, Ingots, Billets, MS Rolled Products, TMT Bars, Section						
Mild Steel, Ingots/Billets						
Sponge Iron	72,000	72,000	1,44,000	In house	0.5 Km (Captive Production)	Conveyor
Scrap Mild Steel	77430	77430	154860	Imported (Kandla port)	35 Km	Road
MS Rolled Products, TMT Bars, Section						
Billets	1,80,000	1,80,000	3,60,000	--	0.5 Km (Captive Production)	Conveyor
3) Captive Power Plant						
Coal	46800	23400	70,200	Imported (Kandla Port)	35 Km	Road
Dolchar	5040	5040	10080	Imported	35 km	Road

Raw Material	Quantity (TPA)			Source	Distance from Project site	Mode of Transport
	Existing	Proposed	Total			
				(Kandla Port)		
4) DM Plant						
Caustic Flake	24 TPA	--	24 TPA	Local	20 Km	Road
Sulphuric Acid	60 TPA	--	60 TPA	Local	20 Km	Road
Hydrochloric Acid	36 TPA	--	36 TPA	Local	20 Km	Road

46.8.10 The total water requirement for the project is estimated as 1450 m<sup>3</sup> /day, out of which 1293 m<sup>3</sup>/day of fresh water requirement will be obtained from the Gujarat Water Infrastructure Limited (GWIL) and ground water. Remaining requirement of 157 m<sup>3</sup> /day will be recycled water. The permission for drawl of groundwater is obtained from CGWA vide NOC No. CGWA/NOC/IND/ORIG/2021/11998 dated 30/03/2021 valid up to 29/03/2024 for 660 m<sup>3</sup>/day and permission for drawl of surface water is obtained from Gujarat Water Infrastructure Limited (GWIL) vide Lr. No. CS/Renewal /2015-16/2308/1828 dated 14<sup>th</sup> September 2016 for 0.8 MLD and Lr No. GWIL/Kutch/Ind. Conn/F. No 4259/1636 dated 16/09/2019 for 0.7 MLD. Agreement w.r.t. Water allocation for drawl of 800 m<sup>3</sup>/day granted by Gujarat Water Infrastructure Limited (GWIL) is renewed on 13<sup>th</sup> August 2021. The facility has been implementing various rain water harvesting programs at the site and also committed to implement additional rain water harvesting programs with about Rs. 25 Lakhs budget in next 24 months in phased manner during the expansion program. Since, fresh water is supplied by State Government through pipelines in Kutch district, several expansion programs are under way by the State Government to provide Narmada water by laying pipelines in next two years. Nilkanth Concast Private Limited will approach state government for the supply of additional fresh water and will make all best efforts to phase out use of ground water in next two to three years.

46.8.11 Existing total Power requirement is 31.37 MW. The power requirement is met from CPP & WHRB and from GETCO. For emergency power supply 1 x 500 kVA D.G. Set is installed. After proposed expansion the power requirement shall be 60.13 MW.

46.8.12 Baseline Environmental Studies

Period	December 2015 to February 2016	October, 2018 to December, 2018	Additional one month monitoring has been carried out for the month of June 2019
AAQ parameters at 8 locations (min and max)	PM <sub>2.5</sub> =45.87- 49.49 µg/m <sup>3</sup> PM <sub>10</sub> = 69.89- 91.30 µg/m <sup>3</sup> SO <sub>2</sub> = 18.97- 30.35 µg/m <sup>3</sup> NO <sub>2</sub> = 22.72- 33.83 µg/m <sup>3</sup>	PM <sub>2.5</sub> =44.12-50.84 µg/m <sup>3</sup> PM <sub>10</sub> = 70.21-92.83 µg/m <sup>3</sup> SO <sub>2</sub> = 19.16- 30.95 µg/m <sup>3</sup> NO <sub>2</sub> = 22.83- 34.51 µg/m <sup>3</sup>	PM <sub>2.5</sub> =22.0- 42.0 µg/m <sup>3</sup> PM <sub>10</sub> =59.0- 90.0 µg/m <sup>3</sup> SO <sub>2</sub> = 11.0- 25.0 µg/m <sup>3</sup> NO <sub>2</sub> = 13.0- 28.0 µg/m <sup>3</sup>
AAQ modelling			PM <sub>10</sub> = 0.69 µg/m <sup>3</sup> SO <sub>2</sub> = 1.72 µg/m <sup>3</sup>

<b>Period</b>	<b>December 2015 to February 2016</b>	<b>October, 2018 to December, 2018</b>	<b>Additional one month monitoring has been carried out for the month of June 2019</b>
Ground water quality at 8 locations	pH: 7.16 to 8.05, Total Hardness: 26 to 1000 mg/l, Chlorides: 34.2 to 1347 mg/l, Fluoride: BDL. Heavy metals are within the limits.	pH: 7.1 to 8.11, Total Hardness: 32 to 1020 mg/l, Chlorides: 35.8 to 1506.3 mg/l, Fluoride: BDL. Heavy metals are within the limits.	pH: 7.58 to 8.04, Total Hardness:50 to 98 mg/l, Chlorides:96 to 570 mg/l, Fluoride:0.6 to 1.5 mg/l. Heavy metals are within the limits.
Surface water quality	3 locations pH: 7.73 to 8.22, DO: 4.16 to 7.88 mg/l, BOD <sub>3</sub> : 44.78 to 102.6 mg/l, COD: 12.9 to 388.8 mg/l	3 locations pH: 7.93 to 8.16, DO: 4.45 to 7.98 mg/l, BOD <sub>3</sub> : 54.3 to 98.6 mg/l, COD: 14.3 to 401.3 mg/l	2 locations pH: 7.89 to 7.98, DO: 3.5 to 3.63 mg/l
Noise levels	45.2 to 51.9 dBA for the day time and 38.9 to 44.8 dBA for the Night time.	45.5 to 54.3 dBA for the day time and 38.3 To 45.9 dBA for the Night time.	51.30 to 57.30 dBA for the day time and 40.47 To 50.20 dBA for the Night time.
Traffic assessment study findings	The traffic assessment study was carried out. Total 36 number of trucks per day will be plying after expansion. There will be small increase in the vehicular traffic due to passenger transport. This increase in traffic will not have any impact on the existing transportation facilities.		
Flora and fauna Presence of schedule I fauna if any. If yes, status of site-specific wildlife conservation plan	No Schedule-I species is present in study area. No Critically endangered flora found in the study area.		

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

**Solid Waste**

<b>S. No.</b>	<b>Solid Waste</b>	<b>Source</b>	<b>Maximum Quantity (TPA)</b>	<b>Mode of Treatment / Disposal</b>
1.	ESP and Bag filter dust	Sponge Iron Plant& RMH Units	14,400	Utilization in Fly Ash brick Manufacturing. Bag filter dust is being sell and same will be followed Dust from RMH reused in process

S. No.	Solid Waste	Source	Maximum Quantity (TPA)	Mode of Treatment / Disposal
2.	Ash	CPP	4914	Utilization in Fly-Brick Manufacturing Unit
3.	Slag	Induction Furnaces	26460	Being sold to third party
4.	Coal Char/ DolChar	Sponge Iron Plant	10080	Shall be used in CPP (AFBC) along with fresh coal
5	Mill Scale	Rolling Mill	1260	Re-Utilized in Induction Furnace
6	Metal Scrap	Bill Caster	18000	Re-Utilized in Induction Furnace

#### Hazardous Waste

S No	Hazardous Waste	Quantity	Utilization
1.	Used Oil	36 KL/annum	Store separately and will be sold to authorized vendors/recyclers
2.	Used Cotton	24 Kg/annum	Store separately and will be sold to authorized vendors/recyclers
3.	DM spent resins	7.2 Kg/annum	Store separately and will be sold to authorized vendors/recyclers

#### 46.8.14 Public Consultation:

Details of advertisement given	Kutch Mitra dated 19/11/2016 and The Times of India dated 19/11/2016
Date of public consultation	20/12/2016
Venue	Project site
Presiding Officer	Resident Additional Collector and Additional District Magistrate
Major issues raised	Pollution control and employment

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

Queries raised by public	EMP committed	Budget Rs. Lakhs			Total
		1 <sup>ST</sup> YEAR	2 <sup>nd</sup> year	3 <sup>rd</sup> year	
The local public appreciated various CSR programs implemented by Nilkanth Concast Private Limited in the neighboring areas.	Has been providing the following: <ul style="list-style-type: none"> <li>Fodder distribution,</li> <li>Distribution of ration kits for the school children,</li> <li>Providing steel to local public infrastructure and temples construction,</li> <li>Education support for local girls</li> </ul> Additional programs:	25 Lakhs	25 Lakhs	25 Lakhs	75

Queries raised by public	EMP committed	Budget Rs. Lakhs			Total
		1 <sup>ST</sup> YEAR	2 <sup>nd</sup> year	3 <sup>rd</sup> year	
	<ul style="list-style-type: none"> <li>• Drinking water and sanitation programs,</li> </ul>				
Proposed power plant will be generated dust and pollution and hence industry shall consider all measures to control the impact	<p>As a part of the expansion program, the following will be taken up:</p> <ul style="list-style-type: none"> <li>• Upgrading existing ESP to meet PM limit of 30 mg/Nm<sup>3</sup>.</li> <li>• Installation of new ESPs for expansion activities,</li> <li>• Fugitive dust control programs,</li> <li>• Greenbelt development</li> </ul>	50	350	35	435
There shouldn't be any adverse impact on agriculture fields and local fishers	<p>It is committed to adopt stringent PM emission norms so that the emissions will be further reduced, Comprehensive fugitive dust control program will be adopted as stated in item 2 above, Adopting zero liquid charge Regular monitoring of emissions, ambient air quality, soil and ground water quality</p>	200	600	60	860

46.8.15 The capital cost of the project is Rs. 60 Crores and the capital cost for environmental protection measures is proposed as Rs. 860 Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs. 197 Lakhs. The employment generation from the expansion is 395. The details of cost for environmental protection measures is as follows:

S No	Particulars	Capital cost Rs. Lakhs	Operating Cost Rs. Lakhs per year
1	Air pollution control systems including fugitive dust control systems as per the PCB directions and also proposed expansion programs requirements	435	64
2	Upgrading the existing ESPs and BFs of the existing facilities to achieve 30 mg/Nm <sup>3</sup> in next 12 months	50	10
3	Water reuse, treatment and recycling programs systems	50	10
4	Control noise emissions and installation of noise barriers etc	15	5

S No	Particulars	Capital cost Rs. Lakhs	Operating Cost Rs. Lakhs per year
5	Collection and storage, silos for wastes such as slag, fly ash etc	50	20
6	Fly ash utilization by expanding the existing 16,000 bricks to 22,000 fly ash bricks manufacturing facilities	50	15
7	Enhancing the fire protection systems and PPEs	75	10
8	Occupational health center and upgrades etc.,	75	50
9	Enhancing the existing greenbelt development in 13 ha	0	5
10	Rain water harvesting programs	25	5
11	Installation of additional CEMs and AAQ monitoring stations and regular environmental monitoring program	35	3
		<b>860</b>	<b>197</b>

46.8.16 Greenbelt will be developed in 11.83 ha which is about 33.38 % of the total project area. A 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 29575 saplings will be planted and nurtured in 11.83 hectares in 2 years. At present, NCPL has planted about 13,800 trees.

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

#### **Brief Summary of the Closure direction & SCN issued by GPCB**

<b>Closure Direction dated 15/05/2017</b>	
15/05/2017	Closure notice was issued to NCPL post visit of GPCB officials. The GPCB officials made several observations about fugitive emission control measures, online monitoring systems, and fly ash utilization.
05/07/2017	A revocation letter was issued against the closure notice from GPCB
17/02/2018	Revocation order was granted against the closure notice. After the implementing the necessary steps and submission of monthly compliance reports (on 18th January 2018), NCPL was granted revocation order from GPCB.
24/01/2020	GPCB vide letter dated 24/01/2020 confirmed MoEF&CC that NCPL was granted revocation order against the closure notice after considering the necessary control measures steps undertaken and the compliance monitoring reports.
<b>SCN dated 15/07/2019</b>	
15/07/2019	NCPL has been issued a show cause notice after a site visit by GPCB officials on 2 <sup>nd</sup> July 2019 w.r.t. CEMS installed at Boiler & SI Kiln, CGWA application for extraction of ground water to be uploaded in GPCB XGN, fly ash generation, green belt, fugitive emission, gasifier etc.

13/12/2019	MoEF&CC vide letter dated 13/12/2019 requested MS, GPCB for information related to show cause notices and closure directions issued to NCPL.
24/01/2020	GPCB letter dated 24/01/2020 to MoEF&CC stating that during inspection no fugitive emission observed. However considering prevention policy of the board industry directed to install water scrubber & other written remarks were given at site.

46.8.18 Name of the EIA consultant: The initial EIA study was carried out by M/s. Aqua Air Environmental Engineers (P) Ltd, Surat. The report was revalidated and presented by QCI – NABET accredited consultant M/s. Pollution and Ecology Control Services, Nagpur [S.No. 74, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office:**

46.8.19 The Status of compliance of earlier EC was obtained from Regional Office, Bhopal vide Lr. No. 5-54/2009(Env)/383 dated 17/08/2018. M/s. NCPL submitted the action taken report with respect to partially complied conditions vide letter dated 06/03/2019. Regional Office, MoEF&CC Bhopal vide letter No. 5-54/2009(Env)/172, dated 15/03/2019 submitted the updated compliance status of partially complied conditions of Monitoring Report. As per the report submitted by RO, the proponent has complied with the conditions.

46.8.20 The project was initially considered in 12<sup>th</sup> Meeting of Re-constituted EAC (Industry-I) held during 21-23<sup>rd</sup> October, 2019. The observations and recommendations of EAC are given as below:

**Observations of the Committee (EAC during 21-23<sup>rd</sup> October, 2019)**

46.8.21 The project proponent has constructed four wells for abstraction of ground water without obtaining permission from Central Ground Water Authority. The Committee also observed that Gujarat Pollution Control Board has issued seven show cause notices and one closure direction. The revocation of the said directions and closure direction is yet to be presented to the Committee.

