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

Date of zero draft MoM sent to Chairman: 18/08/2021
Approval by Chairman: 25/08/2021
Uploading on PARIVESH: 25/08/2021

Summary record of the Forty Second (42nd) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 12-13th August, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.

The forty second 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 **12-13th August, 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) issue. The list of EAC attendees is as follows:

S. No.	Name	Position	12/08/2021	13/08/2021
1.	Dr. Chhavi Nath Pandey	Chairman	Present	Present
2.	Dr. M.K. Gupta, Director, CPPRI.	Member	Present	Present
3.	Dr. Siddharth Singh,	Member	Present	Present
4.	Dr. Jagdish Kishwan	Member	Present	Present
5.	Dr. Tejaswini Ananth Kumar	Member	Present	Present
6.	Dr. G.V. Subramanyam	Member	Present	Present
7.	Shri. Ashok Upadhyaya	Member	Present	Present
8.	Shri. Rajendra Prasad Sharma	Member	Present	Present
9.	*Dr. Sanjay Deshmukh*	*Member*	*Absent*	*Absent*
10.	Prof. S.K. Singh	Member	Present	Present
11.	*Dr. R. Gopichandran*	*Member*	*Absent*	*Absent*
12.	*Shri Jagannadha Rao Avasarala*	*Member*	*Absent*	Present
13.	Shri. J.S. Kamyotra	Member	Present	Present
14.	Shri. Sundar Ramanathan	Member Secretary	Present	Present
15.	Dr. Vipin Gupta	Scientist 'B'	Present	Present

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 41st meeting held during 29-30th July, 2021 were confirmed by the EAC as already uploaded on PARIVESH.

12th August, 2021

42.1 Up-Gradation of Blast Furnaces (BF) 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); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity by **M/s. Vedanta Limited** (Formerly M/s. Sesa Goa Limited) located at Villages Amona and Navelim, Taluka Bicholim, **District North Goa, Goa** [Online Proposal No. IA/GA/IND/215662/2018, File No. J-11011/946/2007.IA II (I)] **–Environment Clearance – regarding**

42.1.1 M/s. Vedanta Limited has made an online application vide proposal no. IA/GA/IND/215662/2018 dated 29/07/2021 along with copy of EIA/EMP report and Form – 2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous) under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

Details submitted by Project proponent

42.1.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
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

42.1.3 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 Up-Gradation of Blast Furnaces (BF) 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); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity.

42.1.4 Environmental Site Settings:

S No	Particulars	Details			Remarks
i.	Total land	161 ha			Land use: Industrial land
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The land is already in possession of Vedanta Ltd			--
iii.	Existence of habitation & Involvement of R&R, if any.	Not applicable			--
iv.	Latitude and Longitude of the project site		**Latitude**	**Longitude**	
		A	$15^0$31'44.35"N	$73^0$58' 58.76"E	
		B	$15^0$31'21.14"N	$73^0$59' 7.70"E	
		C	$15^0$30'25.08"N	74^0 0' 26.74"E	

S No	Particulars	Details			Remarks
		D	$15^0$31'5.72" N	74^0 0'27.21"E	
		E	$15^0$31' 37.16"N	$73^0$59' 55.24" E	
v.	Elevation of the project site	About 15-50 m above MSL			
vi	Involvement of Forest land if any.	No forest land involved in proposed project			--
vii.	Water body exists within the project site as well as study area	• Mandovi river (0.4 km, W) • Kudne river (1.0 km, N) • Valvot river (3.5 km, N) • KumbharjuaNadi (4.2 km, WSW) • Karmali lake (6.0 km, SW) • Arabian sea (15 km, WSW)			--
viii.	Existence of ESZ/ESA/ national park/ wildlife sanctuary/ biosphere reserve/tiger reserve/ elephant reserve etc. if any within the study area	ESZ for all the WLS in Goa are notified and maximum distance is 1 km from the boundary of WLS. Our unit is outside the notified ESZ. The wildlife sanctuaries 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)			--

42.1.5 The existing project was accorded environmental clearance dated 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). Amendment in EC for Compliance to NGT Order was obtained vides Letter No. F. No J-11011/946/2007-IA.II(I) dated 07.01.2020. BF-1 & 2 and its ancillary units are commissioned prior to EIA Notification 1994. Necessary consents are taken from 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 Pulverised 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 -**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

S No	CTO Details	Issuing Authority	Letter No	Validity
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

42.1.6 Implementation status of the existing EC:

S No	Facilities	Units	As per J-11011/946/ 2007-IA.II.(I) dated 03.06.2009 & amendment dated 05.09.2016	Implementation Status as on 06.08.2021	Production as per CTO
1	Blast furnace-3	TPA	9,00,000	5,40,000	540000
2	Met coke production	TPA	600000	300000	300000
3	Waste heat recovery power plant	MW	60	35	35
4	Sinter plant	TPA	20,00,000	10,00,000	1000000

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

S.No.	Name	Existing Units		Proposed Units		Total (Existing +Proposed)	
		Configuration	Production	Configuration	Production	Configuration	Production
1	Blast furnaces 1 & 2	173 m^3 x 2 Nos	2,92,000 TPA	No Change	58,000 TPA	173 m^3 x 2 Nos	3,50,000 TPA
2	Blast furnace-3	450 m^3	5,40,000 TPA	No Change	1,10,000 TPA with technology up gradation	450 m^3	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	Battery 1: Additional 4 Ovens (non-recovery type) Battery 2 : No Change	0 (4 ovens will be added to achieve the existing production)	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		Total (Existing +Proposed)	
		Configuration	**Production**	**Configuration**	**Production**	**Configuration**	**Production**
			mentioned) Battery 2: 3,00,000 TPA(Phase 1 of 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 from blast furnace - 3	Nil	Nil	3,00,000 TPA	3,00,000 TPA	3,00,000 TPA	3,00,000 TPA
6	Waste heat recovery power plant	Power plant 1: 33 MW WHRPP(prior to EC Notification so CTO capacity mentioned) Power plant 2: 35 MW WHRPP	595 MU	Nil	Nil	1 x 33 MW & 1 x 35 MW	595 MU
7	Sinter plant	75 m^2	10,00,000 TPA	Nil	Nil	75 m^2	10,00,000 TPA
8	Oxygen & nitrogen plant	100 TPD Oxygen & 50 TPD Nitrogen	100 TPD Oxygen & 50 TPD Nitrogen	150 TPD Oxygen	150 TPD Oxygen	250 TPD Oxygen & 50 TPD Nitrogen	250 TPD Oxygen & 50 TPD Nitrogen

42.1.8 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	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	In-house and Purchased	Roadways	2-30 km
4	PCI	86,260	39,240	1,25,500	Imported	By water ways	Imports
5	Limestone	15,8060	29,342	1,87,402	Domestic (Karnataka) as well as imported	Road ways/Railways/ Waterways	500 km and Imports

S No	Materials	Existing (Tons)	Additional Proposed (Tons)	Final (Tons)	Source	Mode of Transportation	Distance
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	500 km
8	Quick Lime	46,743	8,383	55,126	Karnataka & Rajasthan	Roadways	500-1800 km
9	Coke breeze	69,051	12,383	81,434	In-house	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	Byroad/ rail track	Existing Blast furnace	1 km
2	MS scrap	100-130	36,000	Byroad	In-house & Steel Mills	500 km
3	Ferro-silicon	10	3,000	Byroad	In house and Maharashtra	600 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	From India 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/ Jharkand	1600km
3	Coke	0.6435	3,217.5	Roads	In-house	1-30Km
4	Iron scrap, mill scale	0.198	990	Roads	In-house & Steel Mills	500KM

S No	Material	Proposed (kg/ton)	Final (TPA)	Mode of Transport	Source	Distance
5	Electrode paste	0.0693	346.5	Roads	From India	500km

42.1.9 Total additional water requirement for the proposed expansion project will be 2,400 KLD with total requirement of 12,744 KLD. Domestic & DM plant washroom water requirement is 360 cum/day will be met from PWD.
Industrial water requirement source:

a) Rain water harvested from exhausted mine pit at Sanquelim
b) Rainwater harvesting ponds within the plant boundary
c) Bandhara on Valvonti River (Permission obtained for 10,000 KLD qty)
d) Mandovi River (Permission obtained for 4320 KLD).

Renewal of NOC for withdrawal from Valvonti River for 10,000 cum /day is obtained from Water Resource Department vides 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 cum/day blanket permission is obtained from Water Resource Department vide Letter No: 15/WRD/WDI/ADM/13-14/58 dated 24.04.2014.

42.1.10 The total power requirement after proposed expansion is 55.5 MW. Existing power requirement is 27 MW. This requirement will be sourced from 65 MW captive power plant and external grid (as emergency backup).

42.1.11 Baseline Environmental Studies:

Period	1st March 2019 to 31st May 2019
AAQ parameters at 11 locations	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 NO_x = 11.8-21.9 µg/m^3 CO =194-356 µg/m^3
AAQ modelling	<u>Scenario-I: Proposed DI Pipe Plant of 3,00,000 TPA + Proposed Fe-Si Plant of 5000 TPA</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 DI Pipe Plant of 3,00,000 TPA + Proposed Fe-Si Plant of 5000 TPA + Existing BF-1 & 2 +Sinter Plant+ Blast Furnace (BF-3)+ Waste Heat Recovery Based Power Plant</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: Other Industries Within 10 km of Study Area + Scenario-II</u>

	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
Ground water quality at 9 locations	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.
Surface water quality at 8 locations	pH: 6.81-7.35 ; DO: 5.4-6.1mg/l and BOD: <3.0mg/l. COD : <5-70mg/l
Noise levels	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.
Traffic assessment study findings	Additional truck traffic due to existing & proposed project: 60 Trucks per day **Incremental Concentrations:** PM_{10} = 0.006 µg/m^3 $PM_{2.5}$ = 0.004µg/m^3 NOx = 0.7µg/m^3 CO =0.67µg/m^3 HC=0.19 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

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

S 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	58,600	4,00,000	Sold to cement industry
2	Flue dust	20,000	5,000	25,000	Recycled back to the

S No	Solid Waste Quantity	Existing (TPA)	Proposed (TPA) (Tentative)	Final after Expansion (TPA)	Mode of Disposal
					process
3	Coke fines from DES	1000	Nil	1000	Charging in Blast Furnace
4	Coke Breeze	53,000	Nil	53,000	Captive consumption
Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)					
1	Oil soaked cotton waste	56	0	56	Incinerated in coke oven plant
2	Discarded Containers/ Barrels /Liners contaminated with Hazardous Wastes/Chemicals	22	8	30	Thinner to be used for cleaning paint tins & same thinner to used for dilution of paint & decontaminated tins given for recycling
3	Spent ion exchange resin	0.4	0	0.4	To authorized incineration facility/ cement plant for co processing
4	Used oil	36.5	23.5	60	To recyclers registered with CPCB and having valid authorization of SPCB.
5	Oil Filters	3	3	6	To recyclers registered with CPCB and having valid authorization of SPCB
Proposed Fe- Si Plant (Non-Hazardous Waste)					
1	Slag	-	590	590	Partly reused in sinter plant and partly in road making
2	Dust	-	7,300	7,300	Reused into the sinter plant
Proposed DI Pipe Plant					
Non-Hazardous Waste					
1	Iron scrap	-	25,000	25,000	To be used in foundry units for re-melting and re-use
2	Slag	-	3000	3000	Used for road laying
3	Waste core sand	-	10,000	10,000	Construction fill/road bases/ land fill/ reused in cast house of B.F
4	Magnesium oxide waste	-	20	20	Re-used in the sinter plant
Hazardous Waste in Proposed DI Pipe Plant					
1	Zinc dust	-	525	525	Authorization from Pollution Control Board for selling to authorized agents
2	Used oil	-	10	10	Authorization from GSPCB for selling to authorized agents

Other Wastes:

S 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

S No	Solid Waste Quantity	Existing	Proposed (Tentative)	Final after Expansion	Mode of Disposal
					recyclers
3	Batteries	6 MT	2 MT	8 MT	Sent to authorized vendors
4	Canteen waste/ Domestic waste	72,000 Kg	27,000 Kg	99,000 kg	Disposed in composting pit and used as manure in green belt area
5	Refractory Bricks	500 MT	200 MT	700 MT	Used as road material or filling
6	Metal Scrap	700 MT	300 MT	1000 MT	Disposed to dealer as per scrap metal policy

42.1.13 Public Consultation:

Details of Advertisement given	11.02.2021
Date of Public Consultation	14.03.2021 & 21.03.2021
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	Transportation and education facilities. Air and Water Pollution, Health problems and health assessment Employment& Skill Development to Local People

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

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan	EMP Budget (Rs. In Crores)	Time Schedule For Implementation
1	Air Pollution	• 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.	18Cr	FY 2023
		• 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	1Cr	Annually recurring activity
		• 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	2Cr	By FY 2022

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan	EMP Budget (Rs. In Crores)	Time Schedule For Implementation
		• Windshield of 220m will be installed at the boundary of the plant to avoid any dust escaping the plant boundaries • Identification of native species and plantation within and around the plant premises. Improving and developing the green belt area in and around the plant will further reduce dust pollution.	0.75Cr 0.25Cr	By FY 2022 By FY 2023
		Sub-Total	**22 Cr**	-
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	0.25Cr	By FY 2023
3	Health Screening and Assessment	• Health screening and assessment through Mobile Health Unit, medical health center etc • Health camp in the surrounding villages	0.35 Cr	By FY 2022
4	Employment	• 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 • Vedanta Ltd will continue to support local illiterate youth from affected villages through various skill development & educational initiatives as a part of CSR.	-	-
5	Skill Development to Local People	• Proper training facilities and exposure will be provided to the local youth for their skill development through Sesa Technical School, located at Sanquelim village.	0.45 Crores	-
		Total (Rs in Crores)	**23.05**	

42.1.14 The capital cost of the proposed expansion project is about Rs. 701 Crores. Vedanta Limited proposes to spend about Rs. 35.0 crores towards environmental protection measures with a recurring cost of about Rs. 5.0 crores. The proposed expansion project will generate employment for 450 manpower including contractual basis. The details of cost for environmental protection measures is as follows:

S No	Particulars	Proposed Cost (Rs. Crores)	
		Capital Cost	Recurring Cost per Annum
1	DE system with bag filters for the project	19.0	1.5
2	Dust suppression system	1.5	0.2
3	Rain water harvesting & water	3.5	0.1

S No	Particulars	Proposed Cost (Rs. Crores)	
		Capital Cost	**Recurring Cost per Annum**
	treatment system		
4	Acoustic enclosures	2.5	0.3
5	Environmental monitoring	7.0	1.2
6	Wind shield	1.5	0.2
7	Greenbelt development	-	1.5
	Total	**35.00**	**5.0**
8	Amount earmarked to addressed the issues raised during public hearing	**23.05**	

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.

42.1.16 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: - SiddheshGawas and MrVirajNaik, 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 has been action undertaken by the project proponent in violation of the Environment Impact Assessment Notification, 2006. Post which Vedanta already filed our (Vedanta) preliminary affidavit in response to the s ame. GSPCB also filed Inspection Report. The court has disposed off the petition on 3.08.2021 by accepting the contents of affidavit of Vedanta Ltd & GSPCB inspection report stating that no enhancement of production capacity has been carried out and the same shall be done only after obtaining necessary clearance. Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project.

S No	Case	Status
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 peace 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. NGT disposed the same without any adverse order against us (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. It is pertinent to note that the petition stands worked out in terms of the case as referred above. Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project.
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. We (Vedanta) have filed our reply. It is now pending for arguments on temporary injunction. Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project.
4	Name of the Court: PravirFadte v. State of Goa &Ors 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. We (Vedanta) had already submitted our compliance report to GSPCB which fact was also confirmed before the HC in this matter. There is no adverse order form HC. The case is pending hearing as per board. Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project.

