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

Date of zero draft MoM sent to Chairman: 02/01/2022
Approval by Chairman: 06/01/2022
Uploading on PARIVESH: 06/01/2022

Summary record of the fiftieth (50th) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 29th December, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.

The fiftieth 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 **29th December, 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:

S. No.	Name	Position	29/12/2021
1.	Dr. Chhavi Nath Pandey	Chairman	Present
2.	Dr. Kawaljeet Singh, Scientist 'E', CPPRI.	Member	Present
3.	*Dr. Siddharth Singh, Scientist 'E', IMD.*	*Member*	*Absent*
4.	Dr. Jagdish Kishwan	Member	Present
5.	Dr. Tejaswini Ananth Kumar	Member	Present
6.	*Dr. G.V. Subramanyam*	*Member*	*Absent*
7.	Shri. Ashok Upadhyaya	Member	Present
8.	Shri. Rajendra Prasad Sharma	Member	Present
9.	*Dr. Sanjay Deshmukh*	*Member*	*Absent*
10.	Prof. S.K. Singh	Member	Present
11.	*Dr. R. Gopichandran*	*Member*	*Absent*
12.	Shri Jagannadha Rao Avasarala	Member	Present
13.	Shri. J.S. Kamyotra	Member	Present
Officials from MoEF&CC			
14.	Shri. Sundar Ramanathan	Member Secretary	Present
15.	Dr. Sandeepan B.S.	Scientist 'B'	Present

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 49th meeting held during 16-17th December, 2021 were confirmed by the EAC as already uploaded on PARIVESH except the following:

A. Item No. 49.4

Minutes uploaded on PARIVESH	To be read as
Para no 49.4.24 A. Specific condition i. 2571 KLD water shall be drawn from Karo River located at 4.7 km from plant site. No	**Para no 49.4.24 A. Specific condition i.** 2571 KLD of water requirement shall be met from ground water sources after approval by

Minutes uploaded on PARIVESH	To be read as
ground water abstraction is permitted.	the concerned competent authority. Surface water sources like rain water harvested water and water withdrawal from Karo river shall be explored and action plan in this regard shall be submitted to the Regional Office of the MoEF&CC for gradual phase out of ground water in a time frame of three years from the date of issue of EC.
Para no 49.4.24 A. Specific condition iii. Govt. Of Odisha has allocated 6.72 cusec and 5.98 cusec of water from Karo river for Karakolha Steel plant and Karakhendra Steel plant respectively. The raw water shall be brought to the plant in separate pipe lines, treated in respective plants and distributed in the process. The treatment of water and sludge management shall be carried out by Karakolha steel plant.	**Para no 49.4.24 A. Specific condition iii.** This condition stands deleted as the water requirement for the expansion project is reduced due to change in scope of the project.

B. Item No. 49.5

Minutes uploaded on PARIVESH	To be read as
Para no 49.5.24 A. Specific condition i. 1920 KLD water shall be drawn from Karo River located at 5.1 km from plant site. No ground water abstraction is permitted except for domestic consumption.	**Para no 49.5.24 A. Specific condition i.** 1920 KLD of water requirement shall be met from ground water sources after approval by the concerned competent authority. Surface water sources like rain water harvested water and water withdrawal from Karo river shall be explored and action plan in this regard shall be submitted to the Regional Office of the MoEF&CC for gradual phase out of ground water in a time frame of three years from the date of issue of EC.
Para no 49.5.24 A. Specific condition iii. Govt. Of Odisha has allocated 6.72 cusec and 5.98 cusec of water from Karo river for Karakolha Steel plant and Karakhendra Steel plant respectively. The raw water shall be brought to the plant in separate pipe lines, treated in respective plants and distributed in the process. The treatment of water and sludge management shall be carried out by Karakolha steel plant.	**Para no 49.5.24 A. Specific condition iii.** This condition stands deleted as the water requirement for the expansion project is reduced due to change in scope of the project.

29th December, 2021

50.1 Upgradation of Blast Furnaces (BFs) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); Fe-Si Plant of 5,000 TPA capacity by installation of 7.5 MVA Submerged Arc Furnace; Ductile Iron Plant of 3,00,000 TPA capacity; enhancement in oxygen plant capacity from 100 TPD to 250 TPD without enhancing the met coke production capacity of 3,22,000 TPA, Sinter plant capacity of 10,00,000 TPA, WHRB of 68 MW capacity and nitrogen plant of 50 TPD capacity by **M/s. Vedanta Limited** (Formerly M/s. Sesa Goa Ltd.) located at villages Amona and Navelim, Bicholim Taluka, **North Goa District, Goa** [Online Proposal No. IA/GA/IND/236713/2018, File No. IA-J-11011/946/2007-IA.II(I)] **– Environment Clearance – regarding.**

50.1.1 M/s. Vedanta Limited has made an online application vide proposal no. IA/GA/IND/236713/2018 dated 08/12/2021 along with copy of EIA/EMP report, certified compliance report and Form – 2 and sought for Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous), 1(d) Thermal Power Plants and 4(b) Coke Oven Plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

Details submitted by Project proponent

50.1.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord	Validity of ToR
20/12/2018	3rd Meeting of the REAC (Industry 1) held during 9-11th January, 2019.	IA-J-11011/946/2007-IA.II (I)	06/03/2019	05/03/2023

50.1.3 The project of M/s. Vedanta Limited (Formerly Sesa Goa Limited) located at Villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa is for upgradation of Blast Furnaces (BFs) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); Fe-Si Plant of 5,000 TPA capacity by installation of 7.5 MVA Submerged Arc Furnace; Ductile Iron Plant of 3,00,000 TPA capacity; enhancement of WHRB capacity from 33 MW to 68 MW; enhancement in oxygen plant capacity from 100 TPD to 250 TPD without enhancing the met coke production capacity of 3,22,000 TPA, Sinter plant capacity of 10,00,000 TPA and nitrogen plant of 50 TPD capacity.

50.1.4 Environmental Site Settings:

S No	Particulars	Details	Remarks
1	Total land	161 ha [Private:161 ha]	Land Use: Industrial land
2	Land acquisition details as per MoEF&CC	The existing units are installed in 161 ha. of land which is owned by M/s. Vedanata Limited. The expansion project is	

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>O.M. dated 7/10/2014.</td><td>proposed in existing project area of 161 ha. No additional land is required for the proposed expansion</td><td></td></tr>
<tr><td>3</td><td>Existence of habitation & involvement of R&R, if any.</td><td>Project Site: Nil

Study area:<table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Amona Village</td><td>0.32 km</td><td>WNW</td></tr><tr><td>Navelim Village</td><td>0.05</td><td>NE</td></tr></table></td><td>No R&R is involved.</td></tr>
<tr><td>4</td><td>Latitude and Longitude of all corners of the project site.</td><td><table><tr><th></th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>15⁰31’44.35”N</td><td>73⁰58’ 58.76”E</td></tr><tr><td>B</td><td>15⁰31’21.14”N</td><td>73⁰59’ 7.70”E</td></tr><tr><td>C</td><td>15⁰30’25.08”N</td><td>74⁰ 0’ 26.74”E</td></tr><tr><td>D</td><td>15⁰31’5.72” N</td><td>74⁰ 0’27.21”E</td></tr><tr><td>E</td><td>15⁰31’ 37.16”N</td><td>73⁰59’ 55.24” E</td></tr></table></td><td></td></tr>
<tr><td>5</td><td>Elevation of the project site</td><td>10- 55 m above mean sea level</td><td></td></tr>
<tr><td>6</td><td>Involvement of Forest land, if any</td><td>No involvement of Forest land.</td><td></td></tr>
<tr><td>7</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project Site: No water bodies within the project site.

Study area<table><tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr><tr><td>Mandovi river</td><td>Adjacent to project boundary</td><td>SSW</td></tr><tr><td>Kudne river</td><td>1.0</td><td>North</td></tr><tr><td>Valvot river</td><td>3.5</td><td>North</td></tr><tr><td>KumbharjuaNadi</td><td>4.2</td><td>WSW</td></tr><tr><td>Karmali lake</td><td>6.0</td><td>SW</td></tr><tr><td>Arabian sea</td><td>15.0</td><td>WSW</td></tr></table>Wetlands
Wet land nearby Amona (0.3 km, N)
Wet land nearby Navelim (0.6 km, N)
Wet land nearby Candola (1.45 km, W)
Wet land nearby Candola (1.6 km, W)
Wetland nearby Karapur (2.4 km, N)
Wetland nearby Karapur (3.8 km, N)
Wet land near Carambolim (7.0 km, SW)
Chorao Island (12.4 km, W)</td><td>HFL data of Mandovi River is 7.66 m above mean sea level.

The elevations in the project site range from 15.0 to 50.0 m above mean sea level (amsl). Hence, any inundation or flooding due to peak flow events in Mandovi river is not envisaged.</td></tr>
<tr><td>8</td><td>Existence of</td><td>Ecologically Sensitive Zone (ESZ) for all</td><td>ESZ Notification</td></tr>
</table>

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area.</td><td>the Wildlife Sanctuaries (WLS) in Goa are notified and maximum distance is of1 km from the boundary of WLS. Project site is reported to be located outside the notified ESZ boundary.
The WLS in study area are listed below:
• Mhadei WLS (9.8 km, NE)
• Bondla WLS (10.5 km, SE)
• Dr. Salim Ali Bird Sanctuary (12.4 km, W)
Following Reserve forests are located within study area:
Reserve forest: (5.9 km, ESE)
Reserve forest: (6.6 km, E)
Reserve forest: (9.5 km, NE)</td><td>was issued on 25/02/2015. Permission from Standing Committee for National Board of Wildlife (SCNBWL) is not applicable as the project site is located outside the notified ESZ boundary.</td></tr>
<tr><td>9</td><td>Archaeological sites/ historical monuments within the study area.</td><td><table>
<tr><th>Site name</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Namuzgah/ Idgah Mosque</td><td>7.1 km</td><td>NW</td></tr>
<tr><td>Fort at Sanquelim</td><td>4.4 km</td><td>N</td></tr>
<tr><td>Temple of Saptakoteshwar</td><td>5.9 km</td><td>WNW</td></tr>
<tr><td>Site of Gujir</td><td>2.2 km</td><td>N</td></tr>
<tr><td>Site of Fortress at St. Estevam</td><td>3.2 km</td><td>WNW</td></tr>
<tr><td>Fort at Naroa</td><td>6.0 km</td><td>W</td></tr>
<tr><td>Church of St. Peter</td><td>7.9 km</td><td>W</td></tr>
<tr><td>Chapel of our Lady of the Monte</td><td>6.9 km</td><td>W</td></tr>
<tr><td>Old Goa Church</td><td>8.0 km</td><td>W</td></tr>
<tr><td>Chapel of St. Xavier</td><td>7.5 km</td><td>W</td></tr>
<tr><td>Ruins of Collage of St. Populo</td><td>8.8 km</td><td>W</td></tr>
<tr><td>Convent of St. Monika & Chapel</td><td>8.6 km</td><td>W</td></tr>
<tr><td>Pandavas Caves at Naroa</td><td>5.8 km</td><td>WNW</td></tr>
<tr><td>The Mosque & Tank at Tar Surla</td><td>1.5 km</td><td>SE</td></tr>
<tr><td>Caves at Mangueshi</td><td>8.2 km</td><td>SW</td></tr>
<tr><td>Site of Ruins of Manguesh temple</td><td>8.3 km</td><td>SW</td></tr>
<tr><td>Ruins of Brahmapuri</td><td>7.0 km</td><td>W</td></tr>
<tr><td>Caves of Siddhanath at tar surla</td><td>1.9 km</td><td>SE</td></tr>
<tr><td>Haravalem Caves</td><td>3.8 km</td><td>NNE</td></tr>
</table></td><td>NOC from Archaeological Survey of India is under process.</td></tr>
</table>

50.1.5 The existing project was accorded environment clearance on 03/06/2009 for Mini Blast Furnace (0.90 MTPA), Sinter Plant (2 MTPA), Coke Plant (0.6 MTPA) and Waste Heat Recovery Power Plant (60 MW) in the name of M/s. Sesa Goa Limited. Subsequently, the EC got transferred in the name of M/s. Vedanta Limited on 5/9/2016. Thereafter, EC

amendment in pursuance to the Order of Hon'ble National Green Tribunal in Appeal 47 of 2013 was accorded on 07/01/2020. BF-1 & 2 and its ancillary units are commissioned prior to EIA Notification 1994. Necessary consents are taken from Goa State Pollution Control Board (GSPCB) from time to time. Consents to Operate (CTO) for the existing unit are as follow:

S No	CTO Details	Issuing Authority	Letter No	Validity
1	Partially modified in Renewal of CTO and authorization for Pig Iron Plant (2,92,000 TPA) and Installation of Pulverized Coal Injector Plant (01 No's) Plant at Amona village, Bicholim, Goa.	GSPCB	5/5208/15-PCB/CI-5464/FLM/17465/CI-5585 dated: 17/05/2019	01/10/2023
2	Renewal of CTO&A -Sinter (1 MTPA) & Mini blast furnace (0.54 MTPA) at Navelim village, Bicholimtaluka, Goa	GSPCB	12/2020-PCB/557275/R0004287 dated: 24/08/2020	14/02/2025
3	Renewal of CTO and authorization - Manufacture of Metallurgical coke (3,22,000 TPA), operation of loading and unloading grabs, operation of stamp charging plant, operation of coke drying and grinding plant, Power generation by WHRB (33 MW)	GSPCB	No.5/416/95-PCB/CI-5196 dated 27/12/2018	31/12/2023
4	Renewal of CTO and authorization- Generation of power 35 MW and Metallurgical Coke 3,00,000 Tons/Annum	GSPCB	No.12/2020-PCB/531074/R0004147 dated 06/07/2020	31/12/2024

50.1.6 Implementation status of the existing EC/ CTO:

S No	Facilities	Units	As per NOC granted	Implementation Status as on 10/11/2021	Production as per CTO
1	Blast Furnace 1 & 2	TPA	2,92,000 (Commissioned before 1994 and operating on CTO obtained from GSPCB)	2,92,000	2,92,000
2	Blast Furnace 3	TPA	9,00,000 TPA (As per EC dated 03/06/2009 and EC amendment dated	5,40,000	5,40,000

S No	Facilities	Units	As per NOC granted	Implementation Status as on 10/11/2021	Production as per CTO
			05/09/2016)		
3	Coke Oven Battery 1	TPA	3,22,000 (Commissioned before EIA notification 2006 operating on CTO obtained from GSPCB)	3,22,000	3,22,000
4	Coke Oven Battery 2	TPA	6,00,000 (As per EC dated 03/06/2009)	3,00,000	3,00,000
5	Sinter plant	TPA	20,00,000 (As per EC dated 03/06/2009)	10,00,000	1000000
6	Waste heat recovery power plant	MW	33 (Operating on CTO obtained from GSPCB)	33	33
7	Waste heat recovery power plant (WHRB)	MW	60 (As per EC dated 03/06/2009)	35	35
8	Oxygen Plant & Nitrogen Plan	TPD	100 & 50 (Installed and operating based on consents obtained from GSPCB)	100 50	100 50

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

S No	Name	Existing Units		Proposed Units /Change		Total (Existing +Proposed)	
		Configuration	Production Capacity	Configuration	Production Capacity	Configuration	Production Capacity
1	Blast furnaces1 & 2	173 m^3 x 2 Nos	2,92,000 TPA	No Change	58,000 TPA (Increase by process improvement)	173 m^3 x 2 Nos	3,50,000 TPA
2	Blast furnace-3	450 m^3 x 1 No	5,40,000 TPA	No Change	1,10,000 TPA (with technology up gradation & process improvement)	450 m^3 x 1 No	6,50,000 TPA
3	Met coke production	Battery 1: 84 Ovens(non-recovery) Battery 2: 72 Ovens (Non-recovery)	Battery 1: 3,22,000 TPA (prior to EC Notification so CTO capacity mentioned) Battery 2: 3,00,000 TPA (Phase 1 of EC	Battery 1: Additional 4 Ovens (non-recovery type) Battery 2: No Change	0 (4 ovens will be added to achieve the existing production) 0	Battery 1: 88 Ovens (non-recovery type) Battery 2: 72 Ovens (Non-recovery type)	6,22,000 TPA

S No	Name	Existing Units		Proposed Units /Change		Total (Existing +Proposed)	
		Configuration	Production Capacity	Configuration	Production Capacity	Configuration	Production Capacity
			capacity 6,00,000 TPA)				
4	Fe-Si plant	Nil	Nil	7.5 MVA	5,000 TPA	7.5 MVA	5,000 TPA
5	Proposed ductile iron pipe plant	Nil	Nil	Nil	3,00,000 TPA	Nil	3,00,000 TPA
6	Waste heat recovery power plant	1 x 33 MW & 1 x 35 MW	595 Million Units	Nil	Nil	1 x 33 MW & 1 x 35 MW	595 Million Units
7	Sinter plant	1 x 75 m^2	10,00,000 TPA	Nil	Nil	1X75 m^2	10,00,000 TPA
8	Oxygen & nitrogen plant	1x100 TPD Oxygen & 1x50 TPD Nitrogen (Cryogenic plant)	1x100 TPD Oxygen & 1x50 TPD Nitrogen	1x150 TPD Oxygen	1x150 TPD Oxygen	1x150 TPD + 1x100 TPD Oxygen & 1x50 TPD Nitrogen	250 TPD Oxygen & 50 TPD Nitrogen

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

RAW MATERIALS SOURCE -PIG IRON, COKE & SINTER

S No	Materials	Existing (Tons)	Additional Proposed (Tons)	Final (Tons)	Source	Mode of Transportation	Distance
1	Iron ore fines for sinter	10,01,777	1,79,652	11,81,429	From mines located in Goa and adjoining states	Road ways/ Railways/ Waterways	500 km
2	Iron ore lumps/ pellets	5,92,216	1,43,580	7,35,796	From mines located in Goa and adjoining states	Road ways/ Railways/ Waterways	500 km
3	Coke	5,05,548	69,720	5,75,268	Inhouse and purchased	Roadways	2-30 km
4	PCI	86,260	39,240	1,25,500	Imported	By waterways	Imports
5	Limestone	15,8060	29,342	1,87,402	Domestic (Karnataka) as well as imported	Road ways/Railways/ Waterways	500 km and Imports
6	Dolomite	1,39,363	25,989	1,65,352	Domestic (Karnataka) As well as imported	Road ways/ Railways/ Waterways	500 km and Imports
7	Quartzite	42,898	8,633	51,531	Domestic (Maharashtra and Karnataka)	Roadways/ Railways	500km
8	Quick Lime	46,743	8,383	55,126	Karnataka & Rajasthan	Roadways	500-1800 km
9	Coke breeze	69,051	12,383	81,434	Inhouse	Roadways	2-30 km

10	Coal for coke production	8,30,000	-	8,30,000	Import	Waterways	Import

RAW MATERIALS SOURCE -DI PIPE & FE & SI

S No	Material	Proposed (kg/ton)	Final (TPA)	Mode of Transport	Source	Distance
Proposed Raw Material for DI Pipe						
1	Hot metal	1,083.0	32,4900	By road/ rail track	Existing Blast furnace	1 km
2	MS scrap	100-130	36,000	Byroad	Inhouse & Steel Mills	500 km
3	Ferrosilicon	10	3,000	Byroad	In house and Maharashtra	500 km
4	Zn wire	1.73	519	Byroad	HZL and other Sources in India	1600 km
5	Bitumen coal tar	2.15	645	Byroad	IOCL and other Indian sources	500 km
6	Magnesium	1.3-1.4	405	Byroad	From India	1500 km
7	Sand for core making	55	16,500	Byroad	From India	1500 km
8	Graphite powder	0.67	201	Byroad	Graphite India limited & other Sources in India	1000 km
9	Binder	1.3-1.4	405	Byroad	Domestic and imported	Import
10	Catalyst	0.27	81	Byroad	From India/Imported	Import
11	Cement	30	9,000	Byroad	Domestic, ACC, Birla	100-1000 km
12	Calcium carbide	14-15	4,500	Byroad	Jalandhar/Import	2000km
13	Sand for lining	130-165	45,000	Byroad	Domestic and Other sources in India	500km
	Proposed Raw Material for Fe-Si					
1	Quartzite	1.782	8,910	Roadways/Railways	Domestic (Maharashtra and Karnataka)	500Km
2	Charcoal	0.6435	3,217.5	Roadways/Railways	Orissa/ Jharkhand	1600km
3	Coke	0.6435	3,217.5	Roads	Inhouse & Domestic	1-30Km
4	Iron scrap, mill scale	0.198	990	Roads	Inhouse &Steel Mills	500 km
5	Electrode paste	0.0693	346.5	Roads	From India	500 km

50.1.9 The existing water requirement is 10,344 KLD. Additional water requirement for the proposed expansion project will be 2,400 KLD. Accordingly, the total water requirement will be 12,744 KLD (Existing + proposed).

Renewal of NOC for withdrawal from Valvonti River for 10,000 cum /day is obtained from Water Resource Department vide Letter No: WRD/WDI/ASW/F.15/2021-22/157 dated 05/08/2021 and is valid up to 19/04/2022. NOC for water drawl from Mandovi river of 9,600 cu.m/day is obtained from Water Resource Department vide Letter No: 15/WRD/WDI/ADM/13-14/58 dated 24/04/2014. The details of water requirement and sources are mentioned below.

Source	Existing		Expansion (Additional Requirement)		Allocated/ Permitted Quantity (KLD)
	Quantity (KLD)	Remarks	Quantity (KLD)	Remarks	
Saline water from Mandovi river	4320		-		9600
Bandhara at Valvonti river and rain water harvested	5664	3384 KLD drawn from Bandhara and 2280 KLD sourced from Rainwater harvesting	2400	Mostly sourced from rain water harvesting pits. However, Bandhara water will be drawn as and when required basis for which permission already exists.	10000
PWD water for domestic consumption	360		-		
Total	**10344**		**2400**		
Grand total	**12744 KLD**				**19,600**

50.1.10 Existing power requirement is 27 MW and the additional power requirement for the proposed expansion project is 28.5 MW. The total power requirement after proposed expansion is 55.5 MW. This requirement will be sourced from 68 MW captive power plant and external grid (as emergency backup).

50.1.11 Baseline Environmental Studies:

Period	01/03/2019 to 31/05/2019	Additional Study 10/12/2020 to 10/03/2021
AAQ parameters at 8 locations (min and max)	PM_{10} = 44.3-86.3µg/m^3 $PM_{2.5}$ = 25.9-42.9µg/m^3 SO_2 = 10.1-19.7 µg/m^3 NOx = 11.8-21.9 µg/m^3 CO =194-356 µg/m^3	PM_{10}= 43.4-79.0 µg/m^3, $PM_{2.5}$ = 20.7-39.8 µg/ m^3 SO_2= 9.2-16.9 µg/ m^3, NOx =10.5-19.4 µg/ m^3, CO =200-343 µg/ m^3
Incremental GLC Level	**<u>Scenario-I: Proposed expansion</u>** PM_{10} = 5.60 µg/m^3 $PM_{2.5}$ = 1.84 µg/m^3 SO_2 = 1.38 µg/m^3 NO_x = 1.04 µg/m^3 **<u>Scenario-II: Proposed expansion and existing units</u>** PM_{10} = 22.0 µg/m^3 $PM_{2.5}$ = 6.62 µg/m^3 SO_2 = 11.0 µg/m^3 NOx = 7.90 µg/m^3 **<u>Scenario-III:</u>**	**<u>Scenario-I: Proposed expansion</u>** PM_{10}= 6.36 µg/ m^3, $PM_{2.5}$ = 1.90 µg/ m^3 SO_2 = 4.51 µg/ m^3, NO_x = 3.41 µg/ m^3 **<u>Scenario-II: Proposed expansion and existing units</u>** PM_{10} = 20.2 µg/ m^3, $PM_{2.5}$ = 6.06 µg/ m^3 SO_2 = 9.60 µg/ m^3, NO_x = 6.35 µg/ m^3 **<u>Scenario-III:</u>**

<table>
<tr><td></td><td>Other Industries within 10 km of Study Area + Scenario-II
PM_{10} = 79.2 µg/m^3
$PM_{2.5}$ = 37.9 µg/m^3
SO_2 = 18.7 µg/m^3
NOx = 20.9 µg/m^3</td><td>Other Industries within 10 km of Study Area + Scenario-II
PM_{10} = 74.2 µg/ m^3,
$PM_{2.5}$ = 30.6 µg/ m^3
SO_2 = 15.8 µg/ m^3,
NO_x = 19.1 µg/ m^3</td></tr>
<tr><td>Groundwater quality at 8 locations</td><td>pH: 6.95-7.29
Total Hardness: 262-1621.6mg/l,
Chlorides: 225-1192mg/l,
Fluoride: 0.3-1.1 mg/l.
Heavy metals are within the limits</td><td>pH: 6.74-7.64,
Total Hardness: 115.8 - 225.7 mg/l,
Chlorides: 45.2-152.4 mg/l,
Fluoride: 0.5-0.8 mg/l and Heavy metals are within the limits</td></tr>
<tr><td>Surface water quality at 2 locations</td><td>pH: 6.81-7.35;
DO: 5.4-6.1mg/l and
BOD: <3.0mg/l.
COD: <5-70mg/l</td><td>pH:6.64-7.85,
DO: 5.8-6.6 mg/l,
BOD: < 3.0 mg/l and
COD: 6.3 – 12.8 mg/l</td></tr>
<tr><td>Noiselevels Leq (Day and Night), at 8 locations</td><td>43.1 to 51.1 dB (A) for the day time and 40.0 dB (A) to 47.5 dB (A) for the night time.</td><td>43.1 to 51.1 dB(A) for the day time and 40.0 dB (A) to 47.5 dB (A) for the night time</td></tr>
<tr><td>Traffic assessment study findings</td><td colspan="2">Traffic study has been conducted at Amona to Sanquelim Road.

Existing PCU is 77.45 PCU/hr on Amona to Sanquelim Road and existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>Amona to Sanquelim Road</td><td>77.45</td><td>625</td><td>0.12</td><td>A (Excellent)</td></tr>
</table>
PCU load after proposed project will be 115.2 PCU/hr (37.75 + 77.45) and level of service (LOS) will be:
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>Amona to Sanquelim Road</td><td>115.2</td><td>625</td><td>0.18</td><td>A (Excellent)</td></tr>
</table>
Conclusion: The level of service will remain same ‘A’ after including additional traffic due to proposed project.

Additional truck traffic due to existing & proposed project: 302 Trucks per day
Incremental Concentrations:
PM_{10} = 1.36 µg/m^3
$PM_{2.5}$ = 0.82 µg/m^3</td></tr>
</table>

	NOx = 8.26 µg/m^3 CO =2.27 µg/m^3 HC=3.55 µg/m^3
Flora and fauna	There are 7 Schedule-I species found in the study area which are Peacock, Crocodile, Shikra, Common Indian Monitor Lizard, Gaur, Indian Python and Leopard. Authentication of flora and fauna is approved by Deputy Conservator of Forests, North Goa vide Letter No. 5/FCA/GEN/F& F/DCFN/TECH/21-22/101/253 dated 04/05/2021. Approval of Wild Life Conservation plan is obtained by Deputy Conservator of Forests Wild Life & Eco-Tourism (North) Division, Government of Goa vide Letter No: 1-576 (PART) WL & ET (N)/2021-2022/554 dated 28/05/2021. Office of the Dy. Conservator of Forests has authenticated the distance of Wild Life Sanctuaries from boundary of Vedanta Plant vide Letter No: DCF(WP)/Tech/Digi/Vol-I/75/2020-21/192 dated 04/06/2021.