**Recommendations of the Committee (EAC during 21-23<sup>rd</sup> October, 2019)**

46.8.22 In view of the aforesaid and after detailed deliberations, the Committee deferred the consideration of the above proposal and sought following additional information for further consideration:

- i. PP to liquidate existing ash stock and action plan for management of fresh generation of fly ash as per the provisions of the Fly ash notification, 1999 and its subsequent amendment from time to time.
- ii. PP to obtain the revocation letter on all the show cause notices and closure direction issued by GPCB.
- iii. PP to submit action plan for further reduction of RSPM besides the measures already taken.
- iv. Permission for ground water drawl shall be furnished.

46.8.23 The proponent submitted the ADS reply vide letter dated 02/06/2021 submitted on PARIVESH on 12/06/2021. The proposal was placed for reconsideration during 39<sup>th</sup>

**meeting of the Re-constituted EAC (Industry-I) held on 30th June - 1<sup>st</sup> July, 2021.** PP vide email dated 29/06/2021 expressed their inability to participate in the meeting due to medical reasons and requested to consider the same in the next hearing. It was apprised to the EAC to consider the proposal in the absence of proponent and their EIA consultant based on the records made available by them as per the Ministry's O.M. dated 18/11/2020 pertaining to streamlining the process of grant of Environment Clearance. However, the EAC opined that proposal shall be considered in presence of proponent only as they have requested for deferment of the proposal. Further, EAC noted that they are in receipt of public representation vide email dated 29/06/2021 against the proposed expansion project. EAC was of the considered view to seek the comments of the proponent on said representation. In view of the foregoing and after detailed deliberations, the Committee recommended that Ministry may forward a copy of the public representation to proponent to provide their comments and clarifications along with their ADS reply. Accordingly, the proposal to be returned in present form.

46.8.24 Based on the above, the proponent has submitted the clarifications on public representation along with ADS reply on 2<sup>nd</sup> October 2021 on PARIVESH. The information furnished by proponent is as follows:

**A. Summary of representation made at MOEF&CC**

Point wise reply against the representation received at MoEF&CC vide mail dated 29<sup>th</sup> June 2021 is given below:

**Point No. 1: "History of disposal of fly ash/ metallic slag in the CRZ area/outside plant premises".**

**Reply:**

**1) Ash Generation and Management**

NCPL has been following two ash utilization practices i) onsite brick manufacturing unit and ii) compaction/reclamation (onsite and offsite). NCPL has a Fortune make semi-automatic brick plant within their premises (installed on 14/12/2017). In order to operate the ash manufacturing plant, NCPL has entered into an operational agreement with Sonal Krupa Industries Limbadi (SKI) from 15/09/20 for next 5 years subjected to conditions. Required land for operation, plant equipment, power supply, water and ash are provided by NCPL and the other raw materials are imported by SKI. Usability of brick manufacturing unit after the proposed expansion has also been evaluated to understand the capability of ash utilization that can be achieved. It is understood that brick manufacturing unit is adequate and has the functional capability to use 100% of ash generated. Complete details on the storage practices, open stock, fly ash generated and utilization quantities for the financial year 2019 & 2020 has been submitted.

**2) Slag Generation and Management**

Slag generated during the process of steel making is dealt by utilizing in roads, embankment, land filling and reclamation. This has been done through authorized recyclers. For the FY 2019-20 and FY 2020 & 21, NCPL has entered into an agreement with Shri Sadguru Industry, Rajasthan and Shri Hariom Trading Co. respectively for the use of slag in road pavement and land reclamation as per the regulatory norms. Details of slag generation and utilization for the financial year FY 2019-20 & FY 2020-21 have been submitted by proponent. Also, in the FY 21-22, NCPL has made a strategic decision to stop the slag grinding within the facility as a fugitive dust control measures and identified the

vendor for disposal of un-grinded slag. NCPL signed MoU with Shri Hariom Trading Co. on 03/05/2021 for the disposal of un-grinded slag generated. In addition, up on request from nearby community's slag were given for construction work/reclamation etc. Therefore, based on the above presented facts, Proponent submitted that they are disposing off slag through authorized vendors. Regarding slag disposal in CRZ area claimed against us Proponent is in constant touch with the collector/DCZMA to grant the revocation letter

**Point No 2: "Huge quantity of fly ash and slag storage within plant premises as per the observations made by GPCB inspection on 28.10.2020"**

**Reply:** Ash and Slag Storage – Proponent submitted that they agree to the fact that higher quantity of fly ash and slag were stored within the plant premises. Such a scenario was occurred due to the monsoon season hampering the slag disposal activity. However, as recommended by GPCB, stock details of ash and slag along with utilization rate has been provided. Point wise reply submitted to GPCB by NCPL against the observation made during the site visit has been submitted by proponent.

**Point No 3: Excessive fugitive dust emission in the nearby areas and compound wall of 9 m has not been raised as per the GPCB coal handling guidelines**

**Reply:** Fugitive Dust Emission – NCPL already has fugitive emission control management systems such as Dust Settling Chamber, ESP, Bag filter, fume extraction system, water sprinkling systems, green belts etc. and it has been strengthened and updated based on the directions issued by GPCB. In addition, as per the recommendation received from the EAC committee, proposed fugitive dust control measures are again evaluated and additional units at appropriate places has been proposed. Some of the key recommendations are summarized below:

- Installation of new ESP in addition to the existing ESP at SI kiln (WHRB) and AFBC boiler.
- Installation of Trio density felt bag filters at cooler discharge area, Intermediate Bin, product separation/storage house and iron ore and coal crushing units to control fugitive dust emission.
- Installation of additional secondary fume extraction system and bag filters near induction area.
- Installation of other fugitive dust control measures such as dry fog system, additional water sprinklers, dry sweeping etc. especially at raw material handling and material transfer areas.
- Expand online monitoring system to additional ESP units proposed at SI kiln (WHRB) and AFBC boiler.
- A monthly monitoring program covering fugitive dust monitoring, work zone monitoring, stack monitoring and ambient air quality monitoring shall be conducted.

PP further submitted the Proposed EMP suggested to further control fugitive dust at a capital cost of Rs. 435 lakhs and recurring cost of Rs. 63.4 lakhs. Point raised by GPCB is regarding the vehicular dust emission. In order to control the same, additional vacuum cleaning system and water sprinklers will be installed and applied at a higher frequency. Also, NCPL will ensure that 9 m compound wall shall also be taken up as part of proposed expansion.

**Point No 4: EIA report only has baseline data of one season and this shall be submitted with three seasons to understand the dusting pattern throughout the year**

**Reply:** Baseline monitoring for the proposed expansion was carried out as per the ToR issued by MoEF&CC. A Rapid Environmental Impact assessment was carried out meeting the guidelines as per the ToR issued by MoEF&CC and therefore, monitoring was carried out accordingly. Monitoring was conducted from December 2015 to February 2016, October 2018 to December 2018 and one additional month data as per the directions given in the 7th meeting of the Re-constituted EAC (Industry-I) held during 29-31st May, 2019. Therefore, monitoring studies have been conducted for each environmental attributes following guidelines published by MoEF&CC/CPCB. Accordingly, baseline environment of study area for the seasons winter and post monsoon was established. It is worthwhile to note that NCPL is also undertaking monthly air quality monitoring program in addition to the continuous emission monitoring.

**Point No 5: Illegal extraction of Ground water has resulted in the depletion ground water in the nearby areas. A separate study on impact caused to the ground water, ecology and community shall be undertaken.**

**Reply:** The total water requirement for the facility post expansion will be 1450 KLD, out of which the fresh water requirement is 1293 KLD. Based on the Jal Shakti Notification September 2020, NCPL was issued NOC vide CGWA/NOC/IND/ORIG/2021/11998 dated 30/03/2021 valid up to 29/03/2024 for 660 m<sup>3</sup>/day based on the hydro-geological report submitted. The additional fresh water requirement due to the proposed expansion will be met from surface water provided by GWIL. Permission has been obtained from GWIL for this additional requirement of 0.7 MLD vide letter dated 16/09/2019. In addition, NCPL is committed to take up community rain water harvesting programs to recharge 100% of water drawl (~2,40,000 m<sup>3</sup> /year) with a budget of Rs. 12 Lakhs in next two years. This will make NCPL water positive in the future. Proposed rain water harvesting scheme is submitted by NCPL.

<b>RWH/Artificial Recharge location</b>	<b>Area Type</b>	<b>Area consider for Estimating of Runoff (m<sup>2</sup>)</b>	<b>Proposed Structure</b>	<b>Estimated water harvested in cum/year</b>	
Within plant premises	Roof-top, Road area, Open land and Green belt	353798	Storage Tank (1 no.)	41642	
Outside the plant site	Open land/Unpaved area	20230	Storage Tank (1 no.)	2104	
	Mokasar Pond	345378	Pond Recharge well (2 nos.)	72000	
	Radhanpir Pond	597987	Pond Recharge well (2 nos.)	124381	
	Sub- Total				<b>198485</b>
	Potential of total water harvesting the plant site and outside the plant side				<b>240127</b>
	Project Water requirement (660 cum/day) x No. of days (300)				<b>198000</b>

**B. Details of Additional Details Sought (ADS) by the committee dated 21/10/2019**

Point wise reply against the ADS of EAC dated 21/10/2021 is given below:

**Point No. 1: PP to liquidate existing ash stock and action plan for management of fresh generation of fly ash as per the provisions of the Fly ash notification, 1999 and its subsequent amendment from time to time.**

**Reply:** Coal is used as a fuel for power generation in the AFBC boiler and also in the Sponge Iron (SI) processing kiln operations. Ash is generated from the AFBC operation whereas flue gas including ore dust and combustion emissions are generated from the Sponge Iron kiln. Fly ash from the AFBC boiler is collected in the ESP unit and flue gas from SI kiln having high thermal heat value is fed to the Waste Heat Recovery Boiler (WHRB) for power generation. Coal/Iron ore contained dust from the SI kiln is collected in a separate Electro Static Precipitator (ESP). Both ash from AFBC boiler and Coal/iron ore dust from SI kiln are currently being utilized in the production of brick manufacturing and reclamation/compaction works. The details of ash generation, handling, storage facilities & inventory and action plan to utilize ash are explained below:

**Action plan for ash and dust utilization:** NCPL currently adopts the following the following ash utilization practices to liquidate ash and SI kiln dust generated onsite. i. On-site (In-house) brick manufacturing ii. Compaction and reclamation (Both on-site and off-site). Utilization of ash generated is as per Fly ash Notification, 2009 and its subsequent amendments.

**Action plan for future ash and dust utilization:** Since the proposed expansion will generate almost equal amount of ash and SI kiln dust from as the existing unit, adequacy of existing ash storage and disposal facilities are verified. An action plan for utilization of future ash.

**Action plan for utilization of ash after proposed expansion**

Quantity of ash (TPA) (Proposed scenario)	Action plan	Time frame	Responsibility	Remarks	Status
10,264	In-house fly ash bricks manufacturing	Regular (Continuous)	NCPL	<p>Details on adequacy calculation of the unit to handle additional ash and adequacy of ash storage facility are discussed in the subsequent section.</p> <p>It is concluded from the analysis that existing brick manufacturing unit is adequate to handle ash generated after the proposed project expansion. It is expected that the operational load on the existing brick manufacturing unit will be in the range of 85 - 95% after the proposed expansion. Therefore, primarily, the existing brick manufacturing will be adequate for 100% ash utilization.</p>	Implemented (in operation)

Quantity of ash (TPA) (Proposed scenario)	Action plan	Time frame	Responsibility	Remarks	Status
	Compaction and reclamation (Both on-site and off-site)	-	NCPL	This is a need based activity. Based on demand or on request NCPL will supply fly ash for compaction/ reclamation.	-

- i) Adequacy of Ash storage: Although, present inventory suggest that ash is being regularly removed from site for brick manufacturing an attempt has been made to understand the storage capacity of allocated ash storage area. Existing storage is adequate to store the ash generated after proposed expansion and it can stock ash for 73 days on a continuous basis.

Particulars	Silos (Nos. x Capacity)	Ash storage area (m <sup>2</sup> )*	No of days of storage
Ash from Power Plant	1 x 120 m <sup>3</sup> each	2380	Ash can be stored for 73 days at a stack height of 1 m.
Dust from SI Kiln			

- ii) Adequacy of disposal facilities: The total ash generated will be 10,264 TPA. Therefore, based on the total ash generation adequacy of brick manufacturing unit have been verified. After the proposed expansion, NCPL has to increase their daily brick manufacturing to 14,000-15,000 bricks/day against the full operational capacity 16,000 bricks/day. It is expected that the operational load on the existing brick manufacturing unit will be in the range of 85 - 95%. Based on the above facts, it is concluded that the existing brick manufacturing unit will be adequate to handle the additional ash generated after the proposed expansion. However, it is committed to expand the fly ash brick facility to 22,000 bricks per day by investing additional Rs. 50 Lakhs in phased manner.

**Point No. 2: PP to obtain the revocation letter on all the show cause notices and closure direction issued by GPCB.**

**Reply:** The facility has been issued a closure direction from Gujarat Pollution Control Board (GPCB) on 15/05/2017. Subsequently, after taking the necessary steps, as advised by GPCB, and submission of compliance reports, the revocation was granted on 17/02/2018. The same has been communicated by GPCB vide letter no. GPCB/CCA-Kutch-446(5)/ID17970/552263 when MOEF&CC enquired the status of show cause notices and closure notices issued against the facility. Also, Consent to Operate has been renewed by GPCB vide consent order no. AWH -108619 dated 07/07/2020 for operational sponge iron (6000TPM), Mild Steel, Ingots, Billets, M.S. Rolled Product, TM bars (15,000 TPM), Captive power plant (4 MW) and WHRB (6MW). Therefore, at present no show cause notices and closure directions are pending against NCPL.

