

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

**Date of zero draft MoM sent to Chairman: 02/11/2021**

**Approval by Chairman: 08/11/2021**

**Uploading on PARIVESH: 09/11/2021**

**Summary record of the Forty Seventh (47<sup>th</sup>) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 28 – 29<sup>th</sup>October, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) notification, 2006.**

The Forty Seventh 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 28 – 29<sup>th</sup>October, 2021 in the Ministry of Environment, Forest and Climate Change (MoEF&CC) through **video conferencing** in view of the ongoing Corona Virus Disease (Covid-19) pandemic. The list of EAC attendees are as follows:

S. No.	Name	Position	28/10/2021	29/10/2021
1.	Dr. Chhavi Nath Pandey	Chairman	Present	Present
2.	Dr. Kawaljeet Singh, Scientist 'E', CPPRI.	Member	Present	Present
3.	Dr. Siddharth Singh, IMD, New Delhi.	Member	Present	Present
4.	Dr. Jagdish Kishwan	Member	Present	Present
5.	Dr. Tejaswini Ananth Kumar	Member	Absent	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	Present	Present
13.	Shri. J.S. Kamyotra	Member	Present	Present
<b>Officials from MoEF&amp;CC</b>				
14.	Shri. Sundar Ramanathan	Member Secretary	Present	Present
15.	Dr. Vipin Gupta	Scientist 'B'	Present	Present

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 46<sup>th</sup> meeting held during 11-12<sup>th</sup> October, 2021 were confirmed by the EAC as already uploaded on PARIVESH.

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

47.1 Expansion of Aluminum Smelter production capacity from 5.75 LTPA to 10.85 LTPA by **M/s. Bharat Aluminum Company Limited (BALCO)** located at Risda Village, Korba Tehsil, **Korba District, Chhattisgarh**. [Online Proposal No. IA/CG/IND/2536/2007, File No. J-11011/123/2007-IA.II(I)] – **Environment Clearance – regarding.**

47.1.1 M/s Bharat Aluminum Company Limited (BALCO) has made an online application vide proposal no. IA/CG/IND/2536/2007 dated 20/09/2021 along with copy of EIA/EMP report, Form-2 and certified EC Compliance report seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3 (a) Metallurgical industries (Ferrous & non-ferrous) under Category “A” of the schedule of the EIA notification, 2006 and appraised at Central level.

**Details submitted by Project proponent**

47.1.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
20/08/2017	22 <sup>nd</sup> EAC Meeting held during 11-13 <sup>th</sup> September 2017	Terms of Reference	19/09/2017

47.1.3 The project of M/s. Bharat Aluminum Company Limited (BALCO) located at Risda Village, Korba Tehsil, Korba District, Chhattisgarh is for expansion of Aluminum Smelter production capacity from 5.75 LTPA to 10.85 LTPA. BALCO intends to install 5.10 LTPA aluminium smelter based on 500 KA cell technology.

47.1.4 Environmental Site Settings:

SNo	Particulars	Details	Remarks
i.	Total land	Total land: 1099.91 ha (or) 2718 acres including Township, Ash Pond & other land outside	Land use: Industrial land
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The proposed expansion will be carried out in an area of 39.67 ha available within the existing plant area of 383.63 ha. No additional land is required for proposed expansion. Total land of 1099.81 ha is already under the possession of BALCO.	Not applicable
iii.	Existence of habitation & Involvement of R&R, if any.	Nil	Not applicable
iv.	Latitude and Longitude of the project site	<b><u>BALCO Complex</u></b> a) Latitude: 22°23'25.49"N to 22°24'11.57"N b) Longitude: 82°43'33.55"E to 82°44'58.01"E <b><u>Township</u></b>	

SNo	Particulars	Details	Remarks
		a) Latitude: 22°24'11.29"N to 22°24'47.39"N b) Longitude: 82°44'47.70"E to 82°46'22.52"E <b><u>Ash Pond</u></b> a) Latitude: 22°24'22.79"N to 22°24'50.21"N b) Longitude: 82°43'43.18"E to 82°44'54.78"E <b><u>Proposed Aluminium Smelter Plant:</u></b> a) Latitude: 22°23'24.5"N to 22°23'49.4"N b) Longitude: 82°43'32.9"E to 82°44'09.5"E	
v.	Elevation of the project site	295 m - 300 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	<b><u>Project Site:</u></b> Nil  <b><u>Study Area:</u></b> <ul style="list-style-type: none"> <li>• Belgari nala (0.1 km, NW)</li> <li>• Dhengu nala (0.1 km, S)</li> <li>• Hasdeo river (1.5 km, NW)</li> </ul>	No water bodies exist within project site.
viii.	Existence of ESZ/ESA/national park/wildlife sanctuary/ biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	Presently Nil.  However, Lemru Elephant Reserve is under proposal stage by Govt. of Chhattisgarh which is at a distance of ~7.4 km, North.	Not applicable

47.1.5 The land break up for the total land is given as below:

Sl. No.	Details	Final Area Utilization in hectares
<b>A</b>	<b>Integrated Aluminium Smelter Complex</b>	<b>383.63</b>
1	Proposed smelter (old plant area/Brown Field area)	39.66
2	Existing smelters, power plant and ancillary plant	209.85
3	Old alumina refinery plant	17.4
4	Road & open space	19
5	Greenbelt inside plant boundary	97.72

Sl. No.	Details	Final Area Utilization in hectares
<b>B</b>	<b>Outside Complex</b>	
6	Ash Pond	151.75
7	Township Land	263.04
8	Balance Other Land	301.49
	<b>Total Area (ha)</b>	<b>1099.91</b>

47.1.6 The existing project was accorded environmental clearance for expansion of Aluminium smelter plant from (3.5 to 9.0 LTPA) and captive power plant of (300 MW) by MoEF&CC vide letter No. J-11011/123/2007-IA.II.(I) dated 16/09/2008. Besides, proponent also obtained Environment Clearance from IA- Thermal sector of MoEF&CC on 23/06/2004 and 27/04/2011 for setting up of 5x135 MW and 4x300 MW coal based thermal power plants adjacent to the smelter complex. Existing consent approvals for the said projects are as follows:

S No	CTE Details	Current CTO Validity	Remarks
<b>A</b>	<b>Smelter Plant</b>		
1	Smelter Production Capacity up to 4 LTPA Ltr. No. 4332/TS/CECB/2003 dated 25.11.2003	Smelter 2.7 LTPA Ltr. No. 7806/TS/CECB/ 2020 dated 03.12.2020 valid up to 31.12.2021.	Out of 9 LTPA Smelter, only 5.75 LTPA is under operation against the consented capacity of 5.95 LTPA.
2	Smelter Capacity 9.0 LTPA (additional smelter capacity of 5.5 LTPA) and 300 MW TPP Ltr. No. 4567/TS/CECB/2010 dated 12.11.2010	Smelter 3.25 LTPA + 2.7 LTPA Ltr. No. 7806/TS/CECB/ 2020 dated 03.12.2020 valid up to 31.12.2021	Remaining smelter capacity and 300 MW CPP have not been established.
<b>B</b>	<b>Power Plants</b>		
1	675 MW (5 x 135 MW) coal based Ltr. No. 3359/CECB/2004 dated 26.08.2004	540 MW (4 x 135 MW) Ltr. No. 363/TS/CECB/ 2021 dated 12.05.2021 valid up to 31.05.2022	4 x 135 MW (540 MW) TPP established. Remaining

S No	CTE Details	Current CTO Validity	Remarks
			135 MW has not been established.
2	1200 MW (4 x 300 MW) coal based Ltr. No. 5303/TS/CECB/2007 dated 25.09.2007	1200 MW (4 x 300 MW) coal based Ltr. No. 363/TS/CECB/2021 dated 12.05.2021 valid up to 31.05.2022.	4 x 300 MW (1200 MW) TPP established.

CECB granted authorization under the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016 vide letter dated 05/01/2021 and is valid up to 23/10/2021.

47.1.7 Implementation status of the existing ECs.

SNo	Facilities	Units	Letter No	Implementation Status as on 21.09.2021	Production as per CTO
1	Refinery - 2.0 Smelter - 1.0 CPP - 270 MW	LTPA LTPA MW	-	Implemented prior to Water Act, Air Act, and EIA Notification (EP Act).	Refinery closed from 2009. Smelter 1.0 LTPA closed and dismantled. CPP of 270 MW has not been established.
2	Refinery - 8 Smelter - 4	LTPA LTPA	EC dated 05/11/2003	2.5 LTPA Smelter (Balance smelter capacity plant was not established)	Only refinery is closed from 2009. Smelter- 2.5 LTPA is under operation as against the consented capacity of 2.7 LTPA.
3	TPP- 5 x 135	MW	J-13011/3/2003.IA-II(T) dated 23/06/2004.	Power Plant- 540 MW (4x135 MW) (Balance capacity 135 MW power plant was not established)	4 x 135 MW
4	TPP - 4x300	MW	J-13011/16/2007 -IA-II(T) dated 14/08/2007	Power Plant: 1200 MW (4x300 MW)	4 x 300 MW

SNo	Facilities	Units	Letter No	Implementation Status as on 21.09.2021	Production as per CTO
			and amended for Change in configuration from 2X600 MW to 4 X 300 MW on 27/04/2011 and extension of validity on 18/09/2014.		
5	Smelter – 9.0	LTPA	J-11011-/123/2007-IA-II (I) dated 16/09/2008	Implemented 5.75 LTPA (Existing - 2.5 LTPA + additional -3.25 LTPA).	3.25 LTPA plus existing 2.5 LTPA

47.1.8 The unit configuration and capacity of existing and proposed aluminium smelter project is given as below:

SNo	Name	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configuration	Production	Configuration	Production	Configuration	Production
1	Aluminium Smelter	2.5 LTPA 3.25 LTPA	5.75 LTPA	5.1 LTPA	5.1 LTPA	10.85 LTPA	10.85 LTPA

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

Sr. No.	Description	Existing Quantity	Proposed Quantity	After Expansion	Mode of Transport	Source
1	Alumina	10,10,000 TPA	9,89,000 TPA	19,99,000 TPA	Rail- BTAP wagon/ Bulklers	Captive- Lanjigarh Refinery (Major)-424 km, Domestic- Utkal Alumina -483 km Import -Kakinada port-891 km (from port to site)
2	Calcined Petroleum Coke	2,04,000 TPA	1,82,000 TPA	3,86,000 TPA	Rail	Domestic –Rain Calciner, Sanbhera etc., Visakhapatnam: 725 km Import via Visakhapatnam- 725 km (from port to site)
3	Aluminium Fluoride	12,000 TPA	7,650 TPA	19,650 TPA	Road Trucks	Domestic: 725 km, Import through via Visakhapatnam port: 725 km
4	Coal Tar Pitch	51,600 TPA	39,500 TPA	91,100 TPA	Road Trucks – Insulated Tankers	Domestic:HimadriKorba: 15 km NPTar, EpsilonBhilai: 250 km
5	Fuel requirement: Heavy Fuel Oil (HFO)- being phased out with LSHS in 6 months.	25,000 KLPA	15,000 KLPA	40,000 KLPA	Road Trucks – Special Tankers	Domestic: Terminal located in Raipur, Transportation by Road - 235 km

47.1.10 The existing and proposed water requirement is 4900 m<sup>3</sup>/day [Existing: 2500 m<sup>3</sup> /day and Expansion: 2400 m<sup>3</sup> /day]. The 2900 m<sup>3</sup>/day water requirement will be met from Hasedo river and remaining 2000 m<sup>3</sup>/day water requirement will be met from recycled/ treated wastewater of ETP. The following permissions for surface water drawl is obtained from Water Resource Department, Chhattisgarh.

- 35616 KLD Permitted quantity vide Lr.No. 4699/194/WRD/TECH/OPERS/01/D-4/Raipur dated: 07/10/2004
- 68493 KLD Permitted quantity vide Lr.No. 5994/194/WRD/TECH/OPERS/01/D-4/Raipur dated: 18/10/2007
- 9863 KLD Permitted quantity vide Lr.No. 2559/194/WRD/TECH/OPERS/01/D-4/Raipur dated: 29/03/2011

47.1.11 The total power requirement of the project is 1750 MW. The power requirement of the proposed expansion project is about 800 MW (790 MW required for proposed expansion project will be sourced from the existing TPP of BALCO and 10 MW of power will be sourced from the grid).

S No	Smelter Plant	Plant Capacity (LTPA)	Power Requirement (MW)	Source
1	Potline-1	2.50	420	Will be met from exiting 1740 MW power plant. Remaining 10 MW will be sourced from grid.
2	Potline-2	3.25	530	
3	Proposed Expansion	5.10	800	
<b>Total</b>		<b>10.85</b>	<b>1750</b>	

47.1.12 Baseline Environmental Studies:

Period	1 <sup>st</sup> December 2019 to 29 <sup>th</sup> February 2020
AAQ parameters at 8 locations (min and max)	$PM_{10} = 31.9-78.4 \mu g/m^3$ $PM_{2.5} = 23.9-45.9 \mu g/m^3$ $SO_2 = 20.7-42.5 \mu g/m^3$ $NO_2 = 24.8-50.2 \mu g/m^3$ $CO = 344-959 \mu g/m^3$
AAQ modeling (Incremental GLC)	<u>Scenario-I: Proposed smelter expansion</u> $PM_{10} = 4.60 \mu g/m^3$ $PM_{2.5} = 1.37 \mu g/m^3$ $SO_2 = 13.6 \mu g/m^3$ $NO_x = 5.27 \mu g/m^3$ <u>Scenario-II: Contribution from the existing smelter complex and Power Plants</u> $PM_{10} = 5.20 \mu g/m^3$ $PM_{2.5} = 1.53 \mu g/m^3$ $SO_2 = 17.9 \mu g/m^3$ $NO_x = 11.73 \mu g/m^3$ $Fluoride = 0.06 \mu g/m^3$ <u>Scenario-III: Cumulative Incremental GLC's from the Balco</u>

	<p><u>Complex after proposed expansion</u>  <math>PM_{10} = 9.80 \mu\text{g}/\text{m}^3</math>  <math>PM_{2.5} = 2.90 \mu\text{g}/\text{m}^3</math>  <math>SO_2 = 31.5 \mu\text{g}/\text{m}^3</math>  <math>NO_x = 16.9 \mu\text{g}/\text{m}^3</math>  Fluoride-<math>0.1 \mu\text{g}/\text{m}^3</math>  <u>Scenario-IV: Proposed expansion + existing Industries within 10 km radius (Cumulative)</u>  <math>PM_{10} = 70.2 \mu\text{g}/\text{m}^3</math>  <math>PM_{2.5} = 26.1 \mu\text{g}/\text{m}^3</math>  <math>SO_2 = 40.7 \mu\text{g}/\text{m}^3</math>  <math>NO_x = 33.6 \mu\text{g}/\text{m}^3</math>  <math>Hg = 0.0025 \mu\text{g}/\text{m}^3</math></p>
Ground water quality at 8 locations	<p>pH: 6.89-7.65  Total Hardness: 70.3-345.5 mg/l,  Chlorides: 27.2-413.6 mg/l,  Fluoride: 0.3-1.1 mg/l.  Heavy metals are within the limits.</p>
Surface water quality at 9 locations	<p>pH: 6.98-7.56;  DO: 4.8-5.6 mg/l  BOD: &lt;3.0mg/l. and  COD: &lt; 5 mg/l</p>
Noise levels (min and max)	<p>49.0 to 60.3 dB(A) for the day time and 45.7 dB (A) to 56.9 dB (A) for the night time.</p>
Traffic assessment study findings	<p>Existing traffic load is about 8,713 PCU and 132 PCU will be additional traffic due to proposed project considering 44 trips to &amp;fro by 22 Trucks per day. The capacity of the road is 15000 PCU/ day.  <b>Existing Level of service:</b>  <math>8713/15000 = 0.58</math> (Cat. – C/Good)   <b>Level of service after expansion:</b>  <math>8845/15000 = 0.59</math> (Cat. C/ Good)  Thus, the level of service will remain same.  The requirement of the road capacity after increasing the traffic in term of MSA is 22.83 and the existing road will be adequate for additional load.   <b>Incremental Concentrations due to increased traffic:</b>  <math>PM_{10} = 1.47 \mu\text{g}/\text{m}^3</math>  <math>PM_{2.5} = 0.88 \mu\text{g}/\text{m}^3</math>  <math>NO_x = 16.30 \mu\text{g}/\text{m}^3</math>  <math>CO = 7.33 \mu\text{g}/\text{m}^3</math>  <math>HC = 3.29 \mu\text{g}/\text{m}^3</math></p>
Flora and fauna	<p>There are 7 Schedule-I species found in the study area which are Elephant, Indian Peafowl, Python, Sloth Bear, Monitor Lizard, Panther and Crimson Rose Butterfly.  Wildlife conservation plan along timeline budget allocation for</p>



	schedule-I is approved by PCCF vide letter dated 02/08/2021.
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47.1.13 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S No	Name of the Residue/ Waste	Brief Composition	Source	Existing Plant Generation (per annum)	Proposed Expansion Generation (per annum)	Total after Expansion Generation (per annum)	Mode of Disposal
1	Spent pot Lining/other cathode residues	Carbon, ammonia, sodium fluoride	Pot room	12,000 T	10,000 T	22,000 T	Co-processing/SLF/ Detoxification
2	Anode Butt	Carbon	Carbon Plant	1,00,000 T	70,000 T	1,70,000 T	Recycled in GAP
3	Dross	Aluminium, Bath, Fluoride	Fabrication Unit	10,000 T	10,000 T	20,000 T	Disposed to authorized recyclers / Metal recovery through Dross processing.
4	Flue gas dust (Shot Blast Dust)	Carbon, Metal Shots, Fluoride	Carbon Plant	5000 T	5000 MT	10000 T	Secured storage
5	Rejected Filter bags (FTP)	Fabric, Fluoride	Pot Room - FTP	50 T	50 MT	100 T	Incineration in Smelter Pots
6	Asbestos waste	Asbestos	(Ladle cleaning and other units	100 T	-	100 T	Disposal in SLF
7	Spent resin	Resins	Rectifier & DM plant	60 T in 5 years	-	60 T in 5 years	Disposal through incineration in boiler of TPP.
8	Glass Wool	Glass Wool	Power Plants	150 T	-	150 T	SLF
9	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes	Chemical & Oil Drums/ Containers	Metal & Power area	300 T	100 T	400 T	Disposal to authorized recyclers
10	Spent oil	-	-	300 T	-	-	Disposal to authorized recyclers
11	Waste or Residue containing oil (Cotton jute)	-	-	7 T	3 T	10 T	Incineration/ disposal to authorised recyclers
12	Chemical sludge from Wastewater treatment	Wastewater	ETP	20 T	10 T	30 T	Co-processing/ disposal in SLF
13	Oil and grease skimming	-	-	1 KL	-	-	SLF/ disposal to authorised recyclers

S No	Name of the Residue/ Waste	Brief Composition	Source	Existing Plant Generation (per annum)	Proposed Expansion Generation (per annum)	Total after Expansion Generation (per annum)	Mode of Disposal
14	Flammable chemical waste	-	-	0.4 KL/year	0.6 KL/year	1 KL/year	Incineration/ Authorised recyclers
15	Fly ash	Stack	Power Plants	9000 TPD	-	-	As per Fly ash notification

47.1.14 Public Consultation:

<b>Details of advertisement given</b>	Public hearing was published in the national English daily of "The Times of India" and in the Chhattisgarh daily "DainikBhaskar" on 16 <sup>th</sup> January, 2021.
<b>Date of public consultation</b>	17/02/2021
<b>Venue</b>	Dr. Ambedkar Stadium, Balconagar, Korba, Chhattisgarh.
<b>Presiding Officer</b>	Additional District Magistrate
<b>Major issues raised</b>	Employment opportunities, Health and Infra facilities in community around BALCO etc. Environment conservation and protection (Emission of gas & fumes problem; Road dust problem due to transport of ash; Avenue plantation and other afforestation)