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

Major Solid Waste Generation Details

Sr. No	Solid Waste Quantity	Existing TPA	Proposed TPA (Tentative)	Final after Expansion TPA	Mode of Disposal
Non-Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)					
1	Slag	3,41,400	85240	426,640	Sold to cement industry
2	Flue dust	20,000	10,000	30,000	Recycled through sinter plant
3	Coke fines from DES	1000	Nil	1000	Charging in Blast Furnace
4	Coke Breeze	53,000	Nil	53,000	Recycled through sinter plant
Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)					
1	Oil-soaked cotton waste	10	2	12	Incinerated in coke oven plant
2	Discarded Containers / Barrels /Liners contaminated with Hazardous Wastes/ Chemicals	25	10	35	Being given to authorized recyclers for decontamination and recycling
3	Spent ion exchange resin	0.4	0	0.4	To authorized incineration facility/ cement plant for co processing
4	Used oil	30	20	50	Authorized recyclers
5	Oil filters	4	3	7	Authorized recyclers
Proposed Fe- Si Plant (Non-Hazardous Waste)					
1	Slag	-	590	590	Partly reused in sinter plant and partly in road

Sr. No	Solid Waste Quantity	Existing TPA	Proposed TPA (Tentative)	Final after Expansion TPA	Mode of Disposal
					making
2	Fe dust collected from bag filter	-	1250	1250	Reused into the sinter plant
Proposed DI Pipe Plant					
Non-Hazardous Waste					
1	Iron scrap	-	25,000	25,000	Sold to foundry units for re-melting and re-use
2	Slag	-	3000	3000	Used internally for road laying
3	Waste core sand	-	10,000	10,000	Construction fill/road bases/ land fill/ reused in cast house of BF
4	Magnesium oxide waste	-	20	20	Re-used in the sinter plant
5	Cement slurry	-	10500	10500	Internally used for road laying
Hazardous Waste in Proposed DI Pipe Plant					
1	Zinc dust	-	525	525	To authorized recyclers
2	Used oil	-	10	10	To authorized recyclers
3	Oil sludge		6	6	To authorized recyclers
4	Resin hardener		4.8	4.8	To authorized recyclers
5	Paint tins (Bitumen paint tins & normal paint tins)		1.2	1.2	To authorized recyclers

Other Wastes:

Sr. No	Solid Waste Quantity	Existing	Proposed (Tentative)	Final after Expansion	Mode of Disposal
1	STP Sludge	150 kg	50 kg	200 kg	Used in greenbelt area
2	E-Waste	8 MT	2 MT	10 MT	Sent to authorized recyclers
3	Batteries	6 MT	2 MT	8 MT	Sent to authorized vendors
4	Refractory Bricks	500 MT	200 MT	700 MT	Used as road material or filling
5	Metal Scrap	700 MT	300 MT	1000 MT	Disposed to dealer as per scrap metal policy

50.1.13 Public Consultation:

Details of Advertisement given	11/02/2021
Date of Public Consultation	14/03/2021 (Navelim Village) & 21/03/2021 (Amona Village)
Venue	1. Government Village Playground Navelim, Near Vividha Higher Secondary School, Navelim, Sanquelim, Goa 2. Amona Village, Government High School Ground, Amona Ground, Goa
Presiding Officer	Additional Collector
Major Issues Raised	Air Pollution, Water Pollution, Health Screening and Assessment,

	Employment & Skill Development to Local People

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

Activity	Plan Fy22	Plan FY23	Plan FY24	Cost (Lacs)
Infra Development at Educational Institutes	Development of Anagawadi at Durigwada with Change in roof, Building As Learning Aid painting, Smart TV set, modern play equipments and sanitation facility and solar panels under Project Nandghar	Providing Chemistry Laboratory equipments such as microscopes, industrial oven, Refrigerator, Counter tables to Government college Khandola	Construction of Physics laboratory room at Khandola college	178
		Upgradation of Anagawadi at Betalwada, Maina, Fanaswadi, Bharoniwada with -Change in roof, Building As Learning Aid painting, Smart TV set, modern play equipments and sanitation facility and solar panels under Project Nandghar:	Development of Garden and play equipment at maina primary school	
		Solar power station at GHS Navelim	Solar power station at Vividha Higher secondary	
		-False ceiling support to Bhagat wada primary school, -Shed for cultural events at Fanaswadi Primary school -Compound wall for Bandharwada Primary school	Distribution of 50 benches each in 3 primary schools of amona, 3 primary schools of Navelim, 2 primary school of Virdi and 2 primary schools of betki candola - Total 500 benches	
		Construction of new canteen block at Vividha Higher secondary School	Roof work GPS Fanaswadi Sports kit to GHS Amona and GHS Navelim	
Adoption of Government high school Amona	Construction of innovation lab with two rooms at GHS Amona	Solar Power station for GHS amona school	Providing edutech smart boards for 10 classrooms	110
		Auditorium facility at school	Paver blocks and landscaping at Assembly area	
		Construction of Toilet block	Providing 200 benches to GHS	

Activity	**Plan Fy22**	**Plan FY23**	**Plan FY24**	**Cost (Lacs)**
			Amona	
Broadband Connectivity in village (Amona and Navelim)	Developing wifi infrastructure in amona and Naveli village supporting 100 students			7
Back to farming: Getting barren land under cultivation	Providing power tiller, tractor, rotary cultivator to Farmer groups of 8 Ha of uncultivated land at Dacul maina fields and 25 Ha land at Naveli Fields	Fencing outer perimeter of length 1.5 KMs at Naveli Fields	Making new 1.5 km Access roads to fields	22
		refurbishment of traditional irrigation system (bund repair, channels desilting) at Dacul maina and Naveli Fields	Alternate irrigation system and electrification through sinking of wells and pipelines at naveli and maina	
Creation of livelihood through livestock Purchase of cattle and dairy equipment	10 Cows to be provided by March 22 for identified farmers from amona and Navelim	20 Cows to be provided March 23 for identified farmers from amona and Navelim	20 Cows to be provided March 24, for identified farmers from amona and Navelim	41
Livelihood generation through poultry	-	First Pilot project at Naveli, (100% support including training, poultry shed, feed etc)	Second pilot project at Amona (100% support including training, poultry shed, feed etc)	12
Creation of Livelihood through fisheries	Cage fishing one pilot project at Navelim (4 cages)	Upscaling of pilot project at Navelim (adding 4 cages)	Handholding for Navelim Project	25
		One pilot project at Navelim	Upscaling of amona project	
Integrated farming for individual farmers through Horticulture	Identifying and supporting 15 farmers (1 acre land per famer) Providing fencing, irrigation facility, saplings, fertilizers	Indentifying and supporting farmers 15 new by Providing fencing, irrigation facility, saplings, fertilizers	Identifying and supporting 15 new farmers by providing fencing, irrigation facility, saplings, fertilizers	53
Roads and pedestrian safety	LED Streetlight: 1.5 Km Road from Betal temple to Maina (70 poles and 70 fixtures)	LED Streetlight: 1 KM from maina junction till Ghodbaay Junction (30 poles and other fixtures)	LED Streetlight: 0.5 KM from Ghodbaay Junction till Naveli Junction (15 poles and other fixtures)	122
	Traffic Signal: Maina Junction,	Traffic Signal: Ghodbaay Junction,	Pedestrian Pathway: 0.5 Km from Betal temple to Vedanta Gate	
	Bus stop: Timsawada Amona.	Padesterian Pathway: 0.5 Km Betal Temple to	Bus stop: Maina Ferry point and Fansaswadi	

Activity	**Plan Fy22**	**Plan FY23**	**Plan FY24**	**Cost (Lacs)**
		Maina Junction		
		Bus stop: Amona Junction		
Health screening and Assessment		Providing one Mobile health unit for surrounding villages (Amona, Naveli, Betki Canodla, Virdi, Kudne)		25
Improvement in infrastructure of crematoriums	Shed and pyre constructon at Amona	Shed for crematorium at Navelim,	Shed for crematorium at Fanaswadi	23.5
		Compound wall for crematorium at Amona		
Sports Infrastructure Development	Illumination of football ground at amona (12 poles and 36 flood lights)	Making of volleyball /badminton court at Navelim	Laying of astro turf (football) at Amona panchayat ground.	28
Maina Lake redevelopment	Construction of concrete retaining wall at maina storm water drain of 40 meters	Proper channelization of storm water to the river and increasing Maina lake capacity (sluice gate, channel desilting)	Beautification of the maina lake area, (development of garden, walk way, illumination, benches)	80
Improving drinking water Availability at Maina-Navelim	Initiation of the project by making project plan is association with PWD, preparatory work and obtaining relevant approvals and clearances	Enabling 50 % households with continuous drinking water supply as per PWD approved plan	Enabling remaining 50% with continuous drinking water supply	38
Garbage collection and segregation	Construction of Material Recovery Facility with a shed to VP Amona	Construction of Material Recovery shed at VP Navelim		25
Capacity building for women entrepreneurs	Identification of interested women, capacity building through orientation workshops and trainings.	Supporting the 5 startups FY 22 and forming 10 new women entrepreneurs' startups	Handholding, increasing production, increasing market scope, additional machinery and capital requirement.	40
		One outlet/store for 5 groups	Opening one outlet/store for other 10 households	
Total				880

50.1.14 The capital cost of the proposed expansion project is about Rs. 701 Crores. Vedanta Limited proposes to spend about Rs. 90.68 crores towards environmental protection measures with a recurring cost of about Rs. 4.0 crores. The proposed expansion project will generate employment for 450 manpower. The details of cost for environmental protection measures is as follows:

SNo	Area	Capex in Rs. Crores	Revenue in Rs. Crores
1	Replacement of Dust Extraction system Bag house at BF-1 in hot metal handling area with higher efficiency	15.00	2.00
2	Upgradation of Dust Extraction system Bag house at BF-3 in hot metal handling area	5.00	
3	Upgradation of gas cleaning system at BF -1 & 2	5.50	
4	Bag house for Fe - Si Plant	4.85	
5	Bag houses for DI pipe plant	25.17	
6	Wind shield at the boundary	2.75	-
7	Monitoring equipment (nos of CEMS for 15stacks of DI plant & 1 stack of Fe-Si plant, noise monitor)	5.00	0.20
8	Dust suppression through tankers, rain guns and fog cannon	1.00	0.80
9	Storm water management and rain water harvesting	0.30	1.00
10	Green belt development	1.00	
11	Storage shed for iron ore	4.00	-
12	Coke Oven Battery 1 suction hood with ID fan for dust control	1.00	-
13	Storage shed for slag	1.00	-
14	Upgradation of turbine to reduce the GHG emission	17.26	-
15	Road sweeping machine	1.50	-
16	Proposed STP	0.35	-
	Total	**90.68**	**4.00**
17	Address to Public hearing concerns	**8.80**	

50.1.15 Existing Greenbelt has been developed and maintained in 54 ha i.e 33.5% of area within the plant premises. Around 3,00,000 nos of saplings have so far been planted within the plant area. In recent past, 29,614 nos of saplings were planted as gap filling and maintained. During the current financial year, additional 7,500 saplings have been planted by adopting Miyawaki system.

50.1.16 Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration shall be furnished.

S No	Case	Status
1	Name of the Court: High Court of Bombay at Goa Case No: 10/2021	**Case Details:** - Siddhesh Gawas and Mr Viraj Naik, the petitioners have filed a writ petition in the HC praying for issuance of writ of Mandamus against the project proponent and alleging that there have been actions undertaken by the project proponent in violation of the Environment Impact Assessment Notification, 2006. Post which Vedanta already filed its preliminary affidavit in response to the same. GSPCB also filed its Inspection Report. **Order/ Direction of the Court**: The court has dismissed the petition on 3/08/2021.
2	Name of the Court: NGT Pune-Western Bench Case No: 47/2013	**Case Details**: -An application has been filed by Village Panchayat of Navelim alleging that the GSPCB has issued separate piece meal consent to operate to each of Vedanta's expansion project at Navelim, even though the Environment Clearance and Consent to Establish is for all four plants together, thereby violating the EC conditions. This matter has been kept in abeyance since the identical issue was pending before the SC in another petition which was referred by the SC to NGT Delhi. NGT Delhi disposed the same without any adverse order against Vedanta as far as EC is concerned. However, directed MoEF to add any additional EC Condition. **Subsequently, MoEF&CC heard both the parties and disposed the matter by imposing additional conditions over and above the existing conditions.** **Orders/Directions of the court**: No order having any adverse impact on the project. Matter is pending for final disposal.
3	Name of the Court: District Court, Mapusa Case No. 24/2015	**Case Details**: The Communidade of Amona has filed a case against the project proponent claiming that the lease granted to the project proponent in terms of provisional possession for survey no. 42/1 and 43/1 has already expired in the year 2012 and has thus reverted back to the plaintiff in the year 2012 and to issue perpetual injunction against the project proponents from entering the said property. Vedanta have filed its reply. It is now pending for arguments. **Orders/Directions of the court**: No order having any adverse impact on the project. Pending for arguments.
4	Name of the Court: High Court, Goa Case No. 881/2017	**Case Details:** Pravir P Fadte has filed a writ petition in the HC of Goa stating that the Project Proponent is not in compliance with NEERI's recommendations. The allegations were incorrect in nature. GSPCB has filed affidavit in High Court confirming Vedanta Compliance with NEERI's recommendations. **Orders/Directions of the court**: There is no adverse order from HC. The case is pending hearing as per board.

50.1.17 Name of the EIA consultant: M/s. Vimta Labs Limited [at S No. 147, List of ACOs with their Certificate/Ext letter no. QCI/NABET/ENV/ACO/21/2126, valid up to 08/02/2022 Rev. 17, December 13, 2021].

Certified compliance report from Regional Office

50.1.18 The Status of compliance of earlier EC was obtained from Integrated Regional Office, Bangalore *vide* letter no. EP/12.1/243/GOA/866, dated 25/10/2021 in the name of M/s. Vedanta Limited. In this regard, the inspection was undertaken by RO on 08/10/2021. The observations stated in the said report are summarized as below.

S No	Points which are to be complied	Condition no	Remarks of IRO
1	All the transportation roads within the project premises shall be fully asphalted/ concreted in a phase manner to ensure the reduction of fugitive emission and to get a clear runoff during monsoon.	Additional cond. No 2 of Amended EC letter dated 07/01/2020 and point no 4 of show cause notice issued by Ministry dated 31/08/2021.	During site visit, it was noted that most of the internal roads are tarred and PA has given an undertaking stating that tarring of balance internal roads of around 6.38 km will be black topped or concreted by April 2022. On the day of visit it was noted that road sweeping machine was deployed to keep the road clean. Also, water was sprayed to prevent dust generation. **Remark of RO: Agreed to Comply**
2	Storage of slag in open in the plant	point no 5 of show cause notice issued by Ministry dated 31/08/2021.	Regarding stacking of slag, PA informed that the same has been stored as a temporary arrangement due to difficulties in transportation during monsoon and the same is to be transported to cement industries immediately after the monsoon. Om the day of visit, it was noted that the slag stored outside is properly covered with silpauline and regular water sprinkling is also done in the area to avoid dust emission. **Remark of RO: Agreed to comply**
3	Graphite particle dust in nearby areas.	point no 7 of show cause notice issued by Ministry dated 31/08/2021.	Regarding emission of shiny dust particles, it was noted that these are light weight graphite particle having size more than 10 microns. Graphite is normally released during tapping of hot metal and its subsequent handling. When the metal temperature drops, the saturated carbon (at high temperature) is released in the form of graphite, part of which become airborne. To capture these airborne particles and fumes, ladle tapping, pouring,

S No	Points which are to be complied	Condition no	Remarks of IRO
			dumping activity happens under fume extraction hoods. PA informed that this problem has been rectified after the installation of additional bag houses and several additional fugitive dust emission measures are being adopted to control the same and PA assured to comply to the same. **Remarks of RO: Agreed to comply**
4	NOC not obtained from Archaeological Survey of India.	point no 9 of show cause notice issued by Ministry dated 31/08/2021.	During the visit, PA informed that this is not a new unit, and this plant is in operation since 1994 and till date no such NOC was sought by any regulatory Agency and the obtainment of the same would be subject to applicability as per norms. **Remarks of RO: Agreed to comply subject to applicability.**

50.1.19 M/s. Vedanta Limited has earlier made an online application vide proposal no. IA/GA/IND/215662/2018 dated 29/07/2021. The proposal was considered in 42nd meeting of reconstituted Expert Appraisal Committee (Industry-1) held on 12-13th August, 2021. The observation and recommendation of the EAC is given as below:

Observations of the Committee held on 12-13th August, 2021

50.1.20 The Committee observed the following:

i. In the instant proposal, the units namely Blast Furnace (2,92,000 m^3) and Coke Oven Plant (3,20,000 TPA) are running on the strength of the CTE/CTO from Goa State Pollution Control Board. Besides, PP has obtained EC during 2009 for Blast furnace – 9,00,000 TPA; Sinter Plant – 2,00,0000 TPA; Coke Oven Plant – 6,00,000 TPA and Power Plant 60 MW based on WHRB. However, project proponent has not integrated the said units till date. EIA report needs to be revised by integrating all the units and cumulative impact assessment needs to be carried out.

ii. The existing and proposed configuration of Blast Furnace, Sinter Plant, Coke Oven Plant, Ferro Alloy Plant and Power Plant are neither reflected in the EIA report nor in the presentation made before the EAC.

iii. The company has obtained one EC and being operated in piece meal consents from GSPCB in the name of Pig Iron Division, Sinter Plant Division, Met Coke Division and WHRB Division which is creating confusion while evaluating the implementation status of the EC.

iv. There is a jetty in the vicinity of the project site which is being used for material transportation. The dimensions of the jetty and the material handling capacity of the jetty for the existing and proposed expansion has not been made available. Clearances if any obtained, under the provisions of CRZ, 1991 and its subsequent amendments has also not been informed.

v. There are 18 sites of archeological importance in the study area. In this regard, no approval/clearance from the Archeological Survey of India has been obtained till date although the unit is under operation since 1992. Impact assessment on archaeological sites/ historical monuments due to the existing and proposed expansion of the plant has not been carried out.

vi. According to the certified compliance report of GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.

vii. As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

viii. Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

ix. As per the base line data collected, the BOD in the surface water sample is reported as less than 3 mg/lit whereas COD reported values are 50 mg/l, 60mg/l and 70 mg/lit respectively which seems incorrect and no clarification for the same provided. Location of the water quality sampling stations as well as positioning of air quality samplers at monitoring stations are not in conformity with the CPCB guidelines. Riverine ecology study has not been carried out at all. In view of this, fresh data (one month) needs to be collected. Besides, PP needs to clarify about the monitoring methodology for O_3, NH_3 and BaP etc., as the monitoring has not been carried out properly.

x. There are 7 schedule I species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

xi. Public Hearing was conducted on 14.3.2021 and 21.3.2021 based on the Order of Hon'ble High Court of Bombay. 817 people attended the PH and most of the attendees opposed the project expansion citing pollution, health, education and unemployment issues etc. PP failed to submit the point wise response to the issues raised in public hearing and action plan with physical target as per MoEF&CC O.M. dated 30/09/2020 has not been submitted.

xii. Incomplete/inaccurate and inconsistent information has been furnished in most of the sections of Form 2.

xiii. EMP cost is indicated as Rs. 35.0 Cr on a CAPEX of Rs.701.0 Cr. This is just 5 % of CAPEX which is grossly inadequate. For a BF- Coke Oven and DIP complex the EMP cost shall be around 15 % of CAPEX.

xiv. Total water requirement is 12794 KLD out of which only 9600 KLD is drawn from Mandovi River and balance is drawn from old abandoned pits of iron ore mines (Harvested rain water). Subsequently, PP has informed that permission for withdrawal of 10000 KLD of water from Balvot river has been obtained. There is no clarity on the source of water for the existing and proposed expansion.

xv. Load bearing capacity (Million Standard Axle) of the existing connecting road vis-à-vis with vehicles plying on the road has not been carried out.

xvi. Energy recovery systems like TRT, sinter cooler waste heat recovery, BF hot stove waste heat recovery, dry gas cleaning of BF gas have not been considered in the proposal.

xvii. List of Hazardous waste does not include bitumen coated sand, Zinc dross, cement slurry generated from DIP plant.

xviii. Method to be adopted for charging of coke fines back into blast furnaces as proposed by PP has not been explained.

xix. The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.

xx. Sensible heat recovery is proposed for Blast furnaces to generate power. This is not possible as BF gas does not have that high temperature. PP has not provided any explanation.

xxi. Size and capacities of individual facilities in Ductile Iron Plant have not been furnished. No details are given about Pollution Control Devices (PCDs) in DIP Plant. PP shall use a 20 T IF in DIP, the Fume Extraction details of IF are not given.

xxii. PP confirms that sizes of Pollution Control Devices (PCDs) is enough to take care of additional pollution load. This seems impossible to meet the stringent PM emission norms of 30 mg/Nm^3 with almost 20 % increase in production capacity.

xxiii. It may be noted that out of Rs. 23.05 Cr allocated for addressing issues raised during public hearing Rs.22 Cr are earmarked for the facilities to control pollution within the plant. Only Rs1.05 Cr is left to address public concerns. This need to be revisited as expenditure incurred on abatement and control of environment pollution inside the plant is part of capital expenditure and cannot be considered as expenditure on socio economic development outside the plant. Socio Economic development related EMPs have no time schedule.

xxiv. Mitigation measures suggested for construction and operation are generic and none of these have been quantified. It is like a text book copy.

xxv. Solid waste management plan to ensure 100 % solid waste utilization as per CREP guidelines has not been furnished.

xxvi. Air quality modelling has been carried out for flat terrain without considering the impact of nearby hills and ocean current. While calculating the incremental GLCs, impact of modernization and capacity enhancement of the existing units have not been considered.

Recommendations of the Committee held on 12-13th August, 2021

50.1.21 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings as enumerated at paragraph 50.1.20 above. Further, PP is required to undertake necessary corrective action on the said non-compliances and latest compliance report on the same from the concerned Regional Office of MoEF&CC is required. MoEF&CC may issue a Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as mentioned above.

50.1.22 It was apprised to the EAC that as recommended by EAC, a Show Case Notice (SCN) was issued to M/s. Vedanta Limited by Ministry on 31/08/2021. In response to this, PP submitted point wise reply of SCN on 23/09/2021 and additional reply on 10/11/2021. **EAC has been requested by the Ministry to examine the SCN reply also while appraising the expansion proposal.** Detail of the SCN raised as well as reply of the proponent is given as below:

SCN point no. 1: According to the certified compliance report of GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.

Response of PP:

a). Storm water discharge:

Project proponent has assured that company has a proper storm water management plan and regular monitoring of discharge water is undertaken to ensure that the water quality meets the standard. **Additionally, settling pond of capacity 700m^3 and two new concrete check dams have been constructed during 2020-2021 at the final discharge point.**
Regarding the complaint received from Dakul Maina resident PP submitted that the said wall in the complaint letter was collapsed due to cyclone Tauktae in Goa on 16/05/2021 not by to storm water runoff. Also, the said compound wall was immediately repaired post the cyclone event.

b). Fugitive emission control:

Multiple emission control measures like bag houses, duct extraction system at Coke Oven, ESP's at Sinter plant, dust suppressant systems (like fog guns, rain guns, sprinklers) at the transfer points, Wind shields towards the direction of habitation and application of road sweeping machines have been already installed

c). Green belt development:

Total area of the project is 161 ha. PP has developed green belt in an area of 54 ha by planting around 30000 plants which is about 33.5% of the total area. Besides, PP also proposed for plantation of 7000 saplings are planted by adopting Miyawaki system in the current financial year.

d). Black topping of 6.38 km road:

PP submitted that total road length is 13 km and out of which 6.62 km of road is already blacktopped. **The remaining road of 6.38 km is the internal road and same will be black topped or concreted by the April, 2022.**

e). Slag utilization:

Total slag generated during 2019-2020 and slag disposed of during 2019-2020 was 127318 tons, while slag generated during 2020-2021 was 298124 tons and slag disposed was 277349 tons, whereas slag disposed of till march 2021 was 404667 tons. **It is reported by PP that around 45000 T slag is balance to be disposed of and stored and temporarily covered with silpauline.**

Opening stock of slag as on 1st april 2019	Slag generation in 2019-20	Total slag	Slag disposed during 2019-20	Opening stock of slag as on 1st April 2020	Slag generation in 2020-21	Total slag	Slag disposed during 2020-21	balance as on 1st April 2021	Slag generation April, May & June 2021	Total slag	Slag disposal till 15/06/2021	balance as per 15th June 2021
26762	210389	237151	127318	109833	188291	298124	277349	20777	69928	90705	46000	**44705**

f). Installation of CAAQMS:

The additional CAAQMS units was installed by PP in July, 2021 and connected to both GSPCB and CPCB server. Installation was also intimated GSPCB vide email dated 31/07/2021. Now there are total three CAAQMS installed in the plant premises.

g). Secondary emission control during charging/ material tapping/ slag tapping:

PP submitted that major secondary emission that releases during tapping are graphite particles which are very small and light in weight (10micron). To prevent these particles from leaking in surroundings fog cannons and windshields with water sprinkling systems have been installed. Additionally, **PP has undertaken the work of construction of windshield of 260m length for preventing release of graphite particles.**

SCN point no. 2:

As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

Response of PP:

PP submitted that major secondary emission that releases during tapping are graphite particles which are very small and light in weight (10micron). To prevent these particles from leaking in surroundings fog cannons and windshields with water sprinkling systems have been installed. Additionally, **PP has undertaken the work of construction of windshield of 260m length for preventing release of graphite particles.**

SCN point no. 3:

Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action

plan has been submitted nor any explanation given by the project proponent for disposal of the same.

Response of PP:
It is submitted that only blow down water generated from the cooling tower of waste heat recovery boilers of the power plant, which will be discarded out in the Mandovi river only after pH adjustment. The discharge of this waste water is a condition in the CTO letter vide dated 06/07/2020. For the storage of the large quantity of slag (45,000 Tons) in open area already replied at ***point e of response against query 1 above***.

SCN point no. 4:
There are 18 sites of archeological importance in the study area. In this regard, no approval/clearance from the Archeological Survey of India has been obtained till date although the unit is under operation since 1992.

Response of PP:
Project proponent has prepared the list of all the archaeological sites present within the 10km radius study area and submitted application for NOC from the concerned authorities. The said sites are not the transport route of the units.

SCN point no. 5:
There are 7 schedule I species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

Response of PP:
The Wildlife Conservation Plan has been approved from Office of The Deputy Conservator of Forests, Wildlife & Eco-Tourism (North) Division, Govt. of Goa vide letter dated 28/05/2021.

SCN point no. 6: The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.

Response of PP:
The company has developed and maintained 54 ha i.e. 33.5% of area as green belt within the plant premises. Around 3,00,000 nos of trees exist within the green belt. During the last 10 years, 29614 nos of plants were planted and maintained. During the current financial year around 7000 saplings are planted by adopting Miyawaki system.