**Point No. 3: PP to submit an action plan for further reduction of RSPM besides the measures already taken.**

**Reply:** Existing ambient air quality levels within the plant site are analyzed and summarized here based on the EIA report and monthly monitoring reports. As per the EIA baseline study conducted on June 2019, air quality levels recorded inside the NCPL plant

for PM<sub>10</sub> was ranging from 79 µg/m<sup>3</sup> to 88 µg/m<sup>3</sup> with an average value of 83.4 µg/m<sup>3</sup> and the 98th percentile of 87.7 µg/m<sup>3</sup>. PM<sub>2.5</sub> concentrations recorded inside the plant premises were between 30 µg/m<sup>3</sup> and 42 µg/m<sup>3</sup> with an average value of 36.6 µg/m<sup>3</sup> and the 98 percentile of 41.9 µg/m<sup>3</sup>. PM<sub>10</sub> and PM<sub>2.5</sub> has been monitored at four locations within the plant premises as part of monthly monitoring program. As part of this assessment, latest available data of March 2021 is considered. The PM<sub>10</sub> concentration within the plant premises ranges between 45.7 µg/m<sup>3</sup> and 75 µg/m<sup>3</sup> with an average value of 61.5 µg/m<sup>3</sup>. PM<sub>2.5</sub> concentration ranges between 22.5 µg/m<sup>3</sup> and 40 µg/m<sup>3</sup> with an average value of 31.2 µg/m<sup>3</sup>. Therefore, air quality data from June 2019 to March 2021 depicts that there has been a significant reduction in average value reported. The average value of PM<sub>10</sub> was reduced from 83.4 µg/m<sup>3</sup> to 61.5 µg/m<sup>3</sup> whereas PM<sub>2.5</sub> decreased from 36.6 µg/m<sup>3</sup> to 31.2 µg/m<sup>3</sup> indicating the effective operation of various pollution control measures undertaken by NCPL in the last two years which are recommended by GPCB. However, the existing and proposed pollution control measures for each manufacturing process are further evaluated and summarized the recommendations/ action plan to reduce dust levels further.

- 1) **Sponge Iron Unit:** The existing production of the unit is 72,000 TPA, and it will be expanded to 1,44,000 TPA. The current manufacturing process and technology will be adopted during the post-project with additional capacities. Based on the sponge iron manufacturing process, the dust generation activities or areas are identified and summarized with the existing and proposed dust emissions control measures:

**Dust generation and pollution control measures - sponge iron unit**

Operation/ Unit	Type of dust emissions	Existing dust emission control Equipment	Remarks	Proposed additional dust emission control measures
<b>Processing unit</b>				
Rotary Kiln (WHRB)	Point emission	<ul style="list-style-type: none"> <li>• Dust settling chamber</li> <li>• After Burner Chamber (ABC)</li> <li>• ESP</li> <li>• Stack</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of ESP is 98% with a stack height of 30 m.</li> <li>• Collected dust is utilized for brick manufacturing and compaction.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional ESP of 98% efficiency with stack height of 30 m will be provided for the proposed unit.</li> </ul>
Cooler discharge unit	Fugitive source	<ul style="list-style-type: none"> <li>• Bag filter</li> <li>• Stack</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of Bag filter is 90% with stack height of 6 m.</li> <li>• Collected dust is utilized for manufacturing of Briquette.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional Bag filter with Stack height of 6 m will be provided for the proposed unit.</li> <li>• Use of Trio density felt bags for bag filters will be explored.</li> </ul>
Intermediate Bin	Fugitive source	<ul style="list-style-type: none"> <li>• Bag filter</li> <li>• Stack</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of Bag filter is 90% with stack height of 12 m.</li> <li>• Collected dust is utilized for manufacturing of Briquette.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional Bag filter with stack height of 12 m will be provided for the proposed unit.</li> <li>• Use of Trio density felt bags for bag filters will be explored.</li> </ul>
Product	Fugitive	<ul style="list-style-type: none"> <li>• Bag filter</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of Bag filter</li> </ul>	<ul style="list-style-type: none"> <li>• Additional Bag filter</li> </ul>

Operation/ Unit	Type of dust emissions	Existing dust emission control Equipment	Remarks	Proposed additional dust emission control measures
Separation/ Storage House	source	<ul style="list-style-type: none"> <li>Stack</li> </ul>	<p>is 90% with stack height of 22 m.</p> <ul style="list-style-type: none"> <li>Collected dust is utilized for manufacturing of Briquette.</li> </ul>	<p>with Stack height of 22 m will be provided for the proposed unit.</p> <ul style="list-style-type: none"> <li>Use of Trio density felt bags for bag filters will be explored.</li> </ul>
Ash handling unit	Fugitive source	<ul style="list-style-type: none"> <li>Pneumatic conveying system</li> <li>Silo storage</li> <li>Water sprinkling</li> </ul>	<ul style="list-style-type: none"> <li>2 x 120 m<sup>3</sup> (one for ESP dust and other for AFBC Ash)</li> <li>Transportation from silos to ash storage area</li> </ul>	<ul style="list-style-type: none"> <li>Additional silo of 120 m<sup>3</sup> capacity shall be installed.</li> <li>Adequate water sprinkling will be provided for dust suppressions at the ash storage area. Recycled water will be used as much as possible for such activities.</li> </ul>
<b>Raw material handling and processing</b>				
Coal storage area	Fugitive source	<ul style="list-style-type: none"> <li>Closed conveyor systems of 670m length has been installed</li> <li>Water sprinkling</li> </ul>	<ul style="list-style-type: none"> <li>Closed conveyor for minimizing the fugitive dust emissions</li> <li>12 Nos. of water sprinkling units are installed at the coal storage area.</li> </ul>	<ul style="list-style-type: none"> <li>Dry Fog dust suppression system will be installed for effective curbing of dust emissions not by increasing the moisture in the coal.</li> <li>Three layers of green cover around the coal storage area will be provided for localizing the windborne dust emissions from the storage area.</li> <li>Washing arrangement for dust detachment from the wheels of the vehicles will be provided at entry /exit of coal storage yard.</li> </ul>
Iron ore storage area	Fugitive source	<ul style="list-style-type: none"> <li>Closed conveyor systems of 335m length has been installed</li> <li>Water sprinkling</li> </ul>	<ul style="list-style-type: none"> <li>Closed conveyor for minimizing the fugitive dust emissions</li> <li>3 Nos. of water sprinkling units are installed at the coal storage area.</li> </ul>	<ul style="list-style-type: none"> <li>Dry Fog dust suppression system will be installed for effective curbing of dust emissions.</li> <li>Three layers of green cover around the coal storage area will be provided for localizing the windborne dust emissions from the storage area.</li> <li>Washing arrangement for dust detachment</li> </ul>

Operation/ Unit	Type of dust emissions	Existing dust emission control Equipment	Remarks	Proposed additional dust emission control measures
				from the wheels of the vehicles will be provided at entry <ul style="list-style-type: none"> <li>• /exit of the storage yard.</li> </ul>
Coal crushing unit	Fugitive source	<ul style="list-style-type: none"> <li>• Bag filter</li> <li>• Water sprinkling</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of Bag filter is 90% with stack height of 22 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of Trio density felt bags for bag filters will be explored.</li> </ul>
Iron ore crushing unit	Fugitive source	<ul style="list-style-type: none"> <li>• Bag filter</li> <li>• Water sprinkling</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of Bag filter is 90% with stack height of 12 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of Trio density felt bags for bag filters will be explored.</li> </ul>

- 2) **Mild Steel Unit:** Existing mild steel (Ingots, Billets, TM Bars & Channel/Angles) production unit with capacity of 1,80,000 TPA will be enhanced to 3,60,000 TPA as a part of this proposal. Metal scrap and sponge iron produced are fed into the induction furnace for melting. Silico manganese, Ferro Silicon, Aluminum, Carbon and other chemicals will be added based on the metal composition requirement. The molten product will be tapped to the ladle and send to CCM followed by casting into the required forms such as billets, bars, etc. Dust emission areas of mild steel manufacturing unit are identified and presented as below:

**Dust generation and pollution control measures – mild steel unit**

Operation/ Unit	Type of dust emissions	Existing dust emission control Equipment	Remarks	Proposed additional dust emission control measures
<b>Processing unit</b>				
Induction furnace	Point emission	<ul style="list-style-type: none"> <li>• Fume Extraction System (2 Nos.)</li> <li>• Bag filter (2 Nos.)</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of Bag filter is 92% with stack height of 30 m.</li> <li>• Collected dust is utilized for manufacturing of Briquette.</li> </ul>	<ul style="list-style-type: none"> <li>• Fume Extraction System (2 Nos.) will be provided for the proposed unit.</li> <li>• Bag filter (2 Nos.) will be provided for the proposed unit.</li> <li>• Use of Trio density felt bags for bag filters will be explored.</li> <li>• The Slag grinding operations within the premises area completely stopped &amp; initiated in disposing it to the recycling vendors named Shri Hariom Trading on Agreement since 03/05/2021. This will reduce the fugitive emissions associated to the slag processing and thereby decreasing the overall net fugitive emissions from the facility.</li> </ul>

- 3) **Captive Power Plant:** NCPL has a 4 MW AFBC based and a 2 MW WHRB based captive power plants to meet internal power requirement for SI and MS production. Dolchar (a combustible waste produced during the SI manufacturing process) and coal are fed into the AFBC boiler through conveyor belt whereas the fumes from the SI kiln

is fed to the WHRB to recover the heat and use for steam generation. The steam generated from both the boilers used in the Turbine Generators for power generation. Additional AFBC boilers of 2 MW capacity and WHRB with 4 MW capacities are proposed as a part of this project.

**Dust generation and pollution control measures – CPP unit**

<b>Operation / Unit</b>	<b>Type of dust emissions</b>	<b>Existing dust emission control measures</b>	<b>Remarks</b>	<b>Proposed additional dust emission control measures</b>
<b>Processing unit</b>				
AFBC	Point emission	<ul style="list-style-type: none"> <li>• ESP</li> <li>• Stack</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of ESP is 98% with a stack height of 53 m is provided for the existing AFBC boiler.</li> <li>• Collected fly ash is utilized for manufacturing of bricks.</li> </ul>	<ul style="list-style-type: none"> <li>• ESP of efficiency 98% with a stack of 53 m will be provided for the proposed unit.</li> <li>• Water scrubbing system will be installed as per the recommendations of GPCB.</li> </ul>
<b>Raw material handling and processing</b>				
Coal storage and handling	Fugitive emission	<ul style="list-style-type: none"> <li>• Water sprinkling units</li> </ul>	<ul style="list-style-type: none"> <li>• 5 Nos. of water sprinkling units are installed at the coal storage area.</li> </ul>	<ul style="list-style-type: none"> <li>• Dry Fog dust suppression system will be installed for effective curbing of dust emissions.</li> <li>• Three layers of green cover around the coal storage area will be provided for localizing the windborne dust emissions from the storage area.</li> <li>• Washing arrangement for dust detachment from the wheels of the vehicles will be provided at entry /exit of the storage yard.</li> </ul>
Fly ash	Fugitive emission	<ul style="list-style-type: none"> <li>• Silos</li> <li>• Water sprinkling units</li> </ul>	<ul style="list-style-type: none"> <li>• 2 Nos. of silos (1 each for WHRB &amp; AFBC) area installed for better handling of ash.</li> <li>• 4 Nos. of water sprinkling units</li> </ul>	<ul style="list-style-type: none"> <li>• Additional water sprinkling units will be installed for further fly ash dust suppression for reducing the fugitive emissions.</li> </ul>

Operation / Unit	Type of dust emissions	Existing dust emission control measures	Remarks	Proposed additional dust emission control measures
			are installed for the fly ash dust suppression.	

4) **Other Pollution Control Measures:** Detailed environmental managements plan to curtail the dust generation after the proposed expansion are summarized in the above section. Based on the committed pollution control measures an approximate EMP cost is worked out and given below. A total of 378 lakhs and 56.9 lakhs respectively for capital and recurring costs will be allocated for additional dust control measures.

S No	Dust Control measures	Capital Cost (in Rs lakhs)	Recurring cost (in Rs lakhs)
<b>Sponge Iron Kiln</b>			
1	Installation of ESP at SI kiln (WHRB)	50	5
2	Installation of additional bag filter at cooler discharge area	12	1.2
3	Installation of additional bag filter at Intermediate Bin	12	1.2
4	Installation of additional bag filter at product separation/ storage house	12	1.2
5	Installation of additional bag filter units at iron ore and coal crushing units	24	1.2
<b>Mild steel</b>			
1	Installation of additional Fume extraction system and bag filters near induction area (2 Nos.)	35	3.5
<b>Captive Power Plant</b>			
2	Installation of additional ESP	50	5
<b>Other measures</b>			
1	Various fugitive dust control systems such as dry fog system, water sprinkler, road dust vacuum cleaning systems etc. especially at raw material handling and material transfer areas	150	15
2	Installation of additional online monitoring system (PM, SO <sub>2</sub> & NO <sub>x</sub> )	25	2
3	Monthly stack monitoring of Bag filter units & work zone	-	12
4	Monthly ambient air quality monitoring	-	9.6
<b>Total</b>		<b>378</b>	<b>56.9</b>

The existing pollution control systems will be upgraded in next 24 months to meet the recommend PM emission limit of 30 mg/Nm<sup>3</sup> as a part of the expansion program. In addition to this, the proposed pollution control systems such as ESPs and bag filters will be designed and operated to meet PM emission levels of 30 mg/Nm<sup>3</sup>.

**Point No. 4: Permission for ground water drawl shall be furnished.**

**Reply:**

**CGWA Application:** The total water requirement for the facility post expansion is 1450 KLD, out of which the fresh water requirement is 1293 KLD. In order to obtain

permission/NOC from CGWB for extracting ground water, an application was submitted to Central Ground Water Authority on 17.07.2020 vide Application no. 21-4/4804/GJ/IND/2019. Consequently, NOC was recommended by Central Ground Water Board CGWB West Central Region, Ahmedabad, to abstract 660 cubic meters per day (660KLD) as per the letter dated 26.08.2020. NOC is obtained from CGWA vide NOC No. CGWA/NOC/IND/ORIG/2021/11998 dated 30.03.2021 valid upto 29.03.2024 for 660 m<sup>3</sup>/day. NOC is submitted by NCPL. The remaining water demand for the proposed expansion will be met from surface water provided by GWIL. The permission letter obtained for additional water requirement of 0.7 MLD is also submitted.

**Existing Bore Wells:** According to the ground water quality data from CGWB observation wells, the TDS content in the region varies between 2500 and 3200 mg/L. The chloride content is in the range of 750 to 1000 mg/L. Each bore well within the facility are operated for 8 hours a day at a yield of 23 cum/hour resulting in a yield of 184 cum/day. Hence, the cumulative yield from the four wells will be 736 cum/day at a maximum drawdown of 17.76 m. The soil in the area is sedimentary, with sandstone and alluvial origins. The assessment unit is falling under safe category.