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

Point	Topic	Work to be done	Units	Total tentative cost (in crore)	F Y'22	F Y 23	Completion date
1	Infrastructure for Road Safety	Road & peripheral development to facilitate safe communication for public	2 number	9.7	1 units 4.7 Cr	1 unit 5.0 Cr	--
2	Training & Skill Devp Program for Local Youth	Skill Devp Trainings to youths - 2500	2500 number	6.2	790 units 0.7 Cr	1710 units 5.5 Cr	March'23
		Sustainable livelihood through Farm based intervention - 3000 farmers & 24 villages	3000 number	5.88	1000 units 0.88 Cr	2000 units 5 Cr	March'23
3	Community health and community rural infrastructure	Various health initiatives in 45 communities, benefitting 80K people, through Mobile Health Vans, Menstrual Health Management, TB, HIV, Maternal and child health and COVID relief activities)	8000 number	7.0	67000 units 3.55Cr	80000 units 3.45 Cr	March'23
		Community toilets - 25	25 number	2.0	-- --	25 units 2 Cr	March'23
		Water Supply through Pipeline - 5 villages (Belgiri)	20 km	2.5	5 units 0.5 Cr	15 units 2.0 Cr	March'23

Point	Topic	Work to be done	Units	Total tentative cost (in crore)	F Y'22	F Y 23	Completion date
		Basti, Rogbehri, Dondro, Jambahar&Parsabhatta)					
		Street Lights - 150	150 numbers	8.0	50 units 2.75 Cr	100 unit 5.25 Cr	March'23
		Community halls & Repairs of community stages - 5 & 10	5 & 10 numbers	3.0	-- --	5 & 10 units 3.0 Cr	March'23
		Children Park & Open Gyms - 5	5 numbers	1.0	-- --	5 units 1.0 Cr	March'23
		Bridge - 1	1	0.4	1 unit 0.4 Cr	-- --	March'22
		Storage shed - 1	1	0.15	1 unit 0.15 Cr	-- --	March'22
		Road construction - 5000 M (1000 M RCC & 4000 M Tar)	5000 m	3.0	-- --	5000 m 3.0 Cr	March'23
		Safety signages in 20 communities	20 number	0.5	10 units 0.25 Cr	10 units 0.25 Cr.	March'23
		100 bedded Covid hospital for Public	1 number	6.0	1 unit 5.0 Cr	-- --	March'2022
		Support to sports and cultural activities of the area - 40	40 number	0.92	40 units	40	March'23
					0.42 Cr	0.50 Cr	
4	Education	Project Connect (Covering 8 Schools & 1800 Students)	1800 number	1.02	1400 units 0.42 Cr	1800 unit 0.60	March'23
		Renovation of 20 Schools covering 40 communities including furniture for 10 schools	20 number	2.4	-- --	20 units 2.4 Cr	March'23
		Renovation of 55 Aganwadis for Nand Ghars covering 40 communities	55 numbers	4.0	16 units 0.4 Cr	39 units 3.6 Cr	March'23
		Coaching Facilities for engineering and CA field (60 Students)	1 number	1.0	-- -	1 unit 1.0 Cr	March'23
5	Women Empowerment	Project Unnati - Strengthening of SHGs and income generation activities - 5000 Women in 45 communities	5000 Women	5.57	4000 no 1.07 Cr	5000 no 4.5 Cr	
		<b>Total in Crore</b>		<b>70.24</b>	<b>22.19</b>	<b>48.05</b>	

47.1.15 The capital cost of the project is Rs. 6387 Crores and the capital cost for environmental protection measures is proposed as Rs. 712.78 crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 47.28 crores. The employment generation from the proposed expansion is 1050 (Direct) and 4000 (Indirect-contractual). The details of cost for environmental protection measures are as follows:

S No	Particulars	Capital cost (in Cr)	Recurring cost (in Cr)
1	Air/ Noise Pollution Control Measures	676.7	43.5
2	Water pollution	35.0	3.5
3	Greenbelt development	1.08	0.28
	<b>Total</b>	<b>712.78</b>	<b>47.28</b>
4	Addressed to issues raised during public hearing	<b>70.24</b>	<b>--</b>

- 47.1.16 As reported, M/s. BALCO has been developed green belt in about 259 ha with saplings of 664100 trees. After expansion the proposal greenbelt will be developed in an area of 363.28 ha (33 % of the total project area of 1099.91 ha) with sapling of 907,500 plants at the rate of 2500 trees/ ha. Action plan for green belt development is given as below:

#	Details	Total Area (in ha)	Existing Plantation Area (in ha)	On-Going Plantation Area (in ha)	*Action Plan: Green Cover Proposed up to FY 24 (in Ha)			Total Green Cover (in Ha)	Total Green Cover- (%)	Species Proposed
					FY 22	FY 23	FY 24			
1	Integrated Aluminium Smelter Complex	383.63	97.72	0.81	5.0	5.85	17.40	126.78	33%	Karanj, Neem, Peepal, Sal, Sarai, Arjun, Sagon, Banyan, Sisoo, Rain Tree, Gulmohar, Mahua, Kadam, etc
2	Ash Dyke	151.75	8.87	-	6	10	9.24	34.11		
3	Township Land	263.04	126.49	6.84	2	2	2	139.33		
4	Balance Other Land	301.49	20.94	7.12	10	10	15	63.06		
	<b>Total Area</b>	<b>1099.91</b>	<b>254.02</b>	<b>14.77</b>	<b>23</b>	<b>27.85</b>	<b>43.64</b>	<b>363.28</b>		

- 47.1.17 There are some court cases pending related to the project cited above. The detail of the court cases are given as below:

#	Particulars	Case Name and No.	Present Status	Next date of hearing
1	There is one litigation ongoing before Hon'ble Supreme Court of India pertaining to legacy land matter erstwhile PSU times	IA No.1424-1425 Of 2005 filed in W.P. (C) No.202/1995 (T N Godavarman matter)	No adverse order against BALCO regarding land use. Last date of listing 22/07/2021.	Next date of hearing is yet to be provided by SC.
2	There is a matter ongoing before Hon'ble Supreme Court of India challenging NGT order in the matter of 100% fly ash utilization	Civil Appeal No. 3236/2020 (BALCO vs MOEF&CC& Others)	NGT had proposed penalty on utilisation of legacy fly ash. Supreme Court has passed an order on 11 <sup>th</sup> September 2020 that no coercive action to be taken in this matter.	10/11/2021.
3	There is a matter	WP(PIL) 58/2020	Petitioner has filed its	8/11/2021

#	Particulars	Case Name and No.	Present Status	Next date of hearing
	ongoing at Hon'ble High Court of Bilaspur pertaining to Ash Utilisation / Management filed by the petitioner	(Dilendra Yadav vs CECB &Ors)	written submission on 05/10/2021.	
4	There were two show-cause notices received from RO CECB, Korba during FY20-21 pertaining to rain-cuts at ash dykes due heavy rainfall on the previous day, which have been closed to the satisfaction of the authorities.	The matters have been closed to the satisfaction of the authorities and there is no subsequent communication from the authorities in this regard.		NA

- 47.1.18 Name of the EIA consultant: M/s. Vimta Labs Limited [S. No. 141, List of ACOs with their Certificate Letter no. QCI/NABET/ENV/ACO/21/1912; valid up to 10/11/2021, Rev. 15, October 11, 2021].

**Certified Compliance report from the regional Office**

- 47.1.19 The status of compliance of earlier EC for the Aluminium smelter plant was obtained from Regional Office, Raipur (Integrated RO). vide letter no. 5-237/2008-(ENV)/26 dated 24/02/2021 in the name of M/s. Bharat Aluminum Company Ltd (BALCO). The Action taken report regarding the partially/non-complied condition was submitted to Regional officer MoEF&CC, Raipur (Integrated RO) vide letter no. BALCO/ENV/A-02(A)/2021/203 dated 18/08/2020. MoEF&CC (Integrated RO), Raipur evaluated the same and has issued letter dated 09/09/2021. The details of the observations made by RO in the report dated 09/09/2021 along with its re-assessment / present status as furnished by the PP is given as below:

SNo	Condition as per EC	Condition no.	Observation of RO	Reply of PP	Analysis of IRO
<b>EC dated 16/09/2008</b>					
1	Anode butts generated from the pots shall be cleaned and recycled to the Anode Plant. The spent pot lining generated from the smelter shall be properly treated in spent pot lining treatment plant to remove fluoride and	SC (x)	<b>Partially complied:</b> Details of leachate collection facilities. Provided for the secured land fill facility, have not been made available by the PA.	The secured Land fill site was designed by M/s Ramky Ltd as per CPCB guidelines and the same has been constructed based on approval obtained from CEO. PP have shown to IRO, Raipur the Secured Land fill site along with the	PP has submitted the copy of approval document pertaining to setting up captive secured land fill.

SNo	Condition as per EC	Condition no.	Observation of RO	Reply of PP	Analysis of IRO
	cyanide and disposed off to the Cement/Steel plants and as minimum as possible to secured landfill. The location and design of the landfill site shall be approved by theca as per Hazardous Wastes (Management and Handling) Rules 1989and amended in 2003.Leachate collection facilities shall be provided to the secured landfill facility (SLF). The dross shall be recycled in the cast house. STP sludge shall be utilized as manure for green belt development. All the used oil and batteries shall be sold to the authorized recyclers/re-processors.			leachate collection facility' and solar evaporation pond during the site inspection on 03-05Feb. 2021 and also provided the approval document pertaining to secured landfill site. However, for convenience, detail of Leachate collection facility along with photographs is also submitted to IRO, Raipur.	
2	The company shall comply with all the commitment made during public hearing public consultation held on the16 <sup>th</sup> November 2007. The company shall prepare the action plan for implementation of the commitments and same shall be submitted to the Ministry and its Regional Office at Raipur and Chhattisgarh Environmental Conservation Board Raipur.	SC (xvii)	<b>Partially complied:</b> The project authorities have consented to this condition however, action plan for implementation of the commitments and their present status has not been made available bythe PA.	PP has submitted the response to the concerns raised during public hearing as part of final EIA report submitted to MOEF&CC for obtaining EC. Also, action plan was made and implemented during the course of time. Company has been implementing CSR initiatives in 65 villages in and around BALCO. A glimpse of the overall CSR approach, outreach and the beneficiaries have already been submitted to IRO.	PP has submitted the photographs depicting the overall CSR approach, outreach and the beneficiaries.
3	The overall noise levels in and around the plant area should be kept well within	GC(vi)	<b>Partially complied:</b> It was informed by PP thatequipment	PP has been monitoring noise level at plant boundary and maintaining records	PP has submitted the Noise level monitoring report of 3 months

SNo	Condition as per EC	Condition no.	Observation of RO	Reply of PP	Analysis of IRO
	the standards (85 dBA) by providing noise controlmeasured including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under Rules. 1989viz.75 dBA (daytime) and 70 dBA Night time)		has been designed to ensure that noise level at plant boundary area is within the stipulated level of 85dB. Details of monitoring report are not made available during the inspection.	of Ambient Noise levels as per requirement of EC condition. The Noise Monitoring report of last 3 months is submitted to IRO, Raipur.	(November 2020 to January 2021).
4	Fluoride consumption shall be less than 10 kg/ton of Aluminium produced as specified in the CREP guidelines*.	SC(v)	<b>Not Complied.</b> The PA has informed that at present Fluoride consumption is 13 kg/ton of Aluminium produced. The PA has further informed that they are putting best efforts to bring down fluoride consumption by process optimization. The PA has also informed that they have represented in the Ministry on 8.10.2014 and 3.08.2016 for seeking amendment in the condition.	Smelter is based on GAMI technology and is designed for an AlF <sub>3</sub> consumption of 20 kg/MT of Aluminium produced. The present Fluoride consumption is 13 kg/MT of Aluminium produced. PP is making all efforts to bring down fluoride consumption by process optimization. However, PP has presented their case through Aluminium Association of India vide Letter no: AAI/943/GOI/2014-2015/219 dated 08/10/2014 and subsequently vide letter no Balco/Env/ A-02/2016/275 dated 03/08/2016 for suitable amendment of the condition. Copy of letter submitted to IRO, Raipur.	PP has submitted the copy of correspondence letter to Aluminium Association of India and MoEF&CC regarding CREP recommendation on Fluoride consumption.
5	Prior permission from the state forest department shall be obtained due to likely impact of transport of raw material and end product and gaseous emissions from the smelter on the	SC (xviii)	<b>Not Complied:</b> The PA has informed that they have applied for the prior permission from the state forest department on 18.11.2015.	PP has applied for the prior permission from the state forest department on 18/11/2015 and the same is awaited. <b>(Subsequently reply on 5<sup>th</sup> August 2021)</b> PP is in receipt of the	PP has submitted the copy of letter from state forest department regarding depositing Rs. 153 Lakhs for wildlife conservation plan.

SNo	Condition as per EC	Condition no.	Observation of RO	Reply of PP	Analysis of IRO
	surrounding reserved forests and wildlife. Recommendations regarding mitigative measures suggested by the state forest department and Chief Wildlife Warden, Govt. of Chhattisgarh shall be strictly followed.		However, status of approval if any obtained from the state forest department has not been made available by PA. Further, financial detailed pertaining to the implementation of the Wildlife Management Plan has not been made available by the PA.	wildlife conservation plan submitted by PP duly approved by state forest department, copy of which is submitted to IRO, Raipur.	
<b>EC dated 5/11/2003</b>					
6	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measured including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under Rules, 1989 viz. 75 dBA (day time) and 70 dBA (Night time).	GC(v)	Partially complied: It was informed that equipment has been designed to ensure that noise level at plant boundary area is within the stipulated level of 85db (A). Details of monitoring report are not made available during the inspection.	PP has been monitoring noise level at plant boundary and maintaining records of Ambient Noise levels as per requirement of EC condition. The Noise monitoring report of last 3 months is submitted to RO Office.	PP has submitted the Noise level monitoring report of 3 months (November 2020 to January 2021).
7	The spent pot lining generated from the smelter should be utilized for cement/steel manufacturing alternatively to the disposed off in a secured landfill constructed as per the design of CPCB. The location of the landfill site should be approved by the Chhattisgarh Environment Conservation Board.	SC(vii)	<b>Partially Complied:</b> Details of leachate collection facilities, provided for the secured land fill facility have not been made available by the PA.	The secured landfill site was designed by M/s. Ramky Ltd. As per CPCB guidelines and the same has been constructed based on approval obtained from CECB. PP has shown the secured landfill site along with the leachate collection facility and solar evaporation pond during the site inspection from 3-5 February, 2021 and also provided the approval document	PP has submitted the copy of approval document pertaining to setting up captive secured land fill.



SNo	Condition as per EC	Condition no.	Observation of RO	Reply of PP	Analysis of IRO
				pertaining to secured landfill site is submitted to RO office.	

**\*Note:** In reference to the point no 4 of compliance report PP has submitted commitment during meeting following action plan stating that the Fluoride consumption in the process of aluminum production will be less than 10kg/ MT for existing facility of 5.75 LTPA by 30<sup>th</sup> April, 2022 and for the expansion project from the inception of the unit.

#### Fluoride Consumption Reduction action plan:

Sr. No	FOCUS AREA	INTERVENTION	METHODOLOGY/TECHNOLOGY	TARGET DATE	INVESTMENT in Crores	IMPACT (KG/MT)	REVISED FLUORIDE CONSUMPTION (KG/MT)	REMARKS
1	Input Control	Procurement of alumina with low sodium content	Changing the source of imported Alumina.	31 <sup>st</sup> Dec'21	35	1	11.1	Net Operating cost will increase by Rs.600/MT of metal
2	Emission Control	Capturing more fumes during Anode change over.	By changing the logic of the Pot Controller in Pot Line-2 to increase the damper opening.	31 <sup>st</sup> Mar'22	-	0.5	10.6	Adopted from the proposed expansion tech.
3	Emission Control	Capturing more fumes during Anode change over.	By changing the logic of the Pot Controller in Pot Line-1 including damper modification to increase the opening.	30 <sup>th</sup> April, 2022	5	0.6	10.0	Adopted from the proposed expansion tech.
4	Thermal balance Optimization	Development of latest pot controller by In-house team	With the help of LMRC Auckland New Zealand	30 <sup>th</sup> April, 2022	16	1	9.0	Implemented across Aluminium Business
5	Thermal balance Optimization	Pot controller upgradation	By ALPSYS (Rio Tinto) Technology.	30 <sup>th</sup> April, 2022	80	1	8.0	Feasibility study in Progress

47.1.20 M/s Bharat Aluminum Company Limited (BALCO) has earlier an online application vide proposal no. IA/CG/IND/2536/2007 dated 20/09/2021. The proposal was considered in 45<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28-29<sup>th</sup> September, 2021. The committee deferred the consideration of the proposal and sought for additional information.

47.1.21 The project proponent submitted the ADS reply on 10/10/2021. The ADS information sought and ADS reply furnished by the PP is given as below:

S No	Additional detail sought	Reply of the project proponent
1	Point wise reply to the points raised in public representation dated 19/09/2021 along with the relevant supporting documents shall be submitted.	<p><b>Point:</b> BALCO has started physical / construction activity at the proposed expansion Project.</p> <p><b>Reply:</b> No construction activity has been started at the project area as alleged in the letter by complainant.</p> <p><b>Point:</b> Korba is most polluted city in the world</p> <p><b>Reply:</b> The complainant has also mentioned in his letter that Korba is most polluted city in the world which is completely false and misleading statement made by him. As per CEPI report published by CPCB during the year 2018, the CEPI score for Korba has been reported as 57.57 against the earlier score of more than 75, which is clearly indicative of reduction in pollution load over the years in Korba region.</p> <p><b>Point:</b> BALCO has been disposing ash indiscriminately all around the area.</p> <p><b>Reply:</b> The ash generated from power plants is being utilized as per the provisions of fly ash notification such as supply to cement industries, bricks making units in and around Korba, reclamation in mined out areas and filling of low-lying areas as per approvals provided by the SPCB and other authorities in compliance to fly ash notification.</p>
2	Action plan to control SO <sub>2</sub> and NO <sub>x</sub> emissions from the plant shall be submitted.	<ul style="list-style-type: none"> <li>Replacing the HFO in the present plant with Low Sulphur High Speed (LSHS) fuel from 01/04/2022 as presented during appraisal of the proposal.</li> <li>Use of LSHS for proposed expansion plant from the beginning.</li> <li>Use of Low NO<sub>x</sub> Burners in TPPs;</li> <li>Exploring procurement of coke and coal with optimum sulphur content;</li> <li>Closure of power plant of 270 MW which is located outside the Smelter Complex;</li> <li>Plantation of trees with a density of 2500/ Ha.</li> <li>Complying with emission norms for TPP as per timeline provided in the latest notification dated 31/03/2021.</li> <li>With the phasing out of HFO and substituting LSHS the SO<sub>2</sub> reduced from 31.5 (µg/m<sup>3</sup>) to 18.5 (µg/m<sup>3</sup>).</li> <li>Implementation of FGD system will further reduce SO<sub>2</sub> from the present levels.</li> </ul>
3	Mass balance for Fluorine distribution and action plan to reduce fluorine levels in forage.	<p><b>Fluoride Balance (Kg/ Tone of Al)</b></p> <pre> graph LR     A[12 Fluoride] --&gt; C[Smelting]     B[20 Alumina Adsorption (Recycled)] --&gt; C     C --&gt; D[0.4 Stack Emissions (Potroom and BO)]     C --&gt; E[0.4 Fugitive Emissions]     C --&gt; F[11.2 SPL and Bath]     </pre> <p><b>Action Plan to reduce forage fluoride is as under:</b></p> <ul style="list-style-type: none"> <li>Reduction of fluoride consumption to less than 10kg/MT by April 2022.</li> <li>Reduction of fugitive fluoride emissions by improvement in fumes collection efficiency from pot to &gt;98%.</li> <li>Improving hooding efficiency through regular hood audits and operational</li> </ul>