42.1.17 Name of the EIA consultant: M/s. Vimta Labs Limited [S. No. 139, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

Certified compliance report from Regional Office

42.1.18 The Status of compliance of earlier EC was obtained from Goa State Pollution Control Board vide letter no 10/1/21-PCB/Vol XXII/Tech/5567 dated 02.07.2021 in the name of M/s. Vedanta Limited. The action taken report was submitted to Goa State Pollution Control Board (GSPCB), Goa vide letter no. VAB/ENV/21-22/24 dated 26.07.2021. The details of the observations made by RO in the report dated 02.07.2021 along with its re-assessment / present status as furnished by the PP is given as below:

S No	Areas of improvement Reported If any	Corrective Action Taken	Present Status	Remarks
1	Control of secondary fugitive emissions from all the sources	Following actions are been taken: ▪ Rain guns and fog cannons are used frequently ▪ All raw material fines are covered with silpaulin	We ensure to prevent fugitive emissions	We further undertake to continually improve our environment performance
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.
3	Control of vehicular pollution due to transportation	The following measures are being implemented: ▪ Water sprinkling through tankers ▪ Road sweeping on transportation roads ▪ PUC check at the gate ▪ Trucks are covered with tarpaulin during transportation		We further undertake to continually improve our environment performance
4	In plant control measures for checking fugitive emissions be adopted	The following measures are being implemented: ▪ Bag houses are installed at the Blast Furnace (BF) ▪ Closed conveyor are used ▪ Raw material fines are covered with silpaulin ▪ Rain guns, Mayura curtains and fog cannons. ▪ Road sweeping machines ▪ Wheel wash system at the exit gate ▪ Dust extraction systems for screening plants ▪ Dust suppression systems for material handling plants	-	We further undertake to continually improve our environment performance

S No	Areas of improvement Reported If any	Corrective Action Taken	Present Status	Remarks
		▪ Wind shields fitted with sprinkler system along the plant boundary		
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.	We have 11 numbers of settlings at the area and this year we have constructed additional settling pond of 700 m^3 capacity. Water from these settling ponds are 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 out in a controlled manner. 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.			
S No	**Condition detail**	**Condition no of EC dated 12/04/2012**	**Observation of GSPCB**
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 Statement 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 need to be uploaded on the company website.**

Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020:			
S No	**Condition detail**	**Condition no of EC dated 07/01/2020**	**Observation of GSPCB**
1	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	1	It appears that the storm water is discharged directly from the premises without adequate settling to the adjoining area including the water bodies. The GSPCB was in receipt of a recent complaint from the resident of Dhakal

Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020:			
S No	**Condition detail**	**Condition no of EC dated 07/01/2020**	**Observation of GSPCB**
			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	All the transportation roads within the project premises shall be fully asphalted/ concreted in a phased manner to ensure the reduction of fugitive emissions and to get a clear runoff during monsoon.	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.
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 to Goa State Pollution Control Board (GSPCB) and CPCB.	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.
4	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	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

Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020:			
S No	**Condition detail**	**Condition no of EC dated 07/01/2020**	**Observation of GSPCB**
	device without interfering with the production process.		particles have been observed on the dust fall sampler located at Amona and Navelim during the monitoring days.

Observations of the Committee

42.1.19 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

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

42.2 Proposed 2.4 MTPA (2x1.2 MTPA) Iron Ore Pellet Plant over an area of 36.68 acres (14.84 ha.) by **M/s. Narbheram Power and Steel Private Limited** located at Village- Tanto, Tehsil Barbil, **District Keonjhar, Odisha** [Online Proposal No. IA/OR/IND/222700/2021; File no: IA-J-11011/241/2021-IA-II(I)] **– Prescribing of Terms of Reference– regarding.**

42.2.1 M/s. Narbheram Power and Steel Private Limited has made an online application vide proposal no. IA/OR/IND/222700/2021 dated 01/08/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

Details submitted by Project proponent

42.2.2 The project of M/s. Narbheram Power and Steel Private Limited located at Village- Tanto, Tehsil Barbil, District Keonjhar, Odisha is for proposed 2.4 MTPA (2x1.2 MTPA) Iron Ore Pellet Plant along with Producer gas plant of 5 x 6,500Nm^3/hr configuration over an area of 17.013 ha.

42.2.3 Environmental site settings:

S No	Particulars	Details	Remarks
i.	Total land	Total land: 42.04 Acres (17.013 ha.) comprising of Forest land: 24.00 Acres (9.712 ha.) Non-Forest land: 9.95 Acres (4.027 ha.) Land Records not available: 8.09 Acres (3.274 ha)	Land use will change from existing to Industrial Use
ii.	Existence of habitation &involvement of R&R, if any.	There is no existence of habitants identified within the plant boundary.	R&R not applicable. No displacement, only 14 PAFs.
iii.	Latitude and Longitude of the project site	Latitude: 22°02'29.01" to 22°02'46.12" Longitude: 85°21'47.76" to 85°22'09.99"	-
iv.	Elevation of the project site	492-514meters AMSL	-
v.	Involvement of Forest land if any	Forest Land: 12.986 ha	FC application submitted vide: Proposal No-FP/OR/IND/125237 /2021 for 12.986 ha. (Forest: 9.712 ha; No Land Records: 3.274 ha)

S No	Particulars	Details	Remarks
vi.	Water body exists withinthe project site as wellas study area	**Project Area:** No water body exists. **Study Area:** KundraNala- 4.40 km (SE) Karo River- 6.00 km (NNW) SonaNadi- 6.97km (E) Bolani reservoir- 7.35 km (NNE) Jhikra Waterfall- 7.60 km (NW) Baitarani River – 9.95 km (SE)	No river within 1 km radius of the proposed site. Water Requirement for the project will be met from Baitarani River.
vii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ bio-sphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil. Following forests are present in study area: Siddhamath RF-0.57km/ W Thakurani RF-3.75 km/ NE Lakrhaghat RF-4.3km/ SW Karo RF-6.8km/ NW Uliburu RF-6.8 km/ NNE Baitarani RF-7.72km/ SSE	-

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

S No	Name	Proposed Units	
		Configuration	Production (TPA)
i.	Iron Ore Pellet Plant	2x 1.2 MTPA	2.4MTPA (2400000 TPA)
ii.	Producer Gas Plant	5 x 6500Nm^3/hr	32,500Nm^3/hr

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

S No	Raw Material	Quantity Required per Annum (tonnes)	Source	Distance from Site (Kms)	Mode of Transport
i.	Iron ore fines	26,92,800	Roida II Mines and other Iron Ore mines in the Joda / Barbil area	03-15	Closed conveyor/ Road
ii.	Bentonite	19,800	Local traders of Bhuj, Gujarat product	1900	Rail
iii.	Limestone/ Dolomite	47,520	Local Market / Sundargarh, Odisha	185	Road
iv.	Coke / Coal Fines	47,520	Open Market	280	Road/ Rail
v.	Fuel for Gasifier – Coal	1,25,400	Open Market	280	Road/ Rail

42.2.6 The water requirement for the project is estimated as 7,368 m^3/day, out of which 4800 m^3/day of fresh water requirement will be obtained from the Baitarani River and the

remaining requirement of 2,568m^3/day will be met from the recycling of the process water. The permission for drawl of surface water is recommended by IPICOL (Industrial Promotion and Investment Corporation of Odisha Limited) to DWR (Department of Water Resources) vide Lr. No CGM/SLNA/NPSL/327/20/1462 dated 11.06.2021.

42.2.7 The power requirement for the project is estimated as 18MW. Power required for the plant operation shall be sourced from the State grid-OPTCL.

42.2.8 The capital cost is Rs. 350 Crores. The capital cost for Environmental protection measures is proposed as Rs. 30 Crores. The employment generation from the proposed project is 258.

42.2.9 Proposed Terms of Reference (**Baseline data collection period: March to May, 2021**):

Attributes		**Sampling**		**Remarks**
		No. of stations	**Frequency**	
A. Air				
a. Meteorological parameters	Temperature, Humidity, Rainfall, Wind Speed, Wind Direction, Cloud Cover	1	Continuous recording of hourly micro-meteorological	
b. AAQ parameters	Particulate Matter as PM_{10}, Particulate Matter as $PM_{2.5}$, Sulphur dioxide as SO_2, Oxide of Nitrogen as NOx, Carbon Monoxide as CO,	8	Twice in a Week on 24 hrs basis for three Months	
B. Noise	Leq. Day Time Leq. Night Time	8	Continuous monitoring for 24 hours at each location, Once during the study period	
C. Water				
Surface water quality parameters	Color, pH, Dissolved Oxygen (min), Turbidity, Chloride (max), Total Dissolved Solids, Oil & Grease (max), BOD (3) days at 27°C (max), Chemical Oxygen Demand (COD), Arsenic as As, Lead as Pb, Cadmium as Cd (max), Hexa Chromium as Cr^{+6}, Copper as Cu (max), Zinc as Zn(max), Selenium as Se (max), Cyanide as CN (max), Fluoride as F (max),	8	Once during the study period	

Attributes		Sampling		Remarks
		No. of stations	**Frequency**	
	Sulphates (SO_4) (max), Phenolic Compounds as C_6H_5OH (max), Iron as Fe (max), Nitrate as NO_3 (max), Anionic Detergents (max), Total Coli form			
Ground water quality parameters	Color, Odour, Taste, Turbidity, pH, Total Hardness (as $CaCO_3$), Iron (as Fe) , Chloride (as Cl) ,Residual Free Chlorine, Total Dissolved Solids as TDS, Calcium as Ca, Magnesium as Mg, Copper as Cu, Manganese as Mn, Sulphate as SO_4, Nitrate as NO_3, Fluoride as F, Phenolic Compounds as C_6H_5OH, Mercury as Hg, Cadmium as Cd, Selenium as Se, Arsenic as As, Cyanide as CN, Lead as Pb, Zinc as Zn, Total Chromium as Cr, Mineral Oil, Alkalinity, Aluminium as Al, Boron, Total Coliform as TC	8	Once during the study period	
D. Land a. Soil quality b. Land use	Conductivity, pH, Texture, Sand, Silt, Clay, Bulk, Density, Exchangeable Calcium, Exchangeable Sodium, Exchangeable Magnesium, Available Potassium, Available Phosphorus, Available Nitrogen, Organic Matter, Organic Carbon, Water Soluble Chloride, Water Soluble Sulphate, Sodium Absorption Residue,	6	Once during the study period	

Attributes		Sampling		Remarks
		No. of stations	**Frequency**	
	Aluminium, Iron, Manganese, Boron, Zinc, Chromium, Hexavalent Chromium, Nickel, Copper, Cadmium			
E. Biological a. Aquatic b. Terrestrial	Biological study including study of flora and fauna within 10km radius area has been carried out.	10 km radius study area	Primary survey during study period. Secondary data collection from Forest department	
F. Socio-economic parameters	Need based survey and socio-economic survey (selected samples) have been carried out.	10 km radius study area	Primary survey during study period. Secondary data collection from Govt. offices, Village Panchayats, Census of India records	

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

42.2.11 Name of the EIA Consultant: M/s. Visiontek Consultancy Services Private Limited [S. No. 97, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

42.2.12 M/s. Narbheram Power and Steel Private Limited has earlier made an application online vide proposal no. IA/OR/IND/202021/2021, dated 12/06/2021. The proposal was considered) in 39th meeting of the Re-constituted EAC (Industry-I) held on 30th June – 1st July, 2021. The observations and recommendations of EAC is given as below:

Observations of the Committee held on 30th June – 1st July, 2021

42.2.13 The EAC noted the following:

i. Out of 57.005 acres of land, 47.315 acres is forest land. Application for FC is under process. PP has not optimized the land requirement to reduce of the extent of forest land involvement.
ii. There is a village (Jhadagaon) within 400 meters and also a temple of Shiva 1.6 Km away.
iii. There are three villages adjacent to Easter boundary of the proposed plant.
iv. Tanta Air Strip is only 200 meters in eastern side of the project site.
v. Revisit of layout of the plant is required
   a. Optimize the area requirement with specific emphasis on reducing Forest land.

b. Layout plan be designed to keep the polluting units at maximum distance away from villages.
c. Transfer of iron ore from mines to plant by closed conveyor.

Recommendations of the Committee held on 30th June – 1st July, 2021

42.2.14 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present from to address the shortcomings enumerated at para 42.2.13.

42.2.15 M/s. Narbheram Power and Steel Private Limited has again made an online application vide proposal no. IA/OR/IND/222700/2021 dated 01/08/2021. The proposal was considered in 42nd meeting of the Re-constituted EAC (Industry-I) held on 12-13th August, 2021. The observations and recommendations of EAC is given as below:

Observations of the Committee

42.2.16 The EAC noted the following:

i. Jhadagaon village is 1.39 km and Shiva Temple is 2.26 km from site. The layout has been designed such that the chimneys are 1.84 km from village and 2.65 km from the Temple.
ii. Tanto Village is 200m North and other villages are more than a kilometer from plant boundary. Thick green belt shall be planted towards Tanto Village.
iii. Iron ore shall be transported by closed conveyor to the plant.
iv. There are 133 trees to be cut from site.
v. Road to Tanto village shall be outside the boundary of the plant.
vi. Highway is 250m North and Barbil Railway station is 6.1 km.
vii. 12000 KLPA Furnace Oil and 2.5 KLPA Light Diesel Oil shall be used as fuel in Pellet Plant along with coal gas.
viii. PM level from chimneys shall be <30 mg/Nm^3.
ix. Venturi Scrubbers are proposed for pollution control from Kiln. It is recommended that ESP shall be used to reduce water consumption and for reuse of dust collected in the pellet plant.
x. 4800 KLD water shall be used and the same shall be sourced from Baitarni River 18.4 km from plant.
xi. In view of the area reduction and re-orientation of the site, the AAQ monitoring locations would undergo change. The monitoring shall be done again.

Recommendations of the Committee

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

i. Status of stage I FC for the diversion of 12.987 ha of forest land shall be submitted as per the MoEF&CC O.M. dated 9/9/2011.
ii. The project proponent shall submit action plan for reuse/ recycling of entire wastewater after treatment.
iii. Permission for tree cutting (133) should be obtained from the competent authority. Action plan for compensatory plantation in lieu of 133 trees to be cut from the site shall be furnished. The number of compensatory trees should not less than 5 times the

number of trees to be felled. This compensatory tree planting should be in addition to the 33% green belt.

iv. Action plan to limit the dust emission from all the stacks below 30 mg/Nm^3 shall be furnished. Bag filters and ESP shall be used for particulate emission control

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

vi. Action plan for green belt development covering 33% of the area shall be submitted. This shall include green belt development of 20 meters width towards the Tanto Village located at 200m Northern direction.

vii. Action plan for 100 % solid waste utilization shall be submitted.

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

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

x. 4800 KLD water shall be used and the same shall be sourced from Baitarni River 18.4 km from plant. No ground water abstraction shall be permitted.

xi. An incinerator to destroy phenolic water and other toxic constituents shall be installed as per CPCB guidelines along with online emission monitoring systems.

xii. A water reservoir of 2.65 Acres shall be constructed for rain water harvesting and recharge.

xiii. Fresh monitoring of baseline data shall be carried out and used for preparation of EIA report.

42.3 Greenfield project of steel plant comprising of Sponge Iron: 2,10,000 TPA (DRI Kiln: 2x200 TPD + 3x100 TPD), Hot Billets/ MS Billets/ Ingots: 1,80,000 TPA (IF: 5x12T with matching LRF & CCM), TMT Bars / Structural Steel: 1,80,000 TPA (RM: 2x300TPD), Ferro Alloy Unit: 1x9 MVA (FeSi-7,000 TPA / FeMn-25,200 TPA / SiMn-14,400 TPA / FeCr-15,000 TPA), Power Plant: 29 MW (WHRB: 14 MW + CFBC: 15 MW) and Brick Manufacturing unit: 30,000 Bricks/Day by **M/s. Balajee Sponge and Power Private Limited** located at Chourenga Village, Simga Tehsil, **Balodabazar Bhatapara District, Chhattisgarh [**Online Proposal No. IA/CG/IND/221771/2021; File no: IA-J-11011/292/2021-IA-II(I)] **– Prescribing of Terms of Reference– regarding.**

42.3.1 PP vide email dated 11/08/2021 expressed their inability to participate in the meeting due to medical reasons and requested to consider the same in the next hearing.

42.3.2 It was apprised to the EAC to consider the proposal in the absence of proponent and their EIA consultant based on the records made available by them as per the Ministry's O.M. dated 18/11/2020 pertaining to streamlining the process of grant of Environment Clearance. However, the EAC opined that proposal shall be considered in presence of proponent only as they have requested for deferment of the proposal.

42.3.3 In view of the foregoing and after detailed deliberations, the Committee recommended that proposal shall be listed for consideration in the forthcoming EAC meeting.

42.4 Proposed steel manufacturing unit comprising of TMT Bars + Wire Rod - 4,50,000 TPA, 500 TPD DRI kiln along with Captive Power Plant consisting of 25 MW turbine and 50 TPH steam from Waste Heat Recovery Boiler facility by **M/s. Anjar TMT Steel Private Limited** located at Survey No. 652/P-1, Welspun City, Village: Varsamedi, Taluka: Anjar,

District Kutch, Gujarat [Online Proposal No. IA/GJ/IND/221430/2021; File no: IA-J-11011/289/2021-IA-II(I)] **– Prescribing of Terms of Reference– regarding**

42.4.1 M/s. Anjar TMT Steel Private Limited has made an application online vide proposal no. IA/GJ/IND/221430/2021 dated 02/08/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (Ferrous and Non-ferrous) Under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Centre level.

Details submitted by Project proponent

42.4.2 The project of M/s. Anjar TMT Steel Private Limited is located at Survey No. 652/P-1, Welspun City, Village: Varsamedi, Taluka: Anjar, District Kutch, Gujarat is for setting up of Metallurgical Unit Steel TMT Rebars and Wire Rods manufacturing rolling mill, DRI Manufacturing plant along with Captive Power Plant consisting of 25 MW turbine and 50 TPH steam from Waste Heat Recovery Boiler facility.