**Rain Water Harvesting:** The facility has obtained permission from Vadala Gram Panchayat for collection and recharge of rain water from the Vadala lake area on letter dated 17.08.2020. The proposed rain water harvesting scheme is given below:

RWH/Artificial Recharge location	Area Type	Area consider for Estimating of Runoff (m <sup>2</sup> )	Proposed Structure	Estimated water harvested in cum/year
Within plant premises	Roof-top, Road area, Open land and Green belt	353798	Storage Tank (1 no.)	41642
Outside the plant site	Open land/Unpaved area	20230	Storage Tank (1 no.)	2104
	Mokasar Pond	345378	Pond Recharge well (2 nos.)	72000
	Radhanpir Pond	597987	Pond Recharge well (2 nos.)	124381
	Sub- Total			<b>198485</b>
	Potential of total water harvesting the plant site and outside the plant site			<b>240127</b>
	Project Water requirement (660 cum/day) x No. of days (300)			<b>198000</b>

46.8.25 Based on the submission of project proponent, the proposal is re-considered by **REAC (Industry 1) in its 46<sup>th</sup> meeting held on 11-12<sup>th</sup> October, 2021.** The observations and recommendations of EAC is given as below:

**Written submissions**

46.8.26 During the course of meeting the proponent vide letter dated 12/10/2021 has further submitted the following:

- a) Revised Action plan for Public Hearing Commitments as mentioned in para 46.8.14 above.
- b) Revised proposed budget on Environmental management programs with timelines as mentioned in para 46.8.15 above.
- c) Details regarding agreement made with GWIL for surface water drawl and Commitment for phasing out the use of ground water as mentioned in para 46.8.10 above.
- d) Expanding the existing fly ash brick manufacturing facility, pollution control system and response to the public representation received by MoEF&CC as mentioned in para 46.8.24 above.

**Observations of the Committee**

46.8.27 The EAC noted the following:

- i. The EAC found that the EIA/EMP report is in order reflecting the present environmental concerns and the projected scenario for all the environmental components arising out of the proposed project with respective mitigation measures. The EAC noted that the baseline data reported and incremental GLC due to the proposed project were within NAAQ standards.
- ii. The EAC deliberated on the public hearing issues as well as action plan to address the issues raised during public hearing certified compliance report of RO & and found it satisfactory.
- iii. The Committee also deliberated upon the additional information submitted by the proponent and found it satisfactory.

**Recommendations of the Committee**

46.8.28 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 following 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. Particulate matter emissions from all the stacks envisaged under the expansion project shall be less than 30 mg/Nm<sup>3</sup>. With respect to the existing stacks, particulate matter emission level of 30 mg/Nm<sup>3</sup> shall be achieved by October, 2023 by upgradation and retrofitting of pollution control devices.
- ii. Green belt shall be developed in 33% percentage of the total area of 35.38 ha with a tree density of 2500 trees per hectare all along the periphery of the project site in a time frame of two years from the date of grant of EC.
- iii. Make up water requirement shall not exceed 1293 KLD. 660 KLD is drawn from Ground water sources and remaining from surface water sources. Ground water abstraction shall be phased out by end of Oct 2023 as committed. Thereafter, no ground water abstraction shall be permitted.
- iv. Rain water harvesting shall be carried out to achieve recharge of 240127 m<sup>3</sup>/year as committed.

- v. Solid waste utilization
  - Maximum 90 days of slag storage area shall be permitted inside the plant.
  - PP shall recycle/reuse 100 % solid waste generated in the plant.
  - Used refractories shall be recycled.

## **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 three 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. 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. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- viii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

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

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

specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

- ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

#### **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. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused in melting Furnaces.
- 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.

#### **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.
- 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 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.

46.9 Expansion in Ferro Alloys Plant furnace capacity from 6 x 9 MVA to 9 x 9 MVA to produce Ferro Manganese and silico manganese by **M/s Berry Alloys Limited** located at Plot No. 368 and 368A, APHC Growth Centre, Bobbili (Mandal) **Vizianagaram District, Andhra Pradesh**. [Online Proposal No. IA/AP/IND/75307/2017, File No. J-11011/1129/2007-IA-II(I)] – **Environment Clearance – regarding.**

46.9.1 M/s. Berry Alloys Limited has made an online application vide proposal no. IA/AP/IND/75307/2017 dated 03/10/2021 along with copy of EIA/EMP report, Form-2 and copy of certified EC Compliance report seeking Environmental 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**

46.9.2 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>
06/10/2019	12 <sup>th</sup> meeting of Re-EAC held on 21-23 <sup>rd</sup> October, 2019	Terms of Reference	11/12/2019

46.9.3 The project of M/s. Berry Alloys Limited (BAL) plot no 368 & 368 A, APIIC Growth Centre, Bobbili Village, Vijayanagaram District, Andhra Pradesh is for expansion in Ferro Alloys Plant furnace capacity from 6 x 9 MVA to 9 x 9 MVA to produce Ferro Manganese and Silico manganese [enhancement of production of Ferro Manganese from 129600 TPA to 216000 TPA, Silico Manganese from 108000 TPA to 180000 TPA, Synthetic Slag – 72000 TPA].

46.9.4 Environmental site settings

<b>S. No.</b>	<b>Particulars</b>	<b>Details</b>	<b>Remarks</b>
1	Total land	APIIC Land (Govt. Land) - 21.85 Acres (8.84 ha).	Land Use: Industrial
2	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Land is under the possession of Berry Alloys Ltd.	Lease Granted to Berry Alloys Ltd.
3	Existence of habitation &	The land acquired for the proposed	-

S. No.	Particulars	Details	Remarks																
	involvement of R&R, if any	project is APIIC industrial land. No R&R involved.																	
4	Latitude and Longitude of the project site	<table border="1"> <thead> <tr> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>18°32'27.88"N</td> <td>83°20'31.60"E</td> </tr> <tr> <td>18°32'27.49"N</td> <td>83°20'39.39"E</td> </tr> <tr> <td>18°32'29.98"N</td> <td>83°20'40.60"E</td> </tr> <tr> <td>18°32'29.18"N</td> <td>83°20'47.56"E</td> </tr> <tr> <td>18°32'21.76"N</td> <td>83°20'45.14"E</td> </tr> <tr> <td>18°32'21.55"N</td> <td>83°20'42.89"E</td> </tr> <tr> <td>18°32'21.46"N</td> <td>83°20'31.21"E</td> </tr> </tbody> </table>	Latitude	Longitude	18°32'27.88"N	83°20'31.60"E	18°32'27.49"N	83°20'39.39"E	18°32'29.98"N	83°20'40.60"E	18°32'29.18"N	83°20'47.56"E	18°32'21.76"N	83°20'45.14"E	18°32'21.55"N	83°20'42.89"E	18°32'21.46"N	83°20'31.21"E	-
Latitude	Longitude																		
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18°32'29.18"N	83°20'47.56"E																		
18°32'21.76"N	83°20'45.14"E																		
18°32'21.55"N	83°20'42.89"E																		
18°32'21.46"N	83°20'31.21"E																		
5	Elevation of the project site	122 m AMSL																	
6	Involvement of Forest land if any.	Nil																	
7	Water body exists within the project site as well as study area	<p><b>Project site:</b> None</p> <p><b>Study area:</b> Vegavati River – 1.6 KM, S. Few ponds are present within the study area</p>																	
8	Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	Nil																	

46.9.5 The existing project was accorded EC vide Ir.no. J-11011/1129/2007-IA.II (I) dated 28/08/2018 for expansion of Ferro alloy unit (4x9 MVA to 6x9MVA) for production of Ferro Manganese (129,600 TPA) or Silico Manganese (108,000 TPA) or Ferro Silica (25,200 TPA) or Ferro Chrome (36,000 TPA). Consent to Operate for the existing unit is accorded vide Ir. no. APPCB/VSP/VZM/160/HO/CFO/2019 dated 15/02/2019. The validity of CTO is up to 31/08/2022.

46.9.6 Implementation status of the existing EC dated 28/08/2018:

S No	As per EC dated 28/08/2018		Implementation status as on 07/10/2021	Production as per CTO	
	Facility	Configuration		Product	Quantity
1.	Submerged Electric Arc Furnace	6x9 MVA	5x9MVA Completed 1x9 MVA under installation	Ferro Manganese or Silico Manganese or Ferro Silica	129600 TPA 108000 TPA 25200 TPA

S No	As per EC dated 28/08/2018		Implementation status as on 07/10/2021	Production as per CTO	
	Facility	Configuration			
				or	
				Ferro Chrome	36000 TPA

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

S No	Name	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configuration	Production TPA	Configuration	Production TPA	Configuration	Production TPA
1	Ferro Manganese	Submerged Electric Arc Furnace 6x9 MVA	129600 TPA or	Submerged Electric Arc Furnace 3x9 MVA (additional)	86400 TPA or	Submerged Electric Arc Furnace 9x9 MVA	216000 TPA or
2	Silico Manganese		108000 TPA or		72000 TPA or		180000 TPA or
3	Ferro Silica		25200 TPA or		-		25200 TPA or
4	Ferro Chrome		36000 TPA		-		36000 TPA or
5	Synthetic Slag		-		72000 TPA		72000 TPA

46.9.8 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.	Input	Existing Quantity (TPA)	After Expansion (TPA)	Source	Distance from Site (Kms)	Mode of Transportation
<b>A Ferro Manganese</b>						
1	Manganese Ore	345600	518400	Open Market	100-300	Road
2	Coke	43200	64800	Open Market	100-300	Road
3	Coal	43200	64800	Open Market	100-300	Road
4	Dolomite	28800	43200	Open Market	100-300	Road
<b>B Silico Manganese</b>						
1	Manganese Ore High Grade	120000	180000	Open Market	100-300	Road
2	Manganese Ore Low Grade	144000	216000	Open Market	100-300	Road
3	Ferro Manganese Slag	60000	90000	Open Market	100-300	Road
4	Coke	48000	72000	Open Market	100-300	Road

S. No.	Input	Existing Quantity (TPA)	After Expansion (TPA)	Source	Distance from Site (Kms)	Mode of Transportation
5	Coal	48000	72000	Open Market	100-300	Road
6	Quartz	24000	36000	Open Market	100-300	Road
7	Dolomite	24000	36000	Open Market	100-300	Road
<b>C Ferro Silica</b>						
1	Quartz	25200	25200	Open Market	100-300	Road
2	Mill Scale	6000	6000	Open Market	100-300	Road
3	Coke	8500	8500	Open Market	100-300	Road
4	Charcoal	12348	12348	Open Market	100-300	Road
<b>D Ferro Chrome</b>						
1	Chrome ore	79200	79200	Open Market	100-300	Road
2	Coke	23400	23400	Open Market	100-300	Road
3	Coal	9000	9000	Open Market	100-300	Road
4	Dolomite	1080	1080	Open Market	100-300	Road
5	Quartz	9000	9000	Open Market	100-300	Road
<b>E Synthetic Slag</b>						
1	Bauxite	-	54720	Open Market	100-300	Road
2	Lime	-	23760	Open Market	100-300	Road
3	Calcined Dolomite	-	17640	Open Market	100-300	Road

46.9.9 The water requirement for the total project is estimated as 140 KLD (existing 90 KLD and additional 50 KLD), which will be met from APIIC Growth Centre.

46.9.10 The power requirement for the project is estimated as 62000 kVA (existing 38000 kVA and additional 24000 kVA), and will be obtained from Eastern Power Distribution Company of Andhra Pradesh Limited. 1x 250 kVA DG set is available for emergency uses in existing plant.

46.9.11 Baseline Environmental Studies

Period	October 2019 to December 2019	Additional Study – June 2021 (Water and Noise)			
AAQ parameters at 8 locations	PM <sub>10</sub> - 47.60 to 70.10 µg/m <sup>3</sup> . PM <sub>2.5</sub> - 15.30 to 30.20 µg/m <sup>3</sup> SO <sub>2</sub> - 8.30 to 18.40 µg/m <sup>3</sup> NO <sub>2</sub> - 12.40 to 23.70 µg/m <sup>3</sup> CO-0.13 to 0.49 µg/m <sup>3</sup>	-			
AAQ modelling	PM- 1.8 µg/m <sup>3</sup> . at 1.0 km/ SW SO <sub>2</sub> - 0.4 µg/m <sup>3</sup> . at 1.0 km/ SW NO <sub>x</sub> - 6.40 µg/m <sup>3</sup> . at 1.0 km/ SW	-			
Ground water quality at 8 locations	pH: 6.79 to 7.52, Total Hardness: 216.2 to 441.6 mg/l, Chlorides: 39.77 to 765.08 mg/l, Fluoride: 0.98 to 1.32 mg/l. Heavy metals are within the limits.	pH values - 7.15-7.86 Total dissolved solids - 275-464 mg/ l Total Hardness 198-356 mg/l Sulphates 108-158 mg/l; Chlorides 125-218 mg/l Heavy metals are within the limits.			
Surface water quality at 4 locations	pH: 7.09 to 8.16; DO: 7.1 to 7.9 mg/l; BOD: 1.1 to 1.30 mg/l; COD from 4.80 to 5.40 mg/l.	pH : 7.4 – 7.9 Total dissolved solids: 198 – 391 mg/l. Total Hardness: 215 – 256 mg/l. BOD: 2.2 – 2.7 mg/l. DO: 3.8 – 5.3 mg/l COD: 9.1 to 14.0 mg/l			
Noise levels	45.0 to 65.8 dBA for the day time and 32.4 to 44.7 dBA for the Night time.	45.3 to 72.8 dBA for the day time and 40.3 to 67.6 dBA for the Night time.			
Traffic assessment study findings	<b>Material</b>	<b>Quantity (TPD)</b>	<b>Capacity of Trucks (Tonnes)</b>	<b>Number of Trucks/Day</b>	<b>PCU</b>
	<b>Existing</b>				
	Raw	1134	30	38	114
	Finished	393	30	13	39
	<b>Proposed</b>				
	Raw	567	30	19	57
	Finished	197	30	7	21
	Car			5.0	5.0
	Two wheelers			50	25.0
	<b>Total</b>				
					<b>261/24 = 10.87</b>
Existing Hourly PCUs of SH-36 is 430.6. After Expansion it will be - 441.47 PCUs					
Flora and	No Schedule-I species is present in study area. No Critically Endangered				

fauna	flora found in the study area.
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46.9.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