S No	Additional detail sought		Reply of the project proponent																																							
			<div>discipline.</div> <div><div></div><div>Real time monitoring of fugitive HF emissions through roof vents and prompt action to control fugitive emission as per requirement.</div><div>Further reduction in Anode Effect Frequency and duration to control Fluoride emissions.</div></div>																																							
4	Action Plan for tree plantation on Ash Ponds subsequent to its closure in 2024-25.		<div><div>4 Ash Dykes are currently in operation (Dyke #2 &amp; 7 for 540 MW, Dyke #4 &amp; 6 for 1200MW) will continue to be available for the regular operations of TPPs.</div><div>Dyke # 3 has been already reclaimed during the FY 20-21 and another 2 more dykes (Dyke # 1 and 5) reclamation is in process.</div><div>This is additional plantation over and above the plantation proposed in Industrial Complex Area</div></div>																																							
	Details	Total Ash Dyke Area (In Ha)	Green Belt Existing (in Ha)	*Action Plan - Green Belt Proposed up to FY24 (in Ha)			Total Green Belt (in Ha)	Species Proposed																																		
			FY 21	FY 22	FY 23	FY 24																																				
	Ash Dyke (#3, 5 & 1)	151.75	8.87 (22000 Nos)	6 (15000 Nos)	10 (25000 Nos)	9.24 (23000 Nos)	34.11 (85000 Nos)	Karanj, Neem, Sal, Sarai, Arjun, Sisoo, Rain Tree, Gulmohar, Mahua, Kadam, etc																																		
5	Action plan to achieve 33 % green belt inside the smelter complex by 2024 with plant density of 2500 trees per ha																																									
	#	Details	Total Area (In Ha)	Existing Plantation Area (In Ha)	On-Going Plantation Area (in Ha)	*Action Plan: Green Cover Proposed up to FY 24 (in Ha)			Total Green Cover (in Ha)	Total Green Cover - (%)	Species Proposed																															
						FY22	FY23	FY24																																		
	1	Integrated Aluminium Smelter Complex	383.63	97.72	0.81	5.0	5.85	17.40	126.78	33%	Karanj, Neem, Peepal, Sal, Sarai, Arjun, Sagon, Banyan, Sisoo, Rain Tree, Gulmohar, Mahua, Kadam, etc																															
	2	Ash Dyke	151.75	8.87	-	6	10	9.24	34.11																																	
	3	Township Land	263.04	126.49	6.84	2	2	2	139.33																																	
	4	Balance Other Land	301.49	20.94	7.12	10	10	15	63.06																																	
		Total Area	1099.91	254.02	14.77	23	27.85	43.64	363.28																																	
6	Recheck of NOx dispersion modelling data for traffic flow for Scenario 3 shall be carried out		<div>Inputs: Emission Factor (g/VKT)</div> <table><tr><td>PM</td><td>CO</td><td>NOx</td><td>HC</td></tr><tr><td>0.02</td><td>1.5</td><td>3.5</td><td>0.96</td></tr></table> <div>Traffic Dispersion Modeling Results</div> <table><tr><td>SNo</td><td>Parameter</td><td>GLC (µg/m³)</td><td>Distance from the centerline (M)</td></tr><tr><td>1</td><td>PM<sub>10</sub></td><td>1.73</td><td>40</td></tr><tr><td>2</td><td>PM<sub>2.5</sub></td><td>1.04</td><td>40</td></tr><tr><td>3</td><td>NO<sub>x</sub></td><td>23.0</td><td>40</td></tr><tr><td>4</td><td>CO</td><td>9.9</td><td>40</td></tr><tr><td>5</td><td>HC</td><td>6.3</td><td>40</td></tr></table>								PM	CO	NOx	HC	0.02	1.5	3.5	0.96	SNo	Parameter	GLC (µg/m³)	Distance from the centerline (M)	1	PM <sub>10</sub>	1.73	40	2	PM <sub>2.5</sub>	1.04	40	3	NO <sub>x</sub>	23.0	40	4	CO	9.9	40	5	HC	6.3	40
PM	CO	NOx	HC																																							
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SNo	Parameter	GLC (µg/m³)	Distance from the centerline (M)																																							
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3	NO <sub>x</sub>	23.0	40																																							
4	CO	9.9	40																																							
5	HC	6.3	40																																							

S No	Additional detail sought	Reply of the project proponent																																	
7	Revaluation of Incremental pollutant increase for Scenario 3 using appropriate model considering the undulated topography	<p>The concentration from Scenario 3 (Proposed &amp; Existing plant) has been reduced from 31.5 µg/m³ to 18.5 µg/m³ when LSHS is considered as fuel input for the proposed as well as existing plant which comprises of three smelters:</p> <p><b>Scenario 3: Proposed Plant + Existing Plant (Emission Rate Input)</b></p> <table><tr><th>S No</th><th>Unit</th><th>(HFO)g/s(S=2.6 %)</th><th>(LSHS)g/s (S=0.4%)</th></tr><tr><td>1</td><td>Bake Oven - Smelter 1</td><td>6.88</td><td>1.05</td></tr><tr><td>2</td><td>Bake Oven - Smelter 2</td><td>5.24</td><td>0.80</td></tr><tr><td>3</td><td>Bake Oven - Smelter 3</td><td>8.22</td><td>1.26</td></tr></table> <p><b>Scenario 3: Concentrations from Proposed Plant + Existing Plant (Output)</b></p> <table><tr><th>S No</th><th>Parameter</th><th>With HFO (S=2.6%) GLC (µg/m3)</th><th>With LSHS (S=0.4%) GLC (µg/m3)</th><th>Distance</th><th>Direction</th></tr><tr><td>1</td><td>SO<sub>2</sub>(µg/m³)</td><td>31.5</td><td>18.5</td><td>2.5</td><td>S</td></tr></table>						S No	Unit	(HFO)g/s(S=2.6 %)	(LSHS)g/s (S=0.4%)	1	Bake Oven - Smelter 1	6.88	1.05	2	Bake Oven - Smelter 2	5.24	0.80	3	Bake Oven - Smelter 3	8.22	1.26	S No	Parameter	With HFO (S=2.6%) GLC (µg/m3)	With LSHS (S=0.4%) GLC (µg/m3)	Distance	Direction	1	SO <sub>2</sub> (µg/m³)	31.5	18.5	2.5	S
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1	SO <sub>2</sub> (µg/m³)	31.5	18.5	2.5	S																														
8	Action plan to preserve the natural catchment regime and flow of natural drainage courses passing through the plant.	<ul style="list-style-type: none"><li>• The proposed expansion is a brownfield Project not a greenfield project.</li><li>• The plant was first erected and commissioned in the year 1965.</li><li>• As per the contour map below and physically that there are no natural nallahs flowing inside the plant premises</li></ul>																																	
9	Scheme for detoxification and utilization of SPL and Flue dust from Pot Line in Steel plant and Cement plants	#	Year	Generation (MT)	Disposal (MT)	Action Plan																													
		1	2017-18	8670	506.02	Sent to M/s Ambuja Cement for Co-Processing in Cement plant for trial run.																													
		2	2018-19	6915	2627.52	Sold to authorized detoxification agency M/s Green Mac Technologies, Raipur																													
		3	2019-20	5130	3223.94	Sold to authorized detoxification agency M/s Green Mac Technologies, Raipur																													
		4	2020-21	4320	14755	Sold to authorized detoxification agency M/s Green Mac Technologies, Raipur– 10100 MT and to M/s Eco Earth Industries, Raipur -4654.191 MT.																													
		5	2021-22 (YTD)	1755	7836	Sold to authorized detoxification agency M/s Green Mac Technologies Raipur – 7162.3 MT and to M/s Eco Earth Raipur – 673.7 MT																													
		<ul style="list-style-type: none"><li>• Agency has been developed and from the year 2018, we are disposing Spent Pot Lining Generated from our operations to authorized detoxification agencies only.</li><li>• Permission obtained from CPCB/CECB for taking out SPL from SLF and disposal to authorized detoxifiers plan in place to evacuate SLF by Dec '22. Agreement made with the vendor accordingly. No additional SLF is proposed for Expansion.</li><li>• Presently M/s Green Mac Technologies and M/s Eco Earth Industries are authorized agencies from CECB for SPL detoxification as per CPCB SOP.</li><li>• Further, the detoxified SPL by the authorized agencies as above is being disposed by them as Carbon Mineral Fuel to end user i.e Cement and Steel</li></ul>																																	

S No	Additional detail sought	Reply of the project proponent		
		Industries as per CPCB SOP.		
10	Scheme for utilization of flue dust from shot blasting and rodding plant	<b>Current Scenario/ Future Options:</b> <ul style="list-style-type: none"> <li>Shot Blast Dust (SBD) is being generated from Rodding shop during shot blasting on use Anode butts in closed chamber.</li> <li>Due to presence of Fluoride, SBD falls under Hazardous Waste category (Shedule-1 (cat. 11.4-Flue Gas dust)).</li> <li>As per Authorization obtained from CECB, the mode of disposal for Shot Blast Dust (SBD) is use in Green Anode Plant for Anode making/ Disposal in SLF/ Sale to authorized recycler.</li> <li>We are unable to dispose SBD in our captive SLF currently as we have received permission from CPCB to utilized SPL stored in SLF for detoxification, and therefore disposal of other material in SLF is not being done currently as we are recovering SPL Carbon from SLF. The present generation is being stored in covered sheds with concrete floors.</li> <li>No authorized recycler is available for disposal of SBD due to unavailability of CPCB approved SOP for disposal. We are in the process of developing authorized recyclers for scientific management of SBD. Accordingly, one agency has submitted application under rule-9 to CPCB and the application is under process.</li> <li>Efforts are being made for disposal of SBD in TSDF of others states, accordingly applied for NOC to State Pollution Control Board of Odisha and Maharashtra.</li> </ul>		
11	Scheme for treatment of leachate from SLF for F and CN pollutants	Primary and secondary leachate collection pits have been constructed for collection of leachate from the SLFs which is directed to HDPE lined Solar Pond for evaporation of the leachate		
12	Action plan for time bound compliance to the issues addressed in RO letter of 9.9.2021, regarding SPL disposal, Commitments made in Public Hearing of 2007, Fluoride consumption, Payment towards funds for WLCP and SPL utilization in cement and Steel plants	<b>SPL Disposal:</b> <ul style="list-style-type: none"> <li>Present stock of SPL (Carbonaceous part) in plant premises approx. 48 KT (as on September 21).</li> <li>Agreements for disposal of SPL to authorised detoxifiers, details as under:                             <ol style="list-style-type: none"> <li>Greenmac Technologies, Raipur for quantity 28000 MT valid up to Oct' 23.</li> <li>Greenmac Technologies, Raipur for quantity 40000 MT valid up to June' 24.</li> </ol> </li> <li>Existing stock of SPL will be liquidated by Dec'22.</li> <li>Refractory Part Present stock approx. 30 KT stored in covered shed on concrete floors. Work in progress for developing SOP under Rule -9 of HWM Rules, 2016. Will be disposed within 18 months from the date of approved SOP.</li> </ul>		
	#	Statement of main issues raised by the public	Comments of the PP	Status
	1	Reduction of fluoride consumption in Al production.	Reduction of fluoride consumption to less than 10kg/MT by April 2022	The PP has informed that at present Fluoride consumption is 13 Kg/ton of Aluminium produced.
	2	Polluted air and ash emitted from industry will affect the nearby area	High efficiency pollution control equipment's will be provided and the fly ash generated shall be utilized as per the Fly ash notification amended from time to time.	HCSD system has been provided for disposal of ash in slurry form to dykes. Fly ash being utilized as per Fly ash notification, accordingly 100 % fly ash utilization being achieved for power plants 540 MW and 1200 MW from last 3 Financial Year.

S No	Additional detail sought		Reply of the project proponent							
	3	Establishment of industry will pollute the nearby area	Environment friendly techniques like high efficiency ESPs, High density slurry disposal system, fume treatment plant and dry scrubbing system shall be adopted. Further, zero effluent discharge system shall be adopted which will help in keeping the pollution below the norms.				Complied with. Hybrid ESP's with bag filters, HCSD System, FTP with dry scrubbing system at Smelter plant, ETP with RO has been provided and achieving pollution level below the norms. OCEMS provided to all the stacks and connected to CPCB			
	4	Employment should be provided to the local people	Employment to the 60% of the local people have been provided. In future, also employment shall be provided to the local people as per their qualification and ability.				Complied with Following is the detail for employment provided:  Executives: 64% from Chhattisgarh and 36 % from other states. Workman: 99% from Chhattisgarh and 1 % from other states. Contract Employees: 88 % from Chhattisgarh and 12 % from other states.			
	5	Extensive and massive plantation should be carried out surrounding the industrial premises	So far adequate green cover has been developed by planting lakhs of trees in and around the plant premises by the industry. Further, extensive and massive plantation shall be carried out in and around the industrial premises in available open areas.				Complied with. Plantation target as per statutory requirement has been achieved for Smelters and Power plants.			
	6	Medical facilities to the nearby villages should be provided	Nearby villages around plant premises have already been provided medical facilities regularly. Time to time medical facilities shall be provided through organizing health camps.				Complied with. Additionally, mobile health van has been put in to service for regular medical needs of the community.			
	7	New smelter and power plant should not be established in the area where the old plant is established	New smelter and power plant will be established in our own land with in the Industrial premises of the Company and the same is falling under the jurisdiction of Nagar Nigam, Korba.				Expansion has been carried out in the existing industrial complex. No land has been procured for any expansion.			
	8	Industry is not aware of mitigation of pollution issues	Industry shall install appropriate and effective pollution controlling devices in all source point to minimize the pollution as per the norms laid down by the board. Separate fund for pollution abatement activity shall be provided to mitigate pollution.				Complied with. Industry has provided latest technology pollution control equipment's for control of Air pollution, Water pollution like FTP's, Hybrid ESP's, ETP with RO etc, and the OCEMS and EQMS installed have been connected to CPCB server for real time monitoring of pollution parameters as per requirement.			
	13	Scheme for supply of piped potable water supply to villagers in place of tanker supply								
	Work to be done		Units	UoM	Total Tentative Cost	Units FY'22	FY'22 (INR Cr)	Units FY'23	FY'23 (INR Cr)	Completion Date

S No	Additional detail sought	Reply of the project proponent								
	Water Supply through Pipeline - 5 villages (Belgiri Basti, Rogbehri, Dondro, Jambahar & Parsabhatta)	20	Km	2.5 Cr	5 Km	0.5	15 Km*	2.0	March'23	
*Along with all arrangements and overhead tank										
14	Revised action plan with physical targets to address the issues raised during public as per MoEF&CC O.M. dated 30/9/2020	Revised action plan with physical targets to address the issues raised during public as per MoEF&CC O.M. dated 30/9/2020 has been given at 47.1.13 above.								
15	Landscaping plan to protect natural drainage pattern of two nallah passing through the property.	There is no natural nallah passing through the property.								
16	Action plan to utilize Legacy Ash by 2024									
	<b>Year (Est)</b>	<b>FY22</b>	<b>FY23</b>	<b>FY24</b>	<b>FY25</b>	<b>FY26</b>	<b>FY27-31</b>			
	Ash Generation (MnT)	3.24	3.33	3.52	3.55	3.64	18.2			
	Legacy Ash Inventory (MnT)	7	6.35	5.18	3.43	1.65	-			
	Legacy Ash Utilization (MnT)*	0.65	1.17	1.76	1.78	1.65	-			
	Total Ash Utilization (MnT)	3.73	4.5	5.46	5.33	5.29	18.2			
	Ash Utilization (%)	115%	135%	155%	150%	145%	100%			
	<i>Avenue-wise Utilization (MnT)</i>									
	Mine Filling/Stone Quarry	1.13	1.4	1.58	1.49	1.6	6.37			
	Infra Development	0.52	0.6	0.77	0.75	0.73	2.18			
	Offtake to Cement Industries	0.45	0.83	1.16	1.17	1.07	3.64			
	Brick Manufacturing	0.13	0.2	0.21	0.21	0.25	1.46			
	Land Reclamation	1.49	1.47	1.72	1.7	1.64	4.55			
	Sub Total	3.73	4.5	5.46	5.33	5.29	18.2			
	<i>Avenue-wise Utilization (%)</i>									
	Mine Void Filling/Stone Quarry	35%	42%	45%	42%	44%	35%			
	Infra Development	16%	18%	22%	21%	20%	12%			
	Offtake to Cement Industries	14%	25%	33%	33%	30%	20%			
	Brick Manufacturing	4%	6%	6%	6%	7%	8%			
	Land Reclamation	46%	44%	49%	48%	45%	25%			
<i>*Legacy ash inventory excluding the proposed dyke reclamation quantity equivalent to 7 MnT</i>										
17	Action plan to stop overflow of ash Pond into nallah	There is no overflow of ash in to nallah.								
18	Action plan to manage waste oil and grease	<ul style="list-style-type: none"><li>• The HW authorisation has been obtained for generation of skimmed Oil &amp; Grease for an annual quantity of 1KL.</li><li>• CECB has prescribed the method of disposal of Skimmed Oil &amp; Grease as disposal in captive SLF/sale to authorised recycler.</li><li>• However, there has been no generation in last few years including FY21. We are not envisaging any additional quantity in the proposed expansion.</li><li>• The skimmed oil/grease will be disposed to authorised recycler in future in line with the HW authorisation from CECB.</li><li>• The HW authorization is attached wherein the disposal method is prescribed for skimmed Oil &amp; Grease in S.No. 14.</li></ul>								

47.1.22 It was apprised to the EAC that Ministry is in receipt of a public representation on 19/10/2021 against the instant expansion project. In this regard, EAC sought the point wise reply and PP submitted their response during the meeting which is summarized as below:

S. No.	Issue stated in the representation	Response of proponent
i	BALCO Management has applied for the expansion of Smelter but they have constructed and have been operating the smelter project of 2.5 LTPA+3.25 LTPA totaling 5.75 LTPA without permission from Town & Country Planning and Municipality corporation Korba department. Therefore the expansion of project is illegal and should not be allowed.	BALCO has obtained permission from Municipal Corporation, Korba for the establishment of smelter.
ii	BALCO management has not sought no objection certificate from RO CECB Korba, CG for closing down 2LTPA Alumina Refinery and 1 LTPA Aluminium Smelter based on Soderberg Technology. Copy of RTI has been attached as Annexure – 02.	BALCO has submitted letter to CECB communicating closure of 2LTPA Alumina refinery and 1 LTPA Soderberg Technology based smelter. Further, It is clarified that the phasing out of Soderberg smelter was as per CREP guidelines and as stipulated in EC condition no. (x) of EC for 2.5 LTPA Smelter obtained vide letter J-11011/34/2003-IA.II(I) dated 5/11/2003 and condition no. (xv) of EC for 3.5 to 9.0 LTPA Smelter obtained vide letter J-11011/123/2007-IA.II(I) dated 16/09/2008 .
iii	BALCO management has constructed its 540MW Power Plant without taking permission from Town Planning Department and Municipal Corporation Korba, thus this is an illegal construction.	BALCO has obtained all necessary permission for the establishment of 540 MW Power Plant.
iv	There was no permission for construction of the 1200 MW power plant in which chimney collapse incident happened in 2009 wherein 40 people lost their lives. BALCO management did not seek permission for the construction of 1200MW Power plant in 2009 from Town Planning Department and Municipal Corporation Korba which was regularised in 2014 by Town Planning Department and Municipal Corporation Korba.	Chimney collapse was an incident due to natural calamity due to extreme weather conditions which has already been clarified vide letter no-BALCO/HSE/Env/A-02(A)/2021/250 dated 10/10/2021 response of BALCO to ADS on the matter. BALCO has taken all necessary approvals/permissions for establishment of 1200 MW power plant including EC, CTE. BALCO has obtained permission from Municipal Corporation, Korba for the establishment of 1200 MW Power Plant.
v	In the EIA Report submitted by BALCO Management, the area for expansion project amounts to 98 Acres from the location's latitude and longitude, whereas when these latitudes and longitudes were plotted on GPS MAP the total areas is amounting to 121 Acres.	Latitudes and Longitudes shown in EIA reports are correct and are specifically provided as in CH-1, 1.3 under Environment Setting, details as under: <b>BALCO Complex:</b> a) Latitude: 22°23'25.49"N to 22°24'11.57"N b) Longitude: 82°43'33.55"E to 82°44'58.01"E <b>Township:</b> a) Latitude: 22°24'11.29"N to 22°24'47.39"N b) Longitude: 82°44'47.70"E to 82°46'22.52"E <b>Ash Pond:</b> a) Latitude: 22°24'22.79"N to 22°24'50.21"N b) Longitude: 82°43'43.18"E to 82°44'54.78"E <b>Proposed Aluminium Smelter Plant:</b> a) Latitude: 22°23'24.5"N to 22°23'49.4"N