42.4.3 Environmental site settings:

S No	Particulars	Details	Remarks
i	Total land	7.16 ha (Private: 7.16 ha)	--
ii	Existence of habitation & involvement of R&R, if any.	None	--
iii	Latitude and Longitude of the project site	Latitude: 23° 6'39.79"N Longitude: 70° 5'6.31"E	
iv	Elevation of the project site	35 m above MSL	
v	Involvement of Forest land if any.	There is a no involvement forest land.	
vi	Water body exists within the project site as well as study area	**Project site:** Nil **Study area:** Sang River: 0.6 km/ South Churwa River: 3.55 Km/ NNE Pond: 3.0km/ NNE Pond: 3.7km/ NNW Shinai Lake: 5.66km/ SSW	--
vii	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil	

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

S No	Name	Proposed Units	
		Configuration	Production TPA
1	TMT Bars + Wire Rod	1 x 4,50,000 TPA	4,50,000 TPA
2	DRI (sponge Iron)	1 x 500 TPD	1,65,000 TPA
3	WHRB	1 x 50 TPH	50 TPH
4	Turbine	1 x 25 MW	25 MW

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

S No	Raw Material	Quantity required per annum	Source	Distance from site (Kms)	Mode of Transportation
1	Iron Ore / Pellet	3,00,000 T	Karnataka/ Chhattisgarh /Orissa/Import		By Rail/Road/Sea
2	Non-Coking Coal	2,00,000 T	Indonesia/South Africa		By Sea
3	Dolomite	20,000 T	Rajasthan/Import		By Road/Sea
4	Billet	4,75,000 T	WSL/other manufacturers		Roller Table/Road/Rail
5	Epoxy Resin	1,200 T	Domestic Supplier		By Road

42.4.6 The water requirement for the project is estimated as 3646 m^3/day, out of which 2629.2 m^3/day of freshwater requirement will be obtained from the Municipal treated water STP (WIL STP) and the remaining requirement of 1016.80 m^3/day will be met from the treatment water.

42.4.7 The power requirement for the project is estimated as 12 MW, which will be obtained from the proposed captive power plant of 25 MW.

42.4.8 The capital cost of the project is Rs. 470 Crores and the capital cost for environmental protection measures is proposed as Rs. 273 Crores. The employment generation from the proposed project will be 470 persons.

42.4.9 Proposed Terms of Reference (Baseline data collection period: **1st March 2021 to 31st May 2021):**

Attributes	Sampling		Remarks
	No. of stations	Frequency	
A. Air			Baseline study is completed 1st March 2021 to 31st May 2021 and report preparation is ongoing
a. Meteorological parameters	1 (Project Site)	Continuous for three months	
b. AAQ parameters	8 Nos.	Twice a week (24hourly)	
B. Noise	8 Nos.	Once in a study period	

Attributes	**Sampling**		**Remarks**
	No. of stations	**Frequency**	
C. Water			
Surface water/Ground water quality parameters	8 Nos. of Surface Water 8 Nos. of Ground Water	Once in a study period Once in a study period	
D. Land			
a. Soil quality b. Land use	8 Nos. 10 km radius study area	Once in a study period	
E. Biological a. Aquatic b. Terrestrial	10 km radius study area	Once in a study period	
F. Socio-economic parameters	10 km radius study area	Once in a study period	

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

42.4.11 Name of the EIA Consultant: M/s. Shree Green Consultants [S No. 33, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

Observations of the Committee

42.4.12 The EAC noted the following:

i. TOR is being sought for undertaking EIA study for setting up of steel manufacturing unit comprising of TMT Bars + Wire Rod - 4,50,000 TPA, 500 TPD DRI kiln along with Captive Power Plant consisting of 25 MW turbine and 50 TPH steam from Waste Heat Recovery Boiler facility.
ii. Land available is 7.16 ha and the land is located within the Welspun city.
iii. As per the KML file, there is a shed existing at the site. In this regard, PP has submitted an undertaking stating that the site along with the shed was transferred by M/s. Welspun Metalics Limited to M/s. Anjar TMT Steel Private Limited. No activity has been commenced by the project proponent at the site.

Recommendations of the Committee

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

i. The plant shall submit action plan for reuse/ recycling of entire wastewater after treatment.
ii. Action plan to limit the dust emission from all the stacks below 30 mg/Nm^3 shall be furnished.
iii. Action plan for fugitive emission control in the plant premises shall be provided.
iv. Action plan for 100 % solid waste utilization shall be submitted.
v. Action plan for rain water harvesting shall be submitted.

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

vii. Action plan for green belt development covering 33% of the area shall be submitted including green belt development towards Sang River which is located at a distance of 600 m from the plant boundary.

viii. No construction activity/infringement will take place in flood plain of Sang River. Authenticated HFL data of the Sang River from the concerned Competent Authority shall also be submitted along with the EIA report.

42.5 Expansion of Steel Plant – DRI Kilns (Sponge Iron from 2,25,000 TPA to 7,86,000 TPA), Induction Furnaces along with CCM & LRF (MS Ingots / Billets/ Hot Charging from 2,34,300 TPA to 6,95,800 TPA), Rolling Mill (Hot Rolled TMT / Structural / Cold Rolled Bars/Wire Rod - 2,90,000 TPA to 7,19,000 TPA), 2 x 9 MVA Ferro Alloys, 1 x 30 T Electric Arc Furnace, WHRB based Power Plant from 10 MW to 46 MW, FBC based Power Plant from 7 MW to 25 MW, New 1.2 MTPA of I/O Beneficiation plant, New 0.8 MTPA of I/O Pellet Plant by **M/s. Shyam Steel Manufacturing Limited** located at Jemua Mouza, Mejia Block, **Bankura District, West Bengal. [**Online Proposal No. IA/WB/IND/217638/2021; File no: J-11011/724/2007-IA.II(I)] – **Amendment in Terms of Reference**– regarding.

42.5.1 M/s. Shyam Steel Manufacturing Limited has made online application vide proposal no. IA/WB/IND/217638/2021 dated 01/07/2021 along with Form 3 and sought for amendment in the Terms of Reference accorded by the Ministry vide letter no. J-11011/724/2007-IA.II(I) 01/06/2021.

Details submitted by the project proponent

42.5.2 The standard TOR was issued for expansion of Steel Plant – DRI Kilns (Sponge Iron from 2,25,000 TPA to 7,86,000 TPA), Induction Furnaces along with CCM & LRF (MS Ingots / Billets/ Hot Charging from 2,34,300 TPA to 6,95,800 TPA), Rolling Mill (Hot Rolled TMT / Structural / Cold Rolled Bars/Wire Rod - 2,90,000 TPA to 7,19,000 TPA), 2 x 9 MVA Ferro Alloys, 1 x 30 T Electric Arc Furnace, WHRB based Power Plant from 10 MW to 46 MW, FBC based Power Plant from 7 MW to 25 MW, New 1.2 MTPA of I/O Beneficiation plant, New 0.8 MTPA of I/O Pellet Plant.

42.5.3 Instant request of proponent is for seeking waiver of public consultation for the expansion project.

42.5.4 Reasons for TOR Amendment sought:
M/s. Shyam Steel Manufacturing Limited have obtained EC vide F. No. J-11011/724/2007-IA-II (I) on 24/052019, for which Public Hearing /Consultation was conducted on 30/11/2018. Now, the proposal is for seeking waiver of public hearing for their expansion project.

42.5.5 It was apprised to the EAC that there is no provision under the EIA notification, 2006 for waiver of public hearing for the instant expansion project.

Recommendations of the Committee

42.5.6 In view of the foregoing and after deliberations, the Committee recommended for the rejection of ToR amendment proposal as there is no provision under the EIA notification, 2006 for waiver of public hearing for the instant expansion project.

42.6 Expansion and augmentation of integrating melting and rolling facility by **M/s. Amba Shakti Ispat Limited** located at Plot no.6 & 6A, Industrial Area Phase 2, Kala Amb, Tehsil- Nahan, **District Sirmaur, Himachal Pradesh.** [Online Proposal No. IA/HP/IND/222082/2021; File no: IA-J-11011/228/2018-IA-II.(I)] –**Extension of validity of Terms of Reference**– regarding.

42.6.1 M/s. Amba Shakti Ispat Limited has made online application vide proposal no. IA/HP/IND/222082/2021 dated 28/07/2021 along with Form 5 and sought for validity extension of Terms of Reference accorded by the Ministry vide letter no. J-11011/228/2018-IA.II(I) 16/08/2018.

Details submitted by the project proponent

42.6.2 The ToR was issued for expansion and augmentation of Integrating melting and rolling facility M/s. Amba Shakti Ispat Limited located at plot no 6 & 6A, Industrial area phase 2, Kala Amb, Tehsil- Nahan, District- Sirmaur, Himchal Pradesh.

42.6.3 Reason for seeking validity extension of ToR:
After grant of ToR, baseline monitoring was conducted on 1st December' 2018 to 28th February' 2019 and draft EIA/EMP report was prepared and submitted to Himachal Pradesh Pollution Control Board on dated 21.12.2019. Afterwards, public hearing (PH) was scheduled on 08.04.2020 but due to COVID-19 situation PH was postponed. Again, new date was given on 27.04.2021 but due to COVID-19 situation again postponed. Now, scheduling of new PH is in process. Approved ToR is going to expire on 16th August' 2021.

Observations of the Committee

42.6.4 The Committee noted the following:

i. ToR was granted on 16/08/2018.
ii. As per the MoEF&CC notification S.O. 751 (E) dated 17/02/2020, ToRs are valid for a period of four years from date of issue of this letter. In view of this, the instant ToR is valid till 15/08/2022.

Recommendations of the Committee

42.6.5 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form as the validity is ToR is up to 15/08/2022 based on the MoEF&CC notification S.O. 751 (E) dated 17/02/2020.

13th August, 2021

42.7 Aluminium Smelter (from 16 LTPA to 18 LTPA); CPP (1215 MW) by adding 2 LTPA plant by **M/s. Vedanta Limited** located at Village Bhurkamunda, P.O. Kalimandir, **District Jharsuguda, Odisha** [Online Proposal No. IA/OR/IND/222980/2017, File No. J-11011/29/2007-IA.II(I)] –**Environment Clearance– regarding.**

42.7.1 M/s Vedanta Limited, Jharsuguda has made an online application vide proposal No. IA/OR/IND/222980/2017 dated 03/08/2021 along with copy of revised EIA/EMP report and Form–2 seeking Environment Clearance (EC) for the proposed expansion of Smelter Plant Capacity from 16 to 18 LTPA, 1215 MW CPP at Bhurkamunda village, District – Jharsuguda, Odisha 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) under Category "A" of the schedule of the EIA Notification, 2006 and is appraised at the Central level.

Details submitted by Project proponent

42.7.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
03/11/2017	26th meeting held during 11-13th Dec 2017.	Terms of Reference (ToR) granted.	20/12/2017

42.7.3 The project of M/s Vedanta limited is located in Bhurkamunda Village, Jharsuguda Tehsil, Jharsuguda District, Odisha State is for setting up of additional 2 LTPA smelter plant for enhancement of production capacity of Aluminium Smelter from 16 LTPA to 18 LTPA.

42.7.4 Environmental Site Settings:

SNo	Particulars	Details	Remarks
i.	Total land	834.236 ha	.-
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014.	Total land is in possession and is used for on-going industrial operations	-
iii.	Existence of habitation & involvement of R&R, if any.	Not Applicable	-
iv.	Latitude and Longitude of the project site.	Latitude Longitude 21°49" 43.0''N 84° 02' 40.7'' E 21°48" 32.2''N 84°03' 53.7'' E21°46" 52.5''N 84°03' 2.91'' E21°48" 6.51''N 84°01' 48.29'' E 21°49" 3.01''N 84°01' 30.55'' E	Topo sheet No. - F44R13, F44R14 & F45M1, F45M2
v.	Elevation of the project site.	Elevation of project site ranges from 198 m to 216 m AMSL	-
vi.	Involvement of Forest land if any	Nil	-
vii.	Water body exists within the project site as well as study area	**Project site:** Name- Kharkhari Nala **Study area** Bhedan River at 2 km South	At confluence of Kharkhari Nala with Bhedan river HFL of Kharkhari Nala is 192.5 m AMSL.
viii.	Existence of ESZ/ ESA/ national park/ wildlife	Nil	No existence of such sensitive area within

SNo	Particulars	Details	Remarks
	sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Following Forests are present in study area: Katikela RF: (0.1 km, East) Badkhalia RF: (2.9 km, NE) Ghichamura RF (5.8 km, SE) Binjidungri RF (6.5 km WSW) Malda DPF (6.8 km, SW) Mahalmunda RF (7.7 km, SW)	study area

42.7.5 The existing project was accorded environmental clearance vide letter no. J-11011/29/2007-IA II(I) dated 11th June 2008 for 16 LTPA of Aluminium Smelter and CPP of 1350 MW. Consent to Operate for the existing unit was accorded by Odisha State pollution Control Board vide letter No. 5324 dated 27.03.2021. The validity of CTO is up to 31.03.2022.

42.7.6 Implementation status of the existing EC:

S No	Facilities	Units	As per EC dated 11/06/2008	Implementation	Production as per CTO
1	Aluminium Smelter	16 LTPA	J-11011/29/2007-IA II (I), dated11th June 2008.	Implemented	16 LTPA
2	Captive Power Plant 1215 MW	9 x 135 MW	J-11011/29/2007-IA II (I), dated11th June 2008.	9 x 135 MW implemented	1215 MW

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

S No	Name	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configuration	Production	Configuration	Production	Configuration	Production
1	Aluminium Smelter	16 LTPA	16,00,000	2 LTPA	2,00,000	18 LTPA	18,00,000
2	CPP	9 x 135 MW	1215 MW	Nil	Nil	9 x 135 MW	1215 MW

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

S No	Raw Material	Quantity required per annum in TPA			Source	Distance from site (Km)	Mode of Transportation
		Existing	Expansion	Total			
1	Alumina	30,88,000	3,86,000	34,74,000	Captive, domestic & import	500	Rail - BTAP wagon
2	Calcined petroleum coke	5,93,600	74,000	667,000	Domestic & import	564	Rail containers
3	Cryolite	3,200	400	3600	Domestic & import	564	Rail wagons
4	Aluminium fluoride	32,000	4,000	36000	Domestic & import	564	Road
5	Coal tar pitch	1,28,000	16,000	1,44,000	Domestic	60	Road

42.7.9 The water requirement for the 18 LTPA Aluminium Smelter & CPP 1215 MW is estimated as 1,04,784 m^3 /day, out of which 94,968 m^3/day of fresh water requirement will be obtained from Hirakud dam and the remaining requirement of 9816 m^3 /day will be met from wastewater treatment in ETP & recycle. The permission for drawl of 1,00,063.2 m3/day (40.9 cusecs) surface water from Hirakud Reservoir is obtained from Department of Water Resources vide Letter No. 26079/WR/Irr-II-WRC-157/13 dated 01.10.2013.

42.7.10 The power requirement for 18 LTPA Aluminium Smelter is estimated to be 2960 MW out of which additional 400 MW (for 2 LTPA expansion) will be obtained from the 2400 MW TPP or State Power Grid.

42.7.11 Baseline Environmental Studies:
Baseline Data collection is from December 2017 to February 2018 and again in March to May, 2021 to revalidate the previous EIA/EMP report.

Period	**March, 2021- May, 2021**	**Dec 2017 - Feb 2018**
AAQ parameters at 9 locations	$PM_{2.5}$ = 27.0 to 42 μg/m^3 PM_{10} = 50.2 to 76.3 μg/m^3 SO_2 = 10.9 to 27.2 μg/m^3 NO_x = 12.9 to 32 μg/m^3 CO = 251.6 to 430.4 μg /m^3	$PM_{2.5}$ = 11.3 to 26.4 μg/m^3 PM_{10} = 27.1 to 63.5 μg/m^3 SO_2 = 8.6 to 25 μg/m^3 NO_x = 10.4 to 27.1μg/m^3 CO = 151 to 360 μg /m^3
AAQ modelling (Incremental GLC)	Max. Incremental GLC: PM_{10} = 0.852 μg/m^3 $PM_{2.5}$ = 0.51 μg/m^3 SO_2 = 8 μg/m^3 NO_x = 6.88 μg/m^3 Fluorides = 0.078 μg/m^3 B(a)P = 0.00008 μg/m^3	-
Ground water quality at 8 locations	pH: 6.73 to 7.43, Total Hardness: 58 to 92 mg/l, Chlorides: 18 to 41 mg/l, Fluoride: 0.12 to 0.31 mg/l. Heavy metals are within the limits	pH: 6.7 to 7.4, Total Hardness: 91 to 241 mg/l, Chlorides: 18.6 to 64.5 mg/l, Fluoride: 0.2 to 0.5 mg/l. Heavy metals are within the limits
Surface water quality at 8 locations	pH: 6.74 to 7.36; DO: 6.8 to 7.4 mg/l and BOD: 0.8 to 1.6 mg/l. COD from 4 to 12 mg/l; Total Coliform: 580 to 840 MPN/100	pH: 6.8 to 8.1; DO: 4.9 to 5.8 mg/l and BOD: <3 mg/l. COD from <5 to 10 mg/l, Total Coliform: 534 to 840 MPN/100
Noise levels	Ambient noise reaches 49.7 to 67.9dB(A) during day time and 40.1 to 60.2 dB(A) during night time.	Ambient noise reaches 37.9 to 59.2dB(A) during day time and 35 to 56 dB(A) during night time.
Traffic assessment study findings	Traffic assessment study has been made & recorded at selected traffic location, which is towards Bhurkamunda to Jharsuguda route and Jharsuguda to Bhurkamunda route and counts converted to equivalent PCU and found to be 3,741 PCU.	
Flora & Fauna	Schedule I fauna, such as Monitor lizard, Indian Peafowl, &	

	Indian Python are commonly found in the forest. Elephant, Sloth Bear are occasionally reported in the buffer zone of the project site. Site specific Wildlife Conservation Plan has been prepared and duly approved by PCCF (wildlife) & Chief Wildlife Warden, Odisha, vide letter no-4488/7 WL-FD & WLC-32/2021, dated Bhubaneswar, the 30th April, 2021 with a financial outlay of Rs. 610.894 lakh for its implementation.