Item	Existing	Proposed	Total	Management
Slag (TPD)	270	90	360	Sold to Brick Manufacturing unit
Dust From Bag filter (TPD)	2.5	1.0	3.5	Reuse inside process
Kitchen Waste (@ 0.2 kg/p/d)	34	10.0	44.0	Bio digester will be provided
Waste Oil (KL/Annum)	0.25	0.25	0.5	This will be stored in covered HDPE drums in a designated area and will be given to SPCB authorized recyclers & re-processors

46.9.13 Public Consultation:

Details of advertisement given	25/12/2020
Date of public consultation	29/01/2021
Venue	Near Plant Site
Presiding Officer	Additional District Collector
Major issues raised	i. Pollution control and Plantation. ii. Employment to local people. iii. Water Pollution iv. Skin problems due to pollution. v. Company not complying the existing norms

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

S No	Concerns raised during the PH	Physical activity and action plan	Tentative Budget Rs Lacs	Target date for action plan
1	Air Pollution	<ul style="list-style-type: none"> <li>Adequate Stack height (30-m) will be provided</li> <li>PTFE Bag filters will be provided to control the particulate matter Emission Below 30 mg/Nm<sup>3</sup>.</li> <li>Vacuum Cleaning of the roads will be done</li> <li>Water sprinkling will be done to control the fugitive emission</li> </ul>	3.45 Crores	Before COD of the Plant
2	Effluent generated from the project	The waste water generated from domestic use will be treated in STP and treated effluent will be used for garden on own land.	0.75 Cr	Before COD of the plant
3	Social Activity	We are continuously doing CSR Activities in nearby villages.	0.30 Cr	With in 6 to 12 months

S No	Concerns raised during the PH	Physical activity and action plan	Tentative Budget Rs Lacs	Target date for action plan
		<p>Under CSR Activity following activities done by BAL:</p> <ol style="list-style-type: none"> <li>1. Provided drinking water facility in village Burjavalasa.</li> <li>2. Supplied desk to School (village Burjavalasa).</li> <li>3. Plantation in Village Mettavalasa.</li> <li>4. Provided water supply to Village Panukuvalasa with 32 outlets with 10 KL tank</li> </ol> <p>Further, Following additional Activities is proposed : Development of Library in Metavalasa School.</p> <ol style="list-style-type: none"> <li>1. 06 nos. computers in Burjavalasa School</li> <li>2. Plantation in Panukuvalsa Village.</li> <li>3. 05 nos. of Computer in Bobbili Sr. Secondary School</li> <li>4. Provided water supply to Village Paridi with 32 outlets with 10 KL tank</li> <li>5. Provided water supply to Village Golladi with 10 KL tank</li> </ol>		
4	Solid waste generated from the project	Slag will be sold to brick manufactures	0.30 Cr	Time to Time

#### Social Activity Proposed

S No	Activity	Amount	Time Frame
1	<p>Development of Library in Mettavalasa School.</p> <p>Providing 4 nos. Table and 16 nos. of Chairs</p> <p>Providing bookshelves 4.0 Nos.</p> <p>Providing 4 Nos ceiling Fans</p> <p>2 nos. Desktop Computers and 1500 Books</p>	INR10.0 Lakhs	6 Months
2	<p>Plantation in Panukuvalsa Village.</p> <p>750 Plant with tree guards both side of the road. (@ INR 800 per plant with Tree Guard)</p>	INR 6.0 Lakhs	6 Months
3	6 nos. of Computer in Bobbili Sr.	INR 2.1	6 Months

S No	Activity	Amount	Time Frame
	Secondary School (6 Nos. x INR 35000 = INR 2,10,000)	Lakhs	
4	Provided water supply to Village Paridi with 100 KL tank. The tank will be designed by consulting Public water supply department Bobbili.	INR 15.0 Lakhs	12 months
5	6 nos. computers in Burjavalasa School (6 Nos. x INR 35000 = INR 2,10,000)	INR 2.1 Lakhs	6 Months
6	Provided water supply to Village Golladi with 75 KL tank. The tank will be designed by consulting Public water supply department Bobbili	INR 12.0 Lakhs	9 Months
<b>Total</b>		<b>INR 47.2 Lakhs</b>	<b>Time Frame: Six to 12 Months</b>

46.9.14 The capital cost of the project is Rs 30.0 Crores and the capital cost for environmental protection measures is proposed as Rs. 5.62 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 0.725 Crores. The employment generation from the proposed expansion during the construction phase will be about 150 Nos. and during Operation phase will be additional 50 Nos. The details of cost for environmental protection measures is as follows:

S. No	Item	Capital Cost (Rs. Lakhs)	Recurring Cost per annum (Rs. Lakhs)	Time Frame
1	Air Pollution Control <ul style="list-style-type: none"> <li>• Fume Extraction System &amp; Bag Filters</li> <li>• Dust Management System</li> <li>• Online Monitoring System (AAQMS &amp; CEMS)</li> <li>• Stacks (2 Nos)</li> </ul>	200 50 50 45	20.0	Within 1 Year
2	Water Pollution Control <ul style="list-style-type: none"> <li>• STP</li> <li>• Rain Water Harvesting</li> <li>• Drainage</li> </ul>	30 25 20	10.0	Within 6 Months
3	Noise Pollution Control	20	5.0	Within 1 Year
4	Solid waste Management	30	10.0	Within 1 Year
5	Environment Monitoring and Management	20	12.5	Within 6 Months
6	Occupational Health	10	7.0	Ongoing
7	Greenbelt	15	3.0	Within 1 Year
8	Public hearing Issues related	47.2	5.0	Within 6 to 12

S. No	Item	Capital Cost (Rs. Lakhs)	Recurring Cost per annum (Rs. Lakhs)	Time Frame
	cost			months
	<b>Total</b>	<b>562.2</b>	<b>72.5</b>	

46.9.15 Greenbelt will be developed in 3.0 ha (7.4 acre) which is about 33.9% of the total project area. A 6.0-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 7500 saplings is required as per the MOEFCC guidelines. Existing 4225 nos plants are available at site and remaining 3275 will be planted within a Year.

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

46.9.17 Name of the EIA consultant: M/s. Ampl Environ Pvt. Ltd. [S.No. 130, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office:**

46.9.18 The Status of compliance of earlier EC was obtained from Regional Office, Vijayawada vide letter no. IRO/VIJ/EPA/MISC/111-01/2021 dated 03/09/2021 in the name of M/s. Berry Alloys Ltd. The Action taken report regarding the partially/non-complied condition was submitted to Regional officer MoEF&CC, Vijayawada vide letter no. nil dated 11/09/2021 MoEF&CC (RO), Vijayawada evaluated the same and has issued letter dated 15/09/2021. 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:

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
<b>Common Observations</b>				
1.	It is required to establish at least four ambient air quality monitoring stations in the downward directions as well as where maximum ground level concentrations of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the APPCB	Action taken report submitted by the project proponent on 11/09/2021 PP is in the process of procuring AAQ Monitoring instruments. PP enclosed quotations taken from the vendors. PP will be installing these AAQ stations within Six Month's Time.	As per the ATR submitted, it has been observed that the PAs are in process of installing continuous AAQ monitoring stations in the plant premises. In this regard quotation ref no. 106-BAL/21-22 dated 07.09.2021 has been submitted along with ATR. It has been assured that the PAs will be installing CAAQMS stations within six months of time.	Compliance under progress. AAQ stations within Six Months' Time.

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
2.	It is recommended to monitor all the environmental parameters viz., Stack Emissions, Ambient Air Quality (AAQ), Work Zone Emissions, Noise levels, Water Quality, etc by MoEFCC/NABL accredited laboratory once in two months and the monitoring reports to be submitted along with six monthly compliance reports.	PP will monitor all the environmental parameters viz., Stack Emissions, Ambient Air Quality (AAQ), Work Zone Emissions, Noise levels, Water Quality, etc by MoEFCC/NABL accredited laboratory once in two months and the monitoring reports will be submitted along with six monthly compliance reports.	As per the ATR submitted, PAs have assured that the observation will be complied.	To be complied.
3.	It is required to install ETP for treatment of surface runoff water from the mineral storage yard and also install effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules, 1986 and CPCB. It requires immediate action.	There will not be process waste water generated in the project. Hence, ETP was not Provided. Further, for the surface runoff water from the mineral storage yard we have made dedicated collection area and water processed through sand and gravel beds, after treatment water discharged through rainwater harvesting structures. The photographs for the same enclosed by PP.	As per the ATR submitted, it has been observed that the PAs have provided water collection pits at the mineral storage yard and after treating the water by gravitational settling method, the overflow water is being routed to rain water harvesting system.	Reportedly complied.
4.	It is required to provide Sewage Treatment plant for domestic wastewater.	Currently PP is practicing for sewage Septic tank followed by Soak Pit. PP is in process to install the STP with a Capacity 10-KLD. The vendor offer details are enclosed by PP.	As per the ATR submitted, it has been observed that the PAs are in process of installing STP of capacity 10 KLD. In this regard, Techno-commercial proposal for 10 KLD has been prepared and submitted by M/s Star Analytical Services to PAs vide ref no. SAS/STP/21-22/28 dated 09.08.2021.	Compliance under progress.

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
5.	It is required to develop the green belt with native tree species in accordance with CPCB guidelines, the green belt inter alia cover the entire periphery of the plant. It requires immediate action.	Till date PP has planted 4225 nos. of saplings in that 500 mango trees, 1500 teak, 200 Coconut, 710 Ashoka, 490 Jedi and 825 other mixed plants. Further, PP will plant more native trees species in accordance with CPCB Guidelines. PP will also the developed green belt to cover entire periphery of the plant. Existing greenbelt photographs Attached by PP.	As per the ATR submitted, it has been observed that the PAs have assured that the green belt will be developed with native trees species in accordance with CPCB Guidelines and also the developed green belt to cover entire periphery of the plant.	It is required to develop the green belt with native tree species in accordance with CPCB guidelines, the green belt inter alia cover the entire periphery of the plant. It requires immediate action.
6.	It is required to provide the detailed compliance status of all the environmental protection measures and safeguards recommended in the EIA/EMP reports.	PP submitted that they are complying the environmental protection measures and safeguards recommended in the EIA/EMP reports. The compliance status of the same is attached by PP.	As per the ATR submitted, it has been observed that the PAs have submitted the detailed compliance status of EIA/EMP report. As per the report submitted, it has been observed that the PAs are in process of complying all the conditions mentioned in the EIA/EMP report.	It is required to provide the detailed compliance status of all the environmental protection measures and safeguards recommended in the EIA/EMP reports.
7.	It is required to upload the copy of EC letter, status of compliance of the stipulated environment clearance conditions, including results of monitored data, the criteria pollutants level namely; PM10, SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects, Environmental Statement for each financial year in Form-V on the website of the company for access to the public.	Now PP has Uploaded EC letter, status compliance report and monitoring data of AAQ and stack emissions in our company website. The website screen shots are enclosed by PP.	As per the ATR submitted, it has been observed that the PAs have uploaded the copies of ECs, six monthly compliance report and Environmental Statement in Form-V in the company website ( <a href="http://berryalloys.com/ec.html">http://berryalloys.com/ec.html</a> ).	Complied.

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
8.	It is required to submit the Environmental Statement for each financial year in Form-V to Integrated Regional Office (IRO), Vijayawada by e-mail (ecompliance-ap@gov.in) and also uploaded and regularly updated on the website of the company.	PP is submitting the environmental statement in Form V to Andhra Pradesh pollution control board for each fanatical year. Further PP has submitted the form V to Integrated Regional Office (IRO), Vijayawada by e-mail (ecompliance-ap@gov.in) and further will follow the same. Now PP have the form V statement in its company website. The website screen shots are enclosed by PP.	As per the ATR submitted, it has been observed that the PAs have uploaded the copies of ECs, six monthly compliance report and Environmental Statement in Form-V in the company website ( <a href="http://berryalloys.com/ec.html">http://berryalloys.com/ec.html</a> ). However, the latest Environment Statement for the year 2019-20, 2020-21 were not submitted.	Complied.
<b>EC dated 28/08/2018</b>				
1.	It has been observed that the continuous Ambient Air Quality monitoring stations are not installed. It is required to install continuous Ambient Air Quality Page 6 of 11 monitoring for common / criterion parameters relevant to the main pollutants released, the plant area at least at four locations one within and three outside the plant area at an angle of 120° each covering upwind and downwind directions. It requires immediate action (Condition no. 4c).	Monitoring ambient air quality (AAQ) at three locations viz., Near Security Gate, Near Pump House and Near Technical Office by third party monitoring agency of M/s SV Enviro Labs & Consultants, Visakhapatnam. Reports are enclosed. Further, PP is in the process of procuring AAQ Monitoring instruments. PP enclosed quotations taken from the vendors. PP will be installing these AAQ stations within Six Month's Time.	As per the ATR submitted, it has been observed that the PAs are in process of installing continuous AAQ monitoring stations in the plant premises. In this regard quotation ref no. 106-BAL/21-22 dated 07.09.2021 has been submitted along with ATR. It has been assured that the PAs will be installing CAAQMS stations within six months of time.	Compliance under progress

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
2.	It is required to submit monthly summary report of continues stack emission and air quality monitoring and results of manual stack monitoring for calibrations of CEMS and manual monitoring of air quality / fugitive emissions to Regional office of MoEF&CC, Zonal office of CPCB and Regional office of SPCB along with six – monthly monitoring reports (Condition no. 4d)	Currently PP is submitting to Regional office SPCB. Henceforth, PP will comply and submit six monthly report to Regional office of MoEF&CC, Zonal office of CPCB and Regional office of SPCB.	As per the ATR submitted, PAs have assured that the observation will be complied.	To be complied.
3.	It is required to submit monthly summary report of continuous effluent monitoring and results of manual effluent testing of ground water quality to Ministry's IRO, Vijayawada along with six monthly compliance report on regular basis (Condition no. 5c).	There is no industrial effluent generated. The ground water quality at eight locations viz., Near plant site, Burjvala, Mettavalasa, Paradi, BolladiAgraharam, Bobbili, Dongurulavalasa and Sompuramat twice a year at and records are being maintained. Reports are enclosed. PP will submit reports to Ministry's IRO, Vijayawada along with Compliance Report.	As per the ATR submitted, PAs have assured that the observation will be complied.	To be complied.
4.	It is required to provide solar power generation on roof tops of building and maintain the same regularly (Condition no. 9d).	Will be complied. Currently PP has installed 15 nos. of Solar lights. Further, we are in process of installing solar light system for all common areas, street lights, parking around project area.	It is required to provide solar power generation on roof tops of building and maintain the same regularly (Condition no. 9d).	To be complied.