S. No.	Issue stated in the representation	Response of proponent
		b) Longitude: 82°43'32.9"E to 82°44'09.5"E We reconfirmed that the total expansion area is 98 Acres only.
vi	In the EIA report for the public hearing for the proposed expansion project, BALCO management has not stated about the court case (CONMT PET © No. 000388/2009 Registered on 07-12-2009) pending at Hon'ble Supreme Court regarding tree cutting at revenue forest land and industrial land use of the revenue forest land.	<b>Re use of land for industrial usage:</b> Hon'ble Chhattisgarh High Court (CHC) vide its order dated 6 <sup>th</sup> Feb 2009 has already conclusively settled that BALCO is in authorized possession of the entire land admeasuring 1804.67 acre. The relevant part of CHC order is reproduced below: <i>"The possession of the land on 1804.67 acres cannot be held as unauthorized possession, as the petitioner (BALCO) was allowed to set up its project long back without any objection by the State Authorities. Further the State Authorities have collected taxes and the Corporation has also collected the property tax."</i> <b>The litigation before Hon'ble Supreme Court (SC):</b> In the EC PPT, it was mentioned by us that there is an ongoing litigation in Hon'ble SC. It was alleged before Hon'ble SC that BALCO is using the forest land for non-forest purposes. Hon'ble SC acknowledged the order passed by CHC and held that BALCO is in authorized possession of land. Hon'ble SC also passed a direction not to cut any trees. Later, in the same matter, another IA was filed alleging that BALCO has cut trees in contempt of SC directions. The matter has been tagged with AN Godavarman case and is currently sub-judice. There is no order restricting or staying the operations/industrial activity of BALCO.
vii	The matter relating to BALCO's land is sub-judice at Hon'ble Supreme Court. Hon'ble SC has granted order/permission or no-objection for the expansion project. Document attached. Annexure 07.	Except as replied above in the response to point no. 6, there is no other matter related to land usage pending with Hon'ble Supreme Court. In any case, there is no dispute/restriction on the land usage which has already been settled by Hon'ble Chhattisgarh High Court vide its order dated 6 <sup>th</sup> Feb 2009.
viii	BALCO has not deposited the NPV and CA amounting to Rs 91,39,83,735/- for 947.95 acres/383.010 ha with the Office of District Forest Officer, Korba.	The compensation for forest growth amounting to INR 3,19,656.75 on land admeasuring 947.95 acre was paid on 20 <sup>th</sup> March 1971. In this respect, copy of allotment letter dated 26 <sup>th</sup> March 1971 issued by the Office of Collector, Bilaspur and communication of payment dated 3 <sup>rd</sup> April 1971. The same has also been communicated to the office of DFO and the Collector, Korba.
ix	BALCO Management has illegally constructed the cooling towers of 1200MW Power plant in agricultural land in residential area, because of this the people residing in the area are facing problems in their day to day life. The cooling tower has been constructed 15m away from the main road due to which the people travelling on this road are prone to accident.	The cooling towers of 1200 MW power plant have been constructed in the land owned by BALCO for which all necessary permissions have been obtained like Municipality Corporation, CECB etc.

S. No.	Issue stated in the representation	Response of proponent
x	BALCO management claims 100% Fly Ash Utilization for the fly ash generated from its operations. But 100% fly ash utilization is being done by BALCO Management by transporting 4000 to 7000 MT fly ash every day by trucks which are not covered with tarpaulin and are overloaded in various places in the city. The ash utilization is done by dumping the ash adjacent to the main road, in areas which is less than 500m distance from rivers and water bodies, in low lying areas in residential areas without adequate lining and in expansion of areas adjacent to the ash dykes without permission. Lakhs of tons of fly ash is still lying in open in Rogbahari village, the fly ash goes into the irrigation land and in water bodies every year during rains which may lead to contamination of ground water. The ash gets spilled on the roads due to improper covering of the fly ash trucks which leads to lower visibility on roads making the people commuting through bicycles, motorcycles and cars prone to accident. The ash spilling from the trucks comes directly in the contact of the people and is dangerous for the health of the people.	BALCO has been following systematic Ash management practice as detailed during the course of the presentation to EAC. Company has been ensuring 100% tarpaulin cover on ash laden trucks before being dispatched for utilization purpose. Permissions obtained from CECB for reclamation of low lying areas.
xi	BALCO is under additional traffic load due to diversion of coal carrying trucks from Gewra, Kusmunda and Dipka going towards Champa and Raigarh. The traffic has been diverted to BALCO main road and this has led to increase in pollution due to vehicular emission.	Traffic diversion by local authority is not in the control of BALCO. However, BALCO has deployed adequate no of water tankers for dust suppression on roads from the point of Ash dyke road up to Risda circle. However, Company has widened the road and also deploying traffic marshals during weekly market days for safe traffic management.
xii	BALCO management has outsourced the operation and maintenance of 1200MW, 540MW, Smelter and Cast House to external agencies on contract basis. The regular employees are either being terminated or are being pressurised to join the external agencies. Since 2009, BALCO Management has not provided any opportunity to the local people for permanent employment and the local people are being forced to join as temporary contract labourers.	Regarding employment to locals in existing facilities and proposed expansion project, it has been already clarified in the EIA as well as during the course of presentation. Details as under:  <b>Existing Plant:</b> Executives: 64% from Chhattisgarh and 36 % from other states. Workman: 99% from Chhattisgarh and 1 % from other states. Contract Employees: 88 % from Chhattisgarh and 12 % from other states.  <b>Expansion Project:</b> Proposed expansion will create about 200 direct and 2800 Indirect employment opportunities in construction phase and for operation phase the manpower requirement will be around 5050 persons (direct & indirect together).  BALCO has been providing 1st preference to the local people in terms of employment either

S. No.	Issue stated in the representation	Response of proponent
		directly or through business partners.  Company will support local youth for enhancing their employability opportunities through various skill development and educational initiatives as a part of CSR.

47.1.23 Based on the aforementioned ADS reply, the proposal was considered in the 47<sup>th</sup> meeting of Re-EAC (Industry-1) held on 28- 29<sup>th</sup> October, 2021. The observation and recommendation of the EAC is given as below:

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

- PP committed to reduction of fluoride consumption up to 10kg/ tone of Aluminium production for existing facility of 5.75 LTPA by 30<sup>th</sup> April, 2022 and for the expansion project from the inception.
- PP submitted clarification regarding Spent Pot Lining (SPL) and Shot Blast Dust (SBD) management and disposal.
  - a. Agreements have made by the PP with the authorized detoxifiers for disposal of the existing SPL stock approx. 48 KT (as on September 21) by December 2022. Detail for the same has been updated at para 47.1.21 above. Presently, the Refractory Part of 30 KT (approx.) is stored in covered shed on concrete floors. Work is in progress for developing SOP under Rule -9 of HWM Rules, 2016 and SPL refractory part will be disposed within 18 months from the date of approved SOP.
  - b. Present stock of SBD in plant premises approx. 10 KT (as on September 21) is stored in covered shed on concrete floors. Work is in progress for developing SoP under Rule -9 of HWM Rules, 2016 and SBD stock will be disposed within 18 months from the date of approved SOP.
- BALCO has submitted their response to the Public representation dated 19/10/2021. Detail of response in tabular form is updated at para 47.1.22 above.
- BALCO submitted the action plan to achieve 33% of green belt development in 363.28 ha area out of 1099.91 ha area of Aluminum smelter complex up to financial year 2024. Action plan has been updated at para 47.1.16 above.

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

47.1.25 The Committee observed the following:

- i. The EAC found that the response submitted by PP on additional detail sought by EAC in earlier meeting was satisfactory.
- ii. The EAC also deliberated on the certified compliance report of RO, written submissions, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.
- iii. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.

### **Recommendations of the Committee**

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

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

- i. The project proponent shall abide by all orders and judicial pronouncements, made from time to time in case no. IA No.1424-1425 of 2005 filed in W.P. (C) No.202/1995 (T N Godavarman matter) in Hon'ble High Court of Chhattisgarh; Civil Appeal No. 3236/2020 (BALCO vs MoEF&CC& Others) in Hon'ble Supreme Court and Writ Petition (PIL) 58/2020 (Dilendra Yadav vs CECB &Ors) in Hon'ble High Court of Chhattisgarh.
- ii. The poly-aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) shall not exceed 2 mg/Nm<sup>3</sup>. The data on PAH shall be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Raipur and CECB.
- iii. Particulate fluoride emissions shall not be more than 0.65 mg/Nm<sup>3</sup> and fugitive particulate fluoride emissions from pot room shall not be more than 1.85 mg/Nm<sup>3</sup>.
- iv. SO<sub>2</sub> and NO<sub>x</sub> emissions shall be controlled by replacing Furnace Oil with Low Sulphur Heavy Stock (LSHS) within 6 months. Compliance status in this regard shall be submitted to the Regional Office of the MoEF&CC latest by 30<sup>th</sup> June, 2022.
- v. Project proponent shall achieve the Fluoride consumption less than 10 kg/tonne of Aluminium production for the existing 5.75 LTPA Aluminium smelter by 30/04/2022 and for the proposed 5.1 LTPA expansion project right from the day of commissioning of the unit.
- vi. Total water requirement for the existing and expansion project shall not exceed 4900 KLD.
- vii. Present stock of SPL (48000 T) and legacy SPL stock shall be liquidated by Dec 2022 as committed.
- viii. Refractory SPL stock of 30,000 T stored in covered shed on concrete floors shall be disposed within 18 months from the date of approved Standard Operating Procedure (SOPs) by CPCB.
- ix. Present stock of Shot Blasting Dust stored in covered shed in plant premises is 10,000 T which shall be disposed within 18 months from the date of approved Standard Operating Procedure (SOPs) by CPCB.
- x. PM levels shall be less than 30 mg/Nm<sup>3</sup> for all units under expansion. In case of older units, PP shall initiate retrofitting/modification action to achieve the PM emission level of 30 mg/Nm<sup>3</sup> by October, 2024.
- xi. Leachate from Secured Land Fill (SLF) shall be collected and transferred to the solar drying ponds. During rainy season, SLF shall be covered with tarpaulin to minimize leachate generation. Regular monitoring of cyanide and fluoride in waste water shall be monitored.
- xii. The company shall develop rainwater structures to harvest the run-off water for recharge of ground water as per the action plan submitted in the EIA report.

- xiii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.
- xiv. Legacy ash stocks of 18.2 Million tons shall be liquidated by Dec 2024. The vehicles carrying ash from dyke shall use tarpaulin covers. No additional ash pond shall be developed for ash disposal.
- xv. Greenbelt shall be developed in an area of 363.28 ha (33 % of the total project area of 1099.91 ha) with a tree density of 2500 trees/ ha by 31/12/2024 as per the action plan given as below:

S.No.	Details	Total Area (in ha)	Existing Plantation Area (in ha)	On-Going Plantation Area (in ha)	*Action Plan: Green Cover Proposed up to FY 24 (in Ha)			Total Green Cover (in Ha)	Total Green Cover- (%)	Species Proposed
					FY 22	FY 23	FY 24			
1	Integrated Aluminium Smelter Complex	383.63	97.72	0.81	5.0	5.85	17.40	126.78	33%	Karanj, Neem, Peepal, Sal, Sarai, Arjun, Sagon, Banyan, Sisoo, Rain Tree, Gulmohar, Mahua, Kadam, etc
2	Ash Dyke	151.75	8.87	-	6	10	9.24	34.11		
3	Township Land	263.04	126.49	6.84	2	2	2	139.33		
4	Balance Other Land	301.49	20.94	7.12	10	10	15	63.06		
	<b>Total Area</b>	<b>1099.91</b>	<b>254.02</b>	<b>14.77</b>	<b>23</b>	<b>27.85</b>	<b>43.64</b>	<b>363.28</b>		

- xvi. Performance monitoring of pollution control equipment shall be taken up yearly and compliance status in this regard shall be reported to RO.
- xvii. BALCO shall develop captive refractory detoxifying facility at project site by 31st March, 2024 as committed after obtaining requisite statutory approvals from the concerned Competent Authority.
- xviii. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

## B. General Conditions

### I. Statutory compliance:

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

### II. Air quality monitoring and preservation

- i. The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from

time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.
- iii. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- iv. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;
- v. The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;
- vi. Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.
- vii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.
- viii. Adopt measures to recover fluoride gas from electrolytic cells and recycle the same in the process.
- ix. Practice use of low-Sulphur tars for baking anodes.
- x. Make efforts to increase the life of pot lining through better construction and operating techniques.
- xi. Design the pot roofs with louvers and roof ventilators

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

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 742 (E) dated 30<sup>th</sup> August 1990 and further amended vide G.S.R 46 (E) dated 3<sup>rd</sup> February 2006 (Aluminium); S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
- v. Water meters shall be provided at the inlet to all unit processes in the cement plant.
- vi. The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.

**IV. Noise monitoring and prevention**

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

**V. Energy Conservation measures**

- i. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases.
- ii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- iii. Provide LED lights in their offices and residential areas.

**VI. Waste management**

- i. Used refractories shall be recycled.
- ii. Oily scum and metallic sludge recovered from ETP shall be mixed, dried, and briquetted and reused.

**VII. Green Belt**

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

**VIII. Public hearing and Human health issues**

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

**IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.



47.2 Proposed installation of Pellet Plant (0.6 MTPA), Sponge Iron Plant (2x350 TPD DRI kilns), Induction Furnaces (4x20 T) with matching LRF & CCM, Rolling Mill (0.25 MTPA) along with 26 MW capacity Captive Power Plant (16 MW WHRB & 10 MW AFBC based) by **M/s AIC Metaliks Private Limited** located at Jamuria Industrial Estate, Jamuria, **District Paschim Burdwan, West Bengal**. [Online Proposal No. IA/WB/IND/117709/2019, File No. IA-J-11011/274/2019-IA-II(I)] –**Environment Clearance– regarding**

47.2.1 M/s. AIC Metaliks Private Limited has made an online application vide proposal no. IA/WB/IND/117709/2019 dated 06/10/2021 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 and Non-ferrous) and 1(d) Thermal Power Plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

#### Details submitted by Project proponent

47.2.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
11/09/2019	11 <sup>th</sup> meeting of EAC, held on 25 <sup>th</sup> September, 2019	Terms of Reference	30/10/2019

47.2.3 The project of M/s. AIC Metaliks Private Limited is located at Jamuria Industrial Estate, Jamuria, District Paschim Burdwan, West Bengal State for Proposed installation of following facilities:

- Pellet Plant (1x0.6 MTPA)
- Sponge Iron Plant (2x350 TPD DRI kilns) for production of 2,31,000 TPA Sponge Iron
- Induction Furnaces (4x20 T) with matching LRF & CCM for production of 2,60,000 TPA Billets (2,64,000 TPA Liquid Steel)
- Rolling Mill (0.25 MTPA) for production of structural (Sheets, Angels, Channels, TMT Bars, Wires, Rods, Strips, Pipes)
- 26 MW capacity Captive Power Plant (16 MW WHRB & 10 MW AFBC based)

47.2.4 Environmental Site Settings:

S No	Particulars	Details			Remarks
i.	Total land	19.27 ha [Private: 19.27 ha]			Land use: Industrial – 19.27 ha
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total land of 19.27 ha for the proposed project is already under the possession of the Company.			Site located in notified Jamuria industrial Estate
iii.	Existence of habitation & involvement of R&R, if any	There is no habitation and no involvement of R&R.			Total land under the possession of the company.
iv.	Latitude and Longitude of the project site	<b>Point</b>	<b>Latitude</b>	<b>Longitude</b>	
		1	23°41'11.73"N	87° 5'47.09"E	

S No	Particulars	Details			Remarks
		2	23°41'13.00"N	87° 5'53.32"E	
		3	23°41'10.97"N	87° 6'1.69"E	
		4	23°41'0.75"N	87° 6'18.37"E	
		5	23°40'53.37"N	87° 6'11.98"E	
V.	Elevation of the project site.	115 meters AMSL			
vi.	Involvement of Forest land if any.	Not Applicable			
vii.	Water body exists within the project site as well as study area	<b><u>Project Site:</u></b> No water body in the project site.  <b><u>Study area:</u></b> Ajay River – 8.7 Km/NNE Damodar River – 9.3 km/SSW Several village pond within 3 km from the project site			
viii.	Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve / tiger reserve / elephant reserve etc. if any within the study area	Nil			

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

S No	Proposed Units	Unit Configuration	Production capacity
1	Pelletization Plant	(Module: 1×6,00,000 TPA)	6,00,000 TPA Pellets
2	Sponge Iron Plant	700 TPD (2×350 TPD)	2,31,000 TPA Sponge Iron
3	Induction Furnaces with matching LRF & CCM	4×20 T	2,60,000 TPA Billets (2,64,000 TPA Liquid Steel)
4	Rolling Mill	2,50,000 TPA	2,50,000 TPA Structural (Sheets, Angles, Channels, TMT Bars, Wires, Rods, Strips, Pipes)
5	Captive Power Plant	26 MW (16 MW WHRB based + 10 MW AFBC Boiler based)	26 MW Power

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

S No	Raw Material	Annual Requirement (in TPA)	Source	Distance (in km)	Transportation			
					Internal	Rail	Road	
Pellet Plant (1x6,00,000 TPA)								
1	Iron Ore Fines	7,20,000	Barbil- Joda, Orissa	300-350	-	7,20,000	-	
2	Limestone	6,000	Birmitrapur, Orissa Bilaspur Raipur CG Katni MP	300 700 800 900	-	-	6,000	
3	Bentonite	51,000	Gujarat	2200	-	51,000	-	
4	Coal	24,000	Imported- Haldia Port Open Market	290-300 100-150	-	24,000	-	
DRI Plant (2x350 TPD)								
1	Pellet	3,46,500	In-House	-	3,46,500	-	-	
2	Coal	2,31,000	Imported- Haldia Port Open Market	290-300 100-150	-	1,61,700	69,300	
3	Dolomite	6,930	Raipur CG Katni MP	800 900	-	-	6,930	
Induction Furnaces (4x20 T)								
1	Sponge Iron	2,31,000	In-House	-	2,31,000	-	-	
2	Scraps	24,000	Howrah Durgapur Asansol	200 35 20	-	-	24,000	
3	Pig Iron	47,000	Durgapur Jamuria	35 5-10	-	-	47,000	
4	Ferro Alloys	3,500	Barjora Durgapur Jamuria	50 35 5-10	-	-	3,500	
Captive Power Plant (10.0 MW based on AFBC boiler)								
1	Coal	63,000	Imported- Haldia Port Open Market	290-300 100-150	-	44,100	18,900	
2	Dolochar	69,300	In-House	-	69,300	-	-	
Total		1816930	-	-	6,40,500	10,00,800	1,75,630	
Percentage (%)					35%	55%	10%	

47.2.7 The water requirement as tune of 743 m<sup>3</sup>/day including 18 m<sup>3</sup>/day for domestic purposes will be required for the proposed project. The raw water will be sourced from Asansol Municipal Corporation supply system. No ground water shall be abstracted. The permission for drawl of 900 m<sup>3</sup>/day water is obtained from Asansol Municipal Corporation vide Ref. No. 0854/B-1/J/AMC dated 29/06/2021.

47.2.8 The estimated power requirement of the proposed unit is around 45.5 MW. The power requirement will be met from proposed 26 MW captive power plant and the rest from the State grid.