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

S No	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment / Disposal
1	Spent pot lining	Pot room	45,000 T	Disposed to authorized re-processors
2	Used oil/Spent oil	During Maintenance activity	562 KL	Disposed to Authorized recyclers
3	ETP sludge	ETP	585 T	Disposed to CHWTSDF
4	Anode butt	Carbon Plant	3,37,500 T	Internally recycled & disposed to Authorized Re-processors
5	Aluminium Dross	Cast house	39,375 T	Internal processing/ recycling and disposed to authorized re-processors
6	Waste containing Oil	Maintenance activity	33.75 MT	Disposal through HW incinerator
7	Tar Containing wastes	Bake Oven	225 MT	Internal Recycling
8	Flue gas dust	Carbon Plant	129.375 MT	Internal Recycling/ Disposed to CHWTSDF
9	Housekeeping waste	Potline, Carbon Plant	2250 MT	Disposal in SLF/ CHWTSDF/ Internal Recycling
10	Rejected Filter bags (FTP)	Potline & Bake Oven	39,375	Incineration in HW incinerator/ Pots
11	Rejected ALF_3 bags	Pot line	39,375	Incineration in HW incinerator/ Pots
12	Asbestos waste	(Ladle cleaning and other units)	6.75 MT	Disposal in SLF/ CHWTSDF
13	Coke dust	Bake Oven	2025 MT	Internal Recycling
14	Spent resin	Rectifier & DM plant	51.75 KL	Disposal in SLF/ CHWTSDF
15	Green anode ridge waste	Green Anode Plant (GAP)	67.5 MT	Internal Recycling/ Disposal in SLF/ CHWTSDF
16	Green anode cooling	Green Anode Plant	6.75 MT	Disposal in SLF/ CHWTSDF

S No	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment / Disposal
	decantation tank sludge			
17	Shot blasting dust	Rodding plant	6750 T	Disposed to SLF/ CHWTSDF
18	Drain cleaning sludge	Carbon & pot room	281.25 MT	Disposed to CHWTSDF
19	Ladle cleaning residue	Ladle cleaning Shop	27,000 MT	Internal Recycling

42.7.13 Public Consultation:

Details of advertisement given	28/08/2020
Date of public consultation	30/09/2020
Venue	Government Upper Primary School, Kurebaga, Dalki in Jharsuguda district.
Presiding Officer	Shri Pradeep Kumar Sahoo, Additional District Magistrate, Jharsuguda
Major issues raised	• Emission of gas & fumes problem • Compensation for crop damage due to emission of gases • Road dust problem due to transport of ash • Employment for local affected people • Training and skill development programme for local youth • Employment for unskilled & illiterate local people • Contractual work to local people • Supply of drinking water • Provision of streetlight in the surrounding villages • Women empowerment

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

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan (as per MoEF&CC O.M. dated 30.09.2020)	Budget (Rs)	Time Schedule For Implementation
1	Emission of gas & fumes problem	• Upgradation from Conventional bag filters to Star bag filters for enhancing collection efficiency in Fume Treatment Plants (FTP). • FTP with AHS – revamping with replacement of spares • Damaged Bags of power plant bag filters are being immediately replaced with new bags and sufficient spares are being maintained in the store inventory. • Dust Extraction & Suppression system are being 100% utilized and operational at raw material handling locations for control of fugitive emissions.	7.00 Cr 15.35 Cr	Mar 2022

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan (as per MoEF&CC O.M. dated 30.09.2020)	Budget (Rs)	Time Schedule For Implementation
2	Compensation for crop damage due to emission of gases	• Detailed study w.r.t crop damage is being carried out by NRRI (CRRI) vide PO no. 3600001767 issued on 22.12.2020 for two crop cycles. • Findings & recommendations of the study will be implemented	0.50 Cr	Jan 2021 to Dec 2022
3	Road dust problem due to transport of ash	• Conditioned ash is being transported through properly covered trucks from the site. • Water sprinkling is done at regular intervals on the internal & external roads used for ash transportation. • 2 nos. of wheel wash system are already in operation each in Coal Handling & Ash Handling Plant for both CPP 1215 MW & 2400 MW units. • Additional wheel wash system will be installed at the Main entry/Exit gate for control of fugitive emissions.	0.50 Cr	Dec 2022
4	Avenue plantation and other afforestation	• Plantation of around 50000 tree saplings will be carried out and maintained for which Purchase Order has been placed vide No. 6600014713 dtd. 18 Dec 2020.	1.55 Cr	June '21 to Oct '22
5	Formation of Environmental Committee to address issues related to environment	A committee for addressing the environment related issues will be constituted in consultation with District Administration, SPCB comprising of govt. officials, local representatives and company representatives for which a letter has been sent to District Administration in this regard.	-	July '21
6	Employment for local affected people	• There is no additional R & R involved for the proposed expansion. • Proposed expansion will create about 250 direct and 550 Indirect employment opportunities. • As on date, around 5195 persons have been employed from Jharsuguda & local affected villages and more than 90% of our unskilled workforce is from Odisha.	-	Phase wise manner post commencement of the project
7	Contractual work to local people	• Vedanta is giving 1st preference to the local people having relevant skills and work experience. • Around 203 no. of contracts have been awarded to local people amounting to a value of Rs. 503 Cr.	-	-
8	Training and skill development programme for local youth	• Vedanta in partnership with Govt. ITI will provide job/entrepreneurship linked training to 250 youth from local villages by developing their skills in various trades such as AC repairing & Refrigeration, Plumbing, household electrical & appliance repairing, sewing etc (Training to 250 youth @ Rs. 60000/- per person)	1.50 Cr	01st July 2021 to 30th June 2024

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan (as per MoEF&CC O.M. dated 30.09.2020)	Budget (Rs)	Time Schedule For Implementation
9	Employment for unskilled & illiterate local people	• Vedanta is giving 1st preference to the local people in terms of employment either directly or through business partners. • Vedanta Ltd will continue to support local illiterate youth from affected villages through various skill development & educational initiatives as a part of CSR.	-	-
10	Supply of drinking water	• Around 10 No's of handpumps & borewells will be made operational in Banjari, Kurebaga, Bhurkamunda, Brundamal villages through gram panchayat. • In order to overcome the acute shortage of drinking water during summer season, drinking water will be supplied through 3 no.s of tractors to Banjari, Orampada & Shivrampur (@Rs. 1.5 lakhs/tractor/month for 2 years)	3 Lakhs 27 Lakhs	July 2021 During summer (3 Months in FY 2021 & 2022
11	Road & peripheral development	➢ Construction of RUB road connecting Brundamal to Biju Chowk (Badmal) is in final stage for congestion free movement of vehicles and local people. ➢ Road repairing (Bitumen) from Sundarimunda chowk to Brundamal (Length 3.5 Km, width – 20 ft.) Internal road repairing of Tharkimal village (Length – 1.5 Km, width - 15 ft). Various peripheral development activities will be carried out through Gram Panchayat such as: • Renovation of 2 No's of temples in Villages Banjari & Kherual. • Renovation of 4 No's of Schools in RR Colony, Brundamal, Kurebaga & Siriapalli & Renovation of Girls toilet at Sripura High school. • Renovation & Cleaning of 5 No's of pond in villages Brundamal, Kurebaga, Bhagipalli, Siriapalli, Banjari. (@Rs. 3 Lakhs/Pond for an average area of 2500 sq. m)	0.80 Cr 0.35 Cr 0.50 Cr	March 2022
12	Health and establishment of medical college and hospital	• State of the Art advanced multi-facility Pathology Lab & Diagnostic center has been taken up in collaboration with SRL Laboratories at Jharsuguda & Laikera block facilitating over 500 tests at a single location. • Regular Medical camps & doorstep health care facilities are provided to the periphery villages through Mobile Health Units (MHU) • Development of 30 Brown Field Nand Ghars in next 2 years, an initiative to upgrade the existing anganwadi centers in the periphery villages (@ Rs. 3.5 lakhs /Nand Ghar)	28 Cr 0.30 Cr/Year 1.05 Cr	18 months (Aug 2022) - May 2021 to Dec 2022

S No	Issues/Concerns Raised by public / Stakeholders	Physical Activity & Action Plan (as per MoEF&CC O.M. dated 30.09.2020)	Budget (Rs)	Time Schedule For Implementation
13	Education & establishment of English medium school	• Development of 5 No.s Vedanta Mini Science center benefiting more than 1200 children at Debadi, Sripura, Mangal Bazaar, Puruna Basti & Kolabira • Provide Tuition Fee support to 138 No.s of children from project affected and project displaced families to study in DAV English Medium School (@Rs. 38000/child) • Provide basic computer training to 120 children/year from surrounding villages Kurebaga & Debadi at RR colony (@Rs.5000 per child)	0.05 Cr 0.52 Cr /year 0.06 Cr /Year	March 2022 - -
14	Provision of streetlight in the surrounding villages	• 100 No. of LED streetlights with angle fitting will be provided for fixing to electric poles through Gram Panchayat in villages Kurebaga, Banjari, Brundamal, Bhurkamunda & Purna (@Rs. 10000/streetlight)	0.10 Cr	Dec 2021
15	Women empowerment	• Vedanta Ltd promotes and has the highest gender diversity in the domestic manufacturing sector. • Provide training to 100 No. of rural women and link to sustainable livelihood through Sewing, Mushroom cultivation, Poultry, Moodi Mill etc. in next 2 years (@Rs. 20000/woman)	0.20 Cr	2 Years

42.7.14 The capital cost of the expansion project is Rs. 1240 Crores and the capital cost for environmental protection measures is proposed as Rs. 77.35 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 30.60 Crores. The employment generation from the proposed expansion is 800 (250-direct & 550-indirect). The details of cost for environmental protection measures are as follows:

S No	Description of Item	Existing (Rs. Crores/ lakhs)	
		Capital Cost	Recurring Cost
i.	Air Pollution Control/Noise	22.35	
ii.	Water Pollution Control	55.00	11.00
iii.	Hazardous Waste Management	--	19.60
	Total	**77.35**	**30.60**
v.	Addressed to Public Issues/concerns	35.98	

42.7.15 Greenbelt has been developed in an area of 565.989 acres (229.05 ha) which is around 27.46% of total area. Around 3,64,267 no's saplings have been planted at site (about 1590 trees per ha). The proposed greenbelt area is 114.27 acres (46.24 ha) and 5.54% of total project area with 115600 no. of saplings to be planted (2500 tree per Ha).

42.7.16 It has been reported by PP that, at present, there are no litigations for the proposed aluminium smelter expansion project. However, the captioned Writ Petition was filed by Subrata Bhoi & others before the Hon'ble Orissa High Court on 24/09/2020 praying for deferring the public hearing scheduled on 30/09/2020 for the purpose of expansion of

aluminium smelter from 16 LTPA to 18 LTPA. However, The Hon'ble High Court of Odisha disposed of the case. The details are given below:

Case Title: W.P. (C) 24789 of 2020 (Subrat Bhoi and Anr vs State of Odisha and Ors.)

Crux of the Case: The captioned Writ Petition was filed by Subrata Bhoi & others before the Hon'ble Orissa High Court on 24.09.2020 praying for deferring the public hearing scheduled on 30.09.2020 for the purpose of expansion of aluminium smelter from 16 LTPA to 18 LTPA.

Matter came up for hearing and admission on 29.09.2020. The Court issued notice to the opposite parties and as an interim measure directed that the public hearing scheduled on 30.09.2020 not to take place till the next date of hearing. However, while passing the aforesaid interim order, the Hon'ble court was unaware of the order already passed by the Division bench of the Orissa High Court in WP(C) No. 24669 of 2020 allowing the public hearing.

The matter was mentioned by Vedanta Limited on 30.09.2020 and the Hon'ble Court was apprised of the order dated 28.09.2020 passed in the aforesaid writ petition. Upon hearing the parties, the Hon'ble Court in partial modification of its order dated 29.09.2020 allowed the public hearing to continue as per the original schedule further stating that no final decision to be taken till next date of hearing. (Order attached).

The matter was next listed on 01.10.2020 for final hearing wherein arguments from both sides were completed and final order was reserved. The final order was passed on 09.10.2020. The Hon'ble High Court of Odisha disposed of the case by asking the petitioners to make a representation before the Collector, Jharsuguda (Judgment copy attached). The Collector, after considering the said representation, passed an order dated 18.10.2020 in this matter holding, inter-alia, that 'the hearing conducted on 30.09.2020 with regard to the proposed expansion of Aluminium Smelter at Bhurkamunda is considered smooth and complete.

42.7.17 Name of the EIA consultant: Originally the EIA Report was prepared by M/s. Vimta Labs. The consultant was changed by project proponent to M/s GlobalTech Enviro Experts Pvt. Limited, Bhubaneswar [S No. 98, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

Certified compliance report from Regional Office

42.7.18 The status of compliance of existing EC was obtained from Integrated Regional Office (IRO), Bhubaneswar vide letter no.101-405/EPE/1620 dated 24/12/2020. As per the report, following are the non-compliances to the existing EC conditions:

i. The fluoride consumption in the Smelter Plant is presently at 10.78 Kg/T Al, which is not in compliance to Charter on Corporate Responsibility for Environment Protection (CREP) guideline. Fluoride consumption shall be brought down to CREP standards of less than 10 kg/t.
ii. Utilization of spent pot lining waste by the cement and steel industries are yet to be implemented.
iii. Project proponent has only achieved green belt development in 27% of the total area as against the 33% requirement.
iv. Rain water harvesting has not been carried out at the site by stating that the ground water table is high in the area and establishment of rain water harvesting structures may lead to flooding in the area.

v. Prior permission from the State Forest Department regarding impact of the existing project has been obtained till date.

vi. All the recommendation stated in the Charter on Corporate Responsibility for Environment Protection with respect to Aluminium sector is yet to be complied by the proponent.

Observations of the Committee

42.7.19 The Committee observed the following:

i. The 16 LTPA smelter with 1215 MW CPP is in operation since 2008. The 2400 MW coal based TPP established through separate EC adjacent to the smelter complex is in operation since 2010.

ii. No tangible effort has been taken by the proponent to comply with the following EC conditions even after the lapse of 13 years of operation.

- The fluoride consumption in the Smelter Plant is presently at 10.78 Kg/T Al, which is not in compliance to Charter on Corporate Responsibility for Environment Protection (CREP) guideline. Fluoride consumption shall be brought down to CREP standards of less than 10 kg/t.
- Utilization of spent pot lining waste by the cement and steel industries are yet to be implemented.
- Project proponent has only achieved green belt development in 27% of the total area as against the 33% requirement.
- Rain water harvesting has not been carried out at the site by stating that the ground water table is high in the area and establishment of rain water harvesting structures may lead to flooding in the area.
- Prior permission from the State Forest Department regarding impact of the existing project has been obtained till date.

In addition to the above, PP also yet to comply with the following:

- Significant quantity of legacy ash stocks is still stored in the ash pond located at three different locations in the vicinity of the project site. No effort has been taken to quantify the legacy ash stocks and utilize the same.
- SLF is provided inside the smelter complex. SLF is being implemented in two phases. Phase I of 5000 m^3 capacity started in 2010 was capped in Sept 2013. Phase II of SLF is now in operation. It started in May 2014 and has 5285 m^3 space. No details of the material filled in SLF or the capacity available were provided. No information on plan for post expansion of SLF capacity, once the Phase II site is filled shall be furnished.
- There are three ash ponds sites in operation and PP has proposed to acquire large area for ash disposal in spite of new Fly Ash notification to utilize 100 % ash. Further, PP mentioned that they were utilizing 100 % Fly ash since 2018 and the pond ash shall be liquidated in next five years. In view of this, seeking additional land for ash disposal found to be not justifiable.

iii. Kharkhari Nala passes in between the boundary of smelter-1 and smelter-2 and joins Bheden River towards southwest of plant premises. The HFL of Kharkhari Nala is 192.5 m, above mean sea level near confluence of Kharkhari Nala with Bheden river and as per the hydrogeology study conducted, the site comes under no risk zone as the elevation at plant site ranges between 198 – 216 m above mean sea level.

iv. Plantation all along the periphery of the project site is hardly visible from the KML file and photographs made available by the proponent.
v. EMP cost of 77.3 Cr for a CAPEX of 1240 Cr in Aluminium Smelter is far less (6.2%) than the World benchmarks of 15-20 % of CAPEX on Environment Management.
vi. Performance monitoring of Pollution Control Devices is not included in monitoring schedule.
vii. EMP budget in Table 8.25 is generic and not monitorable. The table shall be resubmitted.
viii. Mitigation measures given in Table 10.2 are generic and not quantified. The 6.2 % of CAPEX cost towards mitigation measures seems to be adhoc as stated in the document.
ix. Baseline data collected by the consultant organizations (M/s. Vimta Labs and M/s. Global tech) are not comparable.
x. As per Ministry's O.M. No. J-11015/286/2007-IA.II(I) dated 7/2/2020, any specific non-compliance singled out while the project is being appraised by the EAC, the concerned sector shall issue Show Cause Notice

Recommendations of the Committee

42.7.20 In view of the foregoing and after detailed deliberations, the Committee recommended the following:

i. Show Cause Notice shall be issued to the proponent for not complying with the conditions prescribed in the EC letter dated 11/6/2008.
ii. Proposal to be returned in its present form and the same would be considered by the EAC after the compliance to the existing EC conditions has been achieved by the Project Proponent.