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
5.	It is required to prepare GHG emissions inventory for the plant and should submit the programme for reduction of the same including carbon sequestration including plantation. It requires immediate action (Condition no. 11)	The details are submitted by PP.	As per the ATR submitted, it has been observed that the PAs have submitted GHG emissions inventory for the plant has submitted.	Complied.
6.	It is required to provide the copy of latest emergency preparedness plan based on the hazard identification and Risk assessment (HIRA) and Disaster Management plan to Ministry's IRO, Vijayawada for records (Condition no. 12).	The latest emergency preparedness plan based on the hazard identification and Risk assessment (HIRA) and Disaster Management plan is enclosed by PP.	As per the ATR submitted, the copy of emergency preparedness plan based on the hazard identification and Risk assessment (HIRA) and Disaster Management plan has submitted.	Complied.
7.	It is required to provide the copy of latest heat stress analysis report for the workmen who work in high temperature work zone to Ministry's IRO, Vijayawada for records (Condition no. 13).	PP is conducting heat stress analysis for the workmen who work in high temperature work zone and also provided required Personal Protection Equipment (PPE) to the same. The latest Heat stress analysis report is Enclosed by PP.	As per the ATR submitted, it has been observed that the PAs have conducted heat stress analysis at furnace 1st Floor and furnace ground floor by M/s Star Analytical Services, Guntur and the report submitted.	Complied.
8.	It is required to submit the copy of the board resolution by Board of Directors regarding the infringements/ non-compliance of EC conditions of the project as a part of six monthly compliance reports on regular basis to Ministry's IRO, Vijayawada (Condition no. 14)	The copy of Board resolution is submitted.	As per the ATR submitted, PAs have submitted the copy of board resolution by Board of Directors regarding the infringements/ non-compliance of EC conditions	Complied.

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
9.	It is requires to submit the copies of newspaper advertisements made in two local newspapers that are widely circulated in the region of which one shall be in the Page 10 of 11 vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at <a href="http://envfor.nic.in">http://envfor.nic.in</a> (Condition no. 24c)	Copy of News Paper Advertisement of Environment Clearance are submitted.	As per the ATR submitted, it has been observed that the PAs have submitted the copies of newspaper advertisements regarding grant of EC to the project.	Complied.
<b>EC dated 07/07/2017</b>				
1.	It is required to submit the 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 Integrated Regional Office, Vijayawada along with six monthly compliance reports on regular basis (specific condition no. xviii).	Recent TCLP report of slag is enclosed as Annexure XV. Further, PP will submit the report along with six monthly compliance report to Ministry's IRO, Vijayawada.	As per the ATR submitted, it has been observed that the PAs have submitted TCLP and comprehensive hazardous analysis test report dated 11.09.2021 of the solid waste. As per the report submitted the parameters are within the permissible limits. PAs have also assured that the TCLP report will be submitted along with six monthly compliance reports on regular basis to IRO, Vijayawada	Complied.
<b>EC dated 19/06/2008</b>				

Sl. No.	Non Compliances Reported in EC dated 19/06/2008, 07/07/2017 and 28/08/2018 (RO Report dated 03/09/2021)	Corrective Action Taken (ATR submitted by PP on 11/09/2021)	Present status (RO Report dated 15/09/2021)	Remarks
1.	It is required to submit the 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 Integrated Regional Office, Vijayawada along with six monthly compliance reports on regular basis (specific condition no. vi).	Recent TCLP report of slag is enclosed as Annexure XV. Further, we will submit the report along with six monthly compliance report to Ministry's IRO, Vijayawada.	As per the ATR submitted, it has been observed that the PAs have submitted TCLP and comprehensive hazardous analysis test report dated 11.09.2021 of the solid waste. As per the report submitted the parameters are within the permissible limits. PAs have also assured that the TCLP report will be submitted along with six monthly compliance reports on regular basis to IRO, Vijayawada	Complied.
<p><b>Conclusion of RO Report dated 15/09/2021:</b> The PAs have complied or are in process of complying the conditions stipulated by the Ministry. In this context, information/action plans have been sought on following points.</p> <ol style="list-style-type: none"> <li>1. It is required to upload the results of monitored data, 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 latest Environmental Statement (2019-20 and 2020-21) in Form-V on the website of the company for access to the public.</li> <li>2. It is required to submit the latest Environmental Statement (2019-20 and 2020-21) in Form-V to IRO, Vijayawada.</li> <li>3. It is required to provide solar power generation on roof tops of building and maintain the same regularly.</li> </ol>				

46.9.19 The proponent had earlier applied vide proposal no. IA/AP/IND/204152/2019 dated 09/06/2021 wherein the proposal was considered in 38<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 15-16<sup>th</sup> June, 2021. The observations and recommendations of EAC are given as below:

**Observations of the Committee (EAC during 15-16<sup>th</sup> June, 2021)**

- 46.9.20 The Committee noted the following:
- The signatures of all team members involved in EIA report preparation are scanned.
  - TOR point 9 pertaining to Corporate Environment Policy has not been addressed as per the TOR requirement.
  - TOR Point 11 pertaining to action plan to address the issues raised during public hearing as per MoEF&CC O.M. dated 30/09/2020 has not been furnished.
  - Raw Material requirement for existing units, solid waste generation and other details on existing units have not been addressed.
  - Process details are available only for FeMn and SiMn only. No process details are made available for existing products and synthetic slag.
  - Details of Fume Extraction System (FES) for furnace and type of furnace are not available in the report.
  - Chapter 2 - The description is not as per Appendix III of EIA Notification 2006.
  - AAQ monitoring station locations as shown in Figure 3.2 are not as per the wind rose diagram shown in Figure 3.1 of the EIA report.

- ix. Total Suspended Solids (TSS) level in village ponds is varying between 2 mg/l to 8 mg/l. BOD between 1.1 to 1.3 mg/l and COD between 4.8 to 5.4 mg/L. Analytical results indicate the data has not been collected properly.
- x. Noise levels have been monitored from 5.5 to 7.0 Km from plant site. No explanation is available for selection of noise sampling stations far away from the project site.
- xi. EB section presents the inventory of biodiversity of the study area. No analysis or interpretation of data with respect to the importance of biodiversity to the area studied and the potential impact of the project on the same has been done.
- xii. 40 Villages have been covered in SE study in 10 km area. The report mentions that EIA was carried out in three different stages i.e.,- Desk Research, Data Analysis and Report Preparation. In the report only demographic profile is available. Data Analysis and interpretation of data could not be found.
- xiii. Worst case scenario AAQ modelling has not been done.
- xiv. Chapter 10 does not give quantified EMPs to be implemented in time bound manner indicating budget provision for each EMP as required under the provisions of Chapter 10 Appendix III of EIA Notification 2006.
- xv. Action taken report of PP against the observed no-compliances of Regional Office has not been verified by the Regional Office.

**Recommendations of the Committee (EAC during 15-16<sup>th</sup> June, 2021)**

- 46.9.21 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings mentioned above.
- 46.9.22 The proponent has again applied vide proposal no. IA/AP/IND/75307/2017 dated 03/10/2021. The proposal was considered by REAC (Industry 1) in its 46<sup>th</sup> meeting held on 11-12<sup>th</sup> October, 2021. The observations and recommendations of EAC is given as below:

**Written submissions**

- 46.9.23 During the course of meeting the proponent vide letter dated 12/10/2021 has further submitted the following:
- a) An undertaking dated that they will comply with all the Non compliances issued by IRO MOEFCC Vijayawada on or before 31<sup>st</sup> January, 2022 which are as follows:
    - 1. Greenbelt Development with local broad leaves native species. Total plantation 7500 Plants will be planted in 3.0 ha of land.
    - 2. Installation of Sewage Treatment Plant.
    - 3. Submission of monitoring reports per every two months in which latest report will be submitted latest by November 2021 to RO MOEFCC and SPCB.
  - b) An undertaking stating that they will not manufacture Ferro Chrome. Proponent has been granted environment clearance for manufacturing of Ferro chrome along with other products vide EC No. J11011/1129/2007-IA. II (I) dated 28<sup>th</sup> August 2018. Now proponent is withdrawing ferro chrome and only manufacture Ferro Manganese, Silico Manganese Ferro Silica, and Synthetic Slag only. Further, proponent will take amendment in Consent for Operate from State Pollution Control Board for removal of Ferro Chrome production.
  - c) Revised CER action Plan considering of physical activity as mentioned in para 46.9.13 above.
  - d) Revised Environmental Management Plan Cost as mentioned in para 46.9.14 above.

### **Observations of the Committee**

46.9.24 The Committee noted the following:

- i. The EAC found that the revised EIA/EMP report is in order reflecting the present environmental concerns and the projected scenario for all the environmental components arising out of the proposed project with respective mitigation measures.
- ii. The EAC also deliberated on the certified compliance report from RO along with the action taken report of PP, public hearing issues & action plan to address the issues raised during public hearing and written submissions and found it satisfactory.
- iii. The project proponent has requested the EAC to withdraw the Ferro Chrome from the product details.

### **Recommendations of the Committee**

46.9.25 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 following 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. Particulate Matter emissions from all the stacks shall be less than 30mg/Nm<sup>3</sup>.
- ii. Submerged Arc Furnace shall be equipped with the fourth hole fume extraction system.
- iii. All roads shall be made Pucca and a vacuum cleaner shall be used to clean the roads.
- iv. Green Belt shall be developed in 33 % land with tree density of 2500 trees per ha all along the periphery of the project site by January, 2022.
- v. 100 % slag generated from the process shall be utilized. Compliance status in this regard shall be submitted to the Regional Office of the MoEF&CC.
- vi. Four Continuous Ambient Air Quality monitoring stations under installation shall be commissioned and connected to the SPCB/CPCB server by end of January, 2022. All other non-complied and partially complied EC conditions stated in the inspection report of Regional Office dated 15/09/2021 shall also be complied by January, 2022 as committed by the proponent. Compliance status in this regard shall be submitted to the Ministry and Regional Office of the MoEF&CC by 31/01/2022.

#### **A. 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 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. 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. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.
- vi. The project proponent shall provide primary and secondary fume extraction system at all heat treatment furnaces.
- vii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- 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 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.
- ii. 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.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

### **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 as far as possible.
- 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 and also estimate carbon

sequestration by the plantations.

**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.
- 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.

46.10 Establishment of Manufacturing unit of 2 X 100 TPD Sponge Iron (DRI) Plant and 2 MW/Hr Captive Power Generation Plant by **M/s. PVSR Steel And Power Private Limited** located at SY No. 228/1, 228/2, 228/3, Halakundi Village, **Ballari Taluk & District, Karnataka**. [Online Proposal No. IA/KA/IND/138176/2020; File No.: J-11011/42/2020-IA.II(I)] – **Environment Clearance– regarding**

46.10.1 M/s PVSR Steel and Power Pvt. Ltd has made an online application vide proposal no. IA/KA/IND/138176/2020 dated 4/10/2021 along with copy of EIA/EMP report and Form -2 seeking 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 also attracts general conditions due to inter-state boundary (Karnataka - Andhra Pradesh Boundary) which is 2.17 Km, SW from project site. Hence, the project is appraised at Central Level.

**Details submitted by Project proponent**

46.10.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
22/01/2020	16 <sup>th</sup> Meeting of REAC held on 24/02/2020	Terms of Reference	05/05/2020

Date of application	Consideration	Details	Date of accord
17/10/2020	24 <sup>th</sup> Meeting of REAC held on 27/10/2020	Amendment in ToR	15/12/2020

46.10.3 The project of M/s PVSR Steel and Power Pvt. Ltd located in Halakundi Village, Ballari Tehsil, Ballari District, Karnataka State is for setting up of a 2 X 100 TPD Sponge Iron (DRI) Plant and 2 MW/Hr Captive Power Generation Plant.

46.10.4 Environmental Site Settings:

S. No	Particulars	Details	Remarks
i.	Total Land	7.34 ha	Converted for industrial purpose
ii.	Land acquisition details as per MoEF & CC O.M dated 7/10/2014	There is no land acquisition. The entire land is under the possession of proponent.	
iii.	Existence if habitation & involvement of R & R, if any	Nil	-
iv.	Latitude and Longitude of the project site	<b>Latitude</b>	<b>Longitude</b>
		15 <sup>0</sup> 04'21.76'' N	76 <sup>0</sup> 52'17.43'' E
		15 <sup>0</sup> 04'18.80'' N	76 <sup>0</sup> 52'22.08'' E
		15 <sup>0</sup> 04'32.36'' N	76 <sup>0</sup> 52'31.95'' E
	15 <sup>0</sup> 04'25.31'' N	76 <sup>0</sup> 52'29.02'' E	
v.	Elevation of the project site	495 m AMSL	-
vi.	Involvement of Forest land if any	Nil	-
vii.	Water body exists within the project site as well as study area	<p><b>Project Site- Nil</b></p> <p><b>Study Area:</b></p> <ul style="list-style-type: none"> <li>• Tungabhadra Canal – 4.54 Km, NW</li> <li>• Narihalla Dam and Reservoir – 29.09 Km, W</li> <li>• Halkundi Lake – 1.40 Km, SE</li> <li>• Allipura Kere – 8.86 Km, NW</li> <li>• Alripura Nirina Sangraha – 8.65 Km, NW</li> <li>• Chinna Hagari River – 17.75 Km, SW</li> <li>• Vedavathi River – 19.03 Km, N</li> <li>• Tungabhadra River – 30.81 Km, NW</li> </ul>	-
viii.	Existence of ESZ/ESA/National	<b>Project Area: Nil</b>	-

	Park/Wild Life Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve, etc. if any within the study area.	<b>Study Area:</b> <ul style="list-style-type: none"> <li>• Ballari RF – 0.93 Km, SW</li> <li>• Mincheri RF – 2.80 Km, SE</li> <li>• Metriki RF – 9.11 Km, SW</li> <li>• Hirehalu RF – 10.62 Km, SW</li> <li>• Daroji Sloth Bear Sanctuary – 42.6 Km, NW</li> </ul>	
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46.10.5 The project proponent has taken over a sick unit having 50 TPD kiln which will be upgraded to 100 TPD and a new 100 TPD kiln will be added. Thus, proposal involves establishment of 2 x 100 TPD Sponge Iron Manufacturing Unit and 2 MW/Hr Captive Power Generation Plant.