47.2.9 Baseline Environmental Studies:

Period	1 <sup>st</sup> October, 2019 – 31 <sup>st</sup> December, 2019
AAQ parameters at 8 locations (min and max)	$PM_{2.5} = 19 - 41 \mu g/m^3$ $PM_{10} = 52 - 85 \mu g/m^3$ $SO_2 = 5 - 21 \mu g/m^3$ $NO_2 = 10 - 36 \mu g/m^3$ $CO = 0.173 - 1.281 mg/m^3$
AAQ modelling (Incremental GLC)	$PM = 2.10 \mu g/m^3$ (0.8 km in SE) $SO_2 = 2.56 \mu g/m^3$ (1.2 km in SE) $NO_x = 2.56 \mu g/m^3$ (1.2 km in SE)
Ground water quality at 9 locations	pH: 6.9 - 7.6, Total Hardness: 206 - 263 mg/l, Chlorides: 87 - 130 mg/l, Fluoride: 0.15 - 0.39 mg/l, Iron: 0.19 - 0.44 mg/l, TDS: 347 - 473 mg/l
Surface water quality at 10 locations (3 River water & 7 pond water samples)	<p><b><u>River Water (Ajay River)</u></b>            pH: 7.5 &amp; 7.7,            DO: 6.6 &amp; 6.8 mg/l,            BOD: 3 &amp; 2 mg/l,            COD: 12 &amp; 10 mg/l,            Fe: 0.12 &amp; 0.13 mg/l,            Coliform: 1670 &amp; 1460 MPN/100ml,            TDS: 194 &amp; 191 mg/l,            Total Hardness: 111 &amp; 113 mg/l,            Chloride: 40 &amp; 37 mg/l</p> <p><b><u>River Water (Damodar River)</u></b>            pH: 7.1,            DO: 6.5 mg/l,            BOD: 3 mg/l,            COD: 16 mg/l,            Fe: 0.28 mg/l,            Coliform: 1880 MPN/100ml,            TDS: 398 mg/l,            Total Hardness: 202 mg/l,            Chloride: 110 mg/l</p> <p><b><u>Pond Water</u></b>            pH: 6.8 - 7.6,            DO: 5.9 - 6.8 mg/l,            BOD: 4 - 8 mg/l,            COD: 18 - 31 mg/l,            Fe: 0.15 - 0.34 mg/l,</p>

	Coliform: 820 - 2330 MPN/100 ml, TDS: 321 - 398 mg/l, Total Hardness: 156 - 214 mg/l, Chloride: 80 - 123 mg/l
Noise levels (min and max)	53.6 to 71.4 dBA for day time and 44.8 to 58.6 dBA for night time.
Traffic assessment study findings	<p>Existing Load (in PCU/day):</p> <ul style="list-style-type: none"> <li>❖ 5948 on Jamuria-Ranisayer road near Ikrah More</li> <li>❖ 28973 on NH-2 near Ranisayar More</li> <li>❖ 11873 On NH-60, near Topsi Petrol Pump</li> </ul> <p>Total traffic load during operation of the proposed project (PCU/Day):</p> <ul style="list-style-type: none"> <li>❖ 7453 on Jamuria-Ranisayer road near Ikrah More</li> <li>❖ 30,479 on NH-2 near Ranisayarmore</li> <li>❖ 13,378 On NH-60, near Topsipetrolpump</li> </ul> <p>As per IRC:106 – 1990 code, guidelines for capacity of urban roads in plain areas (PCU/day):</p> <ul style="list-style-type: none"> <li>❖ 57,600 for Jamuria-Ranisayer road near Ikrahmore</li> <li>❖ 86,400 for NH-2 near Ranisayarmore</li> <li>❖ 57,600 for NH-60, near Topsipetrolpump</li> </ul> <p>Level of Service of all three roads mentioned above as per IRC Guideline (Volume/ capacity)</p> <p><b>Present level of service</b></p> <ul style="list-style-type: none"> <li>❖ Jamuria–Ranisayer Road: <math>5948/57600 = 0.10</math> (level A– Excellent)</li> <li>❖ NH-2: <math>28973/86400 = 0.33</math> (level B- Very good)</li> <li>❖ NH-60: <math>11873/57600 = 0.20</math> (level B - Very good)</li> </ul> <p><b>After operation of proposed project level of service</b></p> <ul style="list-style-type: none"> <li>❖ Jamuria – Ranisayer Road: <math>7453/57600 = 0.13</math> (level A – Excellent)</li> <li>❖ NH-2: <math>30479/86400 = 0.35</math> (level B – Very good)</li> <li>❖ NH-60: <math>13378/57600 = 0.23</math> (level B- Very good)</li> </ul> <p>The level of service will remain same even after including the traffic of proposed project.</p>
Flora and fauna	No endangered flora is present in the study area. No Schedule I species is present in the study area.

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

S No	Type	Quantity in Tons/Year	Utilization
1	Dolochar from Sponge Iron Plant	69,300	100% to be used in AFBC boiler of CPP.

S No	Type	Quantity in Tons/Year	Utilization
2	Slag from Induction Furnaces.	29,600	<p>The slag generated from the furnaces shall be 29,600 TPA considering 100% production in the furnaces. After metal recovery about 10% metal shall be recovered from the total slag and the balance 26,640 TPA (as stone chips / road construction materials) shall be used for road construction &amp; repairing / land filling purposes.</p> <p>Considering 7 m width &amp; depth 12 inch (0.3 m) of the road and density of the slag as 3.5 ton/cum, 7,350 T slag may be consumed for 1.0 km stretch. Therefore, the entire quantity of slag generated in a year (26,640 TPA) shall be utilized for the construction of around 4 km roads.</p> <p>As per an estimate, it was found that around 450 km undeveloped (Kuchha) road is existing in the surrounding villages in the 10 km radius area. Hence, there is lot of potential of slag utilisation during construction of these roads.</p>
3	End Cuts, Scale & Scrap from CCM & Rolling Mill	14,000	100% to be used in Induction Furnaces.
4	Fly Ash from CPP	24,192	100% to be sold as a raw material in cement plant / brick manufacturers in the neighborhood.
5	Bottom Ash from CPP	6,048	100% to be utilised for brick making / landfilling purposes.

47.2.11 Public Consultation:

Details of advertisement given	6 <sup>th</sup> January, 2021 in Bengali newspaper “Bartaman”, Hindi newspaper “Sanmarg” and English newspaper “The Times of India”
Date of public consultation	10 <sup>th</sup> February, 2021
Venue	Jamuria Town Hall, Jamuria, Dist. - Paschim Bardhaman, West Bengal
Presiding Officer	Sri. Apratim Ghosh, Additional District Magistrate, Paschim Bardhaman, West Bengal
Major issues raised	<ul style="list-style-type: none"> <li>• Control measures for abatement of Air Pollution due to the proposed project</li> <li>• Development of local roads and local schools</li> <li>• Regarding Ground water depletion</li> <li>• Regarding no discharge of waste water outside the plant premises</li> <li>• Development of Green Belt inside and outside the plant</li> </ul>

	<ul style="list-style-type: none"> <li>• Organizing health camp for the local people</li> <li>• Generation of employment for the local people and youths</li> <li>• Providing drinking water facilities in village during dry season</li> <li>• Safety due to vehicle movement for transportation of materials</li> </ul>
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**Action plan as per MoEF & CCO.M. dated 30/09/2020**

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
<ul style="list-style-type: none"> <li>• Regarding Control measures for abatement of Air Pollution due to the proposed project</li> </ul>	<ul style="list-style-type: none"> <li>• Adequate control measures like installation of ESP, Bag filters, dust suppression system &amp; stacks of adequate height at relevant places will be installed.</li> <li>• Air borne dust shall be controlled by mobile water tanker inside the plant premises.</li> <li>• Maintenance of air pollution control equipment shall be done at regular intervals.</li> <li>• All roads shall be paved on which movement of raw materials or products will take place inside the plant premises.</li> </ul>	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.		
		Budget	Included in the EMP Cost.		
<ul style="list-style-type: none"> <li>• Development of local roads</li> </ul>	Construction of metal road (6 km) (@Rs. 18,00,000/- per Km) in the nearby six villages.	Physical Target	2 km	2 km	2 km
		Budget: Rs. 108 Lakhs	Rs.36 Lakh	Rs.36 Lakh	Rs.36 Lakhs
<ul style="list-style-type: none"> <li>• Development of local schools</li> </ul>	Financial support will be given to the local schools for the renovation / repairing work through extension of building / class room/ development of library facilities/ provision of computers for educational development purpose.	Physical Target	Development of existing building in 5 local schools by creating extra space	Development of 5 nos. playground along with the sports items in the local schools.	Supply of 15 nos. of computers to the 5 local schools along with upgradation of existing libraries.
		Budget: Rs. 60 Lakhs	Rs.25 Lakhs	Rs.10 Lakhs	Rs.25 Lakhs
<ul style="list-style-type: none"> <li>• Ground water depletion</li> </ul>	As per an initial estimate, water to the tune of around 743 m <sup>3</sup> /day including 18	Physical Target	-		
		Budget	-		

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
	<p>m<sup>3</sup>/day for domestic purposes will be required for the proposed project which will be fulfilled from Asansol Municipal Corporation supply system.</p> <p>No groundwater will be used for the proposed project.</p>				
<ul style="list-style-type: none"> <li>No discharge of waste water outside the plant premises</li> </ul>	<p>The plant will be designed as a zero discharge plant. The water will be recirculated through cooling and treatment. The entire waste water will be recycled for various purposes inside the plant.</p>	Physical Target	The physical Target shall be achieved with the commissioning of the project.		
		Budget	Included in the EMP Cost.		
<ul style="list-style-type: none"> <li>Development of Green Belt inside and outside the plant</li> </ul>	<ul style="list-style-type: none"> <li>The company has earmarked 15.72 acres (6.36 Ha) of land for Green Belt Development within its plant site. Around 15900 number of trees (@ 2500 nos. of tree per hectares) shall be planted under greenbelt development programme within the plant premises.</li> <li>Development of Parks and Tree Plantation Programme in the nearby villages will be done and distribution of saplings will be done to the nearby villagers and school students.</li> </ul>	Physical Target	Physical Target for greenbelt development inside the plant premises shall be achieved before commissioning of the project.		
			Development of 1 no. park along with tree plantation & distribution of saplings.	Development of 1 no. park along with tree plantation & distribution of saplings.	Tree plantation & distribution of saplings.
		Budget: Rs. 40 Lakhs	Rs.15 Lakhs	Rs.15 Lakhs	Rs.10 Lakhs
<ul style="list-style-type: none"> <li>Organizing health camp for the local people</li> </ul>	<p>Periodic health check-up programme will be conducted by arranging camps through Primary Health Care Centers in nearby villages.</p>	Physical Target	Health checkup camps shall be organized on half-yearly basis, in 5 nearby villages for general body, eyes, blood test and donation along with mass vaccination for polio, dengue, typhoid, malaria, etc. For this purpose, one doctor along with 2 – 3 assistants shall be deputed. This will come under CSR activities of the company.		



Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
		Budget	Shall be included in the CSR budget of the company		
• Generation of employment opportunities for the local people	In the proposed project, top most priority will be given to the local people based on their academic qualification.	Physical Target	Construction of a 2 – room building with infrastructure development like installation of 5 sewing machines, 5 computer systems & 7 machines for making hand craft items along with necessary raw materials for training purpose.		
	Skill development to unemployed local youths through National Skill Development Corporation, Govt. of India Scheme. Construction of a building along with the necessary infrastructures for this purpose like different machineries for industries.	Budget: Rs. 40 Lakhs	Rs. 15 Lakhs	Rs. 15 Lakhs	Rs. 10 Lakhs
• Providing drinking water facilities in village during dry season	20 numbers Tube well / Hand pumps in nearby villages (@ Rs. 50,000/- per Tube Well / Hand Pumps	Physical Target	8 nos. Tube wells in 4 villages	6 nos. Tube wells in 3 villages	6 nos. Tube wells in 3 villages
		Budget: Rs. 10 Lakhs	Rs. 4 Lakhs	Rs. 3 Lakhs	Rs. 3 Lakhs
• Safety due to vehicle movement for transportation of materials	• All roads shall be paved on which movement of raw materials or products will take place inside the plant premises. • Allowing only PUC certified vehicle movement inside the plant premises. • Repairing of the roads wherever necessary and to the extent possible.	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.		
		Budget	Included in the EMP Cost.		
Total Budget - Public Hearing related: Rs. 258 Lakhs					

#### Need based Assessment:

Need based Activities	Particulars	Year of Implementation		
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
To provide COVID related items	Physical Target:	200 nos. Oximeters, 20,000 nos. mask, 1000 bottles Sanitizer		
	Budget: Rs. 15 Lakhs	Rs. 15 Lakhs	-	-
Street Lighting (Solar) provision at	Physical Target:	Providing 25 nos. Solar light	Providing 25 nos. Solar light	-

Need based Activities	Particulars	Year of Implementation		
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
suitable public places in and around the nearby villages (50 numbers, @ Rs. 20,000/- per Solar Light)	Budget: Rs. 10 Lakhs	Rs. 5 Lakhs	Rs. 5 Lakhs	-
Providing Dustbins (300 nos @Rs. 1000/- per unit) in nearby villages (under Swachh Bharat Scheme) for waste segregation and handling	Physical Target:	100 nos. Dustbins	100 nos. Dustbins	100 nos. Dustbins
	Budget: Rs. 3 Lakhs	Rs. 1 Lakh	Rs. 1 Lakh	Rs.1 Lakh
Rain Water Harvesting ponds in nearby villages (4 nos. @ Rs. 5 Lakhs/ Pond).	Physical Target:	2 Rain Water Harvesting Pond	2 Rain Water Harvesting Pond	-
	Budget: Rs. 20 Lakhs	Rs. 10 Lakhs	Rs. 10 Lakhs	-
Construction of 7 nos. of ground water Recharging system for rainwater in nearby villages (@3 lakhs per system).	Physical Target:	3 no. of ground water Recharging system	2 no. of ground water Recharging system	2 no. of ground water Recharging system
	Budget: Rs. 21 Lakhs	Rs. 9 Lakhs	Rs. 6 Lakhs	Rs. 6 Lakhs
<b>Total Budget - Need based activities: Rs. 69 Lakhs</b>				
<b>Overall Budget (Public Hearing related + Need based Activities): Rs. 327 Lakhs</b>				

- 47.2.12 The capital cost of the project is Rs. 353 Crores and the capital cost for environmental protection measures is proposed as Rs. 30.58 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 2.8 Crores. The employment generation from the proposed project is 400 persons (150 permanent and 250 contractual). The detail of cost for environmental protection measures is as follows:

S No	Description of Item	Proposed (Rs. in Crores)	
		Capital Cost	Recurring Cost
i.	Cost of Air Pollution Control Systems	14.0	1.5
ii.	Cost of Water conservation & Pollution Control	4.0	0.42
iii.	Cost of Solid Waste Management System	2.0	0.20
iv.	Green belt development	2.0	0.08
v.	Noise Reduction Systems	2.0	0.20
vi.	Occupational Health Management	1.5	0.15
vii.	Risk Mitigation & Safety Plan	1.5	0.15
viii.	Environmental Management Department	1.0	0.10
ix.	Total Budget - Public Hearing related	2.58	-
<b>Total</b>		<b>30.58</b>	<b>2.80</b>

- 47.2.13 **M/s. AIC Metaliks Pvt. Ltd.** has earmarked 6.36 hectares (15.72 acres) of land for Green Belt Development out of 19.27 hectares (47.62 acres) of total land, within its plant area at Jamuria Industrial Estate, Jamuria, District Paschim Burdwan in West Bengal. Around

15,900 trees (2500 nos. of tree per hectares) will be planted in the green belt development area.

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

47.2.15 Name of the EIA consultant: M/s. Envirotech East Pvt. Ltd. [Sl. No. 173, List of ACOs with their Certificate no. QCI/NABET/ENV/ACO/21/1999 valid up to 03/01/2022; Rev. 15, October 11, 2021].

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

47.2.16 The Committee noted the following:

- i. The budget proposed for environment protection measures needs to be revisited and enhanced.
- ii. Action plan submitted to address the issues raised during public hearing is not as per the MoEF&CC O.M. dated 30/09/2020. PP need to submit the revised action plan.
- iii. A primary school is located at distance of 660 meters from the project boundary. The PP needs to provide additional protection measures for the protection of the same.
- iv. Water permission is obtained from Asansol Municipal Authority (AMA) for withdrawal of surface water from Ajay River. Clarification is required from PP in this regard as the AMA does not appear to the concerned competent authority for issuing water withdrawal permission from Ajay river.
- v. Material balance needs to be revised as the same is not correct.
- vi. Water balance diagram is incomplete.
- vii. Surface water analysis result is not correct as there is no co-relation between the total coliform and BOD reported values. Fresh analysis of surface water sampling needs to be carried out.
- viii. Ambient air quality monitoring stations (AAQMS) have not covered all the directions as per the wind rows diagram. PP shall collect additional one-month baseline data at the additional AAQMs locations as per wind rows diagram. AAQ modeling shall be redone with new AAQ data.
- ix. EMPs and mitigation measures have not been quantified in the EIA report.
- x. Compliance to the specific ToR pertaining to rain water harvesting has not been addressed.
- xi. Power point presentation sent to EAC members is different from what was presented during the EAC meeting.
- xii. PP has provided the mitigation measures in generic form; same need to be provided with quantitative data.

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

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

47.3 Proposed Greenfield Project comprising of establishment of Iron ore beneficiation plant (2.0 MTPA), Pellet Plant (1.6 MTPA), Sponge Iron Plant (7,60,000 TPA), Steel Melting Shop with CCM (Billets / Ingots / Hot Billets) (7,50,000 TPA), Ladle Refining Furnace (7,50,000 TPA), Rolling Mill with Standby Reheating Furnace 50 TPH (Rolled products / TMT Bars / Structural Steel) (7,00,000 TPA), Coal Gasifier + PCI for Pellet Plant &

Rolling Mill (80000 Nm<sup>3</sup> /hr), Ferro Alloy Plant 2 x 9 MVA (SiMn – 36,000 TPA / FeMn – 66,000 TPA / FeSi – 18,000 TPA / Pig Iron – 72,000 TPA), WHRB based Power Plant – 66 MW & CFBC based Power Plant – 40 MW by **M/s. Real Ispat & Power Limited** located at Bakulahi & Dhourabhata Villages, Bhatapara Tehsil, **Balodabazar – Bhatapara District, Chhattisgarh**. [Online Proposal No. IA/CG/IND/127880/2019; File No.: J-11011/411/2019-IA.II(I)] –**Environment Clearance– regarding.**

- 47.3.1 M/s. Real Ispat & Power Limited has made an online application vide proposal no. IA/CG/IND/127880/2019 dated 07/10/2021 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. 2(b) Mineral Beneficiation, 3(a) Metallurgical Industries (Ferrous and Non-ferrous) and 1(d) Thermal Power Plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

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

Date of application	Consideration	Details	Date of accord
27 <sup>th</sup> November 2019	14 <sup>th</sup> EAC 23-24 <sup>th</sup> December, 2019.	ToR issued with public hearing	20/01/2020

- 47.3.3 The project of M/s. Real Ispat & Power Limited located in Bakulahi & Dhourabhata Villages, Bhatapara Tehsil, Baloda Bazar – Bhatapara District, Chhattisgarh State has proposed to establish a steel plant consisting of Iron ore beneficiation plant (2.0 MTPA), Pellet Plant (1.6 MTPA), Sponge Iron Plant (7,60,000 TPA), Steel Melting Shop with CCM (Billets / Ingots / Hot Billets) (7,50,000 TPA), Ladle Refining Furnace (7,50,000 TPA), Rolling Mill with Standby Reheating Furnace 50 TPH (Rolled products / TMT Bars / Structural Steel) (7,00,000 TPA), Coal Gasifier + PCI for Pellet Plant & Rolling Mill (80000 Nm<sup>3</sup>/hr), Ferro Alloy Plant 2 x 9 MVA (SiMn – 36,000 TPA / FeMn – 66,000 TPA / FeSi – 18,000 TPA / Pig Iron – 72,000 TPA), WHRB based Power Plant – 66 MW & CFBC based Power Plant – 40 MW.