50.1.23 M/s. Vedanta Limited has made an online application vide proposal no. IA/GA/IND/236713/2018 dated 08/12/2021. **The proposal was considered in 50th meeting of Reconstituted Expert Appraisal Committee (Industry-1) held on 29th December, 2021 along with the SCN replies submitted by the proponent.**

50.1.24 During the course of meeting, it was apprised to the EAC that Ministry was in receipt of two public representation on 27/12/2021 and 29/12/2021 requesting the Ministry to reject the instant proposal under consideration. In this regard, as opined by the EAC, the said

representation has been made available to the proponent for submitting their response. The response submitted by the proponent is given as below:

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
1.	Air Pollution	a.) In order to reduce fugitive dust during transportation proper roads and pathways within the plant premises will be made. Out of 13km of existing internal roads; 6.62 km of roads are already black topped, balance internal roads of around 6.38 km will be black topped or concreted in a phased manner by 2023. b) Proper dust suppression systems at site like water sprinkling, road sweeping, fog cannon and rain guns are available and maintained efficiently. Also, R&D for dust suppression at the plant c) For effective dust extraction at the source, new Bag house for effective dust extraction from the coke ovens at Met Coke plant will be installed d) Windshield of 220m will be installed at the boundary of the plant to avoid any dust escaping the plant boundaries e) Identification of native species and plantation within and around the plant	The project proponent in reality have completely failed to carry out the hot mixing and asphalt the roads of the internal as well as the connecting public road which has been a major cause for air pollution. In fact, the project proponent carries out transportation of coal and iron ore using the public road connecting plants at Amona and Naveli is round the clock filled with dust which has become major cause for air pollution. The project proponent in reality neither have such machinery in place nor make use of such technology. Statements of this nature are only made on paper to mislead and misrepresent the true facts. Project proponent have failed to comply with condition to install bag house despite there being direction from the Hon'ble High Court. The Petitioner infact is in process to file contempt in the High Court of Bombay at Goa. It may also be noted that Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-	As committed in PP response to SCN and presentation made to the EAC, PP reiterate that out of 13km of existing internal roads; 6.62 km of roads are already black topped, balance internal roads of around 6.38 km will be black topped or concreted by April 2022. Regarding the transportation of iron ore and coal on public roads, it is undertaken with adequate measures which includes covering the carriage hood with tarpaulin during transportation. In addition, we have mechanized road sweeping machines to clean the internal as well as external roads in and around the plant premises. All the blast furnaces are fitted with dust extraction system, for fugitive dust capture which includes bag house. Infact, we have installed a new bag house at one of blast furnaces (BF 2) to meet the stringent pollution norms. We are further committed to modernize/upgrade the bag houses fitted to BF1 and BF3. PP have responded to the Show Cause Notice on September 24th 2021 followed by

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
		premises. Improving and developing the green belt area in and around the plant will further reduce dust pollution.	II(IND-I) dated 31/08/2021.	submission of satisfactory compliance report of Moef regional office Bangalore.
2.	Water Pollution	New settling ponds and check dams before monsoon. During monsoon rain water will be channelized into these settling ponds for settling; annual desilting of the settling ponds being taken up	Ministry of Environment has Upstream and downstream reports dated 02/11/2019 of Mandovi river near the premises of the project proponent from the office of the Goa State Pollution Control Board and it is clearly indicated that Feacal Coliform count results in Downstream are more as compared to Up Stream River dated 02-01/2019. Some in other reports dated 16/06/2020 and 01/06/2020 clearly shows that there is addition of sewage water. Till the situation is the same. The people residing in vicinity have also filed complaints before the Goa State Pollution Control Board pointing out the menace of water pollution which is caused from run off particles from the stacked slag, coal and iron ore which has destroyed the natural water lake.	There is no discharge of sewage effluents from the project site into the Mandovi River. The STPs discharge is used directly for process requirement through a closed loop system. With respect to the complaints pertaining to alleged water pollution due to stacked slag, iron ore and coal, we state that coal is stored in covered shed. Iron ore is stored in covered shed or covered with silpauline. Further, stacked slag is properly covered with silpauline before the onset of monsoon. The material storage yards are provided with garland drains to catch overflow if any. In the current EMP proposal, we have undertaken to construct sheds for storage of iron ore and slag respectively.
3.	Health Screening and Assessment	a) Health screening and assessment through Mobile Health Unit, medical health center etc. b) Health camp in the surrounding villages	No proper Health Facility is provided in the local in the surrounding villages. Proper periodic health assessment of people living in vicinity shall be conducted as demanded in public hearing so as to assess the impact on health	PP operate two community medical centers for the last ten years one each in Navelim and Amona villages. Through these centers, we provide free medicines and doctor consultations. In addition to this

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
			due to operation of the ongoing plants.	various health screening camps and awareness sessions are organized for community and educational institutes.
4.	Employment	a) Vedanta gives preference to the eligible local people in terms of employment either directly or through business partners, depending on requisite qualifications, skill levels etc. b) Vedanta Ltd will continue to support local illiterate youth from affected villages through various skill development & educational initiatives as a part of CSR.	In public hearing the locals had taken up the issue of employment on primarily. Till date they have failed completely to comply with the same. The same can be verified through local inquiry. It may be noted that the company only under employ the youths and have failed to provide sufficient opportunity as per their qualifications. Proponent till date has failed to support in literacy of the locals which can be verified through proper local inquiry. Project proponent only believes in photo opportunities and advertisement.	In the proposed project PP has estimated to employ 450 people in different skill sets depending on the requirement. PP endeavour has always been and will be to employ maximum locals from the State of Goa depending on eligibility, qualifications and requirement. In our current operations, 1009 locals from the State of Goa are employed. Regarding literacy rate, in the thematic area of education under CSR we have well defined and structured programs to support the schools in the nearby community through scholarships for the needy and active engagement with the school officials on need based infrastructural activities like support to computer laboratories, drinking water facilities, sanitation in schools. In addition, we conduct awareness sessions for students and skill development programs for teachers.
5.	Skill Development to Local People	Proper training facilities and exposure will be provided to the local youth for their skill	There are no training facilities at present and they have closed existing technical school at Sanquelim	This is a false allegation as the Company continues to run existing technical school at Sanquelim

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
		development through Sesa Technical School, located at Sanquelim village.	Village in 2012.	Village. In addition to this, the Company also runs Football Academy to identify and nurture the young talent from local and nearby communities. Further, through Vedanta Foundation we have established multiple computer literacy centers across the State of Goa.

Additional Action Plan

S No	Action Plan	Present Status dated 27.12.2021	Response by Project Proponent dated 29.12.2021
1.	In point 42.1.15 Greenbelt has been developed in an area of 54 ha (133.43 acres) which is about 33 % of the total project area. Existing green belt density is about 548 trees per ha, further 1952 trees per ha to be planted as per the CPCB guideline.	They have failed to develop the greenbelt and the authorities in fact have in writing raised this concern time and again. It may be noted that the company in fact has destroyed the natural habitat in and around their plant for purpose of constructing road and storage godowns.	A thick greenbelt in an area of 54 hectares exist in the project site which is 33.5% of the total project area. The Company carries out annual plantation in the greenbelt area to fill the gaps. In the year 2021, 7500 saplings of native species were planted. Further, we have not destroyed natural habitat in and around the plant site.

In point no. 42.1. Re-assessment/ present status as furnished by the PP and present status is given as below:

S No	Areas of improvement Reported If any	Corrective Action Taken	Status given	Remarks	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
1.	Control of secondary fugitive emissions from all the sources	a) Rain guns and fog cannons are used frequently b) All raw material fines are covered with silpaulin	We ensure to prevent fugitive emissions	We further undertake to continually improve our environment performance	Through the Satellite view it can be clearly seen that all these years they have not taken proper care to cover the raw materials till today which shows that the said issue is not addressed yet.	All the raw materials stacks including iron ore and fluxes which are stored in open yards are covered with silpoline or stored in covered sheds. Raw materials which are in transit or in consumption are uncovered. 100 percent coking coal is stored in covered sheds. The excess slag is also covered with silpoline and it is further proposed to construct a structural shed for

S No	Areas of improvement Reported If any	Corrective Action Taken	Status given	Remarks	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
						storage of slag in monsoons.
2.	All the slag be granulated and provided to cement manufacturers	Slag is sold to cement industry	Slag Generation 2020-21: 188291 Tons Slag Disposal 2020-21: 277349 Tons	Slag generation is a continuous process and entire slag is sold to cement industry within and outside our country.	The Slag is being transferred in the mandovi river. The discharge is proved in the upstream and downstream reports of the Goa State Pollution Control Board dated 02/11/2019, 16/06/2020, 01/06/2020	The slag is covered with silpoline and it is further proposed to construct a structural shed for storage of slag. Therefore, there is no question of any slag getting transferred to Mandovi River.
	Control of vehicular pollution due to transportation	The following measures are being implemented: a) Water sprinkling through tankers b) Road sweeping on transportation roads c) PUC check at the gate d) Trucks are covered with tarpaulin during transportation	-	We further undertake to continually improve our environment performance	Periodical inquiry will show that the project proponent neither carries out sweeping nor sprinkling which has resulted in annoyance and hardship to genera public on account of air pollution.	Within the plant premises on all the finished roads, regular tanker water spraying is deployed in the dry season. In addition to this, PP has deployed two road sweeping machines for dry dust sweeping and suction to maintain the road conditions.
4.	In plant control measures for checking fugitive emissions be adopted	The following measures are being implemented: a) Bag houses are installed at the Blast Furnace (BF) b) Closed conveyor is used c) Raw material fines are covered with silpaulin d) Rain guns,		We further undertake to continually improve our environment performance	Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-II(IND-I) dated 31.08.2021. The project proponent in also in contempt of the Order dated 23/08/2021 in Writ Petition	As clarified earlier, PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of Moef regional office Bangalore. It is submitted that allegation of contempt is false and incorrect. PP has not committed contempt of any court order.

S No	Areas of improvement Reported If any	Corrective Action Taken	Status given	Remarks	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
		Mayura curtains and fog cannons. e) Road sweeping machines f) Wheel wash system at the exit gate g) Dust extraction systems for screening plants h) Dust suppression systems for material handling plants i) Wind shields fitted with sprinkler system along the plant boundary			881/2017 passed by the Hon'ble High court of Bombay at Goa.	
5.	Additional filter beds, arrester wall shall be provided along the Storm Water Drainage for settlement of Suspended Particles and to prevent siltation. The runoff water shall be diverted in settling ponds to prevent any siltation of river/ nallah/ fields.	a) We have 11 numbers of settlings at the area and this year we have constructed additional settling pond of 700 m3 capacity. Water from these settling ponds is also used for process purpose. Further, it is to inform that all the storm water is channelized into series of settling ponds, check dams and discharged		We further undertake to continually improve our environment performance	Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-II(IND-I) dated 31/08/2021. The project proponent in also in contempt of the Order dated 23/08/2021 in Writ Petition 881/2017 passed by the Hon'ble High court of Bombay at Goa.	As clarified earlier, PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of Moef regional office Bangalore. It is submitted that allegation of contempt is false and incorrect. PP has not committed contempt of any court order.

S No	Areas of improvement Reported If any	Corrective Action Taken	Status given	Remarks	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
		out in a controlled manner. b) The discharged water is monitored at regular intervals and the water quality is within the permissible limits				

Additional recommendation during the Environmental Clearance amendment on 25/04/2012 and present status: -

S No	Condition detail	Condition no of EC dated 12/04/2012	Observation of GSPCB	Present Status dated 27/12/2021	Response by Project Proponent dated 29/12/2021
1.	Environmental Statement for each financial year ending 31st march in Form V as is mandated to be submitted by project proponent to GSPCB as prescribed under EPR 1986 shall also be put on the website of the company along with the status of the compliance of Environmental conditions and shall also be sent to respective ROs of MOEF by e-mail.	3	The Environmental Status for all units viz Coke Plant, power Plant, Blast Furnace and sinter plant for year 2019-20 was submitted in September, 2020. **The environmental statement needs to be uploaded on the company website**	Proponent has already expanded Blast Furnace 3 before the Public Hearing Conducted. Proponent has illegally constructed Dry Beneficiation plant and it is before High Court of Bombay at Goa bearing Civil Application no. 33 0f 2021. Complaints by Alleges have already been filed	PP hereby state that there is no blast furnace expansion carried out till date. However, due to the end of campaign life and repeated refractory failures we have carried our relining of the blast furnace-3 with intimation to the concerned statutory authorities. In fact, same issues were raised in the High Court which were disposed off on merits based on submission of inspection report by GSPCB.

Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020 and present Status: -

S No	Conditional Detail	Condition no of EC dated 07/01/2020	Observation of GSPCB	Present Status dated 27/12/2021	Response by the Project Proponent dated 27/12/2021
1.	Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent	1	It appears that the storm water is discharged directly from the premises without adequate settling to the adjoining area including the water	No single improvement is witnessed by the people in vicinity as even today the locals are suffering a lot.	As submitted to the Ministry, the plant has a proper storm water management by virtue of which the entire surface run off is channelized through drains

S No	Conditional Detail	Condition no of EC dated 07/01/2020	Observation of GSPCB	Present Status dated 27/12/2021	Response by the Project Proponent dated 27/12/2021
	siltation. The runoff water shall be diverted		bodies. The GSPCB was in receipt of a recent complaint from the resident of Dhakul Maina wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the company and the storm water without any settling had flow to the village temple lake. GSPCB is in the process seeking clarification from the unit and further necessary action may be taken based on the submission made by the unit.		through a series of settling ponds to allow the silt to settle and clean water from the final settling pond is recirculated back to the process.
2.	Maina wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the company and the storm water without any settling had flow to the village temple lake. GSPCB is in the process seeking clarification from the unit and further necessary action may be taken based on the submission made by the unit.	2	Most of the internal roads are black top. However, balance internal road of around 6.38 km will be black topped or concreted in a phase manner by 2023. Also, it will be pertinent to note that budget is allocated for the same annually.	Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-II(IND-I) dated 31/08/2021. Recent photographs of ongoing pollution have been submitted.	As clarified earlier, PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of MoEF&CC regional office Bangalore. The Show Cause responses were also substantiated with photographs and documents as applicable during the course of EAC meeting held on 29/12/2021.
3.	One additional continuous ambient air quality monitoring station (CAAQMS), in consultation with GSPCB shall be established within the project premises towards the adjoining village and monitoring reports shall be submitted	4	The unit is presently operating two CAAQMS within the premises and the data so generated is made available to the CPCB and GSPCB servers. Additional CAAQMS machine procured and available at site. The installation is pending due to COVID-19 pandemic.	As per the office records of the Goa State Pollution Control Board, the office has regularly issued show cause notices to the proponent on failure to stop the pollution. Till today Air Quality Index report shows much fluctuation.	The point raised here pertaining to air pollution is baseless. As stated, the third CAAQMS station is installed and commissioned in July 2021 and connected to GSPCB and CPCB servers. As explained and committed PP shall further endeavor to install new and upgraded bag house

S No	Conditional Detail	Condition no of EC dated 07/01/2020	Observation of GSPCB	Present Status dated 27/12/2021	Response by the Project Proponent dated 27/12/2021
	to Goa State Pollution Control Board (GSPCB) and CPCB.				systems, dust suppression units, windshields, fog-guns etc. to additional comply to the stringent pollution norms.
5.	Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process.	6	Bag filters are provided to control the secondary emission with the hoods at the emission sources. The board had carried out dust fall measurements in the surrounding villages of the unit namely at two locations in Amona village and one location each in Navelim Village and Betki Village from 28/04/2020 to 28/05/2020. As per the report, shiny particles have been observed on the dust fall sampler located at Amona and Navelim during the monitoring days.	As per the office records of the Goa State Pollution Control Board, the office has regularly issued show cause notices to the proponent on failure to stop the pollution. Till today Air Quality Index report shows much fluctuation.	The point raised here pertaining to air pollution is baseless. As stated, the third CAAQMS station is installed and commissioned in July 2021 and connected to GSPCB and CPCB servers. As explained and committed PP shall further endeavor to install new and upgraded bag house systems, dust suppression units, windshields, fog-guns etc. to additional comply to the stringent pollution norms.

Observation of the Committee dated 12-13th August, 2021 and its present Status: -

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
i.	In the instant proposal, the units namely Blast Furnace (2,92,000 m3) and Coke Oven Plant (3,20,000 TPA) are running on the strength of the CTE/CTO from Goa State Pollution Control Board. Besides, PP has obtained EC during 2009 for Blast furnace – 9,00,000 TPA; Sinter Plant – 2,00,0000 TPA; Coke Oven Plant – 6,00,000 TPA and Power Plant 60 MW based on WHRB. However, project proponent has not integrated the said units till date. EIA report needs to be revised by integrating all the units and cumulative impact assessment needs to be carried out.	In the Minutes of Meeting of 42nd meeting of the Re-constituted EAC (Industry-I) held on 12 – 13th August, 2021 clearly depicted that the existing plants of the proponent is not integrated and also indicated that the present projects are seen different from the projects which were given Environment Clearance.	As explained during the course of meeting and submitted as part of the response to the EAC observations. PP has applied for amalgamated consents to operate from GSPCB dated 29/09/2021 which is under consideration. Through this proposal, PP has approached Ministry to grant a consolidated EC for the existing as well as proposed projects (which includes projects commissioned prior to EIA notification, 1994).
ii.	The existing and proposed configuration of Blast Furnace, Sinter	In the Minutes of Meeting of 42nd meeting of the Re-constituted	As explained during the course of meeting and

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
	Plant, Coke Oven Plant, Ferro Alloy Plant and Power Plant are neither reflected in the EIA report nor in the presentation made before the EAC.	EAC (Industry-I) held on 12 – 13th August, 2021 clearly depicted that the existing plants of the proponent is not integrated and also indicated that the present projects are seen different from the projects which were given Environment Clearance.	submitted as part of the response to the EAC observations. PP has applied for amalgamated consents to operate from GSPCB dated 29/09/2021 which is under consideration. Through this proposal, PP has approached Ministry to grant a consolidated EC for the existing as well as proposed projects (which includes projects commissioned prior to EIA notification, 1994).
iii.	The company has obtained one EC and being operated in piece meal consents from GSPCB in the name of Pig Iron Division, Sinter Plant Division, Met Coke Division and WHRB Division which is creating confusion while evaluating the implementation status of the EC	In the Minutes of Meeting of 42nd meeting of the Re-constituted EAC (Industry-I) held on 12 – 13th August, 2021 clearly depicted that the existing plants of the proponent is not integrated and also indicated that the present projects are seen different from the projects which were given Environment Clearance.	As explained during the course of meeting and submitted as part of the response to the EAC observations. PP has applied for amalgamated consents to operate from GSPCB dated 29/09/2021 which is under consideration. Through this proposal, PP has approached Ministry to grant a consolidated EC for the existing as well as proposed projects (which includes projects commissioned prior to EIA notification, 1994).
iv.	There is a jetty in the vicinity of the project site which is being used for material transportation. The dimensions of the jetty and the material handling capacity of the jetty for the existing and proposed expansion has not been made available. Clearances if any obtained, under the provisions of CRZ, 1991 and its subsequent amendments has also not been informed.	No permission is taken from the river and navigation department of the existing number of jetties.	PP deny the said allegation and permission from River and Navigation Department is in place. PP is regularly paying riverine charges as per the requirement.
v.	There are 18 sites of archaeological importance in the study area. In this regard, no approval/clearance from the Archaeological Survey of India has been obtained till date although the unit is under operation since 1992. Impact assessment on archaeological sites/ historical monuments due to the existing and proposed expansion of the plant has not been carried out.	Protected archaeological sites are in the buffer zone of the company like Pandava caves at Harvalem, Old Goa Chruch, Birds spot at Navelim, etc. Put this para There are protected sites and monuments existing within the close radius of just 2 to 5 kilometers from the Vicinity of	As discussed, and clarified during the course of meeting to EAC, PP has applied for NOC from Department of Archaeology. Further, PP has also carried out impact assessment which shows that there is no significant impact of our activities on

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
		Existing and Proposed plant of Vedanta. These ancient Monuments and sites are protected under Goa Ancient monuments and archaeological sites and remains Act 1978 and rules 1980. Cave of Siddhanath at tar Surla and Mosque andTank at Tar Surla are located in the neighbouring Village Surla, which is located within a distance of 2 km from the Vedanta Plant at Amona-Navelim. Site Of Gujir is located in neighbouring village Kudne, which is also located within the distance of less than 2 km from the Existing and proposed Plant of Vedanta at Amona and Navelim. Fortresse of St Estevam Jua Tiswadi is also located within the distance of less than 2 km from the Existing and proposed Plant of Vedanta at Amona and Navelim. Similarly, Pandava cave at Harvalem and Fort of sanquelim are also located within the distance of less than 8 km from the Existing and proposed Plant of Vedanta at Amona and Navelim. There areatleast 5 churches and chapels and sites located at Old Goa which is within theis also located within the distance of less than 9 km from the Existing and proposed Plant of Vedanta at Amona and Navelim. No study about the cumulative impact of pollution on these ancient monuments is done till date. there is a bird resting site/ wetland in village navelim which is located within the distance of less than 1 km from the Existing and proposed Plant of Vedanta at Amona and Navelim. No permission in this regard is obtained from the concerned Authority. Therefore, in this background no additional or new projects of Vedanta company can be brought in Village Amona and Navelim.	archaeological monuments.
vi.	According to the certified compliance report of GSPCB, the PP is yet to	Not yet complied as alleges have not witnessed a single	The response to the said allegations has already

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
	comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.	development.	been provided in the above points and covered in the response to EAC observations. Further, compliance to these observations have been verified and certified by IRO MoEF&CC and GSPCB during the joint inspection in October, 2021.
vii.	As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.	As per the office records of the Goa State Pollution Control Board, the office has regularly issued show cause notices to the proponent on failure to stop the pollution. Till today Air Quality Index report shows much fluctuation.	The response to the said allegations has already been provided for in the above points.
viii.	Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.	The Slag is being transferred in the mandovi river. The discharge is proved in the upstream and downstream reports of the Goa State Pollution Control Board dated 02/11/2019, 16/06/2020, 01/06/2020	The response to the said allegations has already been provided in the above points.
ix.	As per the base line data collected, the BOD in the surface water sample is reported as less than 3 mg/lit whereas COD reported values are 50 mg/l, 60mg/l and 70 mg/lit respectively which seems incorrect and no clarification for the same provided. Location of the water quality sampling stations as well as positioning of air quality samplers at monitoring stations are not in conformity with the CPCB guidelines. Riverine ecology study has not been carried out at all. In view of this, fresh data (one month) needs to be	The Slag is being transferred in the mandovi river. The discharge is proved in the upstream and downstream reports of the Goa State Pollution Control Board dated 02/11/2019, 16/06/2020, 01/06/2020	The response to the said allegations has already been provided in the above points.

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
	collected. Besides, PP needs to clarify about the monitoring methodology for O3, NH3 and BaP etc., as the monitoring has not been carried out properly.		
x.	There are 7 schedule species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.	Same is not complied yet.	There are 7 schedule I species in the study area namely Peacock, Crocodile, Shikra, Common Indian Monitor Lizard, Gaur, Indian Python and Leopard. The Wild Life Conservation Plan (WLCP) has been prepared & got approved by Chief Wild Life Warden, Government of Goa vide Letter No: 1-576 (PART) WL & ET (N)/2021-2022/554 dated 28/05/2021
xi.	Public Hearing was conducted on 14.3.2021 and 21.3.2021 based on the Order of Hon'ble High Court of Bombay. 817 people attended the PH and most of the attendees opposed the project expansion citing pollution, health, education and unemployment issues etc. PP failed to submit the point wise response to the issues raised in public hearing and action plan with physical target as per MoEF&CC O.M. dated 30/09/2020 has not been submitted.	Same is not complied. It is verified by the office of the Goa State Pollution Control Board letter vide no. 8/33/2021 - PCB/legal/15516 dated 29/11/2021.	PP has prepared action plan for all the issues raised in the public hearing along with physical targets. The same has been presented to the EAC during appraisal dated 29/12/2021. As suggested by EAC, few changes have been made duly submitted.
Xii.	Incomplete/inaccurate and inconsistent information has been furnished in most of the sections of Form 2.	Same is manipulated diplomatically.	The allegation is denied as revised Form 2 has been submitted to MoEF&CC.
xiii.	EMP cost is indicated as Rs. 35.0 Cr on a CAPEX of Rs.701.0 Cr. This is just 5 % of CAPEX which is grossly inadequate. For a BF- Coke Oven and DIP complex the EMP cost shall be around 15 % of CAPEX.	-	-
xiv.	Total water requirement is 12794 KLD out of which only 9600 KLD is drawn from Mandovi River and balance is drawn from old abandoned pits of iron ore mines (Harvested rain water). Subsequently, PP has informed that permission for withdrawal of 10000 KLD of water from Balvot river has been obtained. There is no clarity on the source of water for the existing and proposed	No feasibility report done for the approval of such large amount of water taken of downstream of Mhadaei river.	As presented and clarified during the course of appraisal to the EAC most of the water required for the proposed expansion will be met from rain-water harvesting/accumulated water in mine pits and partly from Bandara/river as and when required for which necessary

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
	expansion.		permissions are in place.
xv.	Load bearing capacity (Million Standard Axle) of the existing connecting road vis-à-vis with vehicles plying on the road has not been carried out.	Not yet complied.	Clarified during the course of appraisal to the EAC on the matter.
xvi.	Energy recovery systems like TRT, sinter cooler waste heat recovery, BF hot stove waste heat recovery, dry gas cleaning of BF gas have not been considered in the proposal.	List of hazardous waste and its emission of indicated through the report of Goa State Pollution Control Board bearing no.8/33/2021 -PCB/legal/15516 dated 29/11/2021 dangerous gases like Benzene, nitrogen Sulphur dioxide are been emitted.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xvii.	List of Hazardous waste does not include bitumen coated sand, Zinc dross, cement slurry generated from DIP plant.	The detailed report of emission of gases are missing in the EIA submitted.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xviii.	Method to be adopted for charging of coke fines back into blast furnaces as proposed by PP has not been explained.	The detailed report in this regard is missing.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xix.	The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.	They have failed to comply with the greenbelt development as authorities have in written asking them for the provision from the long time but till date it is not done.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xx.	Sensible heat recovery is proposed for Blast furnaces to generate power. This is not possible as BF gas does not have that high temperature. PP has not provided any explanation.	The proponent has no control over the recovery of heat. No detailed report in the EIA submitted till date	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xxi.	Size and capacities of individual facilities in Ductile Iron Plant have not been furnished. No details are given about Pollution Control Devices (PCDs) in DIP Plant. PP shall use a 20 T IF in DIP, the Fume Extraction details of IF are not given.	The details are missing in the present EIA	Necessary details have been included in the EIA submitted to the Ministry.
xxii.	PP confirms that sizes of Pollution Control Devices (PCDs) is enough to take care of additional pollution load. This seems impossible to meet the stringent PM emission norms of 30 mg/Nm3 with almost 20 % increase in production capacity.	No proper report on future possibility of pollution. Proponent has failed to control the current pollution.	Necessary details have been included in the EIA submitted to the Ministry and clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xxiii.	It may be noted that out of Rs. 23.05 Cr allocated for addressing issues raised during public hearing Rs.22 Cr are earmarked for the facilities to control pollution within the plant. Only Rs1.05 Cr is left to address public concerns. This need to be	Investment made by the proponent in crores have not benefitted the locals. Proponent has failed in maintaining good relations with the locals. Scrutiny of the statement of	Clarified during the course of appraisal to the EAC. Further, employment opportunities have been provided and will be provided to the locals as per their eligibility to meet

S No	Observations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
	revisited as expenditure incurred on abatement and control of environment pollution inside the plant is part of capital expenditure and cannot be considered as expenditure on socio economic development outside the plant. Socio Economic development related EMPs have no time schedule.	accounts will also show that the project proponent has failed to discharge their obligation under the Companies Act under CSR as they have not appropriated required percentage of funds annually.	the job requirements. The necessary training on skill development and career counselling is also taken up under the CSR initiative.
xxiv.	Mitigation measures suggested for construction and operation are generic and none of these have been quantified. It is like a text book copy.	Mitigation measures in detail is missing. There are no safety measures taken in the operation of plants.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xxv.	Solid waste management plan to ensure 100 % solid waste utilization as per CREP guidelines has not been furnished.	Details are missing in recent submitted EIA.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.
xvi.	Air quality modelling has been carried out for flat terrain without considering the impact of nearby hills and ocean current. While calculating the incremental GLCs, impact of modernization and capacity enhancement of the existing units have not been considered.	Proponent is already failed to control over the current emission of pollution.	Clarified during the course of appraisal to the EAC and presentation submitted on the matter.

Recommendation of the Committee and present status: -

S No	Recommendations	Present Status dated 27/12/2021	Response by the Project Proponent dated 29/12/2021
	In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings as enumerated at paragraph 42.1.19 above. Further, PP is required to undertake necessary corrective action on the said non-compliances and latest compliance report on the same from the concerned Regional Office of MoEF&CC is required. MoEF&CC may issue a Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as mentioned above.	The recent submitted EIA is not practical. Shortcomings of the previous EAC meeting are conditions are compiled diplomatically and it is not practical. It may be noted that the project proponent ought to have carried out environment impact assessment again considering the recommendation of the committee and requires to put before general public in a public hearing in terms of EIA Notification.	Necessary changes in EIA have been carried out as per EAC recommendations and submitted accordingly. The same has been presented during the course of appraisal by EAC on 29/12/2021.

Ministry of Environment, Forest and Climate Change issued further Show Cause notice to the Project Proponent vide no. 509252/2021/IA-II(IND-I) dated 31/08/2021. Till today project proponent is failed to comply with the conditions.

Response by PP:

PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of MoEF&CC Integrated Regional Office, Bangalore. The Show Cause Notice responses were also substantiated with photographs and documents as

applicable during the course of EAC meeting held on 29/12/2021. Detail of point wise reply made by PP has been explained at para 50.1.22 above.