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

Sl. No.	Name of Unit	Capacity of each unit	Production capacity
1	Sponge Iron Plant	2 x 100 TPD	200 TPD
2	Captive Power Plant	2 MW/Hr	2 MW/Hr
3	Boiler (WHRB)	2 x 5 TPH	2 x 5 TPH

46.10.7 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	Qty. (TPA)	Distance from Project Site	Source & Mode of Transportation
1	Iron Ore	1,38,600	130 Km	Local mines. By road through covered trucks
2	Imported Coal	66,000	450 Km	Imported. By road from ports through covered trucks
3	Lime Stone	3300	150 Km	Local mines. By road through covered trucks

46.10.8 The water requirement for the project is estimated as 160.5 KLD out of which 5 KLD of fresh water requirement will be obtained from the KUWS&DB and the remaining requirement of 155.5 KLD will be met from Ballari Municipal Corporation to utilize tertiary treated water.

46.10.9 The power requirement for the project is estimated as 1 MW which will be procured from in house captive generation unit (WHRB).

46.10.10 Baseline Environmental Studies:

Period	Initially, the study period for the project was from March-April-May, 2020 and accordingly, the baseline environmental monitoring was started from 01.03.2020. However, due to COVID-19 lock down, the data collection was discontinued on 23.03.2020. Further, the data collection resumed from October, November, 2020 and up to 5 <sup>th</sup> December, 2020.
AAQ Parameters at 8	PM <sub>10</sub> = 48.7 - 112.8 µg/m <sup>3</sup> PM <sub>2.5</sub> = 12.4 - 56.8 µg/m <sup>3</sup>

Locations	<p>SO<sub>2</sub>= 5.42 – 25.4 µg/m<sup>3</sup>  NO<sub>2</sub> = 6.16 – 29.41 µg/m<sup>3</sup>  CO =0.36 – 1.35 mg/m<sup>3</sup></p> <p>The maximum concentrations of PM<sub>10</sub> at project site was 78 µg/m<sup>3</sup> and AQI for the Project Site for PM<sub>10</sub> is found to be ‘Satisfactory’. Whereas, for outside the industry at Mincheri Village (A3), Halkundi Village (A5) and Industrial Cluster (A6) is ‘moderate’ with maximum 112.80 µg/m<sup>3</sup> due to industrial operations in the surrounding area contributing more to the existing air quality.</p>												
AAQ Modelling (Incremental GLCs) AERMOD CLOUD CALINE PRO	<p>PM = 32.54 µg/m<sup>3</sup> (March) and 48.1 µg/m<sup>3</sup> (Oct-Nov) at a distance of 100 m towards S direction.  SO<sub>2</sub> = 8.62 µg/m<sup>3</sup> (March) and 12.75 µg/m<sup>3</sup> (Oct-Nov) at a distance of 100 m towards S direction.  NO<sub>x</sub> = 0.47 µg/m<sup>3</sup> (March) and 51.98 µg/m<sup>3</sup> (Oct-Nov) at a distance of 100 m towards S direction.</p>												
Ground Water at 10 Locations	<p>pH:6.91 to 7.88, Total Hardness:280 to 880 mg/L, Chlorides 111.17 to 431.7 mg/L, Flouride 0.28 to 1.30 mg/L, Heavy metals (max): Cu 0.033 mg/L, Zn 1.181 mg/L, Fe 0.656 mg/L.</p> <p>The TDS and Total Hardness values are exceeding the standards due to extensive irrigation activities and abstraction of ground water in the area. The same is addressed in the EIA report.</p> <p>Nitrate values in the ground water samples of ranges from 16.37 mg/L (GW-1) to 53.99 mg/L (GW-6) and the values at GW4, GW5, GW6, GW7, GW8, GW9 and GW10 are exceeding the standards due to application of Nitrogen, Phosphate and Sulphate fertilisers.</p>												
Surface Water at 7 Locations	<p>pH:7.85 to 8.48,DO 5 mg/L, BOD: 4.5 to 11mg/L, COD: 22.4 to 51.2 mg/L</p>												
Noise Levels at 8 Locations	<p>45.92 to 68.2 dB(A) for day time  37.62 to 65.5 dB(A) for night time</p>												
Traffic Assessment Study findings	<table border="1"> <thead> <tr> <th>Particulars</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>Traffic Load Study Period</td> <td>November, 2020</td> </tr> <tr> <td>Traffic Load (Baseline)</td> <td>276 PCU/Day</td> </tr> <tr> <td>Additional Traffic Load during operation of the Project</td> <td>2689 PCU/Day for Halakundi – Vittalapuram Road 4721 PCU/DAY for Bellary – Hiriyyuru Road</td> </tr> <tr> <td>Total Traffic Load</td> <td>2712 PCU/Day for Halakundi – Vittalapuram Road 4772 PCU/DAY for Bellary – Hiriyyuru Road</td> </tr> <tr> <td>Traffic Capacity as per IRC 73:1990 for Highways</td> <td>15,000 PCU/Day</td> </tr> </tbody> </table>	Particulars	Details	Traffic Load Study Period	November, 2020	Traffic Load (Baseline)	276 PCU/Day	Additional Traffic Load during operation of the Project	2689 PCU/Day for Halakundi – Vittalapuram Road 4721 PCU/DAY for Bellary – Hiriyyuru Road	Total Traffic Load	2712 PCU/Day for Halakundi – Vittalapuram Road 4772 PCU/DAY for Bellary – Hiriyyuru Road	Traffic Capacity as per IRC 73:1990 for Highways	15,000 PCU/Day
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Traffic Capacity as per IRC 73:1990 for Highways	15,000 PCU/Day												

Flora and fauna	Indian Peafowl and Shikra are the birds belongs to Schedule-I class of Wildlife (Protection) Act, 1972 are found in the region. Rs. 1.5 Lakh has been earmarked for implementation of Conservation Plan for Schedule-I Species.
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46.10.11 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S No	Type of Waste	Quantity (TPA)		Mode of Disposal
		Proposed	Total	
1	Iron Ore fines	67 TPD	67 TPD	Iron ore fines will be selling to Cement Plant, Beneficiation Plant or Pellet Plants
2	Char	36 TPD	36 TPD	The total char will be utilized for PCI injection within the plant
3	Ash	20 TPD	20 TPD	Sold to Brick Manufacturing Units
4	Used Oil in DG Set	37.50 L/A	37.50 L/A	Disposed to KSPCB authorized dealers
5	Oil soaked cotton waste	2 Kg/A	2 Kg/A	Disposed to KSPCB authorized dealers

46.10.12 Public Consultation:

<b>Details of advertisement given</b>	24/07/2021
<b>Date of public consultation</b>	24/08/2021
<b>Venue</b>	Industrial premises
<b>Presiding Officer</b>	Deputy Commissioner
<b>Major issues raised</b>	<ul style="list-style-type: none"> <li>Issues raised regarding pollution levels due to surrounding cluster causing air pollution, health problems, loss of crop, no employment opportunities provided to local people, not providing dust compensation to farmers, water pollution etc.</li> </ul>

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

S No	Physical Activity	Cost in Rs.	Year wise Plan		
			2022-23	2023-24	2024-25
1	Infrastructure Development at Government School Halkundi Village in Consultation with School Staff	3.0	3.0	--	--

S No	Physical Activity	Cost in Rs.	Year wise Plan		
			2022-23	2023-24	2024-25
2	Health Check-up camps at Halkundi, Mincheri and Honnahalli Villages	6.0	2.0	2.0	2.0
3	Plantation Activities on either side of the Halkundi-Vithalapura Road	6.0	2.0	2.0	2.0
4	Water hole creation at Bellary RF and providing drinking water through tankers during summer season (Feb-May)	2.0	1.0	0.5	0.5
	<b>Total</b>	<b>17</b>	<b>8.0</b>	<b>4.5</b>	<b>4.5</b>

- 46.10.13 The capital cost of the project is Rs. 30.80 Crore and the capital cost for environmental protection measures is proposed as Rs. 386.17 Lakhs (12.53 % of the total project cost). The annual recurring cost towards the environmental protection measures is proposed as Rs. 41.12 Lakhs. The employment generation from the proposed project will be about 70. The details of cost for environmental protection measures is as follows:

S No	Particulars	Cost in Lakh Rs.
<b>A. Capital Cost</b>		
1	Air Pollution Control Equipments such as ESP, Fume extraction system with bag filters and stack arrangements	200.0
2	Installation of STP & air cooled condensers	25.0
3	Continuous online monitoring for stack emissions	25.0
4	Rain Water harvesting	10.0
5	Stack arrangements for DG sets	0.5
6	Traffic management and asphaltting of internal roads	45.0
7	Solid & hazardous waste management	0.5
8	Green belt development	6.0
9	Conservation Plan for Schedule-I Species	1.5
10	Provision of garland drains and catch pit	7.0
11	Provision of PPEs for workers, enclosures and barriers for attenuation of noise	12.0
12	Provision of solar lighting as part of Energy Conservation measures	3.0
13	Environmental Monitoring during construction phase	2.67
14	Road Side Plantation Activities	6.0
15	Vacuum Cleaner Sweeping Machine	5.0
16	Impervious floor for raw material storage	10.0
17	Occupational Health Safety Centre	10.0
18	Action Plan for implementation of activities as per MOEF&CC OM dt: 30.09.2020	17
	<b>Total</b>	<b>386.17</b>
<b>B. Recurring Cost</b>		
1	Environmental Monitoring during Operation phase	0.52

S No	Particulars	Cost in Lakh Rs.
2	Solid & hazardous waste management	3.0
3	Occupational Health and Safety	13.0
6	Operation & Maintenance of Air Pollution Control Systems	10.0
7	Operation & Maintenance of STP	3.0
8	Operation & Maintenance of online monitoring	2.0
9	Maintenance of Green Belt development	3.6
10	DG Set maintenance	3.0
11	Operation & Maintenance of garland drains, solar lights, internal roads	3.0
	<b>Total</b>	<b>41.12</b>

46.10.14 Greenbelt will be developed in 2.42 ha which is about 33% of the total project area. A 5 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 6050 saplings will be planted and nurtured in 2.42 hectare in 3 years.

46.10.15 The proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

46.10.16 Name of the EIA consultant: M/s Environmental Health and Safety Consultants Pvt Ltd [S. No. 54, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

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

46.10.17 The Committee observed the following:

- i. As per the public hearing proceedings, 38 people participated in the hearing. Out of 38, 34 people have opposed the proposed project on account of pollution and health concerns prevailing in the area. It has been recorded at the end of public hearing proceedings that “As almost all the people present at the Public Hearing expressed their opinion against the setting up of the industry. The Deputy Commissioner opines that no new industries may be allowed to be set up in this-area as existing pollution levels are at saturation levels and new units will only aggravate the situation leading to frequent law and order disturbance”.
- ii. In this regard, PP informed to the EAC that in the written submissions as part of the public consultation proceedings several people have supported the project activity. However, the said written submissions have not been made available by the proponent.
- iii. Particulate matter emission level in the ambient air is reported to be exceeding the NAAQS. No explanation is made available by the PP in this regard.
- iv. Action plan to address the issues raised during public hearing is not in conformity to the MoEF&CC O.M. dated 30/09/2020.

- v. Status of approval of Wildlife Conservation Plan for conservation of Schedule I species and approval from the Competent Authority for use of tertiary treated water in the proposed project has not been made available.

**Recommendations of the Committee**

- 46.10.18 In view of foregoing and after deliberations, the Committee recommended the following:
- i. Proposal recommended to be returned in its present form to address the shortcomings enumerated at para no. 46.10.17.
  - ii. The Ministry may seek comments/views from the State Government of Karnataka on the existing industries, pollution & health concerns and issues related to the law and order prevailing in the area for taking appropriate view on the proposal under consideration keeping in view the aforesaid comments of the Dy. Commissioner as mentioned in para 46.10.17 (i) above.

46.11 Proposed Semi Coke Unit: 2030 KTPA and Cement Plant: 6.0 MTPA; Clinker: 4 MTPA by **M/s. Adani Enterprises Limited** located near Village Vandh & Tunda, Taluka Mundra, **District Kachchh, Gujarat**. [Online Proposal No. IA/GJ/IND/230852/2021; File No.: IA-J-11011/423/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference – regarding.**

46.11.1 M/s. Adani Enterprises Limited has made an application online vide proposal no. IA/GJ/IND/230852/2021 dated 06/10/2021 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 plant and 4(b) Coke oven plant under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

46.11.2 The project of M/s. Adani Enterprises Limited located near Village Vandh & Tunda, Tehsil Mundra, District Kachchh, State Gujarat is for Semi Coke Unit: 2030 KTPA and Cement Plant: 6.0 MTPA; Clinker: 4 MTPA.