42.8 Proposed removal of the facility of 5.0 MTPA Pellet plant and partially 3.1 MTPA Rolling Mill (Hot Strip mill) from Integrated Steel plant (6.0 MTPA) and Captive Power Plant (810 MW) by **M/s. Jindal Steel & Power Limited** located at Village Kerjang, Sankerjang, Tehsil Chhendipada, **District Angul, Orissa** [Online Proposal No. IA/OR/IND/220435/2021; File no: J-11011/365/2006-IA.II(I)] – **Amendment in Environmental Clearance– regarding.**

42.8.1 M/s. Jindal Steel and Power Limited has made an online application vide proposal no. IA/OR/IND/220435/2021 dated 03/08/2021 along with Form 4 and sought for amendment in Environmental Clearance accorded by the Ministry vide letter no. J-11011/365/2006-IA-II (I) dated 22/02/2007 for excluding the facilities namely 5.0 MTPA Pellet plant and 3.1 MTPA Rolling Mill (Hot Strip mill).

42.8.2 It was apprised to the EAC that the facilities namely 5.0 MTPA Pellet plant and 3.1 MTPA Rolling Mill (Hot Strip mill) for which exclusion sought by the proponent is already a part of ToR dated 8/2/2021 & 16/06/2021 accorded for expansion of Integrated Steel from 6 MTPA to 25.2 MTPA. In this regard, following points have been noted by the EAC from the available records:

- The project 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. The existing EC has been implemented

partly and the same has been commissioned. Consent to Operate for the existing units were accorded and the unit is under operation presently.

- Implementation status of the existing EC dated 22/02/2007 is as follows:

S No.	Facilities	Units	As per existing EC	Implementation status as on 31.12.2020	Production as per CTO
i.	Pellet Plant	MTPA	5.0	Not Implemented	-
ii.	Coal Gasifier	Nm^3/year	$4000x10^6$	$2100x10^6$	$1260x10^6$
iii.	DRI plant	MTPA	4.0	2.0	1.8
iv.	Blast Furnace	MTPA	4.25	4.25	3.2
v.	Coke Oven	MTPA	2.0	2.0	2.0
vi.	Sinter Plant	MTPA	5.0	5.0	4.0
vii.	SMS	MTPA	6.0	6.0	4.5
viii.	Rolling mills	MTPA	6.0	2.9	2.6
ix.	Ferro-alloy plant	MTPA	0.08	Not Implemented	-
x.	Lime Dolime plant	TPD	3000	2200	1000
xi.	Process gas/ pressure recovery turbine	MW	62	30.5	30.5
xii.	Coal based Power Plant	MW	810	810	810

- Subsequently, PP has applied for ToR for undertaking EIA study for expansion of Integrated Steel Plant (ISP) from 6.0 to 25.2 MTPA. However, as per the implementation status furnished by the PP, only 4.5 MTPA ISP has been commissioned. In view of this, the ToR was accorded for expansion of ISP from 4.5 to 25.2 MTPA in place of expansion from 6.0 to 25.2 MTPA on 8/02/2021. In this regard, M/s. JSPL submitted a representation to the Ministry on 29/01/2021 stating that in their EC amendment letter dated 08/02/2017, MoEF&CC clarified that validity of EC dated 22/02/2007 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. In view of this, PP claimed that they have started the ISP production within the validity period and the query regarding validity period of EC does not arise. By considering these points, PP has requested ToR may be accorded for the capacity of 6 to 25.2 MTPA ISP capacity. In view of this, Ministry has informed the project proponent to apply for ToR amendment. **Accordingly, PP applied for ToR amendment vide proposal no. IA/OR/IND/212826/2021 dated 21/05/2021 wherein the PP has included the unimplemented portion of the facilities envisaged under the 6 MTPA EC dated 22/02/2007 inter-alia 5 MTPA iron ore pellet plant and 3.1 MTPA hot strip mill etc. under the proposed expansion of ISP from 6 MTPA to 25.2 MTPA for which ToR amendment was accorded on 16/06/2021** with the following configuration:

S No.	Plant	As per ToR dated 8/2/2021		As per ToR amendment dated 16/06/2021		Final configuration in the ToR	
		Configuration	**Capacity**	**Proposed Configuration**	**Proposed Capacity**	**Final Configuration**	**Final Capacity**
1.	Coal Gasification plant	7x37500 Nm^3/hr	$2100x10^6$ $Nm^3/year$	-	-	7x37500 Nm^3/hr	$2100x10^6$ $Nm^3/year$
2.	DRI Plant	2x2 MTPA 2x2.7 MTPA	9.4 MTPA	-	-	2x2 MTPA 2x2.7 MTPA	9.4 MTPA
3.	Coke Oven	4x72 ovens 2x63 ovens 6x54 ovens	7.6 MTPA	-	-	4x72 ovens 2x63 ovens 6x54 ovens	7.6 MTPA
4.	Sinter Plant	2x490.5 m^2	10.75 MTPA	-	-	2x490.5 m^2	10.75 MTPA
5.	Blast Furnace	1x4554 m^3 1x5400 m^3 2x6000 m^3	18.75 MTPA	-	-	1x4554 m^3 1x5400 m^3 2x6000 m^3	18.75 MTPA
6.	EAF	3x250 T	7.5 MTPA	-	-	3x250 T	7.5 MTPA
7.	BOF	2x250 T 3x380 T	17.7 MTPA	-	-	2x250 T 3x380 T	17.7 MTPA
8.	Plate mill	1x2.0 MTPA	2.0 MTPA	-	-	1x2.0 MTPA	2.0 MTPA
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA	-	-	1x1.4 MTPA	1.4 MTPA
10.	Wire Rod mill	1x1.2 MTPA	1.2 MTPA	-	-	1x1.2 MTPA	1.2 MTPA
11.	Hot Rolling mill	1x3.6 MTPA 3x6 MTPA	21.6 MTPA	**1x3.1 MTPA** 3x6 MTPA	21.6 MTPA	1x3.1 MTPA 3x6 MTPA	21.6 MTPA
12.	CRM Complex	3x2.5 MTPA	7.5 MTPA	-	-	3x2.5 MTPA	7.5 MTPA
13.	Calcination plant	15x600 TPD 2x500 TPD	10,000 TPD	-	-	15x600 TPD 2x500 TPD	10,000 TPD
14.	Oxygen plant	2x1200 TPD 3x200 TPD 2x2000 TPD 3x3600 TPD	17,800 TPD	2x1200 TPD 6x200 TPD 1x2000 TPD 1x1710 TPD 3x3600 TPD	18,110 TPD	2x1200 TPD 6x200 TPD 1x2000 TPD 1x1710 TPD 3x3600 TPD	18,110 TPD
15.	Power Plant	6x135 MW (coal based) 1x300 MW, 1x250 MW (Gas based)	1360 MW	6x135 MW (Coal based) 1x350 MW, 1x250 MW (Gas based)	1410 MW	6x135 MW (Coal based) 1x350 MW, 1x250 MW (Gas based)	1410 MW
16.	Ferro-alloy plant	1x18 MVA 1x15 MVA 4x45 MVA 1x15 MVA 1x6 MVA	0.376 MTPA	-	-	1x18 MVA 1x15 MVA 4x45 MVA 1x15 MVA 1x6 MVA	0.376 MTPA
17.	Pellet plant	4x 7 MTPA	28 MTPA	3x7 MTPA **1x5 MTPA**	26 MTPA	3x7 MTPA 1x5 MTPA	26 MTPA
18.	Cement plant	3x3.5 MTPA 1x2 MTPA	12.5 MTPA	-	-	3x3.5 MTPA 1x2 MTPA	12.5 MTPA
19.	Iron ore slurry	2x18 MTPA	36 MTPA	-	-	2x18 MTPA	36 MTPA

42.8.3 It was apprised to the EAC that Ministry was in receipt of a public representation stating that PP has already commenced the construction of expansion project activities at the site. Regional Office has been requested to submit the factual report in this regard. Appropriate action will be taken by the Ministry based on the site inspection report.

Observations of the Committee

42.8.4 The Committee noted the following:

i. Environment Clearance for the project was originally accorded on 22/2/2007 for setting up of 6 MTPA Integrated Steel Plant.
ii. PP has obtained Terms of Reference for undertaking EIA study on 8/02/2021 followed by an amendment dated 16/06/2021 for expansion their ISP capacity from 6 to 25.2 MTPA. As per the ToR amendment accorded on 16/06/2021, PP has included the unimplemented portion of the facilities envisaged under the 6 MTPA EC dated 22/02/2007 inter-alia 5 MTPA iron ore pellet plant and 3.1 MTPA hot strip mill etc. under the proposed expansion of ISP from 6 MTPA to 25.2 MTPA. In view of this, there is no existing Environment Clearance for the unimplemented facilities as it is covered under the TOR amendment accorded on 16/06/2021.
iii. The two facilities namely the Pellet Plant and HSM Plant are located at different locations within the steel plant complex and far away from each other. Most of the land for greenbelt development is in Pellet plant area. HSM area is land locked by JSPL facilities on all four sides and does not have any space available for green belt plantations.
iv. Green belt in the plant is very poor. Only 5 lakh trees have been planted as against the requirement of 12 lakhs trees. The proponent has not carried out plantation as per EC even after the lapse of 14 years.

Recommendations of the Committee

42.8.5 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form as the proposal for EC amendment does not arise. Further, the committee also felt that an explanation should be sought from the Project Proponent as they have not raised the green belt as per the EC even after a lapse of 14 years.

42.9 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/220448/2021; File no: J-11011/365/2006-IA.II(I)] - **Partial transfer of Environmental Clearance – regarding**.

42.9.1 M/s. Jindal Steel Odisha Limited has made an online application vide proposal no. IA/OR/IND/220448/2021 dated 03/08/2021 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) envisaged under the Environment Clearance accorded by the Ministry vide letter no. J-11011/365/2006-IA-II (I) dated 22/02/2007.

42.9.2 It was apprised to the EAC that the facilities namely 5.0 MTPA pellet plant and 3.1 MTPA Rolling Mill (Hot Strip mill) for which part transfer sought by the proponent is already a part of ToR dated 8/2/2021 & 16/06/2021 accorded for expansion of Integrated Steel from 6 MTPA to 25.2 MTPA. In this regard, following points have been noted by the EAC from the available records:

- The project 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. The existing EC has been implemented partly and the same has been commissioned. Consent to Operate for the existing units were accorded and the unit is under operation presently.

- Implementation status of the existing EC dated 22/02/2007 is as follows:

S No.	**Facilities**	**Units**	**As per existing EC**	**Implementation status as on 31.12.2020**	**Production as per CTO**
i.	Pellet Plant	MTPA	5.0	Not Implemented	-
ii.	Coal Gasifier	Nm^3/year	$4000x10^6$	$2100x10^6$	$1260x10^6$
iii.	DRI plant	MTPA	4.0	2.0	1.8
iv.	Blast Furnace	MTPA	4.25	4.25	3.2
v.	Coke Oven	MTPA	2.0	2.0	2.0
vi.	Sinter Plant	MTPA	5.0	5.0	4.0
vii.	SMS	MTPA	6.0	6.0	4.5
viii.	Rolling mills	MTPA	6.0	2.9	2.6
ix.	Ferro-alloy plant	MTPA	0.08	Not Implemented	-
x.	Lime Dolime plant	TPD	3000	2200	1000
xi.	Process gas/ pressure recovery turbine	MW	62	30.5	30.5
xii.	Coal based Power Plant	MW	810	810	810

- Subsequently, PP has applied for ToR for undertaking EIA study for expansion of Integrated Steel Plant (ISP) from 6.0 to 25.2 MTPA. However, as per the implementation status furnished by the PP, only 4.5 MTPA ISP has been commissioned. In view of this, the ToR was accorded for expansion of ISP from 4.5 to 25.2 MTPA in place of expansion from 6.0 to 25.2 MTPA on 8/02/2021. In this regard, M/s. JSPL submitted a representation to the Ministry on 29/01/2021 stating that in their EC amendment letter dated 08/02/2017, MoEF&CC clarified that validity of EC dated 22/02/2007 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. In view of this, PP claimed that they have started the ISP production within the validity period and the query regarding validity period of EC does not arise. By considering these points, PP has requested ToR may be accorded for the capacity of 6 to 25.2 MTPA ISP capacity. In view of this, Ministry has informed the project proponent to apply

for ToR amendment. **Accordingly, PP applied for ToR amendment vide proposal no. IA/OR/IND/212826/2021 dated 21/05/2021 wherein the PP has included the unimplemented portion of the facilities envisaged under the 6 MTPA EC dated 22/02/2007 inter-alia 5 MTPA iron ore pellet plant and 3.1 MTPA hot strip mill etc. under the proposed expansion of ISP from 6 MTPA to 25.2 MTPA for which ToR amendment was accorded on 16/06/2021** with the following configuration:

S No.	Plant	As per ToR dated 8/2/2021		As per ToR amendment dated 16/06/2021		Final configuration in the ToR	
		Configuration	Capacity	Proposed Configuration	Proposed Capacity	Final Configuration	Final Capacity
1.	Coal Gasification plant	7x37500 Nm^3/hr	2100x10^6 Nm^3/year	-	-	7x37500 Nm^3/hr	2100x10^6 Nm^3/year
2.	DRI Plant	2x2 MTPA 2x2.7 MTPA	9.4 MTPA	-	-	2x2 MTPA 2x2.7 MTPA	9.4 MTPA
3.	Coke Oven	4x72 ovens 2x63 ovens 6x54 ovens	7.6 MTPA	-	-	4x72 ovens 2x63 ovens 6x54 ovens	7.6 MTPA
4.	Sinter Plant	2x490.5 m^2	10.75 MTPA	-	-	2x490.5 m^2	10.75 MTPA
5.	Blast Furnace	1x4554 m^3 1x5400 m^3 2x6000 m^3	18.75 MTPA	-	-	1x4554 m^3 1x5400 m^3 2x6000 m^3	18.75 MTPA
6.	EAF	3x250 T	7.5 MTPA	-	-	3x250 T	7.5 MTPA
7.	BOF	2x250 T 3x380 T	17.7 MTPA	-	-	2x250 T 3x380 T	17.7 MTPA
8.	Plate mill	1x2.0 MTPA	2.0 MTPA	-	-	1x2.0 MTPA	2.0 MTPA
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA	-	-	1x1.4 MTPA	1.4 MTPA
10.	Wire Rod mill	1x1.2 MTPA	1.2 MTPA	-	-	1x1.2 MTPA	1.2 MTPA
11.	Hot Rolling mill	1x3.6 MTPA 3x6 MTPA	21.6 MTPA	**1x3.1 MTPA** 3x6 MTPA	21.6 MTPA	1x3.1 MTPA 3x6 MTPA	21.6 MTPA
12.	CRM Complex	3x2.5 MTPA	7.5 MTPA	-	-	3x2.5 MTPA	7.5 MTPA
13.	Calcination plant	15x600 TPD 2x500 TPD	10,000 TPD	-	-	15x600 TPD 2x500 TPD	10,000 TPD
14.	Oxygen plant	2x1200 TPD 3x200 TPD 2x2000 TPD 3x3600 TPD	17,800 TPD	2x1200 TPD 6x200 TPD 1x2000 TPD 1x1710 TPD 3x3600 TPD	18,110 TPD	2x1200 TPD 6x200 TPD 1x2000 TPD 1x1710 TPD 3x3600 TPD	18,110 TPD
15.	Power Plant	6x135 MW (coal based) 1x300 MW, 1x250 MW (Gas based)	1360 MW	6x135 MW (Coal based) 1x350 MW, 1x250 MW (Gas based)	1410 MW	6x135 MW (Coal based) 1x350 MW, 1x250 MW (Gas based)	1410 MW
16.	Ferro-alloy plant	1x18 MVA 1x15 MVA 4x45 MVA	0.376 MTPA	-	-	1x18 MVA 1x15 MVA 4x45 MVA	0.376 MTPA

S No.	Plant	As per ToR dated 8/2/2021		As per ToR amendment dated 16/06/2021		Final configuration in the ToR	
		Configuration	Capacity	Proposed Configuration	Proposed Capacity	Final Configuration	Final Capacity
		1x15 MVA 1x6 MVA				1x15 MVA 1x6 MVA	
17.	Pellet plant	4x 7 MTPA	28 MTPA	3x7 MTPA **1x5 MTPA**	26 MTPA	3x7 MTPA 1x5 MTPA	26 MTPA
18.	Cement plant	3x3.5 MTPA 1x2 MTPA	12.5 MTPA	-	-	3x3.5 MTPA 1x2 MTPA	12.5 MTPA
19.	Iron ore slurry	2x18 MTPA	36 MTPA	-	-	2x18 MTPA	36 MTPA

42.9.3 It was apprised to the EAC that Ministry was in receipt of a public representation stating that PP has already commenced the construction of expansion project activities at the site. Regional Office has been requested to submit the factual report in this regard. Appropriate action will be taken by the Ministry based on the site inspection report.