Beside this PP also made reply of representation made to the Goa State Pollution Control Board regarding land dispute and construction of facilities of expansion proposal given as below:

Response by PP:
With respect to the allegation regarding the complaint by the Goa Foundation to office of the Goa State Pollution Control Board pertaining to the Dry Beneficiation Plant, PP vehemently deny that any such illegal construction of Dry Beneficiation Plant has been carried out by PP and such complaint is completely unfounded. PP further stated that the allegation pertaining to illegal construction of Blast Furnace 3 without appropriate approvals is baseless as an identical issue was raised by another person before the High Court of Bombay at Goa which has been dismissed on merits vide order dated 03/08/2021. Concerning the land property dispute with the Communidade of Amona, PP stated that the said property was granted to the project proponent by the order of Government and accordingly, PP has acted in full compliance of applicable law and followed the due process of law. However, the Communidade of Amona has filed a suit before Civil Court contesting the lawful grant of property and the same is pending for adjudication.

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

- PP submitted the revised action plan to address the public hearing issues as per O.M. dated 30/09/2020. Detail of revised action plan has been updated at para 50.1.13 above.
- PP submitted the pointwise response of public representations submitted to the Ministry for instant proposal. Detail has been updated at para no 50.1.24 above.
- PP informed that there is Mhadei WLS located within 9.8km from the expansion project site for which EC was accorded on 3/06/2009. Permission from SCNBWL has not been applied as there was no condition prescribed to this effect in the EC accorded on 3/06/2009. Subsequently, ESZ notification was issued on 24/02/2015. Since, the project site is located outside ESZ boundary permission from SCNBWL is not applicable.

Observations of the Committee

50.1.26 The committee noted the following:

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

ii. The 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.

iii. It has been reported by the PP that the existing capacity of the Jetty (4 grabs) is 7 MTPA of material handling (loading as well as unloading) while the requirement of material to be handled for the entire complex after the proposed expansion will be maximum of 2.5 MTPA only. The jetty is in operation prior to CRZ Notification 1991. There is no expansion of the jetty capacities since the time of establishment. The existing jetty is capable of handling the additional load of the proposed expansion. In view of this, PP claimed that CRZ clearance for the jetty is not applicable.

iv. Consolidated EC may be issued for the instant proposal as the PP has amalgamated the units operating under the consent from GSPCB with the instant expansion proposal under consideration.

v. In addition to the above, the EAC also deliberated upon the reply submitted by the proponent against the show cause notice 31/08/2021. The committee satisfied with the SCN replies of the proponent except the following SCN points which are yet to be complied by the proponent.

S.No.	Issus stated in the SCN	Time frame sought for compliance	View of EAC
i.	Black topping of 6.38km road.	6.62 km of road out of 13km is already blacktopped and **remaining road of 6.38 km will be black topped or concreted by the April 2022.**	This point may be prescribed as a specific condition in the EC to be accorded. Time frame shall be strictly adhered by the PP, failing which, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986.
ii.	Further large quantity of slag (45000 T) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same	As on date, the project proponent has reported 45000T of slag is stored till date and PP has committed to disposed of the same in next financial year. Further, assured to provide covered storage shed for slag by May, 2022.	This point may be prescribed as a specific condition in the EC to be accorded. All the slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in by May, 2022. In case of failure by the PP, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986.
iii.	There are 18 sites of archaeological importance in the study area. In this regard, no approval /	PP has submitted their application seeking NOC from Archaeological Survey of India and the same is yet to be obtained.	This point may be prescribed as a specific condition in the EC to be accorded. As per the AAQ modeling carried out by the

S.No.	Issus stated in the SCN	Time frame sought for compliance	View of EAC
	clearance from the Archaeological Survey of India has been obtained till date although the unit is in operation since 1992.		PP, there is no significant impact on the 18 archeological sites. However, the requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022. In case of failure by the PP, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986.
iv.	Graphite particle dust in nearby areas.	PP has undertaken the work of construction of windshield of 260m length for preventing release of graphite particles.	Wind Shield for control of graphite particle emissions shall be provided by March 2022. This point may be prescribed as a specific condition in the EC to be accorded. In case of failure by the PP, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986.

vi. The EAC also deliberated on the response submitted by the proponent with respect to the public representations and found it satisfactory.

Recommendations of the Committee

I. Expansion proposal

50.1.27 In view of the foregoing and after detailed deliberations, the committee recommended the proposal for grant of Environment Clearance (EC) under the provisions of EIA Notification, 2006 in supersession of existing ECs 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 in case no. 47 of 2013 before the Hon'ble National Green Tribunal, Case No. 881/2017 in Hon'ble High Court of Goa; Case No. 24/2015 before the Hon'ble District Court, Mapusa.

ii. Green Belt shall be developed in 54 hectares of land (33.5 % of total land) with tree density of 2500 trees per ha by 31/12/2022 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. This shall include green belt development within the site with a width of 25 meters towards the Amona village and Navelim village located a distance of 0.32 km and 0.05km from the project site respectively.

iii. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

iv. The project proponent shall comply with the following points by on (or) before 31/05/2022 as committed below by the proponent, failing which, GSPCB shall initiate legal action against the proponent under the relevant provision of the Environment (Protection) Act, 1986. Further, compliance status in this regard shall be submitted to the concerned Regional Office of the MoEF&CC along with the six-monthly compliance report.

   a. 6.38 km internal plant road shall be black topped or concreted by April 2022.
   b. All the stored slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in place by 31st May, 2022.
   c. There are 18 sites of archaeological importance in the study area. Requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022.
   d. Wind Shield for control of graphite particle emissions shall be provided by March 2022.

v. Ductile Iron (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^3.
   g. ETP with recycling facility shall be included. All scrubber effluent shall be treated in ETP.

vi. Parking area for trucks/dumpers shall be provided within the plant. No truck/dumper shall be parked outside the plant premises.

vii. Project proponent shall conserve wetlands located in the vicinity of the project site (Amona – 0.3km in Northern direction and Navelim – 0.6 km in Northern direction) by developing green belt development all along the boundary of the wet land.

viii. 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 as far as possible.

ix. Sinter Plant shall be equipped with sinter cooler waste recovery system to generate process steam or power.

x. 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.

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

xii. Submerged Arc Furnace shall be of closed type with 4th hole extraction system.

xiii. Particulate matter emissions from stacks shall be less than 30 mg/Nm^3. Necessary retrofitting work shall be carried out in Air Pollution Control Devices (APCDs) of old plant to reduce PM emissions to less than 30 mg/Nm^3 within two years from the date of EC.

xiv. AAQ at Mosque and Siddhartha Caves archeological sites shall be monitored as per the CPCB norms. 02 manual ambient air quality monitoring stations within the plant shall be replaced with one CAAQMS in addition to the 03 CAAQMS presently installed. Manual monitoring as done presently shall be continued and Benzo Amino Pyrene (BaP) shall be monitored manually as per CPCB norms. Besides, one manual air quality monitoring station shall be established towards Amona and Navelim villages and ambient air quality monitored as per CPCB norms.

xv. Water requirement for the plant shall be met from Mandovi River and Valvonti river. Ground water abstraction is not permitted.

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

xvii. Water being used for cooling purposes in Waste Heat Recovery Power Plant (WHRPP) is the saline water drawn from Mandovi river (backwater). The blow down of cooling towers shall be discharged back to the saline backwaters as per the approval of the GSPCB. Project proponent shall periodically monitor the riverine water quality and report shall be submitted along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

xviii. Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process.

xix. Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation.

xx. The recommendations contained in the storm water management plan shall be strictly

adhered with. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

B. General conditions

I.Statutory compliance:

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

II.Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission 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_2 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 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
iii. 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/recuperative type burners on all reheating furnaces.

VI.Waste management

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

VII.Green Belt

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

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_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

II. Reply to the Show Cause Notice dated 31/08/2021 submitted by PP

The Committee recommended that SCN dated 31/08/2021 shall be revoked by the Ministry as the replies submitted by the proponent are found to be satisfactory except the non-compliances observed at para no. 50.1.26. In this regard, EAC has recommended to prescribe a specific condition in the EC to be accorded in order to ensure compliance in a time bound manner by the proponent. Further, it is also recommended that in case of failure of implementation by the proponent within the prescribed time frame, GSPCB shall initiate legal action against the proponent under the relevant provisions of the Environment (Protection) Act, 1986.

50.2 Expansion of existing plant from 62,400 TPA Billet production to 207,900 TPA Rolled production by modification of existing 2x8 Tons Induction Furnaces with 2x10 Tons, Installation of 2x15 Ton Induction Furnaces, Installation of 630 TPD Rolling Mill with

Producer Gas Plant and Cold Drawing Complex by **M/s. Chhabra Ispat Private Limited** located at Village Nakrajoria, P.S. Salanpur, **District West Burdwan, West Bengal.** [Online Proposal No. IA/WB/IND/4617/2011, File No. J-11011/376/2010-IA.II(I)] – **Environment Clearance – regarding.**

50.2.1 M/s. Chhabra Ispat Private Limited has made an online application vide proposal no. IA/WB/IND/4617/2011 dated 23/09/2021 along with copy of EIA/EMP report, Form – 2 and Certified compliance report and sought for Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at 3(a) Metallurgical Industries under Category "B" of the schedule of EIA Notification, 2006 and attracts general condition due to Jharkhand and West Bengal Interstate Boundary at 1.52 km from the project site. Hence, the project was appraised as Category 'A'at Central Level.

Details submitted by Project proponent

50.2.2 The details of the ToR are furnished as below:

Date of Application	Consideration	Details	Date of Accord	ToR Validity
06/09/2018	35th Meeting of EAC (Industry-1) held on 17-18th September, 2018.	Terms of Reference	09/10/2018	08/10/2022

50.2.3 The project of M/s Chhabra Ispat Pvt Ltd. located in Nakrajoria Village, P.S.- Salanpur, West Burdwan District, West Bengal State is for enhancement of production from 62,400 to 188,650 TPA MS Billet and installation of facilities for 207,900 TPA Rolled products.

50.2.4 Environmental Site Settings:

<table>
<tr><th>SNo</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>1</td><td>Total land</td><td>4.34 ha [Private: 4.34 ha]</td><td>Land Use: Industrial</td></tr>
<tr><td>2</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>Land has been acquired and documents are provided in the EIA. No additional land required for the project as the proposed expansion will be carried out within the existing project site.</td><td></td></tr>
<tr><td>3</td><td>Existence of habitation & involvement of R&R, if any.</td><td>Project Site – Nil
Study Area<table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Nakrajoria Village</td><td>1.2 km</td><td>West</td></tr><tr><td>Salanpur town</td><td>1.24 km</td><td>SSE</td></tr></table></td><td>R&R is not required.</td></tr>
<tr><td>4</td><td>Latitude and Longitude of all corners of the project site.</td><td><table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>23º 46' 39.9" N</td><td>86º 51' 50.8" E</td></tr><tr><td>B</td><td>23º 46' 39.9" N</td><td>86º 51' 55.4" E</td></tr><tr><td>C</td><td>23º 46' 34.2" N</td><td>86º 51' 53.9" E</td></tr><tr><td>D</td><td>23º 46' 30.5" N</td><td>86º 51' 53.2" E</td></tr><tr><td>E</td><td>23º 46' 29.7" N</td><td>86º 51' 51.5" E</td></tr><tr><td>F</td><td>23º 46' 31.7" N</td><td>86º 51' 48.7" E</td></tr><tr><td>G</td><td>23º 46' 37.7" N</td><td>86º 51' 49.2" E</td></tr></table></td><td></td></tr>
</table>

<table>
<tr><th>SNo</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td><table><tr><td>H</td><td>23º 46' 37.6" N</td><td>86º 51' 47.0" E</td></tr><tr><td>I</td><td>23º 46' 38.2" N</td><td>86º 51' 49.1" E</td></tr></table></td><td></td></tr>
<tr><td>5</td><td>Elevation of the project site</td><td>159 m above mean sea level</td><td></td></tr>
<tr><td>6</td><td>Involvement of Forest land, if any</td><td>No involvement of Forest Land</td><td></td></tr>
<tr><td>7</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project Site: Nil

Study area<table><tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr><tr><td>River Barakar</td><td>3.9 km</td><td>West</td></tr><tr><td>Maitho Reservoir</td><td>4.68 km</td><td>NE</td></tr></table></td><td>HFL Details for the Site: The project site level is 159 meters above MSL which is higher than the HFL (98 meters) of River Barakar which is 3.9 km from project site.</td></tr>
<tr><td>8</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>Nil.
However, following Protected Forest is located within study area:
Maithon PF: 3.4 km/ NE</td><td></td></tr>
</table>

50.2.5 The existing project was accorded Environmental Clearance vide J-11011/785/2007-IA.II(I) dated 25/08/2008 and vide F. No. J-11011/376/2010-IA II (I) dated 05/03/2012. Consent to Operate for the existing units was accorded by West Bengal Pollution Control Board vide File no. 2045-WPBA/Red(BGM)/Cont(650)/09 dated 05/10/2018. The validity of CTO is up to 31/08/2023.

50.2.6 Implementation status of the existing EC:

S No	Facilities	Units	As per EC dated	Implementation status as on dated	Production as per CTO
Units as per EC vide F.No. J-11011/785/2007-IAII(I)					
1	Induction furnace	2x8 Ton	25/08/2008	Operational	MS billet – 5200

2	Continuous Casting Machine (CCM)	2 Strand, 4/7 m radius (62400 TPA Billets)	25/08/2008	Operational	MT/Month
Units as per EC vide F.No. J-11011/376/2010-IA II (I)					
1	Induction furnace	2x8 Ton 1x15 Ton (98180 TPA Billets)	05/03/2012	Units Dropped and Not implemented till date	Units are Dropped and will not be implemented
2	Ferro Alloys	2x9 MVA (Fe-Si – 11,585 TPA Si-Mn – 23450 TPA Fe-Mn/Pig Iron – 35,175 TPA)	05/03/2012	Units Dropped and Not implemented till date	Units are Dropped and will not be implemented

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

S No	Plant Equipment/ facitlity	Existing		Proposed		Total	
		Configuration	Capacity	Configuration	Capacity	Configuration	Capacity
1	Induction Furnace	2x8 Ton	62400 TPA MS Billets	2x10 Ton (Modernization of existing 2x8 Ton IF) + 2x15 Ton (New)	126,250 TPA Billets (additional)	2x10 Ton (Modernization of existing 2x8 Ton IF) 2x15 Ton (New)	188650 TPA MS Billets
2	Continuous Casting Machine	2 Strand, 4/7 m radius	--	--	--	2 Strand, 4/7 m radius	--
3	Ladle Refining Furnace	--	--	1x15 Ton	192500 TPA Liquid steel	1x15 Ton	192500 TPA Liquid steel
4	Producer Gas Plant	--	--	1x2850 Nm^3/hr	2850 Nm^3/hr	1x2850 Nm^3/hr	2850 Nm^3/hr
5	Reheating Furnace	--	--	1x30 TPH	--	1x30 TPH	--
6	Rolling Mill	--	--	630 TPD	207,900	630 TPD	207,900
7	Cold Drawing Machine	--	--	100 TPD	33,000 (Within 207,900 TPA Rolled production)	100 TPD	33,000 (Within 207,900 TPA Rolled production)

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

Sl. No	Raw Material	Quantity (TPA)		Source	Transportation	
		Existing	Total after expansion		Rail (km)	Road (km)
1.	Sponge iron	57,024	173,250	Bravo Sponge & Iron (P) Ltd., Purulia, WB	-	103
2.	Scrap	9,314	28,297	United metals Recycling Kolkata, WB	-	34

Sl. No	Raw Material	Quantity (TPA)		Source	Transportation	
		Existing	Total after expansion		Rail (km)	Road (km)
3.	Pig iron	9,314	28,297	Jai Balaji Industries Ltd, Durgapur, WB	-	44
4.	Ferro Alloys (FeMn, FeSi, Al)	380	1,156	Impex Ferrotech Ltd, Paschim Burdwan, WB	-	3
5	Billet (Purchased)	---	29,645	Maithan Steel & Power Ltd., Salanpur, Burdwan	-	2
6	Coal	---	8,400	ECL, Raniganj	-	25

50.2.9 Existing water requirement is 55 m^3/day is obtained from Bore well and permission for the same has been obtained. Total Water requirement after the proposed expansion shall be 235 KLD and shall be met from Barakar River. Permission for drawl of 235.2 KLD from Barakar River has been obtained from West Bengal Industrial Development Corporation Ltd vide letter No. WBIDC/DVRRC/08-09/1154 dated 25/09/2019.

50.2.10 Existing power requirement of 7.5 MW. Power is being obtained from Damodar Valley Corporation (DVC). Power requirement for the proposed expansion is estimated as 18 MW which will be obtained from Damodar Valley Corporation (DVC).

50.2.11 Baseline Environmental Studies:

Period	01/10/2020 to 31/12/2020
AAQ parameters at 8 Locations (min and max)	PM_{10} = 45.2 to 85.9 µg/m^3 $PM_{2.5}$ = 20.1 to 46.2 µg/m^3 SO_2 = 8.3 to 19.2 µg/m^3 NO_X = 14 to 33.2 µg/m^3 CO = 0.65 to 1.18 µg/m^3
Incremental GLC level	PM_{10} = 0.87 µg/m^3 (Levels at 0.5 km in South) $PM_{2.5}$ = 0.47 µg/m^3 (Levels at 1.2 km in West) SO_2 = 4.37 µg/m^3 (Levels at 1.2 km in West) NO_x = 5.86 µg/m^3 (Levels at 0.5 km in South)
Ground water quality at 8 locations	pH: 7.14 to 7.51, Total Hardness: 210.1 to 385.15 mg/l, Chlorides: 75 to 128 mg/l, Fluoride: 0.12 to 0.75 mg/l. Zinc: 0.78 to 2.80 mg/l
Surface water quality at 8 locations	pH: 7.21 to 8.01, DO: 4.8 to 7.8 mg/l BOD: 6.8 to 16.5 mg/l. COD: 14.65 to 49 mg/l
Noise levels Leq (Day and Night)	42.4 to 67.7 dB(A) for the day time and 34.2 to 59.1 dB(A) for the Night time
Traffic assessment study findings	• Traffic study has been conducted at SH-5 and NH-2 which are approximately 0.6 and 2.0 km from the plant site. • Transportation of Raw material, Fuel and Finished product will be done by Road • Existing PCU and level of service (LOS) is:

<table>
<tr><td>Period</td><td>01/10/2020 to 31/12/2020</td></tr>
<tr><td></td><td>
<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>SH-5</td><td>3881.5</td><td>15000</td><td>0.26</td><td>B</td></tr>
<tr><td>NH-2</td><td>4723.5</td><td>15000</td><td>0.31</td><td>B</td></tr>
</table>
• After Expansion the PCU load and LOS will be
<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>SH-5</td><td>4043.5</td><td>15000</td><td>0.27</td><td>B</td></tr>
<tr><td>NH-2</td><td>4885.5</td><td>15000</td><td>0.33</td><td>B</td></tr>
</table>
No change in LOS is being observed for proposed expansion when compared with baseline data. However, proper traffic management plan will be adopted to minimize the impending impacts.
</td></tr>
<tr><td>Flora and fauna</td><td>There is no Schedule-1 Fauna Species and endangered Flora species in the study area.</td></tr>
</table>

50.2.12 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 Name	Quantity in TPA		Mode of Treatment	Disposal	Remarks
			Existing	Total after Proposed			
1.	IF Slag	Induction Furnace	9,505	28,875	Metal Recovery of slag	After metal recovery (approx. 10%), remaining slag shall be crushed and will be used as aggregates	MoU with Pandey Construction company has been signed on 17/09/2021 for supplying Slag aggregates
2.	IF Bag Filter Dust	Bag Filter	1,900	5,775	--	Shall be given to Sinter Plant or Pellet Plant	--
3.	Scale from CCM	CCM	240	960	Recycled	Shall be recycled in Induction Furnace	--
4.	Mill Scale from Rolling Mill	Rolling Mill	--	4,160	Recycled	Shall be recycled in Induction Furnace	--
5.	Cinder	Producer Gas Plant	--	2,100	--	Shall be given to nearby Brick Kilns/Construction Company, to be used as fuel	MoU with Pandey Construction company has been signed on 17/09/2021 for supplying Cinder

S No	Type of Waste	Source Name	Quantity in TPA		Mode of Treatment	Disposal	Remarks
			Existing	Total after Proposed			
6.	Tar	Producer Gas Plant	--	350	--	Shall be used internally	--

50.2.13 Public Consultation:

Details of advertisement given	18/07/2019
Date of public consultation	27/08/2019
Venue	Rupnarayanpur Nandanik Hall at Salanpur Block, West Burdwan district, West Bengal state
Presiding Officer	Sri Prasanta Mandal, ADM (Environment), Paschim Burdwan, West Bengal
Major issues raised	Employment for Locals Pollution control measures Solid waste management Source of power CSR activities

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

S No	Activities	Amount (in Rs.)			
		1st Year	2nd Year	3rd Year	Total (Rs.)
1	**Educational/Training Facilities**				
	Construction of 2 Training Halls (10x12 ft each) with veranda (5x20 ft) near Nakrajoria village	**971,000** (Construction work of two training Halls)	**1550,220** (Establishing Lathe machine training centre)	**488,700** (Establish ment of Computer training centre)	**30,09,920**
2	**Environmental Amelioration**				
	Plantation at the periphery of Dendua village (150 trees of dense canopy along the 0.31 km boundary of village).	**80,000** (Plantation along the 0.31 km periphery of dendua village)	**5000** (Maintenanc e of trees)	**5000** (Maintenan ce of trees)	**90,000**
Grand Total in Rs.					**30,99,920**

50.2.14 Existing capital cost of project was 13.20 Cr. The capital cost of the proposed project is Rs. 57.67 Crores (Total project cost after expansion will be 70.87 crores) and the capital cost for environmental protection measures along with the budget of activities to address Public Hearing issues is proposed as Rs. 4.98 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 0.90 Crores. The employment generation from the proposed project / expansion is 159. The details of cost for environmental protection measures are as follows:

Sl. No.	Description of Item	Existing (Rs. in lakhs)	
		Capital Cost	Recurring Cost
1	Air Pollution Control/ Noise Management	340.0	50.5
2	Water Pollution Control	60.0	9.5
3	Solid Waste / Hazardous Waste Management	25.0	6.0
4	Environmental Monitoring and Management	--	8.0
5	Green Belt Development	3.80	0.3
6	OH & S	14.0	12.0
7	Rain Water Harvesting	25.0	4.0
8	Addressal of Public Consultation concerns	30.99	--
Total		**498.79**	**90.3**

50.2.15 Existing green belt has been developed in 1.43 ha area which is about 33 % of the total project area of 4.34 ha with total sapling of 2815 trees. As per CPCB norms, 2500 trees/hectare shall be maintained, therefore in 1.43 ha. area about 3575 trees shall be planted. Now, for maintaining the tree density of 2500 trees per hectare in project premises, gap plantation of about 760 trees will be done during monsoon season of year 2022. A 3 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.

50.2.16 Name of the EIA consultant: M/s. Vardan Enviro Net [S.No. 41 in List of ACOs with their Certificate/ Ext letter no. NABET/EIA/1922/RA 0166; valid up to 06/11/2022, Rev. 17, December 13, 2021].

Certified Compliance report from Regional Office:

50.2.17 The Status of compliance of earlier EC was obtained from Integrated Regional Office, Kolkata vide letter no. 102-652/18/EPE/60, dated 28/04/2021 in the name of M/s. Chhabra Ispat Private Limited after site inspection by RO, Kolkata on 09/04/2021. The Action taken report regarding the partially complied condition was submitted to Regional Officer MoEF&CC, Kolkata vide letter no. CIPL/MOEFB/IRO-kol/21-22/S2.c19 dated 25/10/2021. MoEF&CC (RO), Kolkata evaluated the same and has issued letter dated 26/11/2021. The details of the observations made by RO in the report dated 26/11/2021 along with its re-assessment as furnished by the PP is given as below:

S No	Non-Compliances Details	Observation of RO	Condition No.			Review of RO on ATR
			EC date	Specific	General	
1	Partial Compliance regarding non implementation of Online Monitoring Facilities	It has been observed that the PA's have not installed online stack monitoring facilities for all the stacks. It is required to install online monitoring	25/08/2008	Sp. Condition (i)	--	PAs have submitted a copy of the purchase order dated 06/01/2021 for purchase of online stack monitoring facility. They have further

S No	Non-Compliances Details	Observation of RO	Condition No.			Review of RO on ATR
			EC date	Specific	General	
		facilities for all the stacks				informed that due to second wave of covid critical parts have not been supplied. PAs have not informed when the installation and commissioning of the online monitoring facility will happen. They need to update the installation status to the Regional Office and also install the monitoring facility immediately. **Review: Partially complied**
2	Partial Compliance regarding development of Greenbelt in 33% area	It is required to develop the green belt in 33% area within and around the plant premises as per the CPCB guidelines in consultation with DFO	25/08/2008	Sp. Condition (x)	--	From the invoice of plant purchased, it is observed that that they have purchased 2700 plant saplings. The photographs suggest that they have initiated the plantation. However green belt development and the area covered under green belt need to verified and assessed/ survey in the next monitoring time.

S No	Non-Compliances Details	Observation of RO	Condition No.			Review of RO on ATR
			EC date	Specific	General	
						Review: Partially complied
3	Partial Compliance regarding implementation of CREP	It is required to implement all the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants and detailed implementation status to be submitted	25/08/2008	Sp. Condition (xi)	--	PAs have submitted compliance status of the recommendations made in the CREP. It is observed that installation of online stack monitoring system has not been done. PAs are required to install continuous monitoring system immediately. **Review: Partially complied**
4	Partial Compliance regarding Submission of details regarding socio-economic activities	It is required to submit the details of socio-economic activities taken up to this office	25/08/2008	--	Gen. Condition (x)	Being complied PAs have submitted the socio-economic activities undertaken by them **Review: Being complied**
5	Partial Compliance regarding submission of expenditure incurred for environment pollution control measures	It is required to submit the detailed item wise expenditure incurred for environment pollution control measures to implement the conditions stipulated to Integrated	25/08/2008	--	Gen. Condition (xi)	Being complied PAs have submitted item wise expenditure incurred for environment pollution control measures to IRO, Kolkata. **Review: Being complied**

S No	Non-Compliances Details	Observation of RO	Condition No.			Review of RO on ATR
			EC date	Specific	General	
		Regional Office, Kolkata on regular basis				

50.2.18 The proposal was considered in 50th meeting of the Re/constituted EAC (Industry-I) held on 29th December, 2021. The observations and recommendations of EAC is given as below:

Observations of the Committee

50.2.19 The Committee noted the following:

i. As per the KML file, there is no visible green belt all along the periphery of the project. No explanation is made available by the proponent in this regard.
ii. As per IRO report, project proponent is yet to comply with the provisions contained in Corporate Responsibility for Environmental Protection (CREP), provision of online emission monitoring system, green belt development in 33% of the total area although the EC for the existing project was accorded on 25/08/2008.
iii. Location of AAQ monitored stations are not as per wind rose diagram. These need to be corrected and one more month data should be collected for accurate modelling of PM, SO_2 and NOx.
iv. Incremental Ground Level Concentration for PM, SO_2 and NOx are reported to be falling within the project site which appears to be not correct. AAQ modeling has not been properly carried out and needs to be revisited.
v. Action plan to address the issues raised during public hearing is not in conformity to the MoEF&CC O.M. dated 30/09/2020.
vi. Action plan for green belt development and rain water harvesting have not been given in the EIA/EMP report.
vii. Action plan for treatment of phenolic wastewater from producer gas plant has not been submitted.
viii. Action plan for treatment of domestic wastewater by STP has not been considered.
ix. Quality of the EIA report is extremely poor and does not address the significant environmental concerns arising out of the proposed expansion project.

Recommendations of the Committee

50.2.20 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 50.2.19. Further, the Committee warned the EIA consultant for submission of poor quality of EIA report and advised to improve upon the quality of EIA report.