- 47.3.4 Environmental Site Settings:

SNo	Particulars	Details	Remarks
i.	Total land	63.52 ha. (156.909 Acres) Private Land: 19.551 ha Industrial converted land: 43.969 ha.	Land Use: Out of total land, 43.969 ha. (108.65 Acres) of land is already converted for Industrial Purposed and remaining is under process.
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total land of 63.52 ha is in possession of M/s. Real Ispat and Power Limited.	--
iii.	Existence of habitation &	No habitation exists in the project site.	--

SNo	Particulars	Details		Remarks
	involvement of R&R, if any.			
iv.	Latitude and Longitude of the project site	<b>Point</b>	<b>Coordinates</b>	--
		1	21°48'02.55"N 82°02'54.19"E	
		2	21°47'47.51"N 82°02'49.10"E	
		3	21°47'47.23"N 82°02'49.28"E	
		4	21°47'49.15"N 82°02'43.20"E	
		5	21°47'57.88"N 82°02'45.32"E	
		6	21°47'57.68"N 82°02'39.73"E	
		7	21°47'59.94"N 82°02'32.67"E	
		8	21°47'52.07"N 82°02'29.65"E	
		9	21°47'54.30"N 82°02'25.92"E	
		10	21°47'55.48"N 82°02'21.41"E	
		11	21°48'00.13"N 82°02'23.22"E	
		12	21°48'01.46"N 82°02'19.86"E	
		13	21°48'00.50"N 82°02'19.61"E	
		14	21°48'01.42"N 82°02'16.75"E	
		15	21°48'02.19"N 82°02'16.91"E	
		16	21°48'02.43"N 82°02'16.34"E	
		17	21°48'04.33"N 82°02'16.72"E	
		18	21°48'05.03"N 82°02'13.23"E	
		19	21°48'07.74"N 82°02'14.19"E	
		20	21°48'07.18"N 82°02'15.87"E	
		21	21°48'09.72"N 82°02'16.45"E	
		22	21°48'15.47"N 82°02'17.10"E	
		23	21°48'20.33"N 82°02'19.38"E	
		24	21°48'20.47"N 82°02'26.44"E	
		25	21°48'17.54"N 82°02'26.73"E	
		26	21°48'15.02"N 82°02'32.99"E	
		27	21°48'18.68"N 82°02'34.99"E	
		28	21°48'17.69"N 82°02'36.45"E	
		29	21°48'14.56"N 82°02'35.92"E	
		30	21°48'12.08"N 82°02'34.85"E	
		31	21°48'10.71"N 82°02'38.20"E	
		32	21°48'12.25"N 82°02'39.19"E	
		33	21°48'06.69"N 82°02'40.66"E	
v.	Elevation of the project site	270 m AMSL		--
vi.	Involvement of Forest Land, if any	Nil		--
vii.	Water body exists within the project site as well as study area	<b><u>Project Site:</u></b> Nil  <b><u>Study area:</u></b> Shivnath River (5.9 Kms. - NW Direction) JamuniyaNadi (5.8 Kms. - SSE Direction) Bhatapara Branch of Mahanadi Canal (0.18 Kms. – SSE Direction)		--
viii.	Existence of ESZ / ESA / National Park	Nil		--

SNo	Particulars	Details	Remarks
	/ Wildlife Sanctuary / Biosphere Reserve / Tiger Reserve / Elephant Reserve etc. if any within the study area		

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

Unit configuration and capacity of proposed project is given as below:

SNo	Unit Detail		Unit Configuration	Production Capacities
1.	Iron ore Beneficiation(Beneficiated ore)		2.0 MTPA	2.0 MTPA
2.	Pellet Plant (Pellet)		2x0.8 MTPA	1.6 MTPA
3.	Coal Gasifier + PCI For Pellet Plant & Rolling Mill		10x8000 Nm <sup>3</sup> /hr	80,000 Nm <sup>3</sup> /hr
4.	DRI Kilns (Sponge Iron)		2 x 650 TPD + 2 x 350 TPD + 1 x 200 TPD *	7,60,000 TPA
5.	Steel Melt Shop with CCM (Billets / Ingots / Hot Billets)		5x30 T + 5x20 T + twin Caster	7,50,000 TPA
6.	Ladle Refining Furnace (LRF) (Billets / Ingots / Hot Billets)		2x25 T & 1x35 T	7,50,000 TPA
7.	Rolling Mill with Standby Reheating Furnace 50 TPH (Rolled products / TMT Bars / Structural Steel)		2x3,50,000 TPA	7,00,000 TPA
8.	Ferro Alloys Unit (FeSi / FeMn / SiMn / Pig Iron)		2 x 9 MVA	FeSi- 18,000 TPA / FeMn- 66,000 TPA / SiMn- 36,000 TPA / Pig Iron- 72,000 TPA
9.	Power Plant	WHRB	66 MW	66 MW
		CFBC	40 MW	40 MW

**MTPA** stands for Million Tons per Annum  
**WHRB:** Waste Heat Recovery Boiler  
**CFBC:** Circulating Fluidized Bed Combustion  
 It is proposed to install briquetting plant of capacity 200 Kg/hr.

**Note:**  
 \* **As per Specific ToR (xi)**, instead of 2x100 TPD DRI Kilns it is proposed to install only 1x200 TPD Kiln to reduce no. of Kilns in the proposal.

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

S. No.	Raw Material / Fuel	Quantity (TPA)	Sources	Distance (in Kms.)	Mode of Transport
<b>1. For Iron Ore beneficiation plant (2.0 MTPA – throughput capacity)</b>					

S. No.	Raw Material / Fuel		Quantity (TPA)	Sources	Distance (in Kms.)	Mode of Transport
a)	Iron ore fines		20,00,000	Chhattisgarh/ Orissa	~ 600 Kms.	By Rail & Road (through covered trucks)
2. For Pellet Plant (Pellets) - 1.6 MTPA						
a)	Iron ore Concentrate		17,00,000	Own generation	---	Covered Conveyor
b)	Bentonite		21,000	Gujarat	~ 600 Kms.	By Rail & Road (through covered trucks)
c)	Lime Powder		22,500	Chhattisgarh/ MP	~ 100 Kms.	By Rail & Road (through covered trucks)
d)	Coke breeze		54,000	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag port)	By Sea, Rail & Road (Covered trucks)
e)	Coal (Gasifier) 40,000 NM3) + PCI	Indian	1,67,200	SECL/ Orissa	~ 500 Kms.	By Rail & Road (through covered trucks)
		Imported	97,280	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag port)	By Sea, Rail & Road (Covered trucks)
f)	LDO		30,300 KL	Chhattisgarh	~ 100 Kms.	By Road through tanker
3. For DRI Kilns (Sponge Iron) – 7,60,000 TPA						
a)	Iron Ore Pellets		11,40,000	Own generation	---	Covered Conveyor
b)	Dolomite		38,000	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
c)	Coal	Indian	9,88,000	SECL/ Orissa	~ 500 Kms.	By Rail & Road (through covered trucks)
		Imported	6,32,350	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag port)	By Sea, Rail & Road (Covered trucks)
4. For Steel Melting Shop (MS Billets/ Ingots/Hot Billets) – 7,50,000 TPA						
a)	Sponge Iron		7,60,000	Own generation	---	Covered Conveyor
b)	Pig Iron		72,000	Own generation	---	Covered Conveyor
c)	Scrap		38,000	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
d)	Ferro Alloys		37,500	Own generation	---	Covered Conveyor
5. For Rolling Mill through hot charging (Rolled Products/TMT bars/Structural Steel)– 7,00,000 TPA						
a)	Billets / Ingots		7,50,000	Own generation	---	Covered Conveyor
b)	Coal for Gasifier (40000 Nm³)+ PCI	Indian	1,29,600	Chhattisgarh/ Orissa	~ 100 Kms.	By Rail & Road (through covered trucks)
		Imported	83,000	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag port)	By Sea, Rail & Road (Covered trucks)
c)	LDO		35,100 KL	Chhattisgarh	~ 100 Kms.	By Road through tanker
6. For Ferro Alloys: 2 x 9 MVA (FeSi / SiMn / FeMn / Pig Iron)						
6. (i) For manufacturing Ferro Silicon – 18,000 TPA						
a)	Quartz		27,360	Chhattisgarh/ Andra Pradesh	~ 100 Kms.	By Rail & Road (through covered trucks)
b)	Mill Scale		14,040	Own generation	---	Covered Conveyor
c)	M.S. Scrap		630	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
d)	LAM Coke		10080	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
e)	Bag filter dust		1080	Own generation	---	Pipeline
6. (ii) For manufacturing Silico Manganese- 36,000 TPA						
a)	Manganese Ore		58680	MOIL / OMC	~ 500 Kms.	By Rail & Road

S. No.	Raw Material / Fuel		Quantity (TPA)	Sources	Distance (in Kms.)	Mode of Transport
						(through covered trucks)
b)	FeMn Slag		22248	Own generation	---	Covered Conveyor
c)	LAM Coke		13860	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
d)	Quartz		7200	Chhattisgarh/ Andra Pradesh	~ 100 Kms.	By Rail & Road (through covered trucks)
e)	Bag filter dust		3600	Own generation	---	Pipeline
6. (iii) For manufacturing Ferro Manganese – 66,000 TPA						
a)	Manganese Ore		170625	MOIL / OMC	~ 500 Kms.	By Rail & Road (through covered trucks)
b)	LAM Coke		27375	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
c)	Quartz		2250	Chhattisgarh/ Andra Pradesh	~ 100 Kms.	By Rail & Road (through covered trucks)
d)	Bag filter dust		12,750	Own generation	---	Pipeline
6. (iv) For manufacturing Pig Iron – 72,000 TPA						
a)	HG Iron ore		1,06,200	Chhattisgarh/ Orissa	~ 100 Kms.	By Rail & Road (through covered trucks)
b)	LAM Coke		35,280	Chhattisgarh	~ 100 Kms.	By Road (through covered trucks)
c)	Lime stone		29,520	Chhattisgarh/ MP	~ 100 Kms.	By Rail & Road (through covered trucks)
7. For FBC Boiler [Power Generation 1 x 40 MW]						
a)	Indian Coal (100%)		2,48,400	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By Rail & Road (through covered trucks)
			OR			
b)	Imported Coal (100 %)		1,58,980	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag port)	By Sea, Rail & Road (Covered trucks)
			OR			
c)	Dolochar + Indian Coal	Dolochar	1,52,000	Own Generation	---	By Covenyers
		Indian Coal	1,72,400	SECL Chhattisgarh / MCL Odisha	~ 100 Kms.	By Rail & Road (through covered trucks)
			OR			
d)	Dolochar + Imported Coal	Dolochar	1,52,000	Own Generation	---	By Conveyers
		Imported Coal	1,10,340	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag port)	By Sea, Rail & Road (Covered trucks)

47.3.7 Water requirement for proposed project is estimated as 5640 KLD and same will be sourced from Silva Anicut of Shivrath River, which is at distance of 7.8 Kms. Water allocation of 2 million cum/ year for July to December months and 1.0 million cum for January to June Months has been recommended from Selva Anicut of Shivrath River by Water Resource Department, Govt. of Chhattisgarh, vide 50<sup>th</sup> meeting of State Water Resource Utilization Committee, Chhattisgarh dated 13/07/2021. No ground water is envisaged for the plant activities.

47.3.8 The power requirement for the proposed project is estimated as 136.2 MW, out of which 106 MW will be sourced from captive power plant and remaining 30 MW will be obtained from the state grid.



47.3.9 Baseline Environmental Studies:

Period	1 <sup>st</sup> October 2019 to 31 <sup>st</sup> December 2019
AAQ parameters at 9 locations	PM <sub>2.5</sub> = 20.2 to 32.1 µg/m <sup>3</sup> PM <sub>10</sub> = 34.5 to 54.5 µg/m <sup>3</sup> SO <sub>2</sub> = 6.5 to 11.6 µg/m <sup>3</sup> NO <sub>2</sub> = 6.4 to 15.2 µg/m <sup>3</sup> CO = 325 to 718 µg/m <sup>3</sup>
AAQ modelling	Incremental GLCs due to the proposed project: PM <sub>10</sub> = 2.95 µg/m <sup>3</sup> SO <sub>2</sub> = 8.4 µg/m <sup>3</sup> NO <sub>x</sub> = 7.83 µg/m <sup>3</sup> CO = 6.16 µg/m <sup>3</sup>
Ground water quality at 8 locations	pH: 7.1 to 8.1, Total Hardness: 194 to 367 mg/l, Chlorides: 248 to 398 mg/l, Fluoride: 0.54 to 0.94. Heavy metals are within the limits.
Surface water quality at 7 locations	pH: 7.5 to 8.0, DO: 4.0 to 6.3 mg/l, BOD: 2.6 to 3.9 mg/l and COD from 4.3 to 13.7 mg/l (fresh sampling has been carried out on 15 <sup>th</sup> September 2021 as observation made by EAC in 44 <sup>th</sup> EAC held on 13-14 <sup>th</sup> September, 2021)
Noise levels (min Leq and max Leq)	The equivalent day-night noise levels in the study zone are ranging from 41.26 dBA to 57.57 dBA during the study period.
Traffic assessment study findings	Traffic load (Baseline) : 1432.0 PCU/day Additional Traffic load during operation of the proposed project : 1920.0 PCU/day Total Traffic load during operation of proposed project load : 3352.0 PCU/day  <ul style="list-style-type: none"> <li>• Traffic Capacity as per the IRC 73: 1980 for 2 lane undivided road is 5000 PCU/day. Hence existing road can cater to this additional traffic due to the proposed project.</li> <li>• Level of service (Volume/ capacity) with existing traffic is <math>1432/5000 = 0.28</math> (Level B- very good) and after proposed plant it will be <math>3352/5000 = 0.67</math> (Level D- Poor).</li> <li>• Based on the Traffic Assessment Study and considering the Passenger Car Unit (PCU) per day of traffic, road (into &amp; out of the plant) with 18 Million Standard Axle (MSA) load will be laid down as per specifications of IRC: 37.</li> </ul>
Flora and fauna	No schedule-1 fauna present within the study area. No endemic or endangered floral species found in the study area.

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

S No	Waste / By product	Quantity (in TPA)	Method of disposal
1	Tailings from I/O Beneficiation	3,00,000	Tailing will be taken to filter press & recovered the water. Cake of tailing will be stored in tailing yard & it will be given to M/s. Ambuja Cement Ltd. for utilisation in their cement manufacturing unit.
2	Ash / Dust generated from Pellet plant	45,000	Will be given to nearby Fly ash Brick manufacturers.
3	Dolochar from DRI	1,52,000	Will be utilized as fuel in CFBC Power plant.
4	Kiln Accretion Slag from DRI	6,840	Will be given to Road Contractors for road laying (to M/s. M/s. Shreeji Infrastructure India Pvt. Ltd.)& to brick manufacturers.
5	Wet scrapper sludge from DRI	35,000	Will be given to Road Contractors for road laying& to brick manufacturers.
6	Ash / Dust generated from DRI kiln	1,36,800	Ash generated will be given to M/s. Ambuja Cement Ltd. for utilisation in their cement manufacturing unit.
7	Slag from SMS	70,000	Slag from SMS will be crushed and iron will be recovered & then remaining non -magnetic material being inert by nature will be used as sub base material in road construction. It is will be given to M/s. Shreeji Infrastructure India Pvt. Ltd.
8	Mill Scales from Rolling Mill	14,000	Will be reused in proposed Ferro Alloy manufacturing & Pellet plant.
9	End Cuttings from Rolling Mill	21,000	Will be reused in proposed SMS.
10	Slag from FeSi Manufacturing Process	5,320	Will be given to cast iron foundries.
	Slag from SiMn Manufacturing Process	30,800	Will be given to Road Contractors for road laying (to M/s. M/s. Shreeji Infrastructure India Pvt. Ltd.)
	Slag from FeMn Manufacturing Process	42,600	Will be used in manufacture of Silico manganese as it contains high MnO <sub>2</sub> .
11	Ash generated from Gasifier (Pellet plant & Rolling Mill)	4280	Will be given to nearby Fly ash Brick manufacturers.
12	Tar generation from Gasifiers	594	Will be used in Pellet plant.
13	Ash from Power Plant (With Indian Coal + dolochar)	1,68,780	Will be given to M/s. Ambuja Cement Ltd. for utilisation in their cement manufacturing unit.

S No	Waste / By product	Quantity (in TPA)	Method of disposal
14	Ash from Power Plant (With imported Coal + dolochar)	1,03,240	Will be given to M/s. Ambuja Cement Ltd. for utilisation in their cement manufacturing unit.

**Hazardous waste Generation:**

- 1) Used Oil & Waste Oil: 1.5 KL/Annum  
Disposal: will be given to CECB approved Recyclers/re-processors.
- 2) Used batteries will be given back to the supplier under buyback arrangement.

**47.3.11 Public Consultation:**

Details of advertisement given	03/01/2021
Date of Public Consultation	04/02/2021
Venue	At the Project site, Bakulahi & Dhourabhata Villages, Bhatapara Tehsil, Baloda Bazar – Bhatapara District, Chhattisgarh
Presiding Officer	Chairmanship of Additional District Magistrate
Major issues raised	The issues raised during Public Hearing are: <ul style="list-style-type: none"> <li>• Employment generation</li> <li>• Drinking water requirement in the villages</li> <li>• Mini Stadium</li> <li>• Anganbaari</li> <li>• Hospitals</li> <li>• Proper place for burial</li> </ul>

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

S No	Concerned raised during the public hearing	Physical activity and action plan	Tentative Budget (Rs. Lacs)	Target date for Implementation of action plan
1.	Opined that proper compensation for land was not given to them.	Land has been purchased from the farmers as per mutually agreed price.	---	---
2.	Company must comply with environment law and environment management.	All required environmental protection measures like ESP, Bagfilters (PTFE type), dust suppression system, covered conveyers, mechanical dust sweepers will be provided to bring down the particulate emission to < 30mg/Nm <sup>3</sup> . All the APCS will be installed and operated duly complying with the emission norms. Interlocking system will also be provided to ensure that whenever ESP fails, the raw material feed to that unit will be stopped and will commence operation only after rectification of ESP. ZLD will be followed. Solid waste disposal will be in accordance	Capital Cost – Rs. 124.86 Crores Recurring Cost – Rs.1196.0 lakhs/ annum	2022-24 2024-26 2026-28

S No	Concerned raised during the public hearing	Physical activity and action plan	Tentative Budget (Rs. Lacs)	Target date for Implementation of action plan
		with the norms. Ash will be stored in silos only. Greenbelt will be developed 1/3rd of the plant area.		
3.	Employment should be given to the local people	Priority will be given to un-employed local villagers as per their eligibility and rules of Government. The proposed project will generate direct employment 1000 nos. which will be employed officials, staff, skilled, semi -skilled labour & 1000 nos. indirectly employed in contract works & transport.	---	---
4.	Company should constitute Panchayat Samiti and should carry out social and infrastructure development like construction of Mini Stadium, Angaanbari, Hospitals etc.	Management assured to constitute Panchayat Samiti and carry out Social & infrastructure development activities and a separate budget is allocated for these activities.	Covered under action plan given below.	2022-24 2024-26 2026-28
5.	Drinking water facility to be provided	Management has assured to provide Drinking water facility in the Bakulahi, Bharatpur, Dhourabhatha villages under social & infrastructure development activities.		2022-25
6.	Burial ground to be provided	Company assured to provide burial land by purchasing the land as suggested by village panchayat		2022-24

**Based on public hearing and SIA study:**

Based on public hearing and SIA study									
S No	Physical activity and action plan			Year of implementation				Total Expendi ture (Rs. in Crores)	
				1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>		
A	Based on need based & SIA study								
1	Community & Infrastructure Development Programmes								
	Construction of Public Toilets	Physical No. & Villages	2 nos. in Bakulahi Village	2 nos. in Bharatpur Village	2 nos. in Semradih Village	2 nos. in Mopka Village	2 nos. in Akaltara Village	0.6	
		Budget in Rs. Crores	2 nos. in Dhaurabhata Village	2 nos. in Kosmanda Village	2 nos. in Nipaniya Village	2 nos. in Bendri Village	2 nos. in Bhothidih Village		
	Providing LED Street light with	Physical No. & Villages	15 nos. in Bakulahi Village & 15	15 nos. in Bharatpur Village & 15	15 nos. in Semradih Village & 15	15 nos. in Mopka Village & 15	15 nos. in Akaltara Village & 15	0.33	