Observations of the Committee

42.9.4 The Committee noted the following:

i. Environment Clearance for the project was originally accorded on 22/2/2007 for setting up of 6 MTPA Integrated Steel Plant.

ii. PP has obtained Terms of Reference for undertaking EIA study on 8/02/2021 followed by an amendment dated 16/06/2021 for expansion their ISP capacity from 6 to 25.2 MTPA. As per the ToR amendment accorded on 16/06/2021, PP has included the unimplemented portion of the facilities envisaged under the 6 MTPA EC dated 22/02/2007 inter-alia 5 MTPA iron ore pellet plant and 3.1 MTPA hot strip mill etc. under the proposed expansion of ISP from 6 MTPA to 25.2 MTPA. In view of this, there is no existing Environment Clearance for the unimplemented facilities as it is covered under the TOR amendment accorded on 16/06/2021.

iii. The two facilities namely the Pellet Plant and HSM Plant are located at different locations within the steel plant complex and far away from each other. Most of the land for greenbelt development is in Pellet plant area. HSM area is land locked by JSPL facilities on all four sides and does not have any space available for green belt plantations.

iv. Green belt in the plant is very poor. Only 5 lakh trees have been planted as against the requirement of 12 lakhs trees. The proponent has not carried out plantation as per EC even after the lapse of 14 years.

Recommendations of the Committee

42.9.5 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form as the proposal for EC amendment does not arise. Further, the committee also felt that an explanation should be sought from the Project Proponent as they have not raised the green belt as per the EC even after a lapse of 14 years.

42.10 Expansion of Cement plant from 1.0 MTPA to 12.0 MTPA by **M/s. Jindal Steel & Power Limited** located at Villages- Saraipali, Kosamapali, Barmuda, Gejamuda, Dhanagar, Jorapali, Kokaditarai, **Tehsil & District- Raigarh, Chhattisgarh** [Online Proposal No.

IA/CG/IND/213217/2021; file no: IA-J-11011/79/2007-IA-II(I)] – **Prescribing for Terms of Reference– regarding.**

42.10.1 M/s. Jindal Steel & Power Ltd. has made an application online vide proposal no. IA/CG/IND/213217/2021 dated 03/08/2021 along with the application in prescribed format (Form-I), copy of pre- feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(b) Cement plants under Category "A" of the schedule of the EIA Notification, 2006 and is appraised at the Central level.

Details submitted by Project proponent

42.10.2 The expansion project of M/s Jindal Steel & Power Ltd. will be located in Saraipali, Kosamapali, Barmuda, Gejamuda, Dhanagar, Jorapali and Kokaditarai villages, Raigarh Tehsil, Raigarh District, Chhattisgarh State and is for enhancement of production of existing cement plant capacity from 1.0 MTPA to 12 MTPA.

42.10.3 Environmental site settings:

SNo	Particulars	Details	Remarks
i.	Total land	Existing plant- 18.88 ha Additional- 258 ha	(Forest Land – 0 Ha, Govt. Land – 13.202 hectares and Private Land – 244.798 hectare). JSPL has so far acquired/ purchased 123.02 ha of land and about 134.98 ha land will be further acquired.
ii.	Existence of habitation & Involvement of R&R, if any.	No	-
iii.	Latitude and Longitude of the project site.	Latitude - 21°55'15.89" to 21°53'50.04" North Longitude - 83°19'32.63" to 83°20'19.11" East	-
iv.	Elevation of the project site.	225-241 m AMSL	-
v.	Involvement o f Forest land, if any.	No Forest land involved	-
vi.	Water body exists within the project site as well as study area.	**Project Site:** Nil **Study area:** 1. Kelo river: 4.5 km/ East 2. Mand river: 7 km/ West 3. Kelo project main canal	

SNo	Particulars	Details	Remarks
		flowing at about 2 Kms from the proposed expansion site. Various seasonal nalas, tals and ponds are in study area	
vii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil. However, 32 Reserve and protected forest are present in the study area.	

42.10.4 The existing steel plant was accorded environmental clearance vide letter no. J-11011/79/2007-IA.II(I) dated 16/04/2009 and amended vide letter dated 15/03/2012. Consent to Operate for the existing cement plant was accorded by Chhattisgarh Environment Conservation Board (CECB) vide letter no. 226/TS/CECB/2021 dated 04/05/2021. The CTO of the existing steel plant is valid up to 31/03/2022.

42.10.5 Implementation status of the existing EC dated 16/04/2009 and 15/03/2012:

S No	Facilities	Units	As per existing EC	Implementation status as on date	Production as per CTO
i.	Cement plant	MTPA	2.0	1.0	1.0

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

S No	Name	Existing Units		Proposed Units		Total (Existing+ Proposed)	
		Configuration	Capacity	Configuration	Capacity	Configuration	Capacity
i.	Cement Plant	1x1.0 MTPA	1.0 MTPA	Grinding unit- 3 x 3.66 MTPA Clinker unit- 2 x2.5 MTPA	11 MTPA 5.0 MTPA	1 x 1.0 MTPA 3 x 3.66 MTPA Clinker- 2x2.5 MTPA	12 MTPA 5 MTPA

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

S No	Raw Material	Quantities in Metric tons required per annum			Source	Mode of Transportation
		Existing	Expansion	Total		
1	Non coking coal	0.014	0.9	0.914	Mines of SECL & MCL	Rail/ Road
2	Iron ore fines	-	0.15	0.15	Joda-Barbil regions of Odisha and also from NMDC Limited through auction	Rail
3	Limestone	-	7.0	7.0	SMS grade - Middle East Countries (UAE and Oman).	Sea, Rail

					BF grade - Central India or Andhra Pradesh and captive mine at Chilhati	
4	Laterite/ Bauxite	-	0.1	0.1	Chhattisgarh	Rail
5	Clay	-	0.24	0.24	International market	Sea, Rail
6	Gypsum	0.05	0.36	0.41	Domestic	Rail/ Road
7	Slag	0.67	3.24	3.91	JSPL Raigarh Steel plant	Road
8	Fly ash	0.35	3.6	3.95	JSPL Raigarh CPP or JPL Tamnar TPP	Road

Note- Source and requirement of raw material are tentative

42.10.8 The proposed expansion of cement plant will comprise of a clinker units of 2x2.5 MTPA i.e. 5 MTPA and three grinding units of 3.66 MTPA each for production of Portland Slag Cement (PSC), Portland Composite Cement (PCC), Ordinary Portland Cement (OPC), Portland Pozzolona Cement (PPC) and Ground Granulated BF Slag (GGBS).

42.10.9 The water requirement existing plant is 129 m^3/hour and for the expansion project is estimated as 390 m^3/hour, which will be obtained from the Mahanadi River and Kelo River.

42.10.10 The maximum power demand for existing plant wasc5 MW and for the expansion project is estimated as 140 MW, which will be available from the captive power plants of the company located at ISP, Raigarh and Dongamahua, Raigarh and the remaining will be sourced from Thermal Power Plant of JPL at Tamnar, Raigarh.

42.10.11 The capital cost of the project is Rs. 5400 Crores. The employment generation from the proposed expansion project is 3125.

42.10.12 Proposed Terms of Reference (**Baseline data collection period: 1st March, 2020 to 15th June, 2020 and Additional one month 15th September, 2020 to 15th October, 2020**):

Description	**No. of locations**	**Total No of samples**
Air Ambient air monitoring (24 hourly samples), twice a week from 01.03.2020 to 15.06.2020 except from 25.03.2020 to 19.04.2020 because of Covid-19 lock down. Additional monitoring, twice a week for one month was carried out from 15.09.2020 to 15.10.2020 Parameters : PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO	9 (one In core zone and 8 in buffer zone including core zone of expansion area)	270
Benzene,NH_3, BaP, Arsenic, Selenium and Lead	1 core zone	22
	8 Buffer zone	8
Meteorological parameters measured at hourly duration simultaneously at one air monitoring station for 3 months and 15 days for Wind speed, direction, relative humidity, temperature and rainfall.	1 (Core Zone of existing plant)	105 days

Description	No. of locations	Total No of samples
Water Water sample from various surface and ground water sources in core and buffer zone (10 km radius) and tested for physical, chemical& biological parameters	16 (Surface Water-8 and Ground water-8)	16 (Surface Water-8 and Ground water-8)
Soil	4	4
Noise Hourly readings taken for 24 hours (Leq)	8	8 sets
Traffic density	2	2 set

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

42.10.14 Name of the EIA consultant: M/s. Minmec Consultancy Pvt. Limited.

Observations of the Committee

42.10.15 The EAC noted the following:

i. JSPL had obtained EC for a 2.0 MTPA Cement grinding unit in March 2012 against which 1 MTPA capacity grinding unit has been commissioned by the proponent.
ii. This proposal is for grant of TOR for the expansion of Cement plant from 1 to 12 MTPA including 5 MTPA clinker production and use of baseline data already collected for expansion of the proposed steel plant in Sept to Oct 2020.
iii. Expansion scope includes installation of 3x 3.66 MTPA grinding units and 2x2.5 MTPA Clinker units.
iv. The proposed plant is connected to main steel plant by a 760 m long and 12-20 m wide road and a 20 m wide OH bridge on railway track.
v. 519 m^3 /hr. water shall be required which shall be drawn from JSPL's central distribution system. JSPL draws water from Mahanadi and Kelo River.
vi. 145 MW power shall be required which comes from captive power plant.
vii. Cement plant is and will continue to use slag and fly-ash from the existing and proposed expanded integrated steel plant.
viii. The boundaries of the expanded steel plant and the cement plant will be contiguous.
ix. All the raw material (Lime stone and gypsum) will be brought by rail and products will be transported mainly through rail.
x. 85.14 ha land shall be developed into green belt with a density of 2500 trees per ha. For development of 33 % green belt in 276.88 ha land PP requires 91.4 ha of land as against 85.14 ha given in the document.
xi. Baseline data (one season) was collected from 1st March, 2020 to 15th June, 2020 with breaks in between and one-month additional data was collected from 15th September, 2020 to 15th October, 2020.
xii. PP requests to use the same base line data for the Common EIA for Expansion of Cement Plant and Steel Plant.
xiii. Use of AFR in cement Kiln has not been addressed.
xiv. WHRB on 5 MTPA kiln is not included.
xv. Hot Air Generator for slag and pond ash utilization is not included.

xvi. Layout of the cement plant needs to be revised by indicating all the facilities envisaged under the project.

xvii. Nearly 4000 trees shall be cut in Cement as well steel plant area.

Recommendations of the Committee

42.10.16 In view of the foregoing, the Committee recommended the following:

i. Proposal recommended to be returned in its present form to address the shortcomings enumerated at para 42.10.15.

ii. Fresh baseline data shall be collected for the preparation of EIA report as the data already collected do not have sampling locations in the cement plant area.

42.11 Expansion of steel plant from 3.6 MTPA to 12.6 MTPA by **M/s. Jindal Steel & Power Limited** located at Villages- Kalmi, Gorka, Kokaditarai and Kosamapali, **Tehsil & District- Raigarh, Chhattisgarh** [Online Proposal No. IA/CG/IND/213441/2021; file no: IA-J-11011/799/2008- IA II (I)] – **Prescribing for Terms of Reference– regarding.**

42.11.1 M/s. Jindal Steel & Power Ltd. has made an application online vide proposal no. IA/CG/IND/213441/2021 dated 03/08/2021 along with the application in prescribed format (Form-I), copy of pre- feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non ferrous) and 4(b) Coke oven plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at the Central level.

Details submitted by Project proponent

42.11.2 The expansion project of M/s. Jindal Steel & Power Ltd. will be located in Kalmi, Gorka, Kosamapali and Kokaditarai villages, Raigarh Tehsil, Raigarh District, Chhattisgarh State and is for enhancement of production of existing steel plant capacity from 3.6 MTPA to 12.6 MTPA.

42.11.3 Environmental site settings:

SNo	Particulars	Details	Remarks
i.	Total Land	**Total Land: 1021.34 ha** Existing plant- 774.18 ha Additional- 247.16 ha	Expansion land: 247.16 ha. Out of this, 234.35 ha is already in the possession of the company and has been/is being converted to industrial and remaining 12.81 ha will be purchased/ acquired & converted to industrial area.
ii.	Existence of habitation & involvement of R&R, if any.	Yes, R&R is applicable	Project Displaced Families (PDFs) and Project Affected Families (PAFs) have been identified within the

SNo	Particulars	Details	Remarks
			region comprising Kalmi village. Addressal of R&R issues for expansion is currently under process.
iii.	Latitude and Longitude of the project site	East of existing plant- Latitude - 21°55'24.85" to 21°54'15.77" North Longitude - 83°21'27.96" to 83°21'59.63" East South of existing plant- Latitude - 21°55'29.71" to 21°54'48.70" North Longitude - 83°19'54.26" to 83°20'25.49" East	
iv.	Elevation of the project site	East side of existing plant- 220-243 m AMSL South side of existing plant- 225-241 m AMSL	
v.	Involvement of Forest land if any.	Forest Land in expansion project- 16.039 ha	Forest clearance stage II was obtained vide letter no. 6-CHC 042/2011-BHO/1422 dated 18/08/2014.
vi.	Water body exists within the project site as well as study area	1. Kelo river at about 3 kms East of Project site 2. Mand river at about 5 kms West of Project site 3. Kelo project main canal flowing through the proposed expansion site. Various seasonal nallahs and ponds are in study area	
vii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil	

42.11.4 The existing steel plant was accorded environmental clearance vide letter no. J-11011/799/2008-IA.II(I) dated 04/11/2009 and amended vide letters dated 11/03/2015 and 29/04/2016. Consent to Operate for the existing steel plant was accorded by Chhattisgarh

Environment Conservation Board (CECB) vide letter no. 8258/TS/CECB/2020 dated 23/12/2020 and letter no. 6156/TS/CECB/2020 dated 12/10/2020. The CTO of the existing steel plant is valid up to 31.12.2021.

42.11.5 Implementation status of the existing EC:

S No	Facilities	Units	As per existing EC	Implementation status as on date	Production as per CTO
i.	DRI I	MTPA	0.6	0.6	0.6
ii.	DRI II	MTPA	0.72	0.72	0.72
iii.	Coke Oven	MTPA	0.8	0.8	0.8
iv.	Blast Furnace I	MTPA	0.8	0.8	0.8
v.	Blast Furnace II	MTPA	2.25	2.25	2.25
vi.	Sinter Plant	MTPA	2.85	2.85	2.85
vii.	SMS I, II & III	MTPA	1.25 1.1 1.25	1.25 1.1 1.25	1.25 1.1 1.25
viii.	Rail & Universal Beam Mill (RUBM)	MTPA	0.75	0.75	0.75
ix.	Plate mill	MTPA	1.0	1.0	1.0
x.	Medium & Light Structural mill (MLSM)	MTPA	0.7	0.7	0.7
xi.	Ferro-alloy plant	MTPA	0.06	0.06	0.06
xii.	Lime Dolime plant	MTPA	0.4165	0.40	0.40
xiii.	Producer Gas Plant	Nm^3/hr	79200	79200	75000
xiv.	Oxygen Plant	Nm^3/hr	37683	37683	42300*
xv.	Captive Power Plant	MW	353.6	299	299

** Oxygen plant did not require EC for enhancement in capacity. CTO is for 57,800 Nm^3 /hr while achieved capacity is 42,300 Nm^3/hr.*

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

S No	Name	Existing Units		Additional capacity through optimization	Proposed Units		Total (Existing+ Proposed)	
		Configuration	Capacity		Configuration	Capacity	Configuration	Capacity
1.	DRI Plant	Coal-based-6x300 TPD & 4x500 TPD	1.32 MTPA	0.18 MTPA	Gas based Single vertical shaft-1x2.7 MTPA	2.7 MTPA	Coal based-1.5 MTPA Gas based- 2.7 MTPA	4.2 MTPA
2.	Coke	16 ovens x 11	0.8	-	8 ovens x 66	5.2	16 x 11 ovens	6.0