50.3 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 Ltd. (Formerly M/s. Shri Jayalakshmi Ferro Alloys Pvt. Ltd.)** located at Pedabantupalli Village, Gurla, **Vizianagaram District, Andhra Pradesh** [Online Proposal No. IA/AP/IND/240308/2021, File No. J-11011/331/2008-IA.II(I)] – **Amendment in Environment Clearance – regarding.**

50.3.1 M/s. Anjaney Ferro Alloys Limited has made an application online vide proposal no. IA/AP/IND/240308/2021 dated 23/11/2021 along with Form 4 and addendum EIA report and sought for amendment in Environmental Clearance accorded by the Ministry vide File no. J-11011/331/2008-IA.II(I) dated 25/02/2020. The proposed project activity is listed at S. No. 3(a) under Category "A" of the schedule of the EIA Notification, 2006 and is being appraised at Central Level.

Details submitted by the project proponent

50.3.2 The existing project was accorded environmental clearance vide F.No. J-11011/331/2008-IA.II(I) dated 25/02/2020 in the name of M/s. Anjaney Ferro Alloys Limited for 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 located at Pedabantupalli Village, Gurla, Vizianagaram District, Andhra Pradesh.

50.3.3 As per the implementation status furnished by the proponent, project proponent has started operation of 2x9 MVA SAF's (existing) and 2x9 MVA SAF's (expansion) after obtaining consent to operate and authorization from Andhra Pradesh Pollution Control Board vide letter dated 25/03/2021.

Detail of Amendment Sought

50.3.4 The instant proposal is for amendment in EC w.r.t. change in configuration of Submerged Arc Furnace (SAF) as well as the production capacity. The details of project configuration & capacity as per existing EC vis-à-vis present proposal is given below:

S No	Units	Configuration as per EC dated 25/02/2020	Production in TPA as per EC dated 25/02/2020	Amendment Sought in Plant Configuration	Production in TPA as per Amendment Sought	Total after Amendment	Production in TPA after proposed amendment	Remarks
A	**Ferro Alloys Plant**							
1	Ferro Manganese	5x9 MVA + **1x24 MVA**	1,30,320 or	5x9 MVA + **3x7.5 MVA**	1,27,500 or	5x9 MVA + **3x7.5 MVA** (in place of 1x24 MVA)	1,27,500 or	(-2820 TPA)
2	Silico Manganese		1,17,000 or		1,14,450 or		1,14,450 or	(-2550 TPA)
3	Ferro Silicon		45,500 or		44,500 or		44,500 or	(-1000 TPA)
4	Ferro Chrome		90,000		88,000		88,000	(-2000 TPA)
	Total	**69 MVA**	**1,30,320**	**67.5 MVA**		**67.5 MVA**	**1,27,500**	
B	**Briquetting Plant**	--	150000	--	--	--	150000	**No change**
C	**Sinter Plant**	--	18000	--	--	--	18000	**No change**

50.3.5 **Reason for the amendment:**

Project proponent is proposed change in configuration of SAF due to reasons given as below:

i. 7.5 MVA SAFs are of standard configuration and of proven module for Ferro alloys production in India. Whereas, 24 MVA SAFs are mostly imported from China and are not cost effective.

ii. Maintenance of 7.5 MVA SAFs is easier, being availability of spare parts in India.

iii. The structure of 7.5 MVA SAFs is similar to the existing modules of 9 MVA which makes it convenient for the project proponent to install and operate. Also, for 7.5 MVA SAFs there will be similarity of stores and consumables.

iv. Less inventory of spare parts required due to operation of similar capacity furnaces and availability of spares in India. Hence, less storage space is required.

v. Since the Installation of 3 furnaces of 7.5 MVA will ensure the less production as permitted in EC, the resources required for the project implementation also decreases and simultaneously the impacts will also reduce. Therefore, the project proponent has proposed for installation of 3x7.5 MVA SAFs in place of 24 MVA SAFs.

Any other amendment required:

50.3.6 Beside the change in configuration and production capacity, other changes are also proposed by PP given as below:

S No	Raw Material/ Project requirement	Description as per as per EC dated 25/02/2020	Amendment proposed
A	**Raw material**		
1	Manganese Ore	3,39,000 TPA	3,31,500 TPA
2	Coke	1,04,990 TPA	1,01,990 TPA
3	Dolomite	26,000 TPA	25,485 TPA
4	Chrome Ore fines	1,03,495 TPA	1,01,195 TPA
5	Chrome ore lumps	22,500 TPA	22,000 TPA
6	Friable	43,200 TPA	42,240 TPA
7	Magnasite	36,000 TPA	35,200 TPA
8	Quartzite	81,900 TPA	80,100 TPA
9	Charcole	59,150 TPA	57,850 TPA
10	Mill Scale	2,275 TPA	2,225 TPA
11	Coal	58,500 TPA	57,225 TPA
12	High MnO slag	56,150 TPA	54,940 TPA
B	**Change in land use without change in total project area**		
13	Plant & machinery	4.64 ha	4.84 ha
14	Internal road and open area	4.48 ha	4.28 ha
C	**Changes in solid waste generation**		
15	Fe-Mn slag	1,30,320 TPA	1,27,500 TPA
16	Fe-Mn bag filetr dust	3,000 TPA	2,930 TPA
17	Si-Mn Slag	99,450 TPA	97,280 TPA
18	Si-Mn bag filter dust	2,340 TPA	2,290 TPA
19	Fe-Cr slag	81,000 TPA	79,200 TPA
20	Fe-Cr dust	1,800 TPA	1,760 TPA
21	Fe-Si slag	2,275 TPA	2,225 TPA
22	Briquette plant dust	--	8,250 TPA
D	**Other changes**		
23	Water requirement	165 KLD	162 KLD

50.3.7 Name of the EIA consultant: M/s. Vardan EnviroNet [S.No. 41 in List of ACOs with their Certificate/ Ext letter no. NABET/EIA/1922/RA 0166; valid up to 06/11/2022, Rev. 17, December 13, 2021].

50.3.8 The proposal was considered in 50th meeting of Re-constituted Expert Appraisal Committee (Industry-1) held on 29th December, 2021. The EAC observation and recommendation is given as below:

Observations of the Committee

50.3.9 The Committee noted the following:

i. EC for expansion of existing plant was granted on 25/02/2020.
ii. PP wants to change the configuration from1x24 MVA to 3x7.5 MVA. Hence amendment is requested.
iii. There would be decrease in production from 45000 TPA to 42180 TPA.
iv. PP claims that as a result, there would be reduction in solid waste generation, water consumption, installed power and power consumption. This is not supported by valid documents like original furnace manufacturer's report etc.
v. Consultant has reduced the PM emission, power consumption water consumption on pro rata basis, which is incorrect.
vi. No additional land shall be required for the project. The three furnaces would require more land for installation compared to one furnace of 24 MVA within the plant.
vii. Pollution or PM shall reduce as claimed by PP. This is also not supported by valid documents.
viii. In table 3.2 the stack temp of 7.5 MVA Furnace is shown higher than another 7.5 MVA furnace.
ix. The incremental concentration at project site is shown as highest. Not possible under normal metrological conditions. Modelling needs to be reverified.
x. Comparative calculation of the pollution load for 1x24 MVA SAF and 3x7.5 MVA SAFs provided by PP is appears to be incorrect as it has not been supported by the credible document from the machinery manufacturer.

Recommendations of the Committee

50.3.10 In view of the foregoing and after detailed deliberations, the EAC recommended to return the instant proposal in present form to addressing the observation enumerated at para no. 50.3.9 above. Further, the Committee warned the EIA consultant for submission of incorrect and inconsistent data before the EAC.

50.4 Amendment for exclusion of facilities namely 5.0 MTPA Pellet plant and 3.1 MTPA Rolling Mill (Hot Strip mill) from Environment Clearance accorded to **M/s. Jindal Steel & Power Limited** for setting up of Integrated Steel plant (6.0 MTPA) and Captive Power Plant (810 MW) at Village Kerjang, Sankerjang, Tehsil Chhendipada, **District Angul, Odisha** [Online Proposal No. IA/OR/IND/243520/2021; File no: J-11011/365/2006-IA.II(I)] **– Amendment in Environment Clearance – regarding**.

50.4.1 M/s. Jindal Steel and Power Limited (JSPL) has made an online application vide proposal no. IA/OR/IND/243520/2021 dated 20/12/2021 along with Form 4 and addendum EIA report and sought for amendment in Environmental Clearance accorded by the Ministry

vide File no. J-11011/365/2006-IA. II(I) dated 22/02/2007 for exclusion of facilities namely 5.0 MTPA Pellet plant and 3.1 MTPA Rolling Mill (Hot Strip mill). In addition to this, project proponent also submitted an application vide proposal no. IA/OR/IND/243532/2021 for part transfer of said excluded facilities in the name of their subsidiary company namely M/s. Jindal Steel Odisha Limited.

Details submitted by the project proponent

50.4.2 M/s. Jindal Steel and Power Limited was originally accorded environmental clearance vide letter no. J-11011/365/2006 dated 22/02/2007 and amended on 14/11/2008, 08/02/2017, 26/06/2018, 22/01/2019 and 18/01/2021. As per the said EC and its subsequent amendments, following is the product capacities of various process units.

S.No.	Name of the facility	Configuration	Capacity
1.	Coal Gasification Plant	4000 Million Nm^3/year	4000 Million Nm^3/year
2.	DRI Plant	2x2 MTPA	4 MTPA
3.	Coke Oven	4x72 ovens	2 MTPA
4.	Sinter Plant	1x490 m^2	5 MTPA
5.	Blast Furnace	1x4554 m^3	4.25 MTPA
6.	EAF	1x250 T	3 MTPA
7.	BoF	1x250 T	3 MTPA
8.	Plate Mill	1x1.5 MTPA	1.5 MTPA
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA
10.	Hot Rolling Mill	1x3.1 MTPA	3.1 MTPA
11.	Calcination Plant	2x600 TPD, 2x500 TPD, 2x400 TPD	3000 TPD
12.	Oxygen Plant	2x1200 TPD, 3x200 TPD, 1x1710 TPD, 3x200 TPD	5310
13.	Power Plant	6x135 MW	810 MW (coal based)
14.	Process gas/ pressure recovery turbine	MW	62
15.	Ferro Alloy Plant	3x24 MVA	0.08 MTPA
16.	Pellet Plant	1x5 MTPA	5 MTPA

50.4.3 As per the EC amendment letter dated 08/02/2017 accorded to the project propoent, MoEF&CC clarified that ***validity of aforementioned EC refers to start of production by the project/activity, it does not say start of full production as per the sanctioned environment clearance capacity. In view of this, the environment clearance gets completed if the project starts the production within the validity period.***

50.4.4 Detail of Consent to Establishment/ Consent to Operate:

Date	Details
30/07/2011	Consent to Establish for Integrated Steel Plant of 6 MTPA along with 1080 MW power plant was issued by State Pollution Control Board, Odisha (OPCB).
19/03/2021	Consent to Operate renewal for Integrated Steel Plant of 6 MTPA along with 810 MW Power Plant issued by OPCB and valid up to 31/03/2022.

50.4.5 The implementation status of the EC dated 22/02/2007 and its subsequent amendments is furnished as below.

S No	Plant Equipment/ Facility	As per EC dated 22/02/2007 and its subsequent amendments (A = A1+A2)*						As per CTO
		Total (A)		Implemented (A1) as on 30/11/2021		Un-implemented (A2)		
		Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	Capacity
1.	Coal Gasification Plant	4000 Million Nm^3/year	4000 Million Nm^3/year	2100 Million Nm^3/year	2100 Million Nm^3/year	1900 Million Nm^3/year	1900 Million Nm^3/year	1260 Million Nm^3/year
2.	DRI Plant	2x2 MTPA	4 MTPA	1x2 MTPA	2 MTPA	1x2 MTPA	2 MTPA	1.8
3.	Coke Oven	4x72 ovens	2 MTPA	4x72 ovens	2 MTPA	-	-	2.0
4.	Sinter Plant	1x490 m^2	5 MTPA	1x490 m^2	5 MTPA	-	-	5.0
5.	Blast Furnace	1x4554 m^3	4.25 MTPA	1x4554 m^3	4.25 MTPA	-	-	4.25
6.	EAF	1x250 T	3 MTPA	1x250 T	3 MTPA	-	-	4.5
7.	BoF	1x250 T	3 MTPA	1x250 T	3 MTPA	-	-	
8.	Plate Mill	1x1.5 MTPA	1.5 MTPA	1x1.5 MTPA	1.5 MTPA	-	-	2.6
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA	1x1.4 MTPA	1.4 MTPA	-	-	
10.	Hot Rolling Mill	1x3.1 MTPA	3.1 MTPA	-	-	1x3.1 MTPA	3.1 MTPA	-
11.	Calcination Plant	2x600 TPD, 2x500 TPD, 2x400 TPD	3000 TPD	2x600 TPD, 2x500 TPD	2200 TPD	2x400 TPD	800 TPD	1000 TPD
12.	Oxygen Plant	2x1200 TPD, 3x200 TPD, 1x1710 TPD, 3x200 TPD	5310	2x1200 TPD, 3x200 TPD, 1x1710 TPD, 3x200 TPD	5310	-	-	5310
13.	Power Plant	6x135 MW	810 MW (coal based)	6x135 MW	810 MW (coal based)	-	-	810
14.	Process gas/ pressure recovery turbine	Nil	62 MW	Nil	30.5 MW	Nil	31.5 MW	30.5 MW
15.	Ferro Alloy Plant	3x24 MVA	0.08 MTPA	-	-	3x24 MVA	0.08 MTPA	-
16.	Pellet Plant	1x5 MTPA	5 MTPA	-	-	1x5 MTPA	5 MTPA	-

50.4.6 Project proponent also obtained Terms of Reference on 8/2/2021 for expansion of aforementioned integrated steel plant from 6 to 25.2 MTPA capacity. Subsequently, ToR was amended by the proponent and amendment letters were issued by the Ministry on 16/06/2021 and 29/11/2021.

50.4.7 The instant proposal is for amendment in EC dated 22/02/2007 and its subsequent amendments w.r.t. exclusion of facilities namely 5.0 MTPA Pellet Plant and 3.1 MTPA

Rolling Mill (Hot Strip Mill) for partly transferring the said excluded facilities in the name of M/s. Jindal Steel Odisha Limited. The reasons for part transfer of the said facilities will held the proponent to optimize the capital expenditure for setting up these units. The revised product details after exclusion of pellet plant and hot rolling mill are given as below.

S.No.	Name of the facility	Configuration	Capacity	Remarks
1.	Coal Gasification Plant	4000 Million Nm^3/year	4000 Million Nm^3/year	4000 Million Nm^3/year
2.	DRI Plant	2x2 MTPA	4 MTPA	4 MTPA
3.	Coke Oven	4x72 ovens	2 MTPA	2 MTPA
4.	Sinter Plant	1x490 m^2	5 MTPA	5 MTPA
5.	Blast Furnace	1x4554 m^3	4.25 MTPA	4.25 MTPA
6.	EAF	1x250 T	3 MTPA	3 MTPA
7.	BoF	1x250 T	3 MTPA	3 MTPA
8.	Plate Mill	1x1.5 MTPA	1.5 MTPA	1.5 MTPA
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA	1.4 MTPA
10.	Hot Rolling Mill	1x3.1 MTPA	3.1 MTPA	To be deleted and stands transferred to M/s. JSOL
11.	Calcination Plant	2x600 TPD, 2x500 TPD, 2x400 TPD	3000 TPD	3000 TPD
12.	Oxygen Plant	2x1200 TPD, 3x200 TPD, 1x1710 TPD, 3x200 TPD	5310	5310
13.	Power Plant	6x135 MW	810 MW (coal based)	810 MW (coal based)
14.	Process gas/ pressure recovery turbine	MW	62	62
15.	Ferro Alloy Plant	3x24 MVA	0.08 MTPA	0.08 MTPA
16.	Pellet Plant	1x5 MTPA	5 MTPA	To be deleted and stands transferred to M/s. JSOL

50.4.8 There will be no change in plant configuration, capacity of EC dated 22/02/2007 except the exclusion of 5 MTPA pellet plant and 3.1 MTPA hot rolling mill. Further, as per the EC amendment letter accorded on 19/01/2021, project proponent was directed to install Coke Dry Quenching in the coke oven plant by 31/12/2021. In this regard, PP submitted that CDQ facility has already been installed in the Coke Oven and CTO application has been submitted to OSPCB on 19/10/2021.

50.4.9 There is a case pending before the Hon'ble NGT (Original Application No. 141/2017/EZ). The said case is arising out of the diversion of nallah by the proponent without prior approval of the Competent Authority. The Hon'ble NGT pronounced the judgment on 26/11/2021. In this regard, PP informed that the Company is reviewing the Judgement dated 26/11/2021 passed by the Hon'ble NGT. The Hon'ble NGT has given six months' time for reporting compliance. The Company will take appropriate steps in the matter.

50.4.10 With respect to the EC amendment and part transfer, the project proponent submitted following documents.

i. Plant layout marking location of the pellet plant and the rolling mill (hot strip mill) along with geographical co-ordinates.
ii. The individual layouts of the Pellet Plant and the Rolling Mill (Hot Strip mill).

iii. Undertaking by JSOL & JSPL for abiding by the implementation of the Environmental Clearance conditions; no change in the pollution load; and no conflict in sharing in common facilities during day-to-day operations.

iv. Board resolutions from Board of Directors of JSPL & JSOL approving partial transfer of the EC from JSPL to JSOL.

v. Facility matrix showing devolution of production facilities between JSPL and JSOL.

vi. Matrix of applicability of stipulations of EC and subsequent amendments between JSPL and JSOL.

vii. The addendum EIA report inter-alia including process details, emission levels, solid and hazardous waste management, raw material and fuel requirement, the Environmental Management Plan (EMP), etc. for the Pellet Plant and the Rolling Mill (Hot Strip mill)**.**

50.4.11 The EAC examined the aforementioned documents and noted that following are the changes arising out of the EC amendment followed by the part transfer of the facilities:

<table>
<tr><th>S.No.</th><th>Item</th><th>Existing EC and amendments thereof, in favour of M/s JSPL</th><th colspan="2">Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s.JSOL</th></tr>
<tr><th></th><th></th><th></th><th>M/s JSPL</th><th>M/s JSOL</th></tr>
<tr><td>A</td><td>Title of the project</td><td>Integrated Steel plant (6.0 MTPA) and Captive Power Plant (810 MW) at Kerjang, Angul, Odisha</td><td>Integrated Steel plant (6.0 MTPA) and Captive Power Plant (810 MW) at Kerjang, Angul, Odisha</td><td>5 MTPA Pellet plant and 3.1 MTPA Rolling mill (Hot strip mill) of JSOL at Angul, Odisha</td></tr>
<tr><td>B</td><td>Location</td><td>Villages Kaliakata, Kaliakata jungle, Badudevpur, Bhubanpur, Krushnachandrpur, Paripara, Jarada,Badakerjang jungle, Sankerjang, Sankerjang jungle, Panapur, Ramadihi, Jamunda Jungle, Tehsil- Chhendipada, District- Angul, Odisha</td><td>Villages Kaliakata, Kaliakata jungle, Badudevpur, Bhubanpur, Krushnachandrpur, Paripara, Jarada,Badakerjang jungle, Sankerjang, Sankerjang jungle, Panapur, Ramadihi, Jamunda Jungle, Tehsil- Chhendipada, District- Angul, Odisha
<table>
<tr><th>Pt.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>20°53'24"N</td><td>84°55'27"E</td></tr>
<tr><td>B</td><td>20°52'N</td><td>84°56'6"E</td></tr>
<tr><td>C</td><td>20°53'44"N</td><td>84°57'27"E</td></tr>
<tr><td>D</td><td>20°51'44"N</td><td>84°59'59"E</td></tr>
<tr><td>E</td><td>20°54'1"N</td><td>84°59'58"E</td></tr>
</table></td><td>Villages Kaliakata, Kaliakata jungle, Sankerjang, Sankerjang jungle, Panapur, Tehsil- Chhendipada, District- Angul, Odisha
<table>
<tr><th>Pt.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td colspan="3">Pellet plant</td></tr>
<tr><td>F</td><td>20°52'17" N</td><td>84°59'25"E</td></tr>
<tr><td>G</td><td>20°52'8"N</td><td>84°59'15"E</td></tr>
<tr><td>H</td><td>20°52'1"N</td><td>84°59'13"E</td></tr>
<tr><td>I</td><td>20°52'2"N</td><td>84°59'25"E</td></tr>
<tr><td colspan="3">Rolling mill (Hot strip mill)</td></tr>
<tr><td>J</td><td>20°53'16" N</td><td>84°59'04"E</td></tr>
<tr><td>K</td><td>20°53'6"N</td><td>84°59'04"E</td></tr>
<tr><td>L</td><td>20°53'6"N</td><td>84°59'48"E</td></tr>
<tr><td>M</td><td>20°53'16" N</td><td>84°59'48"E</td></tr>
</table></td></tr>
<tr><td>C</td><td colspan="4">Facilities
<table>
<tr><th>S.No.</th><th>Name of the facility</th><th>Capacity</th></tr>
<tr><td>1.</td><td>Coal Gasification Plant</td><td>4000 Million Nm^3/year</td></tr>
<tr><td>2.</td><td>DRI Plant</td><td>4 MTPA</td></tr>
<tr><td>3.</td><td>Coke Oven</td><td>2 MTPA</td></tr>
</table>
<table>
<tr><th>S.No.</th><th>Name of the facility</th><th>Capacity</th></tr>
<tr><td>1.</td><td>Coal Gasification Plant</td><td>4000 Million Nm^3/year</td></tr>
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<tr><td>3.</td><td>Coke Oven</td><td>2 MTPA</td></tr>
</table>
<table>
<tr><th>S.No.</th><th>Name of the facility</th><th>Capacity</th></tr>
<tr><td>1.</td><td>Hot Rolling Mill</td><td>3.1 MTPA</td></tr>
<tr><td>2.</td><td>Pellet</td><td>5 MTPA</td></tr>
</table></td></tr>
</table>

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL	Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s.JSOL	
			M/s JSPL	M/s JSOL
4.	Sinter Plant	5 MTPA	4. Sinter Plant 5 MTPA	Plant
5.	Blast Furnace	4.25 MTPA	5. Blast Furnace 4.25 MTPA	
6.	EAF	3 MTPA	6. EAF 3 MTPA	
7.	BoF	3 MTPA	7. BoF 3 MTPA	
8.	Plate Mill	1.5 MTPA	8. Plate Mill 1.5 MTPA	
9.	Bar Mill	1.4 MTPA	9. Bar Mill 1.4 MTPA	
10.	Hot Rolling Mill	3.1 MTPA	10. Calcination Plant 3000 TPD	
11.	Calcination Plant	3000 TPD	11. Oxygen Plant 5310	
12.	Oxygen Plant	5310	12. Power Plant 810 MW (coal based)	
13.	Power Plant	810 MW (coal based)	13. Process gas/ pressure recovery turbine 62	
14.	Process gas/ pressure recovery turbine	62	14. Ferro Alloy Plant 0.08 MTPA	
15.	Ferro Alloy Plant	0.08 MTPA		
16.	Pellet Plant	5 MTPA		
D	**Products**			
		Crude Steel – 6 MTPA Plates- 1.5 MTPA TMT Re-bars- 1.4 MTPA HR coils & sheets- 3.1 MTPA Pellets- 5 MTPA	Crude Steel – 6 MTPA Plates- 1.5 MTPA TMT Re-bars- 1.4 MTPA	HR coils & sheets- 3.1 MTPA Pellets- 5 MTPA
E	**Process description**		1. Coking coal is carbonized in Coke oven to produce coke which is further used in Blast Furnace 2. Fines and dust from plant is processed in sinter plant to make sinters 3. Iron ore, sinter and pellets received are reduced to iron through DRI & Blast furnace. DRI is produced from vertical shaft kiln using synthetic gas produces in the coal gasification plant. 4. Liquid steel is produced in EAF & BOF from the molten iron from BF and from Direct reduced iron in DRI. 5. Liquid steel is cast in to slabs and billet through casters which are further rolled in the rolling mills to produce plates and re-bars.	1. Iron ore fines along with limestone are ground in ball mill together and fed to the mixer along with ground bentonite. 2. The mixed material will be fed to balling disc for green pellet formation, which are then fed to indurating furnace for heat hardening. 3. The semi-finished product from casters will be re-heated and will be rolled in hot strip mill to make finished product. Fuel for the Rolling mill will be mixed gas i.e. coke oven gas and syn-gas which will be supplied by JSPL, Angul.