S No	Physical activity and action plan			Year of implementation				Total Expenditure (Rs. in Crores)
				1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	
	solar panel		nos. Dhaurabhata Village	nos. in Kosmanda Village	nos. in Nipaniya Village	15 nos. in Bendri Village	15 nos. in Bhothidih Village	
		Budget in Rs. Crores	0.06	0.06	0.07	0.07	0.07	
	Providing proper drainage & sanitation facilities	Physical No. & Villages	--	--	2 nos. in Dhaurabhata Village	--	2 nos. in Bakulahi Village	0.2
		Budget in Rs. Crores	0	0	0.1	0	0.1	
	Providing Garbage collection van in villages	Physical No. & Villages	1 no. in Bakulahi Village	1 no. in Nipaniya Village	1 no. in Dhaurabhata Village	1 no. in Bharatpur Village	1 no. in Mopka Village	0.25
		Budget in Rs. Crores	0.05	0.05	0.05	0.05	0.05	
	Re-Laying of Road	Physical No. & Villages	1.0 Km. in Bakulahi Village	---	0.8 Kms. in Dhaurabhata Village	---	0.9 Km. in Mopka Village	0.5
		Budget in Rs. Crores	0.2	0	0.14	0	0.16	
	Deepening of wells in the villages	Physical No. & Villages	---	1 no. in Nipaniya Village	---	1 no. in Kosmand a Village	1 no. in Akaltara Village	0.15
		Budget in Rs. Crores	0	0.05	0	0.05	0.05	
	Construction of RWH pits & De-siltation of Ponds	Physical No. & Villages	1 No. of Pond in Bakulahi Village	---	1 No. of Pond in Dhaurabhata Village	---	1 No. of Pond in Semradih Village	0.3
		Budget in Rs. Crores	0.1	0	0.1	0	0.1	
	Skill & Entrepreneur Development Program in accordance with guidelines issued by National Skill Development Corporation, Govt. of India	Physical No. & Villages	Vocational training to unemployed youth 25 nos. from Bakulahi Village, 25 nos. from Dhaurabhata 25 nos. from Bharatpur, 25 nos. from	Vocational training to unemployed youth 25 nos. from Bakulahi Village, 25 nos. from Dhaurabhata 25 nos. from Bharatpur, 25 nos. from	Vocational training to unemployed youth 25 nos. from Bakulahi Village, 25 nos. from Dhaurabhata 25 nos. from Bharatpur, 25 nos. from Kosmanda Villa	Vocational training to unemployed youth 25 nos. from Bakulahi Village, 25 nos. from Dhaurabh	Vocational training to unemployed youth 25 nos. from Bakulahi Village, 25 nos. from Dhaurabha 25 nos.	1.5

S No	Physical activity and action plan			Year of implementation				Total Expenditure (Rs. in Crores)
				1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	
	(DISHA Centre) for imparting training to local villagers for skill development		Kosmanda Village, 25 nos. from Kosmanda	Kosmanda Village, 25 nos. from Kosmanda	ge, 25 nos. from Kosmanda	ata 25 nos. from Bharatpur, 25 nos. from Kosmanda Village, 25 nos. from Kosmand a Village, 25 nos. from Kosmand a	from Bharatpur, 25 nos. from Kosmanda Village, 25 nos. from Kosmanda	
		Budget in Rs. Crores	0.3	0.3	0.3	0.3	0.3	
<i>Education &amp; Sports programmes</i>								
2	Providing infrastructure support facilities i.e. furniture, computers, library, sports equipment etc. along with Digital Class Room	@ Village	Bakulahi Village	---	Bharatpur Village	---	Mopka Village	0.15
		Budget in Rs. Crores	0.05	0	0.05	0	0.05	
	Financial assistance to the Self Help Group (SHG) of women and elderly persons	Physical No. & Villages	20 nos. in Bakulahi & Dhaurabhata Village	---	20 nos. in Dhaurabhata & Senridhi Village	---	20 nos. in Kosmanda Village	1.0
		Budget in Rs. Crores	0.4	0	0.4	0	0.2	
	Renovation of school buildings	Physical No. & Villages	2 no.s of Schools in Nipaniya Village	---	1 No. of School in Dhaurabhata Village	---	2 no.s of Schools in Mopka Village	0.5
		Budget in Rs. Crores	0.2	0	0.1	0	0.2	
	Construction of multiple toilets for Boys and	Physical No. & Villages	4 no.s in Nipaniya Village School	---	2 No.s in Dhaurabhata Village School	---	2 nos. in Mopka Village School	0.2

S No	Physical activity and action plan			Year of implementation				Total Expendi- ture (Rs. in Crores)
				1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	
	Girls in the schools	Budget in Rs. Crores	0.1	0	0.05	0	0.05	
	Distribution of tricycles to handicapped students	Physical No. & Villages	5 nos. of tricycles in Bakulahi & 5 nos. of tricycles in Dhourabhat ha Village	5 nos. of tricycles in Semradhi & 5 nos. of tricycles in Nipaniya Village	5 nos. of tricycles in Bharatpur & 5 nos. of tricycles in Kosmanda Village	---	---	0.03
		Budget in Rs. Crores	0.01	0.01	0.01	0	0	
4	Agricultural related activities							1.5
	Financial support to farmers in Jogihalli & Devarahalli Village & Provide fertilizers to improve the soil supplement such as N,P,K	@ Village	Farmers of Bakulahi Village	Farmers of Dhourabhat ha Village	Farmers of Kosmonda Village	Farmers of Bharatpur Village	Farmers of Mopka Village	
		Budget in Rs. Crores	0.3	0.3	0.3	0.3	0.3	
B	Based on Public Consultation / Hearing							
1	Provision of drinking water facility	Physical No. & Villages	Drinking water facility in Bakulahi Village	Drinking water facility in Bharatpur Village	Drinking water facility in Dhourabhath a Village	---	---	0.12
		Budget in Rs. Crores	0.04	0.04	0.04	0	0	
2	Providing Playing Ground with equipments	Physical No.	1 nos.	---	---	---	---	0.25
		Budget in Rs. Crores	0.25	0	0	0	0	
3	Primary Health Center (PHC) with Ambulance facility with emergency equipment	Physical No. & Villages	PHC with Ambulanc e facility in Bakulahi Village	---	---	PHC with Ambula nce facility in Nipaniy a Village	---	1.0

S No	Physical activity and action plan	Year of implementation						Total Expenditure (Rs. in Crores)
				1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	
		Budget in Rs. Crores	0.5	0	0	0.5	0	
4	Providing Model Anganwadi Centre in consultations with State Women and Child Development Department	Physical No. & Villages	1 no. in Bakulahi Village	---	1 no. in Dhourabhath a Village	---	1 no. in Nipaniya Village	0.9
		Budget in Rs. Crores	0.3	0	0.3	0	0.3	
5	Providing proper place for graveyard	Physical No.	1 nos.	---	---	---	---	0.2
		Budget in Rs. Crores	0.2	0	0	0	0	
	<b>Total</b>		<b>3.18</b>	<b>0.93</b>	<b>2.13</b>	<b>1.39</b>	<b>2.05</b>	<b>9.68</b>
<b>C</b>								
1	Health checkup & distribution of general medicines will be carried out periodically in surrounding villages @ Rs. 5.0 Lakhs every year							
2	Soil testing will be carried out in the village and lands in which soils are deficient in Nitrogen & Potassium and Fertilizers containing Nitrogen & Potassium will be supplied to farmers whose lands are deficient in Nitrogen & Potassium lands till they attain sufficient levels of nitrogen & Potassium. Budget of Rs. 5 Lakhs /annum will be allocated for the same.							

47.3.12 The capital cost of the project is Rs.930.68 Crores and the capital cost for environmental protection measures is proposed as Rs.124.86 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.11.96 Crores. The employment generation from the proposed project is 1000 nos. The details of cost for environmental protection measures are as follows:

S No	Particulars	Capital Cost (Rs. in Crores)			Recurring Cost/ Annum (Rs. in Lakhs)
		2022 - 2024	2024 - 2026	2026 - 2028	
1.	<b>Air Emission Management</b>				
	ESP	32.00	24.00	---	550.00
	4 <sup>th</sup> Hole (for SEAF) & Fume Extraction Systems with Bag filters (for SMS)	12.00	5.60	2.40	400.00
	Scrubber for Gasifier	0.10	0.10	---	1.00
	Other APCS (SOx & NOx control) & Conveyer's systems	6.00	9.00	---	125.00
	Stacks / Chimney (12 No.s)	2.32	2.16	1.24	6.00



S No	Particulars	Capital Cost (Rs. in Crores)			Recurring Cost/ Annum (Rs. in Lakhs)
		2022 - 2024	2024 - 2026	2026 - 2028	
	CEMS (21 sources)	0.55	0.35	0.15	10.00
	CAAQMS (4 nos.)	1.60	---	---	20.00
	Mechanical Dust Sweepers (3 nos.)	0.30	---	---	3.00
	Water Sprinklers	0.10	0.10	0.10	2.00
	Environment Monitoring	---	---	---	20.00
	<b>Performance monitoring of APCS</b>				<b>10.00</b>
	<b>Sub Total</b>	<b>54.97</b>	<b>41.31</b>	<b>3.89</b>	<b>1147</b>
2.	<b>Wastewater Management</b>				
	ETP & STP	1.00	1.00	---	10.00
	Garland drains	0.40	0.30	---	1.00
	Settling Ponds	0.25	0.25	---	1.00
	<b>Sub Total</b>	<b>1.45</b>	<b>1.55</b>		<b>12.00</b>
3.	<b>Solid waste Management</b>				
	Ash Handling & Disposal (Pneumatic conveyer system)	3.00	1.00	---	15.00
	Slag Handling & Disposal	0.40	0.40	---	3.00
	Hazardous waste storage & disposal	0.25	0.25	---	3.00
	Municipal Solid waste storage & Disposal	0.10	0.10	---	2.00
	Construction of Pucca platform for storage	0.50	0.40	---	1.00
	<b>Sub Total</b>	<b>4.25</b>	<b>2.15</b>		<b>24.00</b>
4	Greenbelt development	<b>0.70</b>	<b>0.36</b>		<b>3.00</b>
5	RWH Pits	<b>0.40</b>	<b>0.30</b>	<b>0.10</b>	<b>2.00</b>
6	Fire Safety Systems	<b>2.50</b>			<b>3.00</b>
7	<b>Occupational Health &amp; Safety</b>				
	Primary Health Centre (PHC)	0.70	---	---	<b>5.00</b>
	Personal Protective Equipment	0.20	0.10	0.10	
	Ambulance	0.15	---	---	
	<b>Sub Total</b>	<b>1.05</b>	<b>0.10</b>	<b>0.10</b>	
8	Budget for Social & Infrastructure Development Activities	<b>4.23</b>	<b>3.21</b>	<b>2.24</b>	---
		<b>69.55</b>	<b>48.98</b>	<b>6.33</b>	
	<b>TOTAL</b>		<b>124.86</b>		<b>1196</b>
9	Addressed to public hearing issued and need based activities		<b>9.68</b>		

47.3.13 Greenbelt will be maintained in 21.1 ha. (52.0 acres) of land. Total number of plants will be 53,000 @ 2500 nos. of plants per Hectare as per MoEF&CC norms.

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

47.3.15 Name of the EIA consultant: Pioneer Enviro Laboratories & Consultants Pvt. Ltd [Sl. No. 135, List of ACOs with their Certificate no. NABET/EIA/1922/RA0149 valid up to 22/03/2022; Rev. 15, October 11, 2021].

47.3.16 M/s. Real Ispat & Power Limited has earlier made an online application vide proposal no. IA/CG/IND/127880/2019 dated 26/08/2021. The proposal was considered in 44<sup>th</sup> EAC held on 13-14<sup>th</sup> September, 2021. The observation and recommendation of the committee is given as below:

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

47.3.17 The Committee observed the following:

- i. Nearest village Bakulahi is 150 m SE and other village Daurabhata is 350 m from site NW. Additional measures to be taken by PP to reduce pollution impact on the villages have not been enumerated.
- ii. BOD in surface water sample is shown as 0.85 and 0.72 mg/l which is not correct. In view of this, PP is required to carry out fresh monitoring of surface water quality.
- iii. Soil analysis does not include Sodium Absorption Ratio (SAR) and Cation Exchange Capacity (CEC). Fresh analysis of soil samples is required.
- iv. Performance monitoring of PCDs is not included in post project monitoring program.
- v. Hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions need to be revised.

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

47.3.18 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings enumerated at para no 47.3.17.

47.3.19 M/s. Real Ispat & Power Limited has again made an online application vide proposal no. IA/CG/IND/127880/2019 dated 07/10/2021. The proposal was considered in 47<sup>th</sup> Reconstituted Expert Appraisal Committee (Industry- 1 Sector) held on 28 - 29<sup>th</sup> October, 2021. The observations and recommendations of the committee are given as below:

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

- Project proponent has submitted revised Corporate Environment Policy. As per revised policy, any noncompliance concerned department will inform to Head of Department (HOD), the HOD will inform to Director (Technical) within 2 day for noncompliance and action plan. Director (Technical) will be informed to Board of Directors within 3 days.
- PP has submitted action plan for improvement the soil deficient in Nitrogen & Potassium, detail has been updated at para 47.3.11 above.

**Observations of the Committee**

47.3.21 The Committee noted the following:

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

- the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- ii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.
  - iii. The EAC noted that the written submissions made by the project proponent during the course of meeting are addressing the concerns of the Committee.

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

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

#### **A. Specific Conditions**

- i. Prior permission of the Competent Authority shall be obtained for withdrawal of 5640 KLD of surface water from Silva Anicut of Shivrath River before commencement of the project activity. No ground water abstraction is permitted.
- ii. Green belt shall be developed in 33% of the total area all along the entire periphery of the area with a density of 2500 trees per ha. This shall include development of green belt with a width of 20 m within the project site towards Bakulahi village and Daurbhata located at distance of 150m SE and 350 m NW from the project site.
- iii. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm<sup>3</sup>.
- iv. Rain Water harvesting shall be implemented as per the action plan submitted in the EIA report.
- v. 100 % solid waste generated in the facility shall be utilized. Maximum 90 days storage capacity shall be allowed inside the plant complex for solid wastes.
- vi. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.
- vii. Slip roads shall be provided at the gates and along crossings on main roads to avoid traffic congestion.
- viii. Performance monitoring of all Pollution Control Devices shall be carried out annually and report submitted to MoEF&CC, Regional Office.
- ix. SiMn slag shall be used for road construction and cement making. SMS slag shall be crushed for metal and flux recovery and aggregate shall be used for the purposes such as road construction, brick manufacturing and filling up of low lying area etc.
- x. Tar generated from Producer Gas Plant (PGP) shall be used as fuel in Pellet plant and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.
- xi. Hot charging shall be achieved up to 85 % as committed and balance rolling shall be done through Reheating Furnace based on producer gas.
- xii. Air Cooled condensers shall be used in the captive power plant.
- xiii. 4<sup>th</sup> hole extraction system shall be provided in the Sub Merged Arc Furnaces.

**B. General conditions**

**I. Statutory compliance:**

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

**II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as four Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- iii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- iv. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- v. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.
- vi. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.
- vii. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.
- viii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

**III. Water quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414 (E) dated 30th May 2008; G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.

- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.
- v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

**IV. Noise monitoring and prevention**

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

**V. Energy Conservation measures**

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

**VI. Waste management**

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

**VII. Green Belt**

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

**VIII. Emergency preparedness**

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

**IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

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

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

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

47.4 5.00 MTPA Iron Ore Processing Plant & 3.0 MTPA Pellet Plant over an area of 26.44 ha, integrated with downhill pipe conveyor over an area of 16.58 ha by **M/s. MSPL Limited** located at Somalpura Village, Sandur Taluka, **Bellary District Karnataka**. [Online Proposal No. IA/KA/IND/225939/2021; File No.: IA-J-11011/329/2021-IAII(IND-I)] – **Prescribing of Terms of Reference – regarding.**

47.4.1 M/s. MSPL Limited, has made an application online vide proposal no. IA//KA/IND/225939/2021 dated 09.10.2021 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. 2(b) Mineral Beneficiation and 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**

47.4.2 The project of M/s. MSPL Ltd., located in Somalapur Village, Sandur Tehsil, Ballari District, Karnataka State is for setting up of a new Beneficiation Plant & Pellet Plant integrated with Downhill Pipe Conveyor for production of 5.0 Million Tons Per Annum (MTPA) of Iron Ore Processing Plant & 3.0 MTPA of Pellet Plant.

47.4.3 Environmental site settings:

Environmental site settings:

SNo	Particulars	Details	Remarks																		
i.	Total land	26.44ha [Private: 26.44ha]	Land use: <table><tr><th>Description of the unit</th><th>Area in Ha</th></tr><tr><td>Iron Ore Processing</td><td>1.68</td></tr><tr><td>Pellet Plant</td><td>1.88</td></tr><tr><td>Green zone</td><td>9.82</td></tr><tr><td>Water storage</td><td>0.85</td></tr><tr><td>Raw material yard</td><td>4.56</td></tr><tr><td>Office space &amp; Ancillary</td><td>5.95</td></tr><tr><td>Slime (tailing reject) storage &amp; Management in Plant</td><td>1.70</td></tr><tr><td><b>Total</b></td><td><b>26.44</b></td></tr></table>	Description of the unit	Area in Ha	Iron Ore Processing	1.68	Pellet Plant	1.88	Green zone	9.82	Water storage	0.85	Raw material yard	4.56	Office space & Ancillary	5.95	Slime (tailing reject) storage & Management in Plant	1.70	<b>Total</b>	<b>26.44</b>
Description of the unit	Area in Ha																				
Iron Ore Processing	1.68																				
Pellet Plant	1.88																				
Green zone	9.82																				
Water storage	0.85																				
Raw material yard	4.56																				
Office space & Ancillary	5.95																				
Slime (tailing reject) storage & Management in Plant	1.70																				
<b>Total</b>	<b>26.44</b>																				
ii.	Existence of habitation & involvement of R&R if any.	Not applicable																			
iii.	Latitude and Longitude of the project site	<b>Latitude:</b> 15° 01'26.00" N to 15° 01' 57.3" N <b>Longitude:</b> 76° 29' 47.10" E to 76° 30' 12.0" E																			

SNo	Particulars	Details	Remarks
iv.	Elevation of the project site	630 m AMSL	
v.	Involvement of Forest land if any.	Status of stage I Forest Clearance: application submitted vide File. no. FP/KA/MIN/144985/2021 dated 19/07/2021	For Downhill pipe conveyor from mine - 16.58 ha
vi.	Water body exists within the project site as well as study area	<b>Project site:</b> Nil <b>Study area:</b> Tungabhadra River: 0.2 km/ W Water Reservoir: 3.0km/ NW Ankamanhalli lake: 3.7Km/SE Bandri lake: 6.4Km/SW	Authenticated HFL data of the water body shall be furnished.
vii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/tiger reserve/ elephant reserve etc. if any within the study area	Nil. However, following forests are present within study area; Kumaraswami Betta RF: 0.68Km/ East, Ramgarh RF: 2.3Km/North, Somalapura RF: 0.47Km/ SW	

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

SNo	Unit Detail	Unit Configuration	Production Capacities
1.	Iron ore Beneficiation(Beneficiated ore)	5.0 MTPA	5.0 MTPA (through output)
2.	Pellet Plant(Pellet)	2x0.8 MTPA	1.6 MTPA

47.4.5 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 (TPA)	Source	Distance from site (Km)	Mode of Transportation
1	Iron ore fines	5 MTPA	NIOM Captive & Other Mines	--	Through DHPC & By road.
2	Bentonite	36000 TPA	Gujarat	2000 Km	Rail/ Road
3	Coke breeze	24000 TPA	Imported from Australia / Russia	--	Rail/ Ship
4	Limestone	24000 TPA	Lokapur, Karnataka	350 km	Rail/ Road
5	Dolomite	24000 TPA	Lokapur, Karnataka	350 km	Rail/ Road

47.4.6 The water requirement for the project is estimated as 2491 KLD, Total water requirement will be obtained from the existing groundwater. The permission for the drawl of groundwater will be obtained from Karnataka Ground Water Board. The alternative source of water for domestic & Processing, from Tungabhadra dam is sought from State High level Clearance Committee, Directorate of Industries & Commerce.