46.11.3 Environmental site settings:

S No	Particulars	Details	Remarks
i)	Total land	Total land: 800 Acres (323.8 Ha) Semi coke plant will be set up in Pocket-2. Cement plant will be set up in Pocket-1.  (The proposed project will be established in the land allocated by APSEZL, Taluka Mundra, and District Kutch in the state of Gujarat.)	The Project would be located in three separate land pockets. Pocket 1: 502.2 acres (falling under Tunda village) Pocket 2: 114.9 acres Pocket 3: 182.9 Acres Pocket 2 & 3 falling under Mundra Village (which is diverted forest land for SEZ development)

S No	Particulars	Details	Remarks																																																																																																																																				
ii)	Existence of habitation & involvement R&R, if any.	The land for the proposed project has no human habitation. Hence, R & R is not involved.	---																																																																																																																																				
iii)	Latitude and Longitude of the project site	<p><b>Pocket -1</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr><td>A.</td><td>22°47'53.80" N</td><td>69°34'32.69" E</td></tr> <tr><td>B.</td><td>22°47'49.99" N</td><td>69°34'35.82" E</td></tr> <tr><td>C.</td><td>22°47'47.91" N</td><td>69°34'36.33" E</td></tr> <tr><td>D.</td><td>22°47'11.71" N</td><td>69°34'38.80" E</td></tr> <tr><td>E.</td><td>22°47'8.48" N</td><td>69°34'40.27" E</td></tr> <tr><td>F.</td><td>22°46'59.14" N</td><td>69°34'50.48" E</td></tr> <tr><td>G.</td><td>22°46'32.63" N</td><td>69°34'37.72" E</td></tr> <tr><td>H.</td><td>22°46'47.69" N</td><td>69°34'1.83" E</td></tr> <tr><td>I.</td><td>22°47'2.82" N</td><td>69°34'8.07" E</td></tr> <tr><td>J.</td><td>22°47'11.44" N</td><td>69°34'4.04" E</td></tr> <tr><td>K.</td><td>22°47'12.67" N</td><td>69°34'9.14" E</td></tr> <tr><td>L.</td><td>22°47'13.77" N</td><td>69°34'12.71" E</td></tr> <tr><td>M.</td><td>22°47'17.65" N</td><td>69°34'15.53" E</td></tr> <tr><td>N.</td><td>22°47'20.39" N</td><td>69°34'14.21" E</td></tr> <tr><td>O.</td><td>22°47'21.48" N</td><td>69°34'12.10" E</td></tr> <tr><td>P.</td><td>22°47'21.86" N</td><td>69°34'7.96" E</td></tr> <tr><td>Q.</td><td>22°47'21.32" N</td><td>69°34'0.11" E</td></tr> <tr><td>R.</td><td>22°47'21.77" N</td><td>69°33'58.94" E</td></tr> <tr><td>S.</td><td>22°47'23.89" N</td><td>69°33'56.55" E</td></tr> <tr><td>T.</td><td>22°47'24.62" N</td><td>69°33'54.85" E</td></tr> <tr><td>U.</td><td>22°47'30.38" N</td><td>69°34'4.74" E</td></tr> <tr><td>V.</td><td>22°47'40.81" N</td><td>69°34'15.25" E</td></tr> <tr><td>W.</td><td>22°47'42.80" N</td><td>69°34'17.68" E</td></tr> <tr><td>X.</td><td>22°47'43.20" N</td><td>69°34'19.32" E</td></tr> <tr><td>Y.</td><td>22°47'49.05" N</td><td>69°34'27.31" E</td></tr> </tbody> </table> <p><b>Pocket -2</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr><td>a.</td><td>22°47'21.22" N</td><td>69°33'37.65" E</td></tr> <tr><td>b.</td><td>22°47'3.60" N</td><td>69°33'43.19" E</td></tr> <tr><td>c.</td><td>22°46'50.00" N</td><td>69°33'44.73" E</td></tr> <tr><td>d.</td><td>22°46'51.17" N</td><td>69°33'36.77" E</td></tr> <tr><td>e.</td><td>22°46'59.98" N</td><td>69°33'30.96" E</td></tr> <tr><td>f.</td><td>22°47'12.38" N</td><td>69°33'19.41" E</td></tr> <tr><td>g.</td><td>22°47'20.34" N</td><td>69°33'26.00" E</td></tr> </tbody> </table> <p><b>Pocket-3</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr><td>1.</td><td>22°48'7.71" N</td><td>69°32'12.72" E</td></tr> <tr><td>2.</td><td>22°48'11.60" N</td><td>69°32'55.01" E</td></tr> <tr><td>3.</td><td>22°48'11.55" N</td><td>69°33'21.75" E</td></tr> <tr><td>4.</td><td>22°48'1.78" N</td><td>69°33'24.93" E</td></tr> <tr><td>5.</td><td>22°48'2.30" N</td><td>69°33'21.93" E</td></tr> <tr><td>6.</td><td>22°46'2.35" N</td><td>69°33'19.30" E</td></tr> <tr><td>7.</td><td>22°46'1.37" N</td><td>69°33'18.18" E</td></tr> <tr><td>8.</td><td>22°46'0.35" N</td><td>69°33'15.44" E</td></tr> <tr><td>9.</td><td>22°47'59.49" N</td><td>69°33'14.33" E</td></tr> </tbody> </table>	No.	Latitude	Longitude	A.	22°47'53.80" N	69°34'32.69" E	B.	22°47'49.99" N	69°34'35.82" E	C.	22°47'47.91" N	69°34'36.33" E	D.	22°47'11.71" N	69°34'38.80" E	E.	22°47'8.48" N	69°34'40.27" E	F.	22°46'59.14" N	69°34'50.48" E	G.	22°46'32.63" N	69°34'37.72" E	H.	22°46'47.69" N	69°34'1.83" E	I.	22°47'2.82" N	69°34'8.07" E	J.	22°47'11.44" N	69°34'4.04" E	K.	22°47'12.67" N	69°34'9.14" E	L.	22°47'13.77" N	69°34'12.71" E	M.	22°47'17.65" N	69°34'15.53" E	N.	22°47'20.39" N	69°34'14.21" E	O.	22°47'21.48" N	69°34'12.10" E	P.	22°47'21.86" N	69°34'7.96" E	Q.	22°47'21.32" N	69°34'0.11" E	R.	22°47'21.77" N	69°33'58.94" E	S.	22°47'23.89" N	69°33'56.55" E	T.	22°47'24.62" N	69°33'54.85" E	U.	22°47'30.38" N	69°34'4.74" E	V.	22°47'40.81" N	69°34'15.25" E	W.	22°47'42.80" N	69°34'17.68" E	X.	22°47'43.20" N	69°34'19.32" E	Y.	22°47'49.05" N	69°34'27.31" E	No.	Latitude	Longitude	a.	22°47'21.22" N	69°33'37.65" E	b.	22°47'3.60" N	69°33'43.19" E	c.	22°46'50.00" N	69°33'44.73" E	d.	22°46'51.17" N	69°33'36.77" E	e.	22°46'59.98" N	69°33'30.96" E	f.	22°47'12.38" N	69°33'19.41" E	g.	22°47'20.34" N	69°33'26.00" E	No.	Latitude	Longitude	1.	22°48'7.71" N	69°32'12.72" E	2.	22°48'11.60" N	69°32'55.01" E	3.	22°48'11.55" N	69°33'21.75" E	4.	22°48'1.78" N	69°33'24.93" E	5.	22°48'2.30" N	69°33'21.93" E	6.	22°46'2.35" N	69°33'19.30" E	7.	22°46'1.37" N	69°33'18.18" E	8.	22°46'0.35" N	69°33'15.44" E	9.	22°47'59.49" N	69°33'14.33" E	---
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		15.	22°48'8.18" N	69°32'48.86" E	
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		17.	22°47'43.20" N	69°32'16.50" E	
		18.	22°47'45.06" N	69°32'15.79" E	
		19.	22°47'45.40" N	69°32'12.49" E	
iv)	Elevation of project site	6 m above MSL			
v)	Involvement of forest land, if any.	The project site land (pockets) of APSEZL, on which the proposed project will be established is a diverted forest area, for which approvals have been obtained.			-
vi)	Water body exists within the project site as well as study area	<p><b>Project Site:</b> Not existing within the proposed location.</p> <p><b>Study Area:</b></p> <ul style="list-style-type: none"> <li>• Nagavanti River ~ 6.95 km (NE) away from Pocket-1 and Khari river ~ 3.31km (N) away from Pocket-3.</li> <li>• Jarpara Lake – 6.95 km (ENE) from Pocket 1</li> <li>• The pockets 1&amp;2 are closer to the creek of Gulf of Kachchh.</li> <li>• (Gulf of Kachchh: 4-5 kms).</li> </ul>			
vii)	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	None			
		<b>Details on Reserved Forest in the study area</b>			
		<b>Description</b>	<b>Distance (km)</b>	<b>Direction</b>	<b>Pocket</b>
		Mundra DHOA RF	1.45	NE	Pocket 1
		Mundra Mangroves RF	---	---	Pocket 1 & 2
		Siracha R F	1.16	NNE	Pocket 3
		Navinal R F	2.47	NNE	Pocket 1
	Danderi R.F.	1.81	NNE	Pocket 3	
viii)	Interlinked Project, if any, with status	The proposed 'Coal to PVC' project is an integrated project, as the product of one plant is used as raw material for the downstream plants.			

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

S No	Plant Name	Configuration	Plant Capacity
i.	PVC Plant	4 lines	2000 KTPA
ii.	VCM Plant	4 lines	2002 KTPA
iii.	Caustic Soda Plant (Chlor-Alkali Process)	4 lines	1310 KTPA
iv.	Acetylene Plant	4 lines	860 KTPA
v.	Calcium Carbide	4 lines	2900 KTPA
vi.	Semi-Coke Plant	4 lines	2030 KTPA
vii.	Ethylene Glycol Plant	2 lines	400 KTPA
viii.	Cement Plant	2 lines	Cement: 6 MTPA and Clinker: 4 MTPA

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

S No	Plant	Raw material	Quantity	Source	Distance	Means of Transportation
i.	Semi Coke Plant	Coal	5.5 MTPA	Domestic or Imported: from Jetty to Plant	5 kms	Conveyor
ii.	Cement	Carbide Lime Sludge	5.7 MTPA (wet)	Acetylene Plant (Coal to PVC Project)	2 kms	Conveyor
		Fly Ash	2.4 MTPA	Mundra Power Plant	5 kms	Road
		Copper Slag	0.2 MTPA	Copper Smelter Plant	6-7 kms	Road
		Phosphogypsum	0.3 MTPA	Copper Smelter Plant	6-7 kms	Road
		Iron Ore/Bauxite/Silica Sand	0.3 MTPA	a) GMDC Mine Wandh to Plant b) Silica Sand from Bhuj	60 kms 50 kms	Road
		Limestone	0.2 MTPA	a) Mudhvay mine to Cement plant b) From CtPVC Plant	~160 km ~5 km	By Road
		Gypsum	0.3 MTPA	a) Imported from Jetty to Plant b) Domestic: Bhuj to Plant	5 kms 60 kms	Road
		Coal	1.3 MTPA	Imported Coal (Jetty to Plant)	~5 Km	By Road

- 46.11.6 The water requirement for the project is estimated as 160,000 m<sup>3</sup>/day [160 Million Liters per day (MLD)], which will be supplied from desalination plant of APSEZL. Out of which, 16,320 m<sup>3</sup>/day will be utilized for semi coke plant and 3,000 m<sup>3</sup>/day for cement plant.
- 46.11.7 The power requirement for the project is estimated as 2,000 MW, which will be supplied by the DISCOM from APSEZL. Of which about 23 MW will be required for Semi-Coke Plant and 49 MW for Cement Plant.
- 46.11.8 The capital cost of the project is Rs. 34,900 Crores and the capital cost for environmental protection measures is proposed as Rs. 1,056 Crores. The project would create 3,600 direct and 8,000 indirect employments during plant operations. Around 7,500 people would be required during construction phase of the project.
- 46.11.9 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.
- 46.11.10 Name of the EIA Consultant: M/s. Kadam Environmental Consultants [S. No. 20, List of ACOs with their Certificate / Extension Letter no. Rev. 14, September 15, 2021].
- 46.11.11 Proposed Terms of Reference (**Baseline data collection period: Summer season, 2021**):

S No	Attributes	Sampling		Remarks
		No. of Stations	Frequency	
<b>A</b>	<b>Air</b>			
a.	Meteorological parameters	1	Hourly data collection for 12 weeks	
b.	AAQ parameters	12	24 hours, twice in a week, for total 12 weeks	NAAQS parameters, Sector specific parameter
<b>B</b>	<b>Noise</b>	8	24 hourly data collection; once during the entire monitoring season	
<b>C</b>	<b>Water</b>			
a.	Surface water quality parameters	8	Once during the entire monitoring season	
b.	Ground water quality parameters	8	Once during the entire monitoring season	
<b>D</b>	<b>Land</b>			
a.	Soil Quality	10	Once during the entire monitoring season	
b.	Land use	Study area of 10 km radius	Once during the entire monitoring season	

S No	Attributes	Sampling		Remarks
		No. of Stations	Frequency	
<b>E</b>	<b>Biological</b>			
a.	Aquatic	16	Once during the entire monitoring season	Marine Samples were collected
b.	Terrestrial	Study area of 10 km radius	Once during the entire monitoring season	
<b>F</b>	<b>Socio-economic parameters</b>	Study area of 10 km radius	Once during the entire monitoring season	

**Observations of the Committee**

46.11.12 The EAC noted the following:

- i. TOR is required for undertaking EIA study for an integrated complex to manufacture PVC from Coal. There are two units that fall under the purview of Industry 1 sector i.e., Coke making and Cement Plant.
- ii. Dry Carbide lime sludge shall be calcined in presence of LS and other additives to make 4 MTPA clinker for making 6 MTPA Cement.
- iii. Semi Coke is produced in Vertical Furnace having 40 chambers. Coking gas shall be cleaned for tar, ammonia, naphthalene, BTX and used to manufacture Ethylene glycol.
- iv. 2.03 MTPA coke shall be quenched wet. MoEF&CC guidelines mandates that CDQ for coke production of more than 0.8 MTPA. Process flow sheet of coke plant has not been made available. No details of the proposed technology for coke production and for pollution control in coking plant have been furnished with proposal.
- v. It is not clear as to how the charging emissions, coke discharge emissions, coking emissions in Coking Plant shall be controlled.
- vi. Technology and Environmental management details of Cement Kiln using Carbide Plant sludge have also not been furnished.
- vii. Most of the sections in Form I application has not been quantified properly which needs to be revisited and corrected.

**Recommendations of the Committee**

46.11.13 In view of the foregoing and after deliberations, the Committee recommended to submit additional information to address the shortcomings at para no. 46.11.12 above.

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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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**Email**

**Sundar Ramanathan**

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**Re: Draft MoM of 46 EAC held on 11-12th October, 2021 along with consultant rating as per MoEF&CC guidelines**

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**From :** cnpandey@iitgn.ac.in

Thu, Oct 21, 2021 11:11 AM

**Subject :** Re: Draft MoM of 46 EAC held on 11-12th October, 2021 along with consultant rating as per MoEF&CC guidelines

 1 attachment

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

Dear Mr. Sundar,  
Kindly find the approved MoM of 46th EAC held on 11 to 12 October, 2021 for further necessary action regarding uploading it on Parivesh.  
Thanking you,  
C. N. Pandey,  
Chairman, EAC Industry I,  
MoEFCC, GoI,