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL		Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s.JSOL			
				M/s JSPL		M/s JSOL	
	Other facilities/Utilities						
F	**Raw Materials Requirement in MTPA**	Non-Coking coal- 9.235 Coking coal- 2.99 Iron Ore fines- 8.455 Limestone- 1.46 Dolomite- 1.33 Bentonite- 0.05 Quartz- 0.21 PCI- 0.95 Lumps- 0.52		Non coking coal- 9.16 Coking coal-2.99 Iron ore fines- 3.42 Limestone- 1.40 Dolomite- 1.28 Quartz- 0.21 PCI- 0.95 Lumps- 0.52 Pellet- 2.66		Iron ore fines- 5.035 Coal- 0.075 Bentonite-0.05 Limestone-0.06 Dolomite- 0.05 Slab- 3.16	
G	**Land**	2300 acres		2213 acres		86.68 acres	
H	**Project Cost**	25754 Crores		21754 crores		4000 Crores	
I	**Water Requirement**	5600 m^3/hr		4500 m^3/hr		1095 m^3/hr	
J	**Manpower**	10000		9400		600	
K	**Air Pollution Control Device details**	Sinter Plant	Process-ESP Dedusting- Bag filters	Sinter Plant	Process- ESP Dedusting- Bag filters	Pellet plant	Induration furnace-ESP Dedusting- Bag filters
		Coke Oven (recovery-type)	Bag filters	Coke Oven (recovery-type) Blast furnace	Bag filters Bag filters Venturi Scrubbers Cyclone		
		Blast furnace	Bag filters Venturi Scrubbers Cyclone				
		Pellet Plant	Induration furnace-ESP Dedusting- Bag filters	DRI (Gas-based)	Scrubbers, Bag filters		
		DRI (Gas-based)	Scrubbers, Bag filters	Coal Gasification plant	Bag filter		
		Coal Gasification plant	Bag filter	EAF	Bag filter		
		EAF	Bag filter	BoF	ESP, Bag filter		
		BoF	ESP, Bag filter	LDP	Bag filters		
		LDP	Bag filters	Ferro Alloy plant	Bag filters		
		Ferro Alloy	Bag filters	Coal based Power plant	ESP		

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL		Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s.JSOL					
				M/s JSPL			M/s JSOL		
		plant							
		Coal based Power plant	ESP						
L	**Solid Waste**	**Qty. (TPA)**	**Management**	**Solid waste**	**Qty. (TPA)**	**Manag.**	**Solid waste**	**Qty. (TPA)**	**Manag.**
	Fly Ash	3564000	Reuse in brick making, LWA making, low land development, dyke making, road making. Unutilized ash disposed in ash pond.	Fly Ash	3564000	Reuse in brick making, LWA making, low land development, dyke making, road making. Unutilized ash disposed in ash pond.	Dust	200000	To be used in the pellet plant process
	Bottom Ash	646632		Bottom Ash	646632				
	Dust from APC Devices	1376467	Reuse in Sinter Plant	Dust from APC Devices	1376467	Reuse in Sinter Plant	Mill scales	36000	To be sent to JSPL for use in Sinter plant or to be sold
	BF Slag	1700000	Sold to cement plant	BF Slag	1700000	Sold to cement plant			
	EAF slag	750000	Reuse in road making, low land development.	EAF slag	750000	Reuse in road making, low land development.	Rejects	27000	To be sent to JSPL for use in SMS or to be sold
	LF slag	33408		LF slag	33408				
	BOF slag	600000	Reuse in Sinter Plant, road making & land development	BOF slag	600000	Reuse in Sinter Plant, road making & land development			
	FeCr slag	35700	Road making & low land development.	FeCr slag	35700	Road making & low land development.			
	Plate Mill scale	30000	Reuse in Sinter Plant	Plate Mill scale	30000	Reuse in Sinter Plant			
	Plate Mill sludge	5616		Plate Mill sludge	5616				
	Bar Mill	14004		Bar Mill	14004				

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL		Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s.JSOL					
				M/s JSPL			M/s JSOL		
	scale			scale					
	Bar Mill sludge	144		Bar Mill sludge	144				
	Plate Mill rejects	12000	Reuse in EAF	Plate Mill rejects	12000	Reuse in EAF			
	Bar Mill rejects	14000		Bar Mill rejects	14000				
	Pellet plant dust	200000	Reuse in pellet plant	CGP ash	777600	Reuse in road making, low land development.			
	HSM scales	36000	Resue in Sinter plant						
	HSM Rejects	27000	Reuse in EAF						
	CGP ash	777600	Reuse in road making, low land development.						
M	**Power Requirement**	700 MW		515 MW			185 MW		

EC compliance matrix

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	A. SPECIFIC CONDITIONS		
i)	The gaseous emissions from various process units shall confirm to the load/ mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and Its size and location. At no time, the emission level shall go beyond the prescribed standards. On line continuous stack emission monitoring for all the major stacks will be carried out and reports submitted to the OSPCB & CPCB. The emission levels from all the sources shall be kept below 100 mg/Nm3. Interlocking facility shall be provided so that process can automatically stopped in ease emission level exceeds the limit.	The gaseous emissions from various process units shall confirm to the load/ mass-based standards notified by this Ministry on 31st March 2012 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On line continuous stack emission monitoring for all the major stacks will be carried out and reports submitted to the OSPCB & CPCB. The emission levels from all the sources shall be kept below 50 mg/Nm^3. Interlocking facility shall be provided so that process can	The gaseous emissions from Pellet plant and the Rolling mill shall confirm to the load/mass-based standards notified by this Ministry vide notification no. G.S.R. 277(E) dated 31st March, 2012 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On line continuous stack emission monitoring for all the major stacks will be carried out and reports submitted to the OSPCB & CPCB. The

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		be automatically stopped in ease emission level exceeds the limit.	emission levels from all the sources shall be kept below 30 mg/Nm^3. Interlocking facility shall be provided so that process can be automatically stopped in ease emission level exceeds the limit.
ii)	Continuous online ambient air quality monitoring stations shall be setup at three locations around the project site and reports submitted to the OSPCB	Continuous online ambient air quality monitoring stations shall be setup at three locations around the project site and reports submitted to the OSPCB	Continuous online ambient air quality monitoring stations shall be setup at 02 locations around the project site (01 at the pellet plant site and 01 at the HSM site) and reports
iii)	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided in steel melting shop, Electric Arc Furnace and Ladle Refining Furnace. Coke oven (non-recovery type) shall be operated at negative pressure with no fugitive emissions. Bag filters shall be provided to Pellet plant, DRI plant, Lime kiln, Power plant, SMS, SAF, Cast house, raw material stock house of BF, raw material mixing section of SMS and material transfer points of lime dolomite plant. ESP shall be provided to DRI kilns and lime dolomite plant. Gas cleaning plant shall be provided to BF. Cyclone followed by ventury scrubber shall be provided to the BF. Further, specific measures like water sprinkling shall be carried out at the coal yard, wagon tippler and truck tippler etc. Fugitive emissions shall be controlled, regularly monitored and records maintained.	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided in steel melting shop, Electric Arc Furnace and Ladle Refining Furnace. Coke Ovens (Non-recovery type) shall be operated at negative pressure with no fugitive emissions. Bag filters shall be provided to DRI plant, Lime kiln, Power plant, SMS, SAF, Cast house, raw material stock house of BF, raw material mixing section of SMS and material transfer points of lime dolomite plant. ESP shall be provided to DRI kilns and lime dolomite plant. Gas cleaning plant shall be provided to BF. Cyclone followed by ventury scrubber shall be provided to the BF. Further, specific measures like water sprinkling shall be carried out at the coal yard, wagon tippler and truck tippler etc. Fugitive emissions shall be controlled, regularly monitored and records maintained.	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Bag filters/ESP shall be provided to Pellet plant. Further, specific measures like water sprinkling shall be carried out at the raw material yard, wagon tippler/ truck tippler etc. Fugitive emissions shall be controlled, regularly monitored and records maintained.
iv)	The power plant Installed shall be based on conventional pulverized fuel technology. Coal shall be sourced from captive coal mines and prior environmental clearance from the Ministry shall be obtained. ESP shall be installed to keep SPM levels below 100 mg/Nm3. Wastewater generated from cooling tower blow	The power plant installed shall be based on conventional pulverized fuel technology. Coal shall be sourced from captive coal mines and prior environmental clearance from the Ministry shall be obtained. The Particulate matter, SO_2, No_x and Hg emissions from	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	down shall be used for ash handling and disposal. Fly ash shall be backfilled in captive coal mines.	Power Plant shall confirm to the norms specified in MoEFCC notification SO.3305(E) dated December 07,2015 Wastewater generated from cooling tower blow down shall be used for ash handling and disposal. Fly ash shall be backfilled in captive coal mines. Fly ash shall be utilized in accordance with Ash Utilization notification of MoEF&CC.	
v)	Total requirement of the water River Brahmani / Samal Barrage shall not exceed 14,700 M3/hr. 'Permission' has been accorded for the drawl of 7000 m3/hr water for Phase I by the Department of Water Resources. Govt. of Orissa vide letter dated 11th Dec 2008 and 'Permission' for phase-II shall be obtained. The wastewater from scrubbers in DR Plant and Blast furnace shall be treated in ETP and reused for dust scrubbing. However, wastewater from SMS and Oxygen plant shall be used for slag granulation; from Billet and Slab caster, Soft water plant, DM water plant etc. in pellet making and Cooling water for re-circulation. The wastewater from power plant shall be used for ash slicing and coal dust suppression. All the treated wastewater shall be recycled & reused either in the Process or for green belt development. No effluent stall be discharged outside the premises and 'Zero' discharge shall be adopted. Domestic wastes shall be treated In Sewage Treatment Plant (STP)	Total requirement of the water from River Brahmani / Samal Barrage shall not exceed 14,700 m^3/hr. 'Permission' has been accorded for the drawl of 7000 m^3/hr water for Phase I by the Department of Water Resources. Govt. of Orissa vide letter dated 11th Dec 2008 and 'Permission' for phase-II shall be obtained. The wastewater from scrubbers in DR Plant and Blast furnace shall be treated in ETP and reused for dust scrubbing. However, wastewater from SMS and Oxygen plant shall be used for slag granulation; from Billet and Slab caster, Soft water plant, DM water plant etc. in cooling water for re-circulation. The wastewater from power plant shall be used for ash slicing and coal dust suppression. All the treated wastewater shall be recycled & reused either in the Process or for green belt development. No effluent stall be discharged outside the premises and 'Zero' discharge shall be adopted. Domestic waste shall be treated In Sewage Treatment Plant (STP)	Water requirement for Pellet plant and HSM shall not exceed 1095 m^3/hr. Water for the JSOL plant shall be made available by JSPL. Wastewater from the HSM shall be treated in effluent recycling system and 100% treated water shall be recirculated. No effluent stall be discharged outside the premises and 'Zero' discharge shall be adopted. Domestic waste shall be treated in Sewage Treatment Plant (STP).
vi)	Groundwater monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneshwar, CPCB and OPCB.	Groundwater monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneshwar, CPCB and OPCB.	Groundwater monitoring around the pellet plan and hot strip mill shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneshwar, CPCB and OPCB
vii)	Dust from pellet plant in Pellet plant;	Dust from Lime dolomite	Dust from the pellet plant

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	from Lime dolomite plant in ladle coating and wastewater treatment; from BF & SMS, sludge from GCP of BF, ETP sludge of DRI plant, coal ash from power plant, coal ash from gasifier, sludge from ETP etc for backfilling captive coal mines. SMS slag and slag dust from ferro-alloy plant shall be used for road making. BF slag shall be sold to cement manufacturers. Mill scales of casting machine and rolling mill shall be sold to steel plants. Fly ash and granulated slag shall be used in cement plants. No char and accretions will be generated. Used oil shall be sold to recyclers and preprocessors.	plant shall be used in ladle coating and wastewater treatment; from BF & SMS, sludge from GCP of BF, ETP sludge of DRI plant, coal ash from power plant, coal ash from gasifier, sludge from ETP etc shall be used for backfilling coal mines. SMS slag and slag dust from ferro-alloy plant shall be used for road making. BF slag shall be sold to cement manufacturers. Mill scales of casting machine and rolling mill shall be sold to steel plants. Fly ash and granulated slag shall be used in cement plants. No char and accretions will be generated. Used oil shall be sold to recyclers and preprocessors.	shall be reused within the pellet plant. Mill scales shall be sent to pellet plant for re-use. Sludge from ETP of HSM shall be sold to steel plant. Oil and grease recovered from HSM ETP shall be given to registered recyclers.
viii)	Possibilities shall be explored regarding use of coal ash by the cement manufacturing units. Bottom ash shall be disposed off in a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer.	Possibilities shall be explored regarding use of coal ash by the cement manufacturing units. Bottom ash shall be disposed off in a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer.	Not applicable
ix)	The company shall develop rain water harvesting structure harvest the rain water for utilization in the lean season besides recharging the ground water table.	The company shall develop rain water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.	The company shall develop rain water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.
x)	Green belt shall be developed in at least 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO	Green belt shall be developed in 33 % of total area within the plant premises as per the CPCB guidelines in consultation with DFO	Green belt shall be developed in 33 % of total area within the plant premises as per the CPCB guidelines in consultation with DFO
xi)	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
xii)	Recommendations made in the CREP guidelines issued for the Steel plants shall be implemented.	Recommendations made in the CREP guidelines issued for the Steel plants shall be implemented.	Recommendations made in the CREP guidelines issued for the Steel plants shall be implemented.
xiii)	No commencement or operation of the cement Plant shall be carried out without obtaining prior	No commencement or operation of the cement Plant shall be carried out without	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	environmental clearance for the captive coal mine from the Ministry.	obtaining prior environmental clearance for the captive coal mine from the Ministry.	
xiv)	Comments and recommendations of the Chief Wildlife Warden (CWLW), Govt. of Orissa regarding impact of the proposed plant on the nearby and protected forests shall be obtained and suggestions if any shall be implemented in a time bound manner.	Comments and recommendations of the Chief Wildlife Warden (CWLW), Govt. of Orissa regarding impact of the proposed plant on the nearby and protected forests shall be obtained and suggestions if any shall be implemented in a time bound manner.	Not applicable.
xv)	All the affected persons shall be suitably compensated and rehabilitated as per the norms and guidelines issued by the State Government in collaboration with State Government,	All the affected persons shall be suitably compensated and rehabilitated as per the norms and guidelines issued by the State Government in collaboration with State Government.	Not applicable
xvi)	No construction activity at the project site shall be initiated till the approval for the 168.232 ha forest land is obtained under the Forest (Conservation) Act, 1980 & subsequent amendments from the State/Central Government.	No construction activity at the project site shall be initiated till the approval for the 168.232 ha forest land is obtained under the Forest (Conservation) Act, 1980 & subsequent amendments from the State/Central Government.	Not applicable.
Additional Specific Conditions stipulated in EC Amendment dated 14.11.2008			
i)	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emission within 50 mg /Nm3 and reports for ambient air, stack emission and fugitive emissions submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emission within 50 mg /Nm^3 and reports for ambient air, stack emission and fugitive emissions submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emission within 30 mg /Nm^3 and reports for ambient air, stack emission and fugitive emissions submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.
ii)	The emission standards issued by the Ministry in May, 2008 for the sponge plants shall be followed.	The emission standards issued by the Ministry in May, 2008 for the sponge iron plants shall be followed.	Not applicable
iii)	Total requirement of the River Brahmani/ Samal Barrage shall not exceed 14,700 m3/hr and prior 'Permission' should be obtained from the concerned department and a copy submitted to the Ministry's Regional Office at Bhubaneswar within 3 months of issue of this letter.	Total requirement of the River Brahmani/ Samal Barrage shall not exceed 14,700 m3/hr and prior 'Permission' should be obtained from the concerned department and a copy submitted to the Ministry's Regional Office at Bhubaneswar within 3 months of issue of this letter.	Water requirement for Pellet plant and HSM shall not exceed 1095 m^3/hr. Water for the JSOL plant shall be made available by JSPL. No ground water extraction is permitted.

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		No ground water extraction is permitted.	
iv)	Proper and full utilization of coke oven gases in power plant using heat recovery steam generator (WHRB) shall be ensured and no flue gas shall be discharged into the air. Tar, NH3 should be cleaned in the process and H2S recovery from the coke oven shall be ensured. Coal tar, elemental sulphur and crude benzol shall be recovered from coke oven gas.	Proper and full utilization of coke oven gases in power plant using heat recovery steam generator (WHRB) shall be ensured and no flue gas shall be discharged into the air. Tar, NH_3 should be cleaned in the process and H2S recovery from the coke oven shall be ensured. Coal tar, elemental sulphur and crude benzol shall be recovered from coke oven gas.	Not applicable
v)	Wet quenching shall be adopted within one year of installation of coke oven and all the treated wastewater shall be used for wet quenching.	Wet quenching shall be adopted within one year of installation of coke oven and all the treated wastewater shall be used for wet quenching.	Not applicable
vi)	The prescribed emission standards for coke oven plants as notified vide notification no. GSR 46 (E) dated 3rd February, 2006 shall be complied with.	The prescribed emission standards for coke oven plants as notified vide notification no. GSR 277 (E) dated 31/03/2012 shall be complied with.	Not applicable
vii)	Biochemical treatment of phenolic wastewater shall be treated in BOD plant and used for quenching of hot coke to control emissions, dust suppression and green belt development. Cyanides as CN shall be controlled within 0.2 mg/l and ammonical nitrogen within 50 mg/l as per standards notified under the E (P) Act. Effluent analysis reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Biochemical treatment of phenolic wastewater shall be treated in BOD plant and used for quenching of hot coke to control emissions, dust suppression and green belt development. Cyanides as CN shall be controlled within 0.2 mg/l and ammonical nitrogen within 50 mg/l as per standards notified under the E (P) Act. Effluent analysis reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Not applicable
viii	Coal and coke fines shall be recycled and reused in the process.	Coal and coke fines shall be recycled and reused in the process.	Not applicable
ix)	All the recommendations made in the Charter of Corporate Responsibility for Environment Protection (CREP) for the coke oven plants shall be implemented.	All the recommendations made in the Charter of Corporate Responsibility for Environment Protection (CREP) for the coke oven plants shall be implemented.	Not applicable
x)	'Consent to Establishment' for the revised integrated steel plant (6 MTPA) & captive power plant (1156 MW) shall be obtained from the Orissa State Pollution Control Board and a copy submitted to the	'Consent to Establishment' for the integrated steel plant (6 MTPA) & captive power plant (810 MW) shall be obtained from the Orissa State Pollution Control Board and a copy	'Consent to Establishment' for the Pellet plant (5 MTPA) and Hot Strip Mill (3.1 MTPA) shall be obtained/ transferred from 6.0 MTPA JSPL Steel Plant

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	Ministry's Regional Office at Bhubaneswar.	submitted to the Ministry's Regional Office at Bhubaneswar.	CTE from the Orissa State Pollution Control Board and a copy submitted to the Ministry's Regional Office at Bhubaneswar.
Additional conditions in letter dated 10.02.2011			
i)	M/s JSPL shall install the coal gasification technology using non-coking coal for the coke oven plant. The company shall adopt the dry quenching of coke to conserve water and mitigate pollution.	M/s JSPL shall install the coal gasification technology using non-coking coal. The company shall adopt the dry quenching of coke to conserve water and mitigate pollution.	Not applicable
ii)	The fly ash generated from various activities shall be used in the cement manufacturing and in back filling of mined out area after ascertaining its suitability through a scientific study. The company shall not use the fly ash in filling of low laying area as proposed in the information submitted.	The fly ash generated from various activities shall be used in the cement manufacturing and in back filling of mined out area after ascertaining its suitability through a scientific study. The company shall not use the fly ash in filling of low laying area as proposed in the information submitted.	Not applicable
iii)	While also implementing CSR related programs during the construction phase, the company shall earmark 2% of the net profit as CSR budget towards corporate social responsibility. Item-wise details of expenditure proposed on specific need based program identified towards this end with time bound execution schedules shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar.	While also implementing CSR related programs during the construction phase, the company shall earmark 2% of the net profit as CSR budget towards corporate social responsibility. Item-wise details of expenditure proposed on specific need based program identified towards this end with time bound execution schedules shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar.	Not applicable
iv)	The company shall undertake continuous monitoring of ambient air quality and stack emission in respect of PM10, SO2, NOx and mercury. The monitored data shall be displayed on the company's website as well as important public places.	The company shall undertake continuous monitoring of ambient air quality and stack emission in respect of PM10, SO2, NOx and mercury. The monitored data shall be displayed on the company's website as well as important public places.	The company shall undertake continuous monitoring of ambient air quality and stack emissions. The monitored data shall be displayed on the company's website as well as important public places.
v)	The water conservation measures shall be adopted in the steel plant as well as the captive power plant by increasing the COC of 5.2. The drawl of water from the Derjang dam shall be avoided and rain water harvesting measures shall be undertake to recharge the ground water as well as use of rain water harvested by constructing a water reservoir.	The water conservation measures shall be adopted in the steel plant as well as the captive power plant by increasing the COC of 5.2. The drawl of water from the Derjang dam shall be avoided and rain water harvesting measures shall be undertake to recharge the ground water as	Water conservation measures will be undertaken by recycling and reusing the industrial wastewater from the pellet plant and hot strip mill.

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		well as use of rain water harvested by constructing a water reservoir.	
vi)	The energy conservation measures for integrated steel plant should be introduced with available best international practices and with details may be submitted to the Ministry in this regard.	The energy conservation measures for integrated steel plant should be introduced with available best international practices and with details may be submitted to the Ministry in this regard.	The energy conservation measures for the Pellet Plant and Hot Strip Mill should be introduced with available best international practices and with details may be submitted to the Ministry in this regard.
Stipulations of EC Amendment dated 08.02.2017			
i)	Use of wet quenching system in Coke Oven batteries shall be permitted upto 31st December 2018.	Use of wet quenching system in Coke Oven batteries shall be permitted upto 31st December 2018.	Not applicable
ii)	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown for the CDQ boiler.	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown for the CDQ boiler.	Not applicable
iii)	Bifurcation of 6 MTPA Steel Melting Shop (SMS) to Electric Arc Furnace (EAF) route (3 MTPA) and Basic Oxygen Furnace (BOF) route (3 MTPA) has been permitted.	Bifurcation of 6 MTPA Steel Melting Shop (SMS) to Electric Arc Furnace (EAF) route (3 MTPA) and Basic Oxygen Furnace (BOF) route (3 MTPA) has been permitted.	Not applicable
Conditions stipulated in EC Amendment dated 26.06.2018			
i)	Enhancement of production of existing Blast Furnace from 3.2 MTPA to 4.25 MTPA and Sinter Plant from 4 MTPA to 5 MTPA with following specific conditions: a) Upgradation of existing APCD / prevent the additional pollution due to increase in the capacity. b) 100% utilization of BF slag / dust. c) Upgradation of gas cleaning plant of Blast Furnace to control additional effluent.	Enhancement of production of existing Blast Furnace from 3.2 MTPA to 4.25 MTPA and Sinter Plant from 4 MTPA to 5 MTPA with following specific conditions: d) Upgradation of existing APCD / prevent the additional pollution due to increase in the capacity. e) 100% utilization of BF slag / dust. f) Upgradation of gas cleaning plant of Blast Furnace to control additional effluent.	Not applicable
ii)	Use of wet quenching system in coke oven batteries shall be permitted up to 31st December, 2020.	Use of wet quenching system in coke oven batteries shall be permitted up to 31st December, 2020.	Not applicable
iii)	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown of CDQ boiler.	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown of CDQ boiler.	Not applicable
iv)	Deletion of 2X135 MW captive	Deletion of 2X135 MW	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	power plant i.e. change capacity of captive power plant from 1080 MW (8X135 MW) to 810 MW (6X135 MW).	captive power plant i.e. change capacity of captive power plant from 1080 MW (8X135 MW) to 810 MW (6X135 MW).	
v)	Shift of location of ash dyke with reduction in extent of the dyke area from 350 Ac to 280 Ac subject to following specific condition: a) 70 Ac will be used for development of greenbelt with native tree species.	Shift of location of ash dyke with reduction in extent of the dyke area from 350 Ac to 280 Ac subject to following specific condition: b) 70 Ac will be used for development of greenbelt with native tree species.	Not applicable
Additional conditions stipulated in EC Amendment dated 22.01.2019			
i)	Shift of ash dyke as proposed within the boundary of steel plant.	Shift of ash dyke as proposed within the boundary of steel plant.	Not applicable
ii)	All the old fly ash stock shall be utilized within two years.	All the old fly ash stock shall be utilized within two years.	Not applicable
iii)	All the new fly ash generated shall be utilized as per the provisions contained in the fly ash notification dated 14/09/1999 and its amendments issued from time to time and the orders of the Hon'ble NGT dated 21/03/2014.	All the new fly ash generated shall be utilized as per the provisions contained in the fly ash notification dated 14/09/1999 and its amendments issued from time to time and the orders of the Hon'ble NGT dated 21/03/2014.	Not applicable
iv)	With respect to amendment of EC condition pertaining to BOD plant, the coke oven plant effluent shall be treated in the existing Bio-ETP to the desired norms and entire treated effluent shall be utilized in the plant to achieve zero discharge.	With respect to amendment of EC condition pertaining to BOD plant, the coke oven plant effluent shall be treated in the existing Bio-ETP to the desired norms and entire treated effluent shall be utilized in the plant to achieve zero discharge.	Not applicable
Additional condition modified as per EC amendment dated 19.01.2021			
(ii)	Use of wet quenching system in coke oven batteries shall be permitted up to 31/12/2021. Extension of time for installation of CDQ is hereby given for another 12 months i.e. till 31.12.2021. No further extension of time will be granted to the project proponent in this regard. If the proponent fails to install CDQ by December, 2021, Ministry shall initiate action against the project proponent under the relevant provisions of Environment Protection Act, 1986.	Use of wet quenching system in coke oven batteries shall be permitted up to 31/12/2021. Extension of time for installation of CDQ is hereby given for another 12 months i.e. till 31.12.2021. No further extension of time will be granted to the project proponent in this regard. If the proponent fails to install CDQ by December, 2021, Ministry shall initiate action against the project proponent under the relevant provisions of Environment Protection Act, 1986.	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	B. GENERAL CONDITIONS:		
i)	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government
ii)	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.
iii)	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO2 and NOx are anticipated In consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OPCB/CPCB once In six months.	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NOx are anticipated In consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OPCB/CPCB once In six months.	Data on stack emissions from the pellet plant and HSM shall be submitted to RO, MoEF&CC and OSPCB once in six months. At least 02 continuous ambient air quality stations shall be established in consultation with the OSPCB (01 at the pellet plant site and 01 at the HSM site) Data on ambient air quality and stack emissions should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OPCB/CPCB once In six months.
iv)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19' May, 1993 and 31" December 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under G.S.R 277 (E) 31st March 2012 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under G.S.R 277 (E) 31st March 2012 or as amended from time to time. The treated wastewater shall be recycled/reused.
v)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime.) and 70 dBA (nighttime).	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime.) and 70 dBA (nighttime).	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime.) and 70 dBA

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
			(nighttime).
vi)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended In the EIA / EMP report. Further, the company must undertake socio-economic development activities In the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended In the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	The project proponent shall also comply with all the environmental protection measures and safeguards as per addendum EIA/ EMP report. Further, the company must undertake socio-economic development activities In the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
vii)	As mentioned in the EIA/EMP, Rs. 2.000.00 Crores and Rs 100.00 Crores earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government, The funds so provided shall not be diverted for any other purpose	As mentioned in the EIA/EMP, Rs. 2000.00 Crores and Rs 100.00 Crores earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	Approximately Rs. 340.00 Crores and Rs 17.00 Crores earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
viii)	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OSPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OSPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OSPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
ix)	The project proponent shall inform that the project has been shall Inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the OSPCB/Committee and may also be seen in Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely	The project proponent shall inform that the project has been shall Inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the OSPCB/Committee and may also be seen in Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of	Not Applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	
x)	Project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

Observations of the Committee

50.4.12 The Committee noted the following

i. The proponent has originally obtained EC on 22/02/2007 for setting up of 6 MTPA Integrated Steel Plant Village Kerjang, Tehsil Chhendipada, District Angul, Odisha.

ii. During 8/02/2017, MoEF&CC clarified in the aforementioned project that ***validity of EC for the instant proposal under consideration refers to start of production by the project/activity, it does not say start of full production as per the sanctioned environment clearance capacity. In view of this, the environment clearance gets completed if the project starts the production within the validity period.***

iii. As per the implementation schedule, some of the units have been commissioned, some units are under partly implementation. Besides, the units such as pellet plant, hot rolling mill and ferro alloys plant are yet to be implemented.

iv. Instant proposal is for seeking amendment in the EC dated 22/02/2007 and its subsequent amendments w.r.t. exclusion of facilities namely 5.0 MTPA Pellet Plant and 3.1 MTPA Rolling Mill (Hot Strip Mill) for partly transferring the said excluded facilities in the name of M/s. Jindal Steel Odisha Limited. The reasons for part transfer of the said facilities will held the proponent to optimize the capital expenditure for setting up these units.

v. There is a case pending before the Hon'ble NGT (Original Application No. 141/2017/EZ). The said case is arising out of the diversion of nallah by the proponent without prior approval of the Competent Authority. The Hon'ble NGT pronounced the judgment on 26/11/2021. In this regard, PP informed that the Company is reviewing the Judgement dated 26/11/2021 passed by the Hon'ble NGT. The Hon'ble NGT has given six months' time for reporting compliance. The Company will take appropriate steps in the matter as committed by the proponent.

Recommendations of the Committee

50.4.13 In view of the foregoing and after deliberations, the Committee recommended for the amendment in the Environmental Clearance dated 22/02/2007 and its subsequent

amendments for excluding the facilities 5 MTPA pellet plant and 3.1 MTPA hot rolling mill and also modifying the specific as well as general conditions as per the compliance matrix given above at para no. 50.4.11. All the other terms and conditions stipulated in environmental clearance vide letter no. J-11011/365/2006-I A.II(I) dated 22/02/2007 and its subsequent amendments shall remain unchanged.

50.5 Integrated Steel Plant (6.0 MTPA) – Partial transfer of 5.0 MTPA Pellet plant and 3.1 MTPA Rolling mill (Hot strip mill) from M/s. Jindal Steel & Power Limited to M/s. Jindal Steel Odisha Limited by **M/s. Jindal Steel Odisha Limited** located at Village Kerjang, Sankerjang, Tehsil Chhendipada, **District Angul, Orissa** [Online Proposal No. IA/OR/IND/243532/2021; File no: J-11011/365/2006-IA.II(I)] - **Partial transfer of Environment Clearance – regarding**

50.5.1 M/s. Jindal Steel Odisha Limited has made an online application vide proposal no. IA/OR/IND/243532/2021 dated 17/12/2021 along with Form – 7 and sought for part transfer of facilities namely 5.0 MTPA Pellet plant and 3.1 MTPA Rolling mill (Hot strip mill) of Environmental Clearance accorded by MoEF&CC vide letter no. J-11011/365/2006-IA.II(I) dated 22/02/2007 from M/s. Jindal Steel & Power Ltd to M/s. Jindal Steel Odisha Limited. Further, M/s. Jindal Steel and Power Limited (JSPL) has made an online application vide proposal no. IA/OR/IND/243520/2021 dated 20/12/2021 along with Form 4 and addendum EIA report and sought for amendment in Environmental Clearance accorded by the Ministry vide File no. J-11011/365/2006-IA.II(I) dated 22/02/2007 for exclusion of facilities namely 5.0 MTPA Pellet plant and 3.1 MTPA Rolling Mill (Hot Strip mill).

Detail Submitted by the project proponent:

50.5.2 M/s. Jindal Steel and Power Limited was originally accorded environmental clearance vide letter no. J-11011/365/2006 dated 22/02/2007 and amended on 14/11/2008, 08/02/2017, 26/06/2018, 22/01/2019 and 18/01/2021. As per the said EC and its subsequent amendments, following is the product capacities of various process units.