S No	Name	Existing Units		Additional capacity through optimization	Proposed Units		Total (Existing+ Proposed)	
		Configuration	Capacity		Configuration	Capacity	Configuration	Capacity
	Oven	batteries each	MTPA		batteries each	MTPA	8x 66 ovens	MTPA
3.	Sinter Plant	224 m^2	2.85 MTPA	0.30 MTPA	3x496 m^2	16 MTPA	1 x 224 m^2 3 x 496 m^2	19.15 MTPA
4.	Pellet Plant	-	-	-	2x810 m^2	16 MTPA	2x810 m^2	16 MTPA
5.	Blast Furnace	1 x 686 m^3 1x 1681 m^3	3.05 MTPA	-	2 x 5400 m^3	9 MTPA	1 x 686 m^3 1x 1681 m^3 2 x 5400 m^3	12.05 MTPA
	Steel Making							
6.	Electric Arc Furnace	1 x100 T 1x100 T 1x100 T	1.25 MTPA 1.1 MTPA 1.25 MTPA	0.25 MTPA 0.40 MTPA 0.25 MTPA	-	-	1x100 T 1x100 T 1x100 T	1.5 MTPA 1.5 MTPA 1.5 MTPA
7.	Basic Oxygen Furnace	-	-	-	3x250 T	8.10 MTPA	3 x 250 T	8.1 MTPA
8.	Rail and Universal Beam Mill (RUBM)	1x0.75 MTPA	1x0.75 MTPA	0.45 MTPA	-	-	1x1.2 MTPA	1.2 MTPA
9.	Plate mill	1 x 1.0 MTPA	1.0 MTPA	0.5 MTPA	-	-	1x1.5 MTPA	1.5 MTPA
10.	Medium and Light Structural mill (MLSM)	1 x 0.7 MTPA	0.7 MTPA	0.30 MTPA	-	-	1 x 1.0 MTPA	1.0 MTPA
11.	HSM	-	-	-	1 x 5.0 MTPA	5.0 MTPA	1 x 5.0 MTPA	5.0 MTPA
12.	Wire Rod mill	-	-	-	1 x 1.2 MTPA	1.2 MTPA	1 x 1.2 MTPA	1.2 MTPA
13.	CSP/ TSCR/ESP	-	-	-	1x3.0 MTPA	3.0 MTPA	1x3.0 MTPA	3.0 MTPA
14.	Lime Dolo Plant	3x330 TPD	0.4165 MTPA	-	7x600 TPD	1.47 MTPA	3x330 TPD 7x600 TPD	1.8865
15.	SAF	2x24 MVA	0.06 MTPA	-	4x27 MVA	0.17 MTPA	2x24 MVA 4x27 MVA	0.23 MTPA
16.	Oxygen Plant*	3 x 380 TPD 1 x 110 TPD	37683 Nm^3/hr	-	3 x 2000 TPD	179,617 Nm^3/hr	3 x 380 TPD 1 x 110 TPD 3 x 2000 TPD	217,300 Nm^3/hr
17.	Producer	79200 Nm^3/hr	75000	-	-	-	75000 Nm^3/hr	75000

S No	Name	Existing Units		Additional capacity through optimization	Proposed Units		Total (Existing+ Proposed)	
		Configuration	Capacity		Configuration	Capacity	Configuration	Capacity
	gas plant		Nm^3/hr					Nm^3/hr
18.	Captive Power Plant	Coal based- 2 x 110 MW And 1x24 MW WHRB- 2x25 MW, 3x25 MW, 1x40 MW	299 MW	-	-	-	Coal based- 2 x 110 MW And 1x24 MW WHRB- 2x25 MW, 3x25 MW, 1x40 MW	299 MW

**** Oxygen plant did not require EC for enhancement in capacity. CTO is for 57,800 Nm3 /hr while achieved capacity is 42,300 Nm3 /hr***

The proposed SAF plant will produce HC Fe-Cr, HC Fe-Mn and HC Si-Mn.

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

S No	Raw Material	Quantities required per annum			Source	Mode of Transportation
		Existing	Expansion	Total		
1	Non coking coal	1.81	-	1.81	Mines of SECL & MCL	Rail/ Road
2	Coking coal	1.18	6.16	7.34	International market (Mozambique, Australia and Canada)	Sea, Rail
3	Iron ore fines	2.39	22.10	24.49	Joda-Barbil regions of Odisha and also from NMDC Limited through auction	Rail
4	Lump ore	4.5	4.06	8.56	Joda-Barbil regions of Odisha and also from NMDC Limited through auction	Rail
5	Limestone	0.34	1.49	1.83	SMS grade - Middle East Countries (UAE and Oman). BF grade - Central India or Andhra Pradesh and captive mine at Chilhati	Sea, Rail
6	Dolomite	1.17	0.73	1.90	Chhattisgarh	Rail
7	Mn Ore		0.56		Maharashtra, Orissa	Rail
8	Bentonite		0.80		Gujarat	Rail

9	PCI	0.7	2.0	2.7	International market	Sea, Rail

Note- Source and requirement of raw material are tentative

42.11.8 The existing water requirement was 2652 m^3/hour and additional water requirement for the expansion project is estimated as 5137 m^3/hour, which will be obtained from the Mahanadi River and Kelo River.

42.11.9 The existing power requirement was 380 MW and additional maximum power demand for the expansion project is estimated as 640 MW, which will be available from the captive power plants located at the ISP, Raigarh and Dongamahua, Raigarh and the remaining will be sourced from Thermal Power Plant of JPL at Tamnar, Raigarh.

42.11.10 The capital cost of the project is Rs. 40297 Crores. The additional employment generation from the proposed expansion project of steel plant is 15,575.

42.11.11 Proposed Terms of Reference (**Baseline data collection period: 1st March, 2020 to 15th June, 2020 and additional one month: 15th September, 2020 to 15th October, 2020)**:

Description	**No. of locations**	**Total No of samples**
Air Ambient air monitoring (24 hourly samples), twice a week from 01.03.2020 to 15.06.2020 except from 25.03.2020 to 19.04.2020 because of Covid-19 lock down. Additional monitoring, twice a week for one month was carried out from 15.09.2020 to 15.10.2020 Parameters : PM_{10}, $PM_{2.5}$, SO_2, NOx, CO	9 (one In core zone and 8 in buffer zone including core zone of expansion area)	270
Benzene,NH_3, BaP, Arsenic, Selenium and Lead	1 core zone	22
	8 Buffer zone	8
Meteorological parameters measured at hourly duration simultaneously at one air monitoring station for 3 months and 15 days for Wind speed, direction, relative humidity, temperature and rainfall.	1 (Core Zone of existing plant)	105 days
Water Water sample from various surface and ground water sources in core and buffer zone (10 km radius) and tested for physical, chemical& biological parameters	16 (Surface Water-8 and Ground water-8)	16 (Surface Water-8 and Ground water-8)
Soil	4	4
Noise Hourly readings taken for 24 hours (Leq)	8	8 sets
Traffic density	2	2 set

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

42.11.13 Name of the EIA consultant: M/s Minmec Consultancy Pvt. Limited.

Observations of the Committee

42.11.14 The EAC noted the following:

i. TOR was granted for expansion of steel plant from 3.6 MTPA to 7.2 MTPA on 24.10.2019 and later amended on 21.8.2020. Instant proposal is for expand the ISP capacity from 3.6 MTPA to 12.6 MTPA. In view of this, the accorded on 24/10/2019 and its amendment dated 21/08/2020 has been withdrawn by the PP on 13th Aug, 2021.

ii. Company wants to increase capacity of the existing Steel Plant from 3.6 MTPA to 4.5 MTPA by upgradation and modernization and setting up new units to manufacture 8.1 MTPA crude steel.

iii. New units to be installed are DRI for 2.7 MTPA, 5.2 MTPA Coke Ovens, 16 MTPA Sinter Plant, 16 MTPA Pellet plant, 4.5 MTPA BFs, SMS IV for 8.1 MTPA crude steel. WRM, CST, Lime plant, 4x27 MVA SAF for FA manufacture and an O2 plant.

iv. Total land requirement is 1298.22 ha (1021.34 ha for steel plant and 276.88 for cement plant). Additional 505.10 ha land shall be required for expansion project. Nearly 401.15 ha land has been acquired and balance 147.79 ha is in the process of acquisition. The land includes the space required for slag disposal, ash disposal, colony, hospital and air strip.

v. Water requirement of 8308 Cu /hr. including 519 KL/hr for cement plant shall be met from Mahanadi/Kelo River.

vi. Existing Sinter plant of 224 m^2 size is being modernized. There is no provision of adding sinter cooler waste heat recovery and upgrading the machine and cooler ESPs to achieve PM emissions of < 30 mg/Nm^3 from stacks. There is no mention of control of dioxins and Furan emissions.

vii. It may be noted that DRI kiln upgradation shall require upgradation of ESP's to cater to additional pollution load and to reduce PM emissions less than 30 mg/Nm^3.

viii. There is a 25 % increase in SMS production. No mention is made to upgrade air pollution control systems to cater to additional pollution load and to reduce PM emissions less than 30 mg/Nm^3.

ix. Rail Mill shall have a new Reheating Furnace to increase the throughput by 60%. ETP capacity enhancement has not been addressed.

x. There would be 50% increase in the throughput of Plate mill with a new RHF and 40 % increase in throughput of MLSM. ETP capacity enhancement has not been addressed.

xi. In the new gas based DRI Plant of 2.7 MTPA, the power recovery is mentioned as 12 MW. The details of gas based DRI have not been furnished. It is not clear as to how many shaft furnaces are going to be installed to produce nearly 7500 TPD of DRI or HBI and how much optimal power can be recovered from each shaft furnace. Power recovery also seems to be low.

xii. 8 Nos of Coke Oven batteries are going to be installed to produce 5.2 MTPA coke. COG desulfurization, CDQ are included. PFR does not describe waste generation and waste management details and facilities for control of PLL, PLD, PLO, Charging Emissions, Pushing Emissions and CDQ emission control.

xiii. 3 Nos of 496 m^2 Sinter machines are going to be installed to produce 16 MTPA sinter. PM emissions are considered as 50 mg/Nm^3. MEROS technology to control SO_2 and NO_x emissions has not been considered.

xiv. A total of 4 MW WHRB has been considered from sinter cooler waste heat recovery system, which seems low. At a similar steel plant having 2x 412 m^2 sinter machines,

the power recovered is more than 20 MW (design 24 MW). In JSPL from all three sinter machines the power recovery should not be less than 40 MW.

xv. Fuel to be used in pellet plant has not been mentioned.

xvi. 2x5400 m^3 Blast furnaces are going to be installed with dry gas cooling system. Stove gas waste heat recovery to achieve hot blast temperature of 1250^0 C is not considered.

xvii. TRT of 20 MW capacity shall be provided on each furnace.

xviii. 3x250 T converters are going to be installed. Details of Dog House for secondary emission control, Gas cleaning System (dry or wet) and slag handling and disposal/utilization have not been furnished.

xix. For HSM of 5.0 MTPA, it is not clear whether there would be one production line or two and how many reheating furnaces and type of furnaces shall be used. It is not clear if there is any provision of Hot Charging of slabs.

xx. Extent of hot charging to be practiced in rolling of billets and slabs has also not been furnished.

xxi. CSP mill details, water management details and waste management have not been furnished.

xxii. VSK for Lime /Dolo plant shall be of regenerative type.

xxiii. 4x125 T SAF have been proposed to produce Ferro Alloys including FeCr. Semi closed furnaces have been proposed with side extraction hoods. This is not acceptable. SAF shall be closed type with fourth hole extraction and a secondary fume extraction system.

xxiv. Jigging and Briquetting facilities have not been proposed for metal recovery and Chrome fines recycling. No proposal is made to handle FeCr slag which is a hazardous material.

xxv. SMS slag is proposed to be used for road making. EAC recommends the slag utilization practice as adopted by JSW, shall be followed

xxvi. No details have been furnished for management of Tar, Tar sludge, Ammoniacal liquor and phenolic and Cyanide containing water generated at Coke ovens.

xxvii. PFR does not provide details of sampling locations, analytical data as the monitoring is already over. Sampling locations given in TOR document are not as per Wind Rose and do not cover the entire plant. Many polluting units are not covered for sampling eg Cement Plant area.

xxviii. Nearly 4000 trees shall be cut in Cement as well steel plant area.

xxix. Conveyor for transport of slag and fly ash from the plant to Cement plant have not been included. Road transport for Slag and Flyash shall cause lot of traffic congestion in the plant and would result in fugitive emissions and accidents.

xxx. Sampling stations at which monitoring has been done are not as per wind rose and not meeting the plant layout requirement. Sampling shall be redone after finalization of layout.

xxxi. The steel plant boundary is only 500 m from Raigarh Township. Polluting units like sinter plant and Coke ovens are being set up in that area. PP may revisit the layout and distribution of facilities in the three locations so that impact of pollution from the plant towards the City boundary is minimized.

xxxii. PFR has been prepared very casually and does not give required details to take environmentally friendly decisions.

Recommendations of the Committee

42.11.15 In view of the foregoing, the Committee recommended the following:

i. ToR accorded on 24/10/2019 and its amendment dated 21/08/2020 to be treated as withdrawn as requested by the proponent.
ii. Proposal recommended to be returned in its present form to address the shortcomings enumerated at para 42.11.14.
iii. Fresh baseline data shall be collected for the preparation of EIA report in view of the re-orientation of facilities in the layout and other inadequacies as enumerated above.

42.12 Proposed expansion of existing Rolling Mill products-Angles (Structure), Pipes, Profile and Strips from 77400 TPA to 200000 TPA) & New installation of 3x15T Induction Furnace with 1x2 stand of CCM for Manufacturing of M.S. Ingot/Billet (200000 TPA) by **M/s. Purbanchal Concast Private Limited** located at Khori bari Ghoshpukur Road, Village Kashiram, P.S. Phansidewa, **District Darjeeling, West Bengal** [Online Proposal No. IA/WB/IND/214214/2021; File no: IA-J11011/265/2021-IA-II(I)] – **Prescribing for Terms of Reference– regarding**.

42.12.1 M/s. Purbanchal Concast Private Limited (PCPL) has made an application online vide proposal no IA/WB/IND/214214/2021 dated 04/08/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "B" of the schedule of the EIA Notification, 2006 and attracts general condition due to existence of India-Bangladesh International boundary at a distance of 2.55 Km in SE direction from the project site. In view of this, the project is being appraised as Category 'A' at Central Level.

Details submitted by Project proponent

42.12.2 The project of M/s Purbanchal Concast Private Limited (PCPL)located in Kashiram Jote Village, Phansidewa Tehsil, Darjeeling District, West Bengal State is for Expansion of Existing Rolling Mill Products - Angles (structure), Pipes, Profile and strips from 77400 TPA to 200000 TPA & New installation of 3X15T Induction Furnace for Manufacturing of M.S. Ingot/Billet (200000 TPA).

42.12.3 Environmental site settings:

SNo	Particulars	Details	Remarks
i	Total land	10.31 Acre [Private: 10.31 Acres]	Land use: Land use of the existing area is industrial.
ii	Existence of habitation & involvement of R&R, if any	Not Applicable. Since, it is an existing plant and the proposed expansion will be coming within the existing plant premises.	

<table>
<tr><th>SNo</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>iii</td><td>Latitude and Longitude of the project site</td><td><table><tr><td>A</td><td>26.628835°, 88.369272°</td></tr><tr><td>B</td><td>26.627442°, 88.369566°</td></tr><tr><td>C</td><td>26.627593°, 88.370109°</td></tr><tr><td>D</td><td>26.627625°, 88.371800°</td></tr><tr><td>E</td><td>26.628800°, 88.371778°</td></tr><tr><td>F</td><td>26.628744°, 88.372421°</td></tr><tr><td>G</td><td>26.629341°, 88.371468°</td></tr><tr><td>H</td><td>26.629057°, 88.369785°</td></tr></table></td><td></td></tr>
<tr><td>iv</td><td>Elevation of the project site</td><td>Highest – 105 MSL; Lowest – 103 MSL.</td><td></td></tr>
<tr><td>v</td><td>Involvement of Forest land if any.</td><td>No Forest Land is Involved.</td><td></td></tr>
<tr><td>vi</td><td>Water body exists within the project site as well as study area</td><td><u>Project site:</u> Nil

<u>Study area:</u><table><tr><td colspan="4">Rivers/Canals</td></tr><tr><td>1.</td><td>Mahananda river</td><td>2.68</td><td>E</td></tr><tr><td>2.</td><td>Tista sub canal</td><td>2.55</td><td>E</td></tr><tr><td>3</td><td>Tista canal</td><td>0.6</td><td>W</td></tr><tr><td>4</td><td>Fuleswari River</td><td>6.22</td><td>NE</td></tr></table></td><td></td></tr>
<tr><td>vii</td><td>Existence of ESZ/ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>Nil</td><td></td></tr>
</table>

42.12.4 The existing project was accorded Consent to establish vide lr. no. N427/WPB/SRO/NOC/Dar/P-140-2011 dated 09/12/2011. The unit has obtained CTE and CTO from WBPCB which is a statutory authority. Consent to Operate for the existing unit was accorded by West Bengal State Pollution Control Board vide lr. No C248/WPB/SRO/Dar/P.139.2015 dated 13/10/2017. The validity of CTO is up to 31/12/2022.