S.No.	Name of the facility	Configuration	Capacity
1.	Coal Gasification Plant	4000 Million Nm^3/year	4000 Million Nm^3/year
2.	DRI Plant	2x2 MTPA	4 MTPA
3.	Coke Oven	4x72 ovens	2 MTPA
4.	Sinter Plant	1x490 m^2	5 MTPA
5.	Blast Furnace	1x4554 m^3	4.25 MTPA
6.	EAF	1x250 T	3 MTPA
7.	BoF	1x250 T	3 MTPA
8.	Plate Mill	1x1.5 MTPA	1.5 MTPA
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA
10.	Hot Rolling Mill	1x3.1 MTPA	3.1 MTPA
11.	Calcination Plant	2x600 TPD, 2x500 TPD, 2x400 TPD	3000 TPD
12.	Oxygen Plant	2x1200 TPD, 3x200 TPD, 1x1710 TPD, 3x200 TPD	5310
13.	Power Plant	6x135 MW	810 MW (coal based)
14.	Process gas/ pressure recovery turbine	MW	62
15.	Ferro Alloy Plant	3x24 MVA	0.08 MTPA

S.No.	Name of the facility	Configuration	Capacity
16.	Pellet Plant	1x5 MTPA	5 MTPA

50.5.3 As per the EC amendment letter dated 08/02/2017 accorded to the project propoent, MoEF&CC clarified that ***validity of aforementioned EC refers to start of production by the project/activity, it does not say start of full production as per the sanctioned environment clearance capacity. In view of this, the environment clearance gets completed if the project starts the production within the validity period.***

50.5.4 Detail of Consent to Establishment/ Consent to Operate:

Date	Details
30/07/2011	Consent to Establish for Integrated Steel Plant of 6 MTPA along with 1080 MW power plant was issued by State Pollution Control Board, Odisha (OPCB).
19/03/2021	Consent to Operate renewal for Integrated Steel Plant of 6 MTPA along with 810 MW Power Plant issued by OPCB and valid up to 31/03/2022.

50.5.5 The implementation status of the EC dated 22/02/2007 and its subsequent amendments is furnished as below.

S No	Plant Equipment/ Facility	As per EC dated 22/02/2007 and its subsequent amendments (A = A1+A2)*						
		Total (A)		Implemented (A1) as on 30/11/2021		Un-implemented (A2)		As per CTO
		Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	Capacity
1.	Coal Gasification Plant	4000 Million Nm^3/year	4000 Million Nm^3/year	2100 Million Nm^3/year	2100 Million Nm^3/year	1900 Million Nm^3/year	1900 Million Nm^3/year	1260 Million Nm^3/year
2.	DRI Plant	2x2 MTPA	4 MTPA	1x2 MTPA	2 MTPA	1x2 MTPA	2 MTPA	1.8
3.	Coke Oven	4x72 ovens	2 MTPA	4x72 ovens	2 MTPA	-	-	2.0
4.	Sinter Plant	1x490 m^2	5 MTPA	1x490 m^2	5 MTPA	-	-	5.0
5.	Blast Furnace	1x4554 m^3	4.25 MTPA	1x4554 m^3	4.25 MTPA	-	-	4.25
6.	EAF	1x250 T	3 MTPA	1x250 T	3 MTPA	-	-	4.5
7.	BoF	1x250 T	3 MTPA	1x250 T	3 MTPA	-	-	
8.	Plate Mill	1x1.5 MTPA	1.5 MTPA	1x1.5 MTPA	1.5 MTPA	-	-	2.6
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA	1x1.4 MTPA	1.4 MTPA	-	-	
10.	Hot Rolling Mill	1x3.1 MTPA	3.1 MTPA	-	-	1x3.1 MTPA	3.1 MTPA	-
11.	Calcination Plant	2x600 TPD, 2x500 TPD, 2x400 TPD	3000 TPD	2x600 TPD, 2x500 TPD	2200 TPD	2x400 TPD	800 TPD	1000 TPD
12.	Oxygen Plant	2x1200 TPD, 3x200 TPD, 1x1710	5310	2x1200 TPD, 3x200 TPD, 1x1710	5310	-	-	5310

S No	Plant Equipment/ Facility	As per EC dated 22/02/2007 and its subsequent amendments (A = A1+A2)*						
		Total (A)		Implemented (A1) as on 30/11/2021		Un-implemented (A2)		As per CTO
		Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	Capacity
		TPD, 3x200 TPD		TPD, 3x200 TPD				
13.	Power Plant	6x135 MW	810 MW (coal based)	6x135 MW	810 MW (coal based)	-	-	810
14.	Process gas/ pressure recovery turbine	Nil	62 MW	Nil	30.5 MW	Nil	31.5 MW	30.5 MW
15.	Ferro Alloy Plant	3x24 MVA	0.08 MTPA	-	-	3x24 MVA	0.08 MTPA	-
16.	Pellet Plant	1x5 MTPA	5 MTPA	-	-	1x5 MTPA	5 MTPA	-

50.5.6 Reasons for Transfer of the EC:

M/s. Jindal Steel & Power Limited is intending to partially transfer the facility i.e. Pellet Plant of 5.0 MTPA and Rolling Mill (Hot Strip Mill) of 3.1 MTPA from EC dated 22/02/2007 to M/s. Jindal Steel Odisha Limited as per memorandum of understanding (MOU) made between M/s. Jindal Steel and Power Limited and M/s. Jindal Steel Odisha Limited dated 09/12/2021 board of resolution passed by the corporate management committee of the board of directors of M/s. Jindal Steel and Power Limited in its meeting held on 24th June, 2021.

S No	Name of Company	CIN No	Change of Ownership
1	M/s. Jindal Steel and Power Limited	L27105HR1979PLC009913	As per Sl. No 1 (f) of Form -7, the project proponent has submitted that the proposal involves change in ownership between M/s. Jindal Steel and Power Limited and M/s. Jindal Steel Odisha Limited. Further the CIN numbers of the both companies are found different. In view of the same the proposal involves transfer of Environment Clearance from M/s. Jindal Steel & Power Ltd to M/s. Jindal Steel Odisha Limited.
2	M/s. Jindal Steel Odisha Limited	U27320OR2021PLC036237	

50.5.7 Documents submitted for part EC transfer:

- Form no 7 for transfer of Environment Clearance.

- No objection for transfer of Environment clearance has submitted by M/s Jindal Steel and Power Limited in the form of non-judicial stamp paper dated 08/12/2021.
- Undertaking dated 08/12/2021 of M/s. Jindal Steel Odisha Limited in a non-judicial stamp paper stating that they will be comply with all the applicable conditions as stipulated in the Environment Clearance dated 22/02/2007.
- M/s. Jindal Steel Odisha Limited submitted the MOU executed between M/s Jindal Steel and Power Limited and M/s. Jindal Steel Odisha Limited dated 09/12/2021 for partially transfer of the facilities from EC dated 22/02/2007 as mentioned para 50.5.5 above.
- Board of resolution passed by the corporate management committee of the board of directors of M/s. Jindal Steel and Power Limited in its meeting held on 24th June, 2021 for partially transfer of the facilities from EC dated 22/02/2007 as mentioned para 50.5.5 above.
- Facility matrix showing devolution of production facilities between JSPL and JSOL.
- Matrix of applicability of stipulations of EC and subsequent amendments between JSPL and JSOL.
- The addendum EIA report inter-alia including process details, emission levels, solid and hazardous waste management, raw material and fuel requirement, the Environmental Management Plan (EMP), etc. for the Pellet Plant and the Rolling Mill (Hot Strip mill)**.**

50.5.8 The EAC examined the aforementioned documents and noted that following are the changes arising out of the EC amendment followed by the part transfer of the facilities:

<table>
<tr><th>S.No.</th><th>Item</th><th>Existing EC and amendments thereof, in favour of M/s JSPL</th><th colspan="2">Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s. JSOL</th></tr>
<tr><th></th><th></th><th></th><th>M/s JSPL</th><th>M/s JSOL</th></tr>
<tr><td>A</td><td>Title of the project</td><td>Integrated Steel plant (6.0 MTPA) and Captive Power Plant (810 MW) at Kerjang, Angul, Odisha</td><td>Integrated Steel plant (6.0 MTPA) and Captive Power Plant (810 MW) at Kerjang, Angul, Odisha</td><td>5 MTPA Pellet plant and 3.1 MTPA Rolling mill (Hot strip mill) of JSOL at Angul, Odisha</td></tr>
<tr><td>B</td><td>Location</td><td>Villages Kaliakata, Kaliakata jungle, Badudevpur, Bhubanpur, Krushnachandrpur, Paripara, Jarada,Badakerjang jungle, Sankerjang, Sankerjang jungle, Panapur, Ramadihi, Jamunda Jungle, Tehsil- Chhendipada, District- Angul, Odisha</td><td>Villages Kaliakata, Kaliakata jungle, Badudevpur, Bhubanpur, Krushnachandrpur, Paripara, Jarada,Badakerjang jungle, Sankerjang, Sankerjang jungle, Panapur, Ramadihi, Jamunda Jungle, Tehsil- Chhendipada, District- Angul, Odisha
<table>
<tr><th>Pt.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>20°53'24"N</td><td>84°55'27"E</td></tr>
<tr><td>B</td><td>20°52'N</td><td>84°56'6"E</td></tr>
<tr><td>C</td><td>20°53'44"N</td><td>84°57'27"E</td></tr>
<tr><td>D</td><td>20°51'44"N</td><td>84°59'59"E</td></tr>
<tr><td>E</td><td>20°54'1"N</td><td>84°59'58"E</td></tr>
</table></td><td>Villages Kaliakata, Kaliakata jungle, Sankerjang, Sankerjang jungle, Panapur, Tehsil- Chhendipada, District- Angul, Odisha
<table>
<tr><th>Pt.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td colspan="3">Pellet plant</td></tr>
<tr><td>F</td><td>20°52'17"N</td><td>84°59'25"E</td></tr>
<tr><td>G</td><td>20°52'8"N</td><td>84°59'15"E</td></tr>
<tr><td>H</td><td>20°52'1"N</td><td>84°59'13"E</td></tr>
<tr><td>I</td><td>20°52'2"N</td><td>84°59'25"E</td></tr>
<tr><td colspan="3">Rolling mill (Hot strip mill)</td></tr>
<tr><td>J</td><td>20°53'16"N</td><td>84°59'04"E</td></tr>
<tr><td>K</td><td>20°53'6"N</td><td>84°59'04"E</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Item</th><th>Existing EC and amendments thereof, in favour of M/s JSPL</th><th colspan="2">Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s. JSOL</th></tr>
<tr><th></th><th></th><th></th><th>M/s JSPL</th><th>M/s JSOL</th></tr>
<tr><td></td><td></td><td></td><td></td><td><table><tr><td>L</td><td>20°53'6"N</td><td>84°59'48"E</td></tr><tr><td>M</td><td>20°53'16" N</td><td>84°59'48"E</td></tr></table></td></tr>
<tr><td>C</td><td colspan="4">Facilities</td></tr>
<tr><td></td><td colspan="2"><table><tr><th>S.No.</th><th>Name of the facility</th><th>Capacity</th></tr><tr><td>17.</td><td>Coal Gasification Plant</td><td>4000 Million Nm^3/year</td></tr><tr><td>18.</td><td>DRI Plant</td><td>4 MTPA</td></tr><tr><td>19.</td><td>Coke Oven</td><td>2 MTPA</td></tr><tr><td>20.</td><td>Sinter Plant</td><td>5 MTPA</td></tr><tr><td>21.</td><td>Blast Furnace</td><td>4.25 MTPA</td></tr><tr><td>22.</td><td>EAF</td><td>3 MTPA</td></tr><tr><td>23.</td><td>BoF</td><td>3 MTPA</td></tr><tr><td>24.</td><td>Plate Mill</td><td>1.5 MTPA</td></tr><tr><td>25.</td><td>Bar Mill</td><td>1.4 MTPA</td></tr><tr><td>26.</td><td>Hot Rolling Mill</td><td>3.1 MTPA</td></tr><tr><td>27.</td><td>Calcination Plant</td><td>3000 TPD</td></tr><tr><td>28.</td><td>Oxygen Plant</td><td>5310</td></tr><tr><td>29.</td><td>Power Plant</td><td>810 MW (coal based)</td></tr><tr><td>30.</td><td>Process gas/ pressure recovery turbine</td><td>62</td></tr><tr><td>31.</td><td>Ferro Alloy Plant</td><td>0.08 MTPA</td></tr><tr><td>32.</td><td>Pellet Plant</td><td>5 MTPA</td></tr></table></td><td><table><tr><th>S.No.</th><th>Name of the facility</th><th>Capacity</th></tr><tr><td>15.</td><td>Coal Gasification Plant</td><td>4000 Million Nm^3/year</td></tr><tr><td>16.</td><td>DRI Plant</td><td>4 MTPA</td></tr><tr><td>17.</td><td>Coke Oven</td><td>2 MTPA</td></tr><tr><td>18.</td><td>Sinter Plant</td><td>5 MTPA</td></tr><tr><td>19.</td><td>Blast Furnace</td><td>4.25 MTPA</td></tr><tr><td>20.</td><td>EAF</td><td>3 MTPA</td></tr><tr><td>21.</td><td>BoF</td><td>3 MTPA</td></tr><tr><td>22.</td><td>Plate Mill</td><td>1.5 MTPA</td></tr><tr><td>23.</td><td>Bar Mill</td><td>1.4 MTPA</td></tr><tr><td>24.</td><td>Calcination Plant</td><td>3000 TPD</td></tr><tr><td>25.</td><td>Oxygen Plant</td><td>5310</td></tr><tr><td>26.</td><td>Power Plant</td><td>810 MW (coal based)</td></tr><tr><td>27.</td><td>Process gas/ pressure recovery turbine</td><td>62</td></tr><tr><td>28.</td><td>Ferro Alloy Plant</td><td>0.08 MTPA</td></tr></table></td><td><table><tr><th>S.No.</th><th>Name of the facility</th><th>Capacity</th></tr><tr><td>3.</td><td>Hot Rolling Mill</td><td>3.1 MTPA</td></tr><tr><td>4.</td><td>Pellet Plant</td><td>5 MTPA</td></tr></table></td></tr>
<tr><td>D</td><td>Products</td><td colspan="3"></td></tr>
<tr><td></td><td></td><td>Crude Steel – 6 MTPA
Plates- 1.5 MTPA
TMT Re-bars- 1.4 MTPA
HR coils & sheets- 3.1 MTPA
Pellets- 5 MTPA</td><td>Crude Steel – 6 MTPA
Plates- 1.5 MTPA
TMT Re-bars- 1.4 MTPA</td><td>HR coils & sheets- 3.1 MTPA
Pellets- 5 MTPA</td></tr>
<tr><td>E</td><td>Process description</td><td></td><td>1. Coking coal is carbonized in Coke oven to produce coke which is further used in Blast Furnace
2. Fines and dust from plant is processed in sinter plant to make sinters
3. Iron ore, sinter and pellets received are reduced to iron through DRI & Blast furnace. DRI is produced from vertical</td><td>1. Iron ore fines along with limestone are ground in ball mill together and fed to the mixer along with ground bentonite.
2. The mixed material will be fed to balling disc for green pellet formation, which are then fed to indurating furnace for heat hardening.</td></tr>
</table>

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL		Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s. JSOL			
				M/s JSPL		M/s JSOL	
				shaft kiln using synthetic gas produces in the coal gasification plant. 4. Liquid steel is produced in EAF & BOF from the molten iron from BF and from Direct reduced iron in DRI. 5. Liquid steel is cast in to slabs and billet through casters which are further rolled in the rolling mills to produce plates and re-bars.		3. The semi-finished product from casters will be re-heated and will be rolled in hot strip mill to make finished product. 4. Fuel for the Rolling mill will be mixed gas i.e. coke oven gas and syn-gas which will be supplied by JSPL, Angul.	
	Other facilities/Utilities						
F	**Raw Materials Requirement in MTPA**	Non-Coking coal- 9.235 Coking coal- 2.99 Iron Ore fines- 8.455 Limestone- 1.46 Dolomite- 1.33 Bentonite- 0.05 Quartz- 0.21 PCI- 0.95 Lumps- 0.52		Non coking coal- 9.16 Coking coal-2.99 Iron ore fines- 3.42 Limestone- 1.40 Dolomite- 1.28 Quartz- 0.21 PCI- 0.95 Lumps- 0.52 Pellet- 2.66		Iron ore fines- 5.035 Coal- 0.075 Bentonite-0.05 Limestone-0.06 Dolomite- 0.05 Slab- 3.16	
G	**Land**	2300 acres		2213 acres		86.68 acres	
H	**Project Cost**	25754 Crores		21754 crores		4000 Crores	
I	**Water Requirement**	5600 m^3/hr		4500 m^3/hr		1095 m^3/hr	
J	**Manpower**	10000		9400		600	
K	**Air Pollution Control Device details**	Sinter Plant	Process- ESP Dedusting- Bag filters	Sinter Plant	Process- ESP Dedusting- Bag filters	Pellet plant	Induration furnace- ESP Dedusting- Bag filters
		Coke Oven (recovery-type)	Bag filters	Coke Oven (recovery-type) Blast furnace	Bag filters Bag filters Venturi Scrubbers Cyclone		
		Blast furnace	Bag filters Venturi Scrubbers Cyclone				
		Pellet Plant	Induration furnace- ESP Dedusting- Bag filters	DRI (Gas-based)	Scrubbers, Bag filters		
		DRI (Gas-based)	Scrubbers, Bag filters	Coal Gasification plant	Bag filter		

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL		Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s. JSOL					
				M/s JSPL			M/s JSOL		
		Coal Gasification plant	Bag filter	EAF	Bag filter				
		EAF	Bag filter	BoF	ESP, Bag filter				
		BoF	ESP, Bag filter	LDP	Bag filters				
		LDP	Bag filters	Ferro Alloy plant	Bag filters				
		Ferro Alloy plant	Bag filters	Coal based Power plant	ESP				
		Coal based Power plant	ESP						
L	**Solid Waste**	**Qty. (TPA)**	**Management**	**Solid waste**	**Qty. (TPA)**	**Manag.**	**Solid waste**	**Qty. (TPA)**	**Manag.**
	Fly Ash	3564000	Reuse in brick making, LWA making, low land development, dyke making, road making. Unutilized ash disposed in ash pond.	Fly Ash	3564000	Reuse in brick making, LWA making, low land development, dyke making, road making. Unutilized ash disposed in ash pond.	Dust	200000	To be used in the pellet plant process
	Bottom Ash	646632		Bottom Ash	646632				
	Dust from APC Devices	1376467	Reuse in Sinter Plant	Dust from APC Devices	1376467	Reuse in Sinter Plant	Mill scales	36000	To be sent to JSPL for use in Sinter plant or to be sold
	BF Slag	1700000	Sold to cement plant	BF Slag	1700000	Sold to cement plant			
	EAF slag	750000	Reuse in road making, low land development.	EAF slag	750000	Reuse in road making, low land development.	Rejects	27000	To be sent to JSPL for use in SMS or to be sold
	LF slag	33408		LF slag	33408				
	BOF slag	600000	Reuse in Sinter Plant, road making & land	BOF slag	600000	Reuse in Sinter Plant, road making & land			

S.No.	Item	Existing EC and amendments thereof, in favour of M/s JSPL		Facilities/utilities after rename of EC accorded units to M/s. JSPL and M/s. JSOL					
				M/s JSPL			M/s JSOL		
			developmen t			developm ent			
	FeCr slag	35700	Road making & low land developmen t.	FeCr slag	35700	Road making & low land developm ent.			
	Plate Mill scale	30000	Reuse in Sinter Plant	Plate Mill scale	30000	Reuse in Sinter Plant			
	Plate Mill sludge	5616		Plate Mill sludge	5616				
	Bar Mill scale	14004		Bar Mill scale	14004				
	Bar Mill sludge	144		Bar Mill sludge	144				
	Plate Mill rejects	12000	Reuse in EAF	Plate Mill rejects	12000	Reuse in EAF			
	Bar Mill rejects	14000		Bar Mill rejects	14000				
	Pellet plant dust	200000	Reuse in pellet plant	CGP ash	777600	Reuse in road making, low land developm ent.			
	HSM scales	36000	Resue in Sinter plant						
	HSM Rejects	27000	Reuse in EAF						
	CGP ash	777600	Reuse in road making, low land developmen t.						
M	**Power Requirem ent**	700 MW		515 MW			185 MW		

EC compliance matrix

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	A. SPECIFIC CONDITIONS		
i)	The gaseous emissions from various process units shall confirm to the load/ mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and Its size and location. At no time, the emission level shall go beyond the prescribed standards. On line	The gaseous emissions from various process units shall confirm to the load/ mass-based standards notified by this Ministry on 31st March 2012 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no	The gaseous emissions from Pellet plant and the Rolling mill shall confirm to the load/mass-based standards notified by this Ministry vide notification no. G.S.R. 277(E) dated 31st March, 2012 and standards prescribed from time to time. The state Board may specify more stringent standards for the

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	continuous stack emission monitoring for all the major stacks will be carried out and reports submitted to the OSPCB & CPCB. The emission levels from all the sources shall be kept below 100 mg/Nm3. Interlocking facility shall be provided so that process can automatically stopped in ease emission level exceeds the limit.	time, the emission level shall go beyond the prescribed standards. On line continuous stack emission monitoring for all the major stacks will be carried out and reports submitted to the OSPCB & CPCB. The emission levels from all the sources shall be kept below 50 mg/Nm^3. Interlocking facility shall be provided so that process can be automatically stopped in ease emission level exceeds the limit.	relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On line continuous stack emission monitoring for all the major stacks will be carried out and reports submitted to the OSPCB & CPCB. The emission levels from all the sources shall be kept below 30 mg/Nm^3. Interlocking facility shall be provided so that process can be automatically stopped in ease emission level exceeds the limit.
ii)	Continuous online ambient air quality monitoring stations shall be setup at three locations around the project site and reports submitted to the OSPCB	Continuous online ambient air quality monitoring stations shall be setup at three locations around the project site and reports submitted to the OSPCB	Continuous online ambient air quality monitoring stations shall be setup at 02 locations around the project site (01 at the pellet plant site and 01 at the HSM site) and reports
iii)	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided in steel melting shop, Electric Arc Furnace and Ladle Refining Furnace. Coke oven (non-recovery type) shall be operated at negative pressure with no fugitive emissions. Bag filters shall be provided to Pellet plant, DRI plant, Lime kiln, Power plant, SMS, SAF, Cast house, raw material stock house of BF, raw material mixing section of SMS and material transfer points of lime dolomite plant. ESP shall be provided to DRI kilns and lime dolomite plant. Gas cleaning plant shall be provided to BF. Cyclone followed by ventury scrubber shall be provided to the BF. Further, specific measures like water sprinkling shall be carried out at the coal yard, wagon tippler and truck tippler etc. Fugitive emissions shall be controlled, regularly monitored and records maintained.	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fume and dust extraction system with bag filters shall be provided in steel melting shop, Electric Arc Furnace and Ladle Refining Furnace. Coke Ovens (Non-recovery type) shall be operated at negative pressure with no fugitive emissions. Bag filters shall be provided to DRI plant, Lime kiln, Power plant, SMS, SAF, Cast house, raw material stock house of BF, raw material mixing section of SMS and material transfer points of lime dolomite plant. ESP shall be provided to DRI kilns and lime dolomite plant. Gas cleaning plant shall be provided to BF. Cyclone followed by ventury scrubber shall be provided to the BF. Further, specific measures like water sprinkling shall be carried out at the coal yard, wagon tippler and truck tippler etc. Fugitive emissions	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Bag filters/ESP shall be provided to Pellet plant. Further, specific measures like water sprinkling shall be carried out at the raw material yard, wagon tippler/ truck tippler etc. Fugitive emissions shall be controlled, regularly monitored and records maintained.

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		shall be controlled, regularly monitored and records maintained.	
iv)	The power plant Installed shall be based on conventional pulverized fuel technology. Coal shall be sourced from captive coal mines and prior environmental clearance from the Ministry shall be obtained. ESP shall be installed to keep SPM levels below 100 mg/Nm3. Wastewater generated from cooling tower blow down shall be used for ash handling and disposal. Fly ash shall be backfilled in captive coal mines.	The power plant installed shall be based on conventional pulverized fuel technology. Coal shall be sourced from captive coal mines and prior environmental clearance from the Ministry shall be obtained. The Particulate matter, SO_2, NO_x and Hg emissions from Power Plant shall confirm to the norms specified in MoEFCC notification SO.3305(E) dated December 07,2015 Wastewater generated from cooling tower blow down shall be used for ash handling and disposal. Fly ash shall be backfilled in captive coal mines. Fly ash shall be utilized in accordance with Ash Utilization notification of MoEF&CC.	Not applicable
v)	Total requirement of the water River Brahmani / Samal Barrage shall not exceed 14,700 m^3/hr. 'Permission' has been accorded for the drawl of 7000 m^3/hr water for Phase I by the Department of Water Resources. Govt. of Orissa vide letter dated 11th Dec 2008 and 'Permission' for phase-II shall be obtained. The wastewater from scrubbers in DR Plant and Blast furnace shall be treated in ETP and reused for dust scrubbing. However, wastewater from SMS and Oxygen plant shall be used for slag granulation; from Billet and Slab caster, Soft water plant, DM water plant etc. in pellet making and Cooling water for re-circulation. The wastewater from power plant shall be used for ash slicing and coal dust suppression. All the treated wastewater shall be recycled & reused either in the Process or for green belt development. No effluent stall be discharged outside the premises and 'Zero' discharge shall be adopted. Domestic wastes shall be treated In Sewage Treatment Plant (STP)	Total requirement of the water from River Brahmani / Samal Barrage shall not exceed 14,700 m^3/hr. 'Permission' has been accorded for the drawl of 7000 m^3/hr water for Phase I by the Department of Water Resources. Govt. of Orissa vide letter dated 11th Dec 2008 and 'Permission' for phase-II shall be obtained. The wastewater from scrubbers in DR Plant and Blast furnace shall be treated in ETP and reused for dust scrubbing. However, wastewater from SMS and Oxygen plant shall be used for slag granulation; from Billet and Slab caster, Soft water plant, DM water plant etc. in cooling water for re-circulation. The wastewater from power plant shall be used for ash slicing and coal dust suppression. All the treated wastewater shall be recycled & reused either in the Process or for green belt development. No effluent stall be discharged outside the premises and 'Zero' discharge shall be adopted.	Water requirement for Pellet plant and HSM shall not exceed 1095 m^3/hr. Water for the JSOL plant shall be made available by JSPL. Wastewater from the HSM shall be treated in effluent recycling system and 100% treated water shall be recirculated. No effluent stall be discharged outside the premises and 'Zero' discharge shall be adopted. Domestic waste shall be treated in Sewage Treatment Plant (STP).

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		Domestic waste shall be treated In Sewage Treatment Plant (STP)	
vi)	Groundwater monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneshwar, CPCB and OPCB.	Groundwater monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneshwar, CPCB and OPCB.	Groundwater monitoring around the pellet plan and hot strip mill shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneshwar, CPCB and OPCB
vii)	Dust from pellet plant in Pellet plant; from Lime dolomite plant in ladle coating and wastewater treatment; from BF & SMS, sludge from GCP of BF, ETP sludge of DRI plant, coal ash from power plant, coal ash from gasifier, sludge from ETP etc for backfilling captive coal mines. SMS slag and slag dust from ferro-alloy plant shall be used for road making. BF slag shall be sold to cement manufacturers. Mill scales of casting machine and rolling mill shall be sold to steel plants. Fly ash and granulated slag shall be used in cement plants. No char and accretions will be generated. Used oil shall be sold to recyclers and preprocessors.	Dust from Lime dolomite plant shall be used in ladle coating and wastewater treatment; from BF & SMS, sludge from GCP of BF, ETP sludge of DRI plant, coal ash from power plant, coal ash from gasifier, sludge from ETP etc shall be used for backfilling coal mines. SMS slag and slag dust from ferro-alloy plant shall be used for road making. BF slag shall be sold to cement manufacturers. Mill scales of casting machine and rolling mill shall be sold to steel plants. Fly ash and granulated slag shall be used in cement plants. No char and accretions will be generated. Used oil shall be sold to recyclers and preprocessors.	Dust from the pellet plant shall be reused within the pellet plant. Mill scales shall be sent to pellet plant for re-use. Sludge from ETP of HSM shall be sold to steel plant. Oil and grease recovered from HSM ETP shall be given to registered recyclers.
viii)	Possibilities shall be explored regarding use of coal ash by the cement manufacturing units. Bottom ash shall be disposed off in a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer.	Possibilities shall be explored regarding use of coal ash by the cement manufacturing units. Bottom ash shall be disposed off in a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer.	Not applicable
ix)	The company shall develop rain water harvesting structure harvest the rain water for utilization in the lean season besides recharging the ground water table.	The company shall develop rain water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.	The company shall develop rain water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.
x)	Green belt shall be developed in at least 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO	Green belt shall be developed in 33 % of total area within the plant premises as per the CPCB guidelines in consultation with DFO	Green belt shall be developed in 33 % of total area within the plant premises as per the CPCB guidelines in consultation with DFO
xi)	Occupational Health Surveillance of	Occupational Health	Occupational Health

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	the workers shall be done on a regular basis and records maintained as per the Factories Act.	Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
xii)	Recommendations made in the CREP guidelines issued for the Steel plants shall be implemented.	Recommendations made in the CREP guidelines issued for the Steel plants shall be implemented.	Recommendations made in the CREP guidelines issued for the Steel plants shall be implemented.
xiii)	No commencement or operation of the cement Plant shall be carried out without obtaining prior environmental clearance for the captive coal mine from the Ministry.	No commencement or operation of the cement Plant shall be carried out without obtaining prior environmental clearance for the captive coal mine from the Ministry.	Not applicable
xiv)	Comments and recommendations of the Chief Wildlife Warden (CWLW), Govt. of Orissa regarding impact of the proposed plant on the nearby and protected forests shall be obtained and suggestions if any shall be implemented in a time bound manner.	Comments and recommendations of the Chief Wildlife Warden (CWLW), Govt. of Orissa regarding impact of the proposed plant on the nearby and protected forests shall be obtained and suggestions if any shall be implemented in a time bound manner.	Not applicable.
xv)	All the affected persons shall be suitably compensated and rehabilitated as per the norms and guidelines issued by the State Government in collaboration with State Government,	All the affected persons shall be suitably compensated and rehabilitated as per the norms and guidelines issued by the State Government in collaboration with State Government.	Not applicable
xvi)	No construction activity at the project site shall be initiated till the approval for the 168.232 ha forest land is obtained under the Forest (Conservation) Act, 1980 & subsequent amendments from the State/Central Government.	No construction activity at the project site shall be initiated till the approval for the 168.232 ha forest land is obtained under the Forest (Conservation) Act, 1980 & subsequent amendments from the State/Central Government.	Not applicable.
Additional Specific Conditions stipulated in EC Amendment dated 14.11.2008			
i)	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emission within 50 mg /Nm3 and reports for ambient air, stack emission and fugitive emissions submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emission within 50 mg /Nm^3 and reports for ambient air, stack emission and fugitive emissions submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emission within 30 mg /Nm^3 and reports for ambient air, stack emission and fugitive emissions submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.
ii)	The emission standards issued by the Ministry in May, 2008 for the sponge	The emission standards issued by the Ministry in May, 2008	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	plants shall be followed.	for the sponge iron plants shall be followed.	
iii)	Total requirement of the River Brahmani/ Samal Barrage shall not exceed 14,700 m3/hr and prior 'Permission' should be obtained from the concerned department and a copy submitted to the Ministry's Regional Office at Bhubaneswar within 3 months of issue of this letter.	Total requirement of the River Brahmani/ Samal Barrage shall not exceed 14,700 m3/hr and prior 'Permission' should be obtained from the concerned department and a copy submitted to the Ministry's Regional Office at Bhubaneswar within 3 months of issue of this letter. No ground water extraction is permitted.	Water requirement for Pellet plant and HSM shall not exceed 1095 m^3/hr. Water for the JSOL plant shall be made available by JSPL. No ground water extraction is permitted.
iv)	Proper and full utilization of coke oven gases in power plant using heat recovery steam generator (WHRB) shall be ensured and no flue gas shall be discharged into the air. Tar, NH3 should be cleaned in the process and H2S recovery from the coke oven shall be ensured. Coal tar, elemental sulphur and crude benzol shall be recovered from coke oven gas.	Proper and full utilization of coke oven gases in power plant using heat recovery steam generator (WHRB) shall be ensured and no flue gas shall be discharged into the air. Tar, NH_3 should be cleaned in the process and H2S recovery from the coke oven shall be ensured. Coal tar, elemental sulphur and crude benzol shall be recovered from coke oven gas.	Not applicable
v)	Wet quenching shall be adopted within one year of installation of coke oven and all the treated wastewater shall be used for wet quenching.	Wet quenching shall be adopted within one year of installation of coke oven and all the treated wastewater shall be used for wet quenching.	Not applicable
vi)	The prescribed emission standards for coke oven plants as notified vide notification no. GSR 46 (E) dated 3rd February, 2006 shall be complied with.	The prescribed emission standards for coke oven plants as notified vide notification no. GSR 277 (E) dated 31/03/2012 shall be complied with.	Not applicable
vii)	Biochemical treatment of phenolic wastewater shall be treated in BOD plant and used for quenching of hot coke to control emissions, dust suppression and green belt development. Cyanides as CN shall be controlled within 0.2 mg/l and ammonical nitrogen within 50 mg/l as per standards notified under the E (P) Act. Effluent analysis reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Biochemical treatment of phenolic wastewater shall be treated in BOD plant and used for quenching of hot coke to control emissions, dust suppression and green belt development. Cyanides as CN shall be controlled within 0.2 mg/l and ammonical nitrogen within 50 mg/l as per standards notified under the E (P) Act. Effluent analysis reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB & CPCB regularly.	Not applicable
viii)	Coal and coke fines shall be recycled and reused in the process.	Coal and coke fines shall be recycled and reused in the process.	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
ix)	All the recommendations made in the Charter of Corporate Responsibility for Environment Protection (CREP) for the coke oven plants shall be implemented.	All the recommendations made in the Charter of Corporate Responsibility for Environment Protection (CREP) for the coke oven plants shall be implemented.	Not applicable
x)	'Consent to Establishment' for the revised integrated steel plant (6 MTPA) & captive power plant (1156 MW) shall be obtained from the Orissa State Pollution Control Board and a copy submitted to the Ministry's Regional Office at Bhubaneswar.	'Consent to Establishment' for the integrated steel plant (6 MTPA) & captive power plant (810 MW) shall be obtained from the Orissa State Pollution Control Board and a copy submitted to the Ministry's Regional Office at Bhubaneswar.	'Consent to Establishment' for the Pellet plant (5 MTPA) and Hot Strip Mill (3.1 MTPA) shall be obtained/ transferred from 6.0 MTPA JSPL Steel Plant CTE from the Orissa State Pollution Control Board and a copy submitted to the Ministry's Regional Office at Bhubaneswar.
Additional conditions in letter dated 10.02.2011			
i)	M/s JSPL shall install the coal gasification technology using non-coking coal for the coke oven plant. The company shall adopt the dry quenching of coke to conserve water and mitigate pollution.	M/s JSPL shall install the coal gasification technology using non-coking coal. The company shall adopt the dry quenching of coke to conserve water and mitigate pollution.	Not applicable
ii)	The fly ash generated from various activities shall be used in the cement manufacturing and in back filling of mined out area after ascertaining its suitability through a scientific study. The company shall not use the fly ash in filling of low laying area as proposed in the information submitted.	The fly ash generated from various activities shall be used in the cement manufacturing and in back filling of mined out area after ascertaining its suitability through a scientific study. The company shall not use the fly ash in filling of low laying area as proposed in the information submitted.	Not applicable
iii)	While also implementing CSR related programs during the construction phase, the company shall earmark 2% of the net profit as CSR budget towards corporate social responsibility. Item-wise details of expenditure proposed on specific need based program identified towards this end with time bound execution schedules shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar.	While also implementing CSR related programs during the construction phase, the company shall earmark 2% of the net profit as CSR budget towards corporate social responsibility. Item-wise details of expenditure proposed on specific need based program identified towards this end with time bound execution schedules shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar.	Not applicable
iv)	The company shall undertake continuous monitoring of ambient air quality and stack emission in respect of PM10, SO2, NOx and mercury. The monitored data shall be displayed on the company's website as well as important public places.	The company shall undertake continuous monitoring of ambient air quality and stack emission in respect of PM10, SO2, NOx and mercury. The monitored data shall be displayed on the company's	The company shall undertake continuous monitoring of ambient air quality and stack emissions. The monitored data shall be displayed on the company's website as

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		website as well as important public places.	well as important public places.
v)	The water conservation measures shall be adopted in the steel plant as well as the captive power plant by increasing the COC of 5.2. The drawl of water from the Derjang dam shall be avoided and rain water harvesting measures shall be undertake to recharge the ground water as well as use of rain water harvested by constructing a water reservoir.	The water conservation measures shall be adopted in the steel plant as well as the captive power plant by increasing the COC of 5.2. The drawl of water from the Derjang dam shall be avoided and rain water harvesting measures shall be undertake to recharge the ground water as well as use of rain water harvested by constructing a water reservoir.	Water conservation measures will be undertaken by recycling and reusing the industrial wastewater from the pellet plant and hot strip mill.
vi)	The energy conservation measures for integrated steel plant should be introduced with available best international practices and with details may be submitted to the Ministry in this regard.	The energy conservation measures for integrated steel plant should be introduced with available best international practices and with details may be submitted to the Ministry in this regard.	The energy conservation measures for the Pellet Plant and Hot Strip Mill should be introduced with available best international practices and with details may be submitted to the Ministry in this regard.
Stipulations of EC Amendment dated 08.02.2017			
i)	Use of wet quenching system in Coke Oven batteries shall be permitted upto 31st December 2018.	Use of wet quenching system in Coke Oven batteries shall be permitted upto 31st December 2018.	Not applicable
ii)	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown for the CDQ boiler.	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown for the CDQ boiler.	Not applicable
iii)	Bifurcation of 6 MTPA Steel Melting Shop (SMS) to Electric Arc Furnace (EAF) route (3 MTPA) and Basic Oxygen Furnace (BOF) route (3 MTPA) has been permitted.	Bifurcation of 6 MTPA Steel Melting Shop (SMS) to Electric Arc Furnace (EAF) route (3 MTPA) and Basic Oxygen Furnace (BOF) route (3 MTPA) has been permitted.	Not applicable
Conditions stipulated in EC Amendment dated 26.06.2018			
i)	Enhancement of production of existing Blast Furnace from 3.2 MTPA to 4.25 MTPA and Sinter Plant from 4 MTPA to 5 MTPA with following specific conditions: g) Upgradation of existing APCD / prevent the additional pollution due to increase in the capacity. h) 100% utilization of BF slag / dust. i) Upgradation of gas cleaning plant of Blast Furnace to control additional effluent.	Enhancement of production of existing Blast Furnace from 3.2 MTPA to 4.25 MTPA and Sinter Plant from 4 MTPA to 5 MTPA with following specific conditions: j) Upgradation of existing APCD / prevent the additional pollution due to increase in the capacity. k) 100% utilization of BF slag / dust. l) Upgradation of gas cleaning plant of Blast Furnace to	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
		control additional effluent.	
ii)	Use of wet quenching system in coke oven batteries shall be permitted up to 31st December, 2020.	Use of wet quenching system in coke oven batteries shall be permitted up to 31st December, 2020.	Not applicable
iii)	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown of CDQ boiler.	Wet quenching to be kept as standby for emergency operation and also to be used during annual shutdown of CDQ boiler.	Not applicable
iv)	Deletion of 2X135 MW captive power plant i.e. change capacity of captive power plant from 1080 MW (8X135 MW) to 810 MW (6X135 MW).	Deletion of 2X135 MW captive power plant i.e. change capacity of captive power plant from 1080 MW (8X135 MW) to 810 MW (6X135 MW).	Not applicable
v)	Shift of location of ash dyke with reduction in extent of the dyke area from 350 Ac to 280 Ac subject to following specific condition: a) 70 Ac will be used for development of greenbelt with native tree species.	Shift of location of ash dyke with reduction in extent of the dyke area from 350 Ac to 280 Ac subject to following specific condition: a) 70 Ac will be used for development of greenbelt with native tree species.	Not applicable
Additional conditions stipulated in EC Amendment dated 22.01.2019			
i)	Shift of ash dyke as proposed within the boundary of steel plant.	Shift of ash dyke as proposed within the boundary of steel plant.	Not applicable
ii)	All the old fly ash stock shall be utilized within two years.	All the old fly ash stock shall be utilized within two years.	Not applicable
iii)	All the new fly ash generated shall be utilized as per the provisions contained in the fly ash notification dated 14/09/1999 and its amendments issued from time to time and the orders of the Hon'ble NGT dated 21/03/2014.	All the new fly ash generated shall be utilized as per the provisions contained in the fly ash notification dated 14/09/1999 and its amendments issued from time to time and the orders of the Hon'ble NGT dated 21/03/2014.	Not applicable
iv)	With respect to amendment of EC condition pertaining to BOD plant, the coke oven plant effluent shall be treated in the existing Bio-ETP to the desired norms and entire treated effluent shall be utilized in the plant to achieve zero discharge.	With respect to amendment of EC condition pertaining to BOD plant, the coke oven plant effluent shall be treated in the existing Bio-ETP to the desired norms and entire treated effluent shall be utilized in the plant to achieve zero discharge.	Not applicable
Additional condition modified as per EC amendment dated 19.01.2021			
(i)	Use of wet quenching system in coke oven batteries shall be permitted up to 31/12/2021. Extension of time for installation of CDQ is hereby given	Use of wet quenching system in coke oven batteries shall be permitted up to 31/12/2021. Extension of time for	Not applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	for another 12 months i.e. till 31.12.2021. No further extension of time will be granted to the project proponent in this regard. If the proponent fails to install CDQ by December, 2021, Ministry shall initiate action against the project proponent under the relevant provisions of Environment Protection Act, 1986.	installation of CDQ is hereby given for another 12 months i.e. till 31.12.2021. No further extension of time will be granted to the project proponent in this regard. If the proponent fails to install CDQ by December, 2021, Ministry shall initiate action against the project proponent under the relevant provisions of Environment Protection Act, 1986.	
	B. GENERAL CONDITIONS:		
i)	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OSPCB) and the State Government
ii)	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.
iii)	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO2 and NOx are anticipated In consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OPCB/CPCB once In six months.	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NOx are anticipated In consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OPCB/CPCB once In six months.	Data on stack emissions from the pellet plant and HSM shall be submitted to RO, MoEF&CC and OSPCB once in six months. At least 02 continuous ambient air quality stations shall be established in consultation with the OSPCB (01 at the pellet plant site and 01 at the HSM site) Data on ambient air quality and stack emissions should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the OPCB/CPCB once In six months.
iv)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19' May, 1993 and 31" December 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under G.S.R 277 (E) 31st March 2012 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under G.S.R 277 (E) 31st March 2012 or as amended from time to time. The treated wastewater shall be recycled/reused.
v)	The overall noise levels in and around the plant area shall be kept	The overall noise levels in and around the plant area shall be	The overall noise levels in and around the plant area

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime.) and 70 dBA (nighttime).	kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime.) and 70 dBA (nighttime).	shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime.) and 70 dBA (nighttime).
vi)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended In the EIA / EMP report. Further, the company must undertake socio-economic development activities In the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended In the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	The project proponent shall also comply with all the environmental protection measures and safeguards as per addendum EIA/ EMP report. Further, the company must undertake socio-economic development activities In the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
vii)	As mentioned in the EIA/EMP, Rs. 2.000.00 Crores and Rs 100.00 Crores earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government, The funds so provided shall not be diverted for any other purpose	As mentioned in the EIA/EMP, Rs. 2000.00 Crores and Rs 100.00 Crores earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	Approximately Rs. 340.00 Crores and Rs 17.00 Crores earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
viii)	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OSPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OSPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OSPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
ix)	The project proponent shall inform	The project proponent shall	Not Applicable

S. No.	Stipulations	Parent Company (JSPL)	New Company (JSOL)
	that the project has been shall Inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the OSPCB/Committee and may also be seen in Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	inform that the project has been shall Inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the OSPCB/Committee and may also be seen in Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	
x)	Project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

Observations of the Committee

50.5.9 The Committee noted the following

i. The proponent has originally obtained EC on 22/02/2007 for setting up of 6 MTPA Integrated Steel Plant Village Kerjang, Tehsil Chhendipada, District Angul, Odisha.

ii. During 8/02/2017, MoEF&CC clarified in the aforementioned project that ***validity of EC for the instant proposal under consideration refers to start of production by the project/activity, it does not say start of full production as per the sanctioned environment clearance capacity. In view of this, the environment clearance gets completed if the project starts the production within the validity period.***

iii. As per the implementation schedule, some of the units have been commissioned, some units are under partly implementation. Besides, the units such as pellet plant, hot rolling mill and ferro alloys plant are yet to be implemented.

iv. Instant proposal is for seeking partly transfer of 5 MTPA pellet plant and 3.1 MTPA Hot rolling mill in the name of M/s. Jindal Steel Odisha Limited.

Recommendations of the Committee

50.5.10 In view of the foregoing and after deliberations, the Committee recommended for the part transfer of facilities 5 MTPA pellet plant and 3.1 MTPA hot rolling mill in the name of the M/s. Jindal Steel Odisha Limited by issuing a part transfer EC letter along with prescription of specific as well as general conditions as per the compliance matrix given above at para no. 50.5.8. All the other terms and conditions stipulated in environmental clearance vide letter no. J-11011/365/2006-I A.II(I) dated 22/02/2007 and its subsequent amendments shall remain unchanged.

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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 30th 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_{10}, $PM_{2.5}$, SO_2, NO_X, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre/dominant wind direction, population zone and sensitive receptors including reserved forests.

iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.

vi. Ground water monitoring at minimum at 8 locations shall be included.

vii. Noise levels monitoring at 8 locations within the study area.

viii. Soil Characteristic as per CPCB guidelines.

ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.

x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule/I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

xi. Socio/economic status of the study area.

7. **Impact Assessment and Environment Management Plan**

i. Assessment of ground level concentration of pollutants from the stack emission based on site/specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.

iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail/cum road transport or conveyor/cum/rail transport shall be examined.

iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.

v. Details of stack emission and action plan for control of emissions to meet standards.

vi. Measures for fugitive emission control

vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste/minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.

viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.

ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.

x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

xii. Action plan for post/project environmental monitoring shall be submitted.

xiii. Onsite and Offsite Disaster (natural and Man/made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. **Occupational health**

i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,

ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre/designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre/placement and periodical examinations give the details of the same. Details regarding last month analysed data of abovementioned parameters as per age, sex, duration of exposure and department wise.

iii. Annual report of health status of workers with special reference to Occupational Health and Safety.

iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

9. **Corporate Environment Policy**

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.

ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.

iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.

iv. Does the company have system of reporting of non/compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
11. To address the Public Hearing issues, provisions contained under Ministry's Office Memorandum vide F.No. 22/65/2017/IA.III dated 30/09/2020 shall be complied.
12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
13. A tabular chart with index for point wise compliance of above ToRs.
14. The ToRs prescribed shall be valid for a period of three years for submission of the EIA/EMP reports along with Public Hearing Proceedings (wherever stipulated).

<u>The following general points shall be noted:</u>

i. All documents shall be properly indexed, page numbered.
ii. Period/date of data collection shall be clearly indicated.
iii. Authenticated English translation of all material in Regional languages shall be provided.
iv. The letter/application for environmental clearance shall quote the MOEF&CC file No. and also attach a copy of the letter.
v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA/EMP Report.
vi. The index of the final EIA/EMP report must indicate the specific chapter and page no. of the EIA/EMP Report
vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF&CC vide O.M. No. J/11013/41/2006/IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry shall also be followed.
viii. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCl)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation

details shall be posted on the EIA/EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

ix. ToRs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA/EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA/EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district/wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA/EMP Report in a separate chapter and summarized in a tabular chart with financial budget (capital and revenue) along with time/schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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ANNEXURE/2

ADDITIONAL ToRS FOR INTEGRATED STEEL PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. For Large ISPs, a 3/D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land/use map based on satellite imagery. High/resolution satellite image data having 1m/5m spatial resolution like quickbird, Ikonos, IRS P/6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land/cover mapping of the area.
5. PM (PM_{10} and $P_{2.5}$) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM_{10} to be carried over.
6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
8. Plan for slag utilization
9. Plan for utilization of energy in off gases (coke oven, blast furnace)
10. System of coke quenching adopted with justification.
11. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
12. Trace metals in waste material especially slag.
13. Trace metals in water
14. Details of proposed layout clearly demarcating various units within the plant.
15. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs and outputs (material and energy balance).
16. Details on design and manufacturing process for all the units.
17. Details on environmentally sound technologies for recycling of hazardous materials, as per CPCB Guidelines, may be mentioned in case of handling scrap and other recycled materials.
18. Details on requirement of energy and water along with its source and authorization from the concerned department. Location of water intake and outfall points (with coordinates).
19. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
20. Details on toxic content (TCLP), composition and end use of slag.

ADDITIONAL ToRs FOR PELLET PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. Recent land/use map based on satellite imagery. High/resolution satellite image data having 1m/5m spatial resolution like quickbird, Ikonos, IRS P/6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land/cover mapping of the area.
4. PM(PM_{10} and $P_{2.5}$) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM_{10} to be carried over.
5. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
6. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
7. Plan for slag utilization
8. Plan for utilization of energy in off gases (coke oven, blast furnace)
9. System of coke quenching adopted with justification.
10. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
11. Trace metals in waste material especially slag.
12. Trace metals in water

ADDITIONAL ToRs FOR CEMENT INDUSTRY

1. Limestone and coal linkage documents along with the status of environmental clearance of limestone and coal mines
2. Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
3. Present land use shall be prepared based on satellite imagery. High/resolution satellite image data having 1m/5m spatial resolution like quickbird, Ikonos, IRS P/6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land/cover mapping of the area.
4. If the raw materials used have trace elements, an environment management plan shall also be included.
5. Plan for the implementation of the recommendations made for the cement plants in the CREP guidelines must be prepared.
6. Energy consumption per ton of clinker and cement grinding
7. Provision of waste heat recovery boiler
8. Arrangement for co/processing of hazardous waste in cement plant.
9. Trace metals in waste material especially slag.

ADDITIONAL ToRs FOR PULP AND PAPER INDUSTRY

i. A note on pulp washing system capable of handling wood pulp shall be included.
ii. Manufacturing process details for the existing and proposed plant shall be included. Chapter on Pulping & Bleaching shall include: no black liquor spillage in the area of pulp mill; no use of elemental chlorine for bleaching in mill; installation of hypo preparation plant; no use of potcher washing and use of counter current or horizontal belt washers. Chapter on Chemical Recovery shall include: no spillage of foam in chemical recovery plant, no discharge of foul condensate generated from MEE directly to ETP; control of suspended particulate matter emissions from the stack of fluidized bed recovery boiler and ESP in lime kiln
iii. Studies shall be conducted and a chapter shall be included to show that Soda pulping process can be employed for *Eucalyptus/Casuarina* to produce low kappa (bleachable) grade of pulp.
iv. Commitment that only elemental Chlorine/free technology will be used for the manufacture of paper and existing plant without chemical recovery plant will be closed within 2 years of issue of environment clearance.
v. A commitment that no extra chlorine base bleaching chemicals (more than being used now) will be employed and AOx will remain within limits as per CREP for used based mills. Plan for reduction of water consumption.

ADDITIONAL ToRs FOR LEATHER/SKIN/HIDE PROCESSING INDUSTRY

1. Justification for engaging a particular type of process (raw hide/skin into semi finishing or finished leather, semi/finished leather to finished leather, dry finishing operations, chrome/vegetable tanning, *etc.).*
2. Details regarding complete leather/ skin/ hide processing including the usage of sulphides, nitrogen compounds, chromium or other tanning agents, post/tanning chemicals, biocides, *etc.*, along with the material balance shall be provided.
3. In case of chrome tanning, details of the chrome recovery plant, management of shavings/solid waste including safe disposal.
4. Details on reuse of soak liquor / saline stream from membrane system, if applicable, to the extent possible in pickling activity after required treatment. Also, mention the salt recovery measures.

ADDITIONAL ToRs FOR COKE OVEN PLANT

1. Justification for selecting recovery/non/recovery (beehive) type batteries with the proposed unit size.
2. Details of proposed layout clearly demarcating various facilities such as coal storages, coke making, by/product recovery area,*etc* within the plant.
3. Details of coke oven plant (recovery/non/recovery type) including coal handling, coke oven battery operations, coke handling and preparation.
4. Scheme for coal changing, charging emission centre, Coke quenching technology, pushing emission control.
5. Scheme for coke oven effluent treatment plant details including scheme for meeting cyanide standard.

ADDITIONAL ToRs FOR ASBESTOS MILLING AND ASBESTOS BASED PRODUCTS

1. Type of the project – new/expansion/modernization
2. Type of fibres used (Asbestos and others) and preference of selection from techno/environmental angle should be furnished
3. As asbestos is used in several products and as the level of precautions differ from milling to usage in cement products, friction products gasketing, textiles and also differ with the process used, it is necessary to give process description and reasons for the choice for selection of process
4. Technology adopted, flow chart, process description and layout marking areas of potential environmental impacts
5. National standards and codes of practice in the use of asbestos particular to the industry should be furnished
6. In case of newly introduced technology, it should include the consequences of any failure of equipment/ technology and the product on environmental status.
7. In case of expansion project asbestos fibre to be measured at slack emission and work zone area, besides base line air quality.
8. In case of green field project asbestos fibre to be measured at ambient air.

ADDITIONAL ToRs FOR METALLURGICAL INDUSTRY (FERROUS AND NON/FERROUS)

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Emission from sulphuric acid plant and sulphur muck management.
3. Details on installation of Continuous Emission Monitoring System with recording with proper calibration system
4. Details on toxic metals including fluoride emissions
5. Details on stack height.
6. Details on ash disposal and management
7. Complete process flow diagram describing process of lead/zinc/copper/ aluminium, *etc.*
8. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
9. Details on Holding and de/gassing of molten metal from primary and secondary aluminium, materials pre/treatment, and from melting and smelting of secondary aluminium
10. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
11. Trace metals in waste material especially slag.
12. Plan for trace metal recovery
13. Trace metals in water

Executive Summary

Executive summary of the report in about 8/10 pages incorporating the following:

i. Project name and location (Village, Dist, State, Industrial Estate (if applicable)
ii. Products and capacities. If expansion proposal, then existing products with capacities and reference to earlier EC.
iii. Requirement of land, raw material, water, power, fuel, with source of supply (Quantitative)
iv. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes. Materials balance shall be presented.
v. Measures for mitigating the impact on the environment and mode of discharge or disposal.
vi. Capital cost of the project, estimated time of completion
vii. Site selected for the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of is acquisition, nearby (in 2/3 km.) water body, population, with in 10km other industries, forest, eco/sensitive zones, accessibility, (note – in case of industrial estate this information may not be necessary)
viii. Baseline environmental data – air quality, surface and ground water quality, soil characteristic, flora and fauna, socio/economic condition of the nearby population
ix. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
x. Likely impact of the project on air, water, land, flora/fauna and nearby population
xi. Emergency preparedness plan in case of natural or in plant emergencies
xii. Issues raised during public hearing (if applicable) and response given
xiii. CSR plan with proposed expenditure.
xiv. Occupational Health Measures
xv. Post project monitoring plan

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Email **Sundar Ramanathan**

Re: DRAFT MOM OF 50 EAC HELD ON 29/12/2021

From : cnpandey@iitgn.ac.in Thu, Jan 06, 2022 03:37 PM
Subject : Re: DRAFT MOM OF 50 EAC HELD ON 29/12/2021 1 attachment
To : Sundar Ramanathan <r.sundar@nic.in>

Dear Mr Sundar,
The approved Mom of 50th EAC held on 29th December, 2021 is attached herewith.
Please take further necessary action for putting this on PARIVESH.
With best wishes,
C. N. Pandey,
Chairman, EAC Industry I,
MoEFCC, GoI.