42.12.5 Implementation status of the existing CTE/CTO:

SNo	Facilities	Units	As per CTE dated	Implementation Status	Production as per CTO
1	Induction furnace	1x8MT	N427/WPB/ SRO/NOC/ Dar/P-140-2011 dated 09-12-2011	--	--
2	Expansion of Gross Capital Investment, 1 No. Coal Fired	Angles (Structures) 500T, Pipes Profile, 750T,	N597/WPB/ SRO/NOC/Dar/ P.140.2011 dated 27-02-2015	Implemented	Angles (Structures)500T, Pipes Profile, 750T, Strips

S No	Facilities	Units	As per CTE dated	Implementation Status	Production as per CTO
	Furnace for production of Angles (Structures), Pipes Profile, Strips	Strips 750 T			750T
3	1 No. Coal Fired Furnace for production of MS Angle, Pipes & Profile, MS Strips	MS Angle 1500 MT/Month, Pipes & Profile 3500 MT/Month, MS Strips 2500 Mt/Month	N131/WPB/ SRO/NOC/ Dar/P-140-2011 dated 13-10-2017	Implemented as on present	MS Angle 1250 T/Month, Pipes & Profile- 3000 T/Month, MS Strips 2200 T/Month

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

Name	Existing Capacity		Capacity Expansion		Total (Existing +Proposed)	
	Config	Product TPA	Config	Product TPA	Config	Product TPA
Reheating Furnace	2x15TPH	Rolling Mill Products [Angles (structure), Pipes, Profile and Strips] **77400 TPA**	--	Rolling Mill Products [Angles (structure), Pipes, Profile and Strips] **122600 TPA**	2x15TPH*	Rolling Mill Products [Angles (structure), Pipes, Profile and Strips] **200000 TPA**
Rolling Mill	2x15TPH 1x25TPH		1x25TPH		2x15TPH 2x25TPH	
Tube Mill	9x5TPH		--		9x5TPH	
Induction Furnace	--	--	3x15T	MS Billet/Ingot 200000 TPA	3x15T	MS Billet/Ingot 200000 TPA
Continuous Casting Machine (CCM)	--	--	1x2 Strand and 7 m Dia	MS Billet/Ingot 200000 TPA	1x2 Strand and 7 m Dia	MS Billet/Ingot 200000 TPA

** As Hot Charging will be introduced to 1x25TPH existing and 1x25TPH proposed rolling mills, 1x15TPH Reheating furnace will be kept for emergency purpose only and another 1x15 TPH furnace will be connected with 2x15TPH Rolling mill as it is in the present.*

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

S. No.	Raw Material	Quantity TPA			Source	Distance from site (Kms)	Mode of Transport
		Existing	Proposed	After Proposed Expansion			
For Rolling Mill Products							
1	MS Billets/ Ingot	78560 (Outsourced)	200000 (Captive Production)	203050 (Captive Production	Durgapur & Bhutan	~ 480 to 500 Km	Truck

S. No.	Raw Material	Quantity TPA			Source	Distance from site (Kms)	Mode of Transport
		Existing	Proposed	After Proposed Expansion			
				200000, Outsourced 3050)			
For Billets							
2	Sponge Iron	--	175000	175000	Durgapur, Jharsuguda and other local sources	~ 500 to 900 Kms	Truck
3	MS Scrap	--	45000	45000			
4	Ferro alloy	--	2350	2350			
5	Pig Iron	--	1250	1250			

Fuel Requirement:

Fuel	Machinery	Existing	Proposed	Total After Proposed Expansion
Coal	Re-heating Furnace	300 TPM	--	150 TPM*
HSD	DG Set	5.2 Lit/Hr	37.12 Lit/Hr	42.32 Lit/Hr

** As only one Reheating furnace will be in use, the demand of coal is being reduced*

42.12.8 The total water requirement for the existing and proposed project is estimated as 128 m^3 /day, out of which 47 m^3 /day of fresh water requirement will be obtained from the Ground Water and the remaining requirement of 81 m^3 /day will be met from the recycled water. The permission for drawl of groundwater will be obtained.

Type of Waste Water	Total Quantity	Treatment/ Disposal
Domestic waste water	11 KLD	Disposed through drain after treatment in STP.
Industrial waste water (cooling)	79 KLD	Water will be recycled after sedimentation in settling tank

42.12.9 The power requirement for the project is estimated as follows:

Phase	Demand (kVA)		Total Demand (kVA)	Source
	Existing	Proposed		
Operational	2750 kVA	Up to 7250 kVA	Up to 10000 kVA	WBSEDCL
	DG Set 45 kVA	DG Set 320kVA	1x 45 kVA and 1x 320 kVA	DG Set

42.12.10 The capital cost of the expansion project is Rs 21 Crores and the capital cost for environmental protection measures is proposed as Rs 2.10 Crores. The employment generation from the proposed project / expansion is 165.

42.12.11 Proposed Terms of Reference (**Baseline data collection period: January 2021 To March 2021**)

Attributes	**Sampling**		**Remarks**
A. Air	**No. of Stations**	**Frequency**	
a. Meteorology	1 location	Continuous for three month with hourly recording at one central location and secondary data collected from nearest IMD	Wind speed, wind direction, temperature, relative humidity, rainfall, and other non-instrumental observations
b.AAQ Parameters	8 locations	24 hourly samples twice a week for three months	PM_{10}, $PM_{2.5}$, SOx, NOx, CO.
B. Noise	8 locations	Hourly readings for 24 hours at 8 locations, once during study period	Lday, Lnight, Leq
C. Water			
Surface water/Ground water quality parameters	8 locations (GW) + 8 location (SW)	Grab samples were collected from surface water (SW) and ground water (GW) sources. Sampling and analysis is carried out for once during study period	Physical, chemical and bacteriological parameters
D. Land			
a. Soil Quality	8 locations	Once during study period	Soil profile with chemical constituents
b. Land Use	Study area	Based on secondary data and satellite imagery	Trend of land use change for different categories
E. Biological			
a. Aquatic	2 aquatic locations	Primary survey through field studies once during study period and supplemented with published data	Aquatic flora and fauna in the study area
b. Terrestrial	5 terrestrial locations		Terrestrial flora and fauna in the study area
F. Socio Economic Parameters	Once during study period	Based on data published in district census handbooks and field study	Socio-economic characteristics

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

42.12.13 Name of the EIA consultant: M/s Ultra-Tech Environmental Consultancy and Laboratory [S. No. 86 List of ACOs with their Certificate No. NABET/EIA/2023/RA0194 Valid Till March 09, 2023. Rev. 13, August 09, 2021]

Observations of the Committee

42.12.14 The EAC noted the following:

i. Terms of Reference for undertaking EIA study for the existing and expansion of rolling mill from 77400 MTPA to 200000TPA. New 3x15 T LF, CCM and RM is being sought.
ii. Project proponent approached the Ministry to obtain EC for their existing unit in pursuance to the Order dated 12/02/2020 of Hon'ble NGT in Appeal No. 55 of 2019. However, PP could not approach the Ministry timely due to Covid-19 pandemic situation.
iii. NH31 is 6.05 km from site. Local roads shall be used for inbound and out bound traffic.
iv. Kashiram village is adjacent to site and surrounding area is all agriculture land.
v. Bangladesh boundary is 2.55 Km SE from site.
vi. Pulverized coal is used in RHF. There is no gasifier with PP. Scrubbers are used as APCD's for for dust cleaning from RHF stack. Scrubbed water treatment is proposed. Sludge shall be sent to landfill.
vii. In new plant 90 % Hot Charging shall be practiced. 10 % billets shall be processed through old RHF.
viii. Existing 15 T IF shall be used in emergency only.
ix. 47 KLD of GW shall be used.

Recommendations of the Committee

42.12.15 After deliberations, the Committee recommended the following:

The MoEFCC may take an appropriate view regarding processing this request as it has been received after the deadline due to the prevailing Covid situation.

Subject to the decision by MoEFCC regarding the late submission of application by the PP as mentioned above, the committee recommends the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

i. Action plan to limit the dust emission from all the stacks below 30 mg/Nm^3 shall be furnished.
ii. Action plan for fugitive emission control in the plant premises shall be provided.
iii. Action plan for green belt development covering 33% of the area shall be submitted.
iv. Action plan for 100 % solid waste utilization shall be submitted.
v. Action plan for rain water harvesting shall be submitted.
vi. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
vii. Action plan for 90 % Hot Charging shall be practiced. 10 % billets shall be processed through old RHF which shall operate on pulverized coal.

42.13 Proposed Greenfield Integrated Steel Plant with CPP of 85 MW by **M/s. Shri Bajrang Power and Ispat Limited** located at Village – Jalso, Taluka – Tilda, **District – Raipur, Chhattisgarh** [Online Proposal No. IA/CG/IND/223047/2021; File no: J-11011/37/2021-IA.II(I)] – **Amendment cum transfer of Terms of Reference– regarding**.

42.13.1 M/s. Shri Bajrang Steel Corporate Limited has made an online application vide proposal no. IA/CG/IND/223047/2021dated 03/08/2021 along with Form 3 & Form 8 and sought

for amendment and transfer of Terms of Reference accorded by the Ministry vide letter no. J-11011/37/2021-IA.II(I) dated 30/03/2021.

Details submitted by the project proponent

42.13.2 M/s. Shri Bajrang Steel Corporate Limited had earlier applied for grant of ToR for Integrated Steel Plant with CPP of 70 MW. The proposal was considered by the EAC (Industry 1) in its 32nd meeting held on 15-17th March, 2021. Accordingly TOR was issued vide letter no J-11011/37/2021-IA.II (I) dated 30th March 2021 in the name of M/s. Shri Bajrang Steel Corporate Limited.

42.13.3 The configuration & capacity of units granted in TOR dated 30/03/2021 is given below:

S No	Description		Configuration and Capacity
1	Sponge Iron		0.6 MTPA (3x500 TPD) & (1x350 TPD)
2	Pelletisation Plant with Coal Gasifier (2X17000 Nm^3/hr)		1.40 MTPA
3	Iron Ore beneficiation Plant		2.0 MTPA
4	Steel Melting Shop		0.40 MTPA
5	Rolling Mill (Long as well as Flat Products)		0.40 MTPA
6	Ferro Alloy Plant	Titanium slag	18000 TPA
		Ferro Chrome	21000 TPA
		Ferro Alloys with AOD Convertor	21000 TPA
7	Power Generation (70 MW)	Waste Heat Recovery Based Power Plant (WHRB)	46 MW (4x10 MW) + (1x6 MW)
		Coal Based Power Plant (CFBC)	24 MW (2x12 MW)
8	Oxygen Plant		2x250 TPD
9	Blast Furnace (1x400 M^3)		0.4 MTPA
10	Sinter Plant (1x35 M^2)		0.375 MTPA
11	Fly Ash Brick plant		2 crore Bricks Per Annum
12	Railway Sliding.		-

42.13.4 The details as per the granted ToR dated 30/03/2021 vis-à-vis proposed changes are as follows:

S No	Description	Configuration and Capacity As per TOR Granted dated 30th March 2021	Configuration and Capacity As per TOR Amendment Request
1	Sponge Iron	0.6 MTPA (3x500 TPD) & (1x350 TPD)	**Dropped**
2	Pelletisation Plant with Coal Gasifier (2x17000 Nm^3/hr)	1.40 MTPA	1.40 MTPA
3	Iron Ore beneficiation Plant	2.0 MTPA	2.0 MTPA
4	Steel Melting Shop	0.40 MTPA	**Dropped**
5	Rolling Mill (Long as well as Flat Products)	0.40 MTPA	**Dropped**

S No	Description		Configuration and Capacity As per TOR Granted dated 30th March 2021	Configuration and Capacity As per TOR Amendment Request
6	Ferro Alloy Plant	Titanium slag	18000 TPA	**36000 (2X18000 TPA)**
		Ferro Chrome	21000 TPA	**42000 TPA OR**
		Ferro Alloys with AOD Convertor	21000 TPA	**42000 TPA (Fe-Mn or Si-Mn)**
7	Power Generation (70 MW)	Waste Heat Recovery Based Power Plant (WHRB)	46 MW (4x10 MW) + (1x6 MW)	**55 MW (35 MW coke oven based gas +20 MW Blast Furnace based gas)**
		Coal Based Power Plant (CFBC)	24 MW (2x12 MW)	**30 MW (1x30MW)**
8	Oxygen Plant		2x250 TPD	**1x250 TPD**
9	Blast Furnace (1x400 M^3)		0.4 MTPA	**1.16 MTPA (2x550 M^3)**
10	Coke Oven		Nil	**0.5 MTPA (New Unit)**
11	Sinter Plant (1x35 M^2)		0.375 MTPA	**1.0 MTPA (1x90 M^2)**
12	Fly Ash Brick plant		2 crore Bricks Per Annum	2 crore Bricks Per Annum
13	Railway Sliding.		-	3.0 MTPA

42.13.5 In case of other changes, details as per the granted ToR vis-à-vis proposed changes

Product	As per TOR issued (I) dated 30th March 2021	As per TOR Amendment Request	Remark
Transfer of TOR	Shri Bajrang Steel Corporate Limited	Shri Bajrang Power and Ispat Limited	**Change in name of company. The promoters of Shri Bajrang Steel Corporate Limited and Shri Bajrang Power and Ispat Limited are same.**
Total Project Area	309.72 Acre (Pvt. Land: 201.667 Acre+ Govt. Land 108.054)	276.03 Acre (Pvt Land: 86.74+ Own Land: 91.48 Acre+ Govt. Land 97.81 Acre)	Balance land will be utilized in Setting up of interlink project of Shri Bajrang Steel Corporate Ltd.
Water Requirement and source	8236 KLD Source: Shivnath river	15197 KLD Source: Shivnath river	Increase in water requirement with same source. SBSCL has applied for drawl of water from River Shivnath.

Product	As per TOR issued (I) dated 30th March 2021	As per TOR Amendment Request	Remark
Power Requirement	74MW	89 MW	Power requirement will be increase and Source will be captive (85 MW) and CSPDCL (4 MW)
Total Green Belt Area	102.20 Acre	90.66 Acre	33 % of the total land will be developed as green
Interlinked Project	No	Yes	There will be interlink project with sister concerned
Cost of Project (INR)	1400 crore	1600 crore	Increase in Capital cost
EMP cost (Capital) (INR)	140 crore	160.0 crore	Increase in EMP cost

42.13.6 Reason for seeking amendment and transfer of ToR

i. Administrative and banking purpose
ii. To ensure captive uses of mineral being extracted from own operative iron ore mine.

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

42.13.8 Name of the EIA consultant: M/s. Pollution and Ecology Control Services [S. No. 73 List of ACOs with their Certificate No. QCI/NABET/ENV/ACO/21/1730 Rev. 13, August 09, 2021]

Observations of the Committee

42.13.9 The Committee noted the following:

i. TOR for establishment of a green field ISP project was issued on 30.3.2021.
ii. The plant configuration is changed to: 2x9MVA SAF for ferro alloy production, 20 Million Flyash bricks per annum, Railway siding, 2x12 TMVA SAF for Ti Slag Production, 1x90 m2 Sinter Plant, 30 Mw AFBC, 55 MW WHRB, 0.5 MTPA Coke Oven, Oxygen Plant of 250 TPD, 2x550 m3 BF, 1.40 MTPA Pellet plant and 2 MTPA IOBP.
iii. Hot metal shall be transferred to EOF of sister company adjacent to the proposed green field plant. Pig Casting shall also be done.
iv. Other changes that shall accrue due to the proposed change shall be;
    a. Land reduced from 309 .72 acre to 276.03 Acres
    b. Project Cost will increase from 1400 Cr to 1600 Cr.
    c. Water demand shall increase from 8236 KLD to 15197 KLD.
    d. Green belt will be reduced from 102.20 Acre to 90.66 Acres
    e. Power required would increase from 74 W to 89 MW.

f. EMP cost would go up from 140 Cr to 160 Cr.

v. Dry disposal of IOBP tailings is proposed.

vi. FeCr shall be manufactured in 2x9 MVA SAF.

vii. 2x17000 Nm^3 PGP is proposed for Pellet plant. 6 KLD phenolic water generated shall be transported through a 600 m long pipe line for incineration in ABC of DRI kiln installed in the adjacent plant (sister unit).

Recommendations of the Committee

42.13.10 In view of the foregoing and after deliberations, the Committee recommended for amendment as well as name transfer of ToR dated 30/03/2021 as mentioned at paragraph 42.13.4 and 42.13.5 subject to stipulation following additional specific ToRs:

i. PP shall prepare a comprehensive disaster management plan for hot metal and BF gas transfer from parent company to sister company 600 m away from the parent plant.

ii. 4th hole extraction system shall be proposed for fume extraction from SAF.

iii. Scheme for transfer of 6 KLD phenolic water for incineration in DRI kiln of adjacent sister company shall be furnished.

iv. Tar disposal system shall be enumerated in the EIA report.

v. Modified wet quenching system shall be provided in 0.5 MTPA Non recovery Coke Ovens.

vi. FeCr slag shall be subjected to TCLP and if the slag meets Hazardous waste criteria, the same shall be sent to TSDF.

vii. Plant shall operate on ZLD and STP shall be provided for treatment of domestic wastewater.

****

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 42 EAC held on 12-13 Aug, 2021

From : cnpandey@iitgn.ac.in Wed, Aug 25, 2021 01:38 PM
Subject : Re: draft mom of 42 EAC held on 12-13 Aug, 2021 1 attachment
To : Sundar Ramanathan <r.sundar@nic.in>

Dear Mr Sundar,
Please find enclosed herewith the final MoM of the 42nd EAC meeting. You are requested to go ahead and put it on the Privesh.
With thanks and best wishes,
C. N. Pandey,
Chairman,
EAC (Industry I)
MoEFCC, GoI