- 47.4.7 The power requirement for the project is estimated as 40 MW, out of which 40 MW will be obtained from the Karnataka State Electricity Board, Kudligi Substation.
- 47.4.8 The capital cost of the project is Rs 1316 crores and the capital cost for environmental protection measures is proposed as Rs.7.0 Crores. The employment generation from the proposed project will be 432 persons.
- 47.4.9 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.
- 47.4.10 Name of the EIA consultant:

**A. For Mineral Beneficiation:** M/s. Mineral Engineering Services [S. No. 58, List of ACOs with their Certificate no. NABET/EIA/1922/RA0158, valid up to 22/10/2022; Rev. 15, October 11, 2021].

**B. For Pellet Plant:** M/s. Ardra Consulting Services Pvt. Ltd [S. No. 94, List of ACOs with their Certificate no. NABET/EIA/1922/IA0055, valid up to 29/12/2022; Rev. 15, October 11, 2021].

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

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
A. Air				
a. Meteorological parameters	Temp, RH, Wind direction, Wind speed	1	Hourly for 3 months	
b. AAQ parameters	SO <sub>2</sub> , NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> , NH <sub>3</sub> , C <sub>6</sub> H <sub>6</sub> , Pb, Ni, As, BaP, CO, O <sub>3</sub>	9	2 days/ week	
B. Noise	Lmin, Lmax, Leq	9	Once	
C. Water			Once	
Surface water	IS:2296	7		
Ground water quality parameters	IS:10500:2012	8		
D. Land				
a. Soil quality	a. Physical, Chemical and Micronutrients	8	Once	
b. Land use	b. Land use pattern based on Satellite Imagery	Core & Buffer		
E. Biological	Flora-Core & Buffer Zones	Core & Buffer zones	Once	
a. Aquatic	Fauna-Core & Buffer Zones			
b. Terrestrial				
F. Socio-economic parameters	Random sample survey of 1.Total Population/ Household Size /Age 2.Gender Composition		Once	

Attributes	Parameters	Sampling		Remarks
		No. of stations	Frequency	
	3.S.C / S.T 4.Literacy Level 5.Occupational Structure 6.In depth interviews and Focus Group Discussions (FGDs). Data on Morbidity pattern, Minimum needs of community for CSR activities			

#### Observations of the Committee

- 47.4.12 The EAC noted the following:
- TOR is being sought for undertaking EIA study for the green field project of 5.00 MTPA Iron Ore Processing Plant & 3.0 MTPA Pellet Plant over an area of 26.44 ha, integrated with downhill pipe conveyor over an area of 16.58 ha at Somalpur Village, Sandur Taluka, Bellary District Karnataka.
  - Project is proposed in 26.44ha area and involvement of forest land is 16.58 ha for downhill pipe conveyor from mine.
  - A seasonal nallah passes through the plant site. Land scaping is planned with assurance that natural contours shall not be disturbed.
  - SH49 passes 1.5 km and nearest railway station is Yashwant Nagar 1 km from site. Yashwant Nagar village is 1.5 km from site.
  - There are two RFs within 600 m distance from site at Kumaraswami and Somalapur.
  - Tailings shall be dewatered and stored in a 1.7 ha area for sale to cement plants, road making and tile manufacturing. Further, the tailings shall be alternately pumped to a plot of 20.33 ha of Ankammanahal/ somalapur village at a distance of 1 Km to 7 Kms through pipe lines and dewatering shall be done there. Recovered water will be recycled to the plant.
  - PP has proposed for 2491 KLD of ground water abstraction for the project. Alternatively, PP is reportedly pursuing the matter with SHLCC for withdrawal of water from Tungabhadra dam.

#### Recommendations of the Committee

- 47.4.13 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:
- Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - Action plan for fugitive emission control in the plant premises shall be provided.
  - The seasonal nallah passing through the project site shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides of the nallah.

- iv. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted. This shall include 30-meter-wide green belt development within the project area towards Yashwant Nagar village.
- v. Action plan for 100 % solid waste utilization shall be submitted.
- vi. Action plan for rain water harvesting shall be submitted.
- vii. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
- viii. 2491 KLD water shall be sourced from Tungabhadra dam. Ground water abstraction is not permitted.
- ix. Status of forest clearance for diversion of 16.58 ha forest land shall be submitted.
- x. Action plan for treatment, storage and utilization of tailings shall be submitted.
- xi. Hydrological study of the watershed around the Tungabhadra River shall be carried out.
- xii. HFL details of Tungabhadra river from the concerned Competent Authority and impact on riverine ecology due to the proposed project shall be submitted in the EIA report.

47.5 Establishment of Iron ore beneficiation plant (Beneficiated iron ore – 0.9 MTPA), Pellet plant (Pellets – 0.72 MTPA), DRI Kilns (Sponge iron - 3,30,000 TPA), Induction Furnace with LRF & CCM (Hot Billets / MS Billets / Ingots – 3,16,800 TPA), Rolling Mill (Rolled products – 3,30,000 TPA), Submerged Electric Arc Furnaces of 3 x 9 MVA (FeSi – Fe-Mn - 67,700 TPA / Si-Mn - 33,860 TPA / Fe-Si -25,400 TPA / Fe-Cr - 37,600 TPA / Pig iron - 71,050 TPA), Briquetting plant of 300 Kg/hr, WHRB based Power Plant – 22 MW, CFBC based Power Plant - 20 MW & Brick Manufacturing unit of 55,000 Brick/ day by **M/s. Raghu Nandan Sponge and Power Pvt. Ltd.** located at Akaltara Village, Simga Tehsil, Balodabazar District, Chhattisgarh. [Online Proposal No. IA/CG/IND/233153/2021; File No.: IA-J-11011/429/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference – regarding.**

47.5.1 M/s. Raghu Nandan Sponge and Power Pvt. Ltd. has made an online application vide proposal no. IA/CG/IND/233153/2021 dated 07/10/2021 along with the application in prescribed format (Form- I), Copy of Pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no 2(b) Mineral Beneficiation, 3(a) Metallurgical Industries (Ferrous and Non-ferrous) and 1(d) Thermal Power Plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

47.5.2 The project of **M/s. Raghu Nandan Sponge And Power Pvt. Ltd.** is proposed at Akaltara Village, Simga Tehsil, Balodabazar District, Chhattisgarh for setting up of a new Steel plant for production of Iron ore beneficiation plant of 0.9 MTPA, Pellets: 0.72 MTPA, Sponge iron: 3,30,000 TPA, Hot Billets / MS Billets / Ingots: 3,16,800 TPA, Ferro alloys unit (Fe-Mn - 67,700 TPA / Si-Mn - 33,860 TPA / Fe-Si - 25,400 TPA / Fe-Cr - 37,600 TPA / Pig iron - 71,050 TPA), Power: 42 MW (WHRB: 22 MW & CFBC: 20 MW), Bricks manufacturing unit: 55,000 Bricks/day, Briquetting unit: 300 kg/hr.

47.5.3 Environmental site settings:

SNo	Particulars	Details	Remarks																																																															
i.	Total Land	Total land: 62.8 ha. (155.18 Acres)	<b>Land Use:</b> Partly Agriculture & partly Govt. Barren land																																																															
ii.	Existence of habitation & involvement of R & R, if any	No habitation exists in project site; Hence no R & R is involved.	--																																																															
iii.	Latitude and Longitude of the project site	<div>Latitude and Longitude of the project site:</div> <table><tr><th>SNo</th><th>Longitude</th><th>Latitude</th></tr><tr><td>1</td><td>81° 48.784'E</td><td>21° 42.320'N</td></tr><tr><td>2</td><td>81° 48.987'E</td><td>21° 41.965'N</td></tr><tr><td>3</td><td>81° 49.176'E</td><td>21° 41.542'N</td></tr><tr><td>4</td><td>81° 49.221'E</td><td>21° 41.756'N</td></tr><tr><td>5</td><td>81° 49.230'E</td><td>21° 41.789'N</td></tr><tr><td>6</td><td>81° 49.265'E</td><td>21° 41.913'N</td></tr><tr><td>7</td><td>81° 49.333'E</td><td>21° 41.892'N</td></tr><tr><td>8</td><td>81° 49.349'E</td><td>21° 41.998'N</td></tr><tr><td>9</td><td>81° 49.293'E</td><td>21° 41.992'N</td></tr><tr><td>10</td><td>81° 49.264'E</td><td>21° 41.999'N</td></tr><tr><td>11</td><td>81° 49.279'E</td><td>21° 42.045'N</td></tr><tr><td>12</td><td>81° 49.125'E</td><td>21° 42.074'N</td></tr><tr><td>13</td><td>81° 49.192'E</td><td>21° 42.228'N</td></tr><tr><td>14</td><td>81° 49.149'E</td><td>21° 42.324'N</td></tr><tr><td>15</td><td>81° 49.027'E</td><td>21° 42.347'N</td></tr><tr><td>16</td><td>81° 49.022'E</td><td>21° 42.330'N</td></tr><tr><td>17</td><td>81° 49.000'E</td><td>21° 42.334'N</td></tr><tr><td>18</td><td>81° 48.940'E</td><td>21° 42.285'N</td></tr><tr><td>19</td><td>81° 48.915'E</td><td>21° 42.278'N</td></tr><tr><td>20</td><td>81° 48.870'E</td><td>21° 42.349'N</td></tr></table>	SNo	Longitude	Latitude	1	81° 48.784'E	21° 42.320'N	2	81° 48.987'E	21° 41.965'N	3	81° 49.176'E	21° 41.542'N	4	81° 49.221'E	21° 41.756'N	5	81° 49.230'E	21° 41.789'N	6	81° 49.265'E	21° 41.913'N	7	81° 49.333'E	21° 41.892'N	8	81° 49.349'E	21° 41.998'N	9	81° 49.293'E	21° 41.992'N	10	81° 49.264'E	21° 41.999'N	11	81° 49.279'E	21° 42.045'N	12	81° 49.125'E	21° 42.074'N	13	81° 49.192'E	21° 42.228'N	14	81° 49.149'E	21° 42.324'N	15	81° 49.027'E	21° 42.347'N	16	81° 49.022'E	21° 42.330'N	17	81° 49.000'E	21° 42.334'N	18	81° 48.940'E	21° 42.285'N	19	81° 48.915'E	21° 42.278'N	20	81° 48.870'E	21° 42.349'N	--
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20	81° 48.870'E	21° 42.349'N																																																																
iv.	Elevation of the project site	265 m to 272 m AMSL	--																																																															
v.	Involvement of Forest land, if any	No Forest land is involved in the project site.	--																																																															
vi.	Water body exists within the project site as well as study area	<div><b>Project site:</b> Seasonal Nala is Passing through the site from North to South East direction.</div> <div><b>Study area:</b><table><tr><th>Water Body</th><th>Distance/ direction</th></tr><tr><td>Shivnath River</td><td>5.9 Kms (N)</td></tr><tr><td>Silari Nala</td><td>1.5 Kms. (E)</td></tr><tr><td>Akaltara village Pond</td><td>0.1 Km. (N)</td></tr><tr><td>Chourenga Pond</td><td>1.0 Km. (NWW)</td></tr></table></div>	Water Body	Distance/ direction	Shivnath River	5.9 Kms (N)	Silari Nala	1.5 Kms. (E)	Akaltara village Pond	0.1 Km. (N)	Chourenga Pond	1.0 Km. (NWW)	--																																																					
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SNo	Particulars	Details		Remarks
		Manohara Pond	0.7 Km. (S)	
		Canal	Adjacent to southern boundary of site	
vii.	Existence of ESZ/ESA/ National Park/ Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve/ Elephant Reserve etc. if any within the study area	Nil		--
viii.	Forest within the study area	Bilari Ghughua RF: 8.8 kms. (SSW)		--

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

SNo	Units (Products)		Plant Configuration	Production Capacity
1.	Iron ore Beneficiation (Beneficiated ore)		1 x 0.9 MTPA	0.9 MTPA (throughput)
2.	Pellet Plant (Pellet)		1 x 0.72 MTPA	0.72 MTPA
3.	DRI Kilns (Sponge Iron)		2 x 350 TPD 3 x 100 TPD	3,30,000 TPA
4.	Induction Furnace (Billets / Ingots / Hot Billets)		8 x 15 T	3,16,800 TPA
5.	Rolling Mill (Rolled products) (85 % Hot charging with Hot Billets and remaining 15% through RHF with LDO/LSHS as fuel)		2 x 500 TPD	3,30,000 TPA
6.	Ferro Alloys Unit (FeSi / FeMn / SiMn / FeCr)		3 x 9 MVA	Fe-Mn - 67,700 / Si-Mn - 33,860 / Fe-Si - 25,400 / Fe-Cr - 37,600 / Pig iron – 71,050
7.	Briquetting Plant		300 Kg/hr	300 Kg/hr
8.	Oxygen Plant		250 TPD (7,500 m <sup>3</sup> /hr)	250 TPD (7,500 m <sup>3</sup> /hr)
9.	Brick Manufacturing Unit		55,000 Brick/ day	18.15 million Bricks/ Annum
10.	Power Plant	WHRB Power Plant (2x32 TPH & 8 TPH)	2 x 8 MW 3 x 2 MW	22 MW
		CFBC Power Plant	1 x 20 MW	20 MW

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

SNo	Raw Material	Quantity (TPA)	Sources	Distance from site (in Km.)	Mode of Transport
1.	<b>For Iron Ore Beneficiation Plant (9, 00,000 TPA)</b>				
a)	Iron ore fines	9,00,000	Chhattisgarh / Orissa	~ 600 Kms.	By rail & road (through covered

SNo	Raw Material		Quantity (TPA)	Sources	Distance from site (in Km.	Mode of Transport
						trucks)
2.	<b>For Pellet Plant (Pellets) – 7,20,000 TPA</b>					
a)	Iron Ore Concentrate		7,20,000	Own generation	---	Through covered conveyers
b)	Bentonite		5,760	Gujarat	~ 600 Kms.	By rail & road (through covered trucks)
c)	Lime powder		10,800	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
d)	Anthracite Coal		31,680	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By rail & road (through covered trucks)
	OR					
	(OR) LDL /LSHS		9,600 KL/Annum	Chhattisgarh	~ 100 Kms.	By road (through tanker)
3.	<b>For DRI Kilns (Sponge Iron) – 3,30,000 TPA</b>					
a)	Pellets (100 %)		4,95,000	Own generation	---	Through covered conveyers
	or					
	Iron ore (100%)		5,28,000	Barbil, Orissa NMDC, Chhattisgarh	~ 500 Kms.	By rail & road (through covered trucks)
b)	Coal	Indian	4,29,000	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By rail & road (through covered trucks)
		(or)				
		Imported	2,74,560	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag Port)	Through sea route, rail route & by road (through covered trucks)
c)	Dolomite		16,500	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
4.	<b>For Steel Melting Shop (Billets/ Ingots/Hot Billets) – 3,16,800 TPA</b>					
a)	Sponge Iron		3,20,000	In-house Generation	---	Through covered conveyers
b)	MS Scrap / Pig Iron		48,000	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
c)	Ferro alloys		16,000	In-house Generation	---	By road (through covered trucks)
5.	<b>For Rolling Mill through Hot charging (Rolled Products) – 2,80,500 TPA</b>					
a)	Hot Billets		2,90,400	In-house Generation	---	---
6.	<b>For Rolling Mill through Reheating Furnace (Rolled Products) – 49,500 TPA</b>					
b)	M.S. Billets (In-house)		26,400	In-house Generation	---	Through covered conveyers
c)	M.S. Billets (External Purchase)		28,100	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
d)	LDO / LSHS		1618 KL/annum	Nearby IOCL Depot	~ 100 Kms.	By road (through Tankers)

SNo	Raw Material		Quantity (TPA)	Sources	Distance from site (in Km.)	Mode of Transport
7.	<b>For CFBC Boiler [Power Generation 20 MW]</b>					
a)	Dolochar + Indian Coal	Dolochar	66,000	In-house Generation	---	through covered conveyors
		Indian Coal	1,00,650	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By rail & road (through covered trucks)
	<b>OR</b>					
b)	Dolochar + Imported Coal	Dolochar	66,000	In-house Generation	---	through covered conveyors
		Imported Coal	52,670	Indonesia / South Africa / Australia	~ 600 Kms. (from Vizag Port)	Through sea route, rail route & by road (through covered trucks)
8.	<b>For Ferro Alloys (3 x 9 MVA)</b>					
7 (i)	<i>For Ferro Silicon – 25,400 TPA</i>					
a)	Quartz		38,608	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
b)	LAM coke		14,224	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	Mill scales		5,969	In-house Generation / Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
d)	MS Scrap		889	Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
e)	Electrode paste		508	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
f)	Bag filter dust		965	In-house Generation	---	---
7 (ii)	<i>For Ferro Manganese – 67,700 TPA</i>					
a)	Manganese Ore		1,54,018	MOIL / OMC	~ 500 Kms.	By Rail & Road (through covered trucks)
b)	LAM coke		24,711	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	Dolomite		11,509	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
d)	MS Scrap / Mill scales		10,155	In-house Generation / Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
e)	Electrode Paste		880	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
f)	Bagfilter dust		3,385	In house generation	---	---
7(iii)	<i>For Silico Manganese – 33,860 TPA</i>					
a)	Manganese Ore		55,192	MOIL / OMC	~ 500 Kms.	By Rail & Road (through covered trucks)

SNo	Raw Material	Quantity (TPA)	Sources	Distance from site (in Km.	Mode of Transport
b)	Fe-Mn Slag	28,781	In house generation	---	----
c)	LAM Coke	12,698	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
d)	Dolomite	7,619	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
e)	Electrode paste	677	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
f)	Quartz	8,126	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
g)	Bag filter dust	508	In house generation	---	---
7(iv)	<i>For Ferro Chrome – 37,600 TPA</i>				
a)	Chrome Ore	75,200	Sukinda, Odisha Import, South Africa	~ 500 Kms. ~ 600 Kms. (from Vizag Port)	By road (through covered trucks) From Port By Road (through covered Trucks)
b)	LAM Coke	12,408	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	Quartz	6,580	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
d)	MS Scrap / Mill Scale	5,640	In-house Generation / Chhattisgarh	~ 100 Kms.	By road (through covered trucks)
e)	Magnetite / Bauxite	6,354	Chhattisgarh / Maharashtra	~ 500 Kms.	By road (through covered trucks)
f)	Electrode Paste	1,128	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)
g)	Bag filter dust	2,406	In-house Generation	---	---
7(iv)	<i>For Pig iron – 71,050 TPA</i>				
a)	HG Iron ore	1,03,471	Chhattisgarh / Orissa	~ 600 Kms.	By rail & road (through covered trucks)
b)	LAM Coke	34,023	Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
c)	Lime stone	8,769	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)
d)	Quartz	4,209	Chhattisgarh / Andhra Pradesh	~ 500 Kms.	By road (through covered trucks)



SNo	Raw Material	Quantity (TPA)	Sources	Distance from site (in Km.	Mode of Transport
e)	Bag filter dust	2,105	Inhouse Generation	---	---
f)	Electrode Paste	1,403	Maharashtra / West Bengal	~ 300 Kms.	By road (through covered trucks)

47.5.6 Water required for the proposed project will be 2,728 KLD, and will be sourced from Shivrath River which is at a distance of 5.9 Kms from the proposed project site. Water drawl permission from Water Resource Department, Govt. of Chhattisgarh will be obtained.

47.5.7 Power required for the proposed project will be 70.9 MW and same will be sourced from Captive Power Plant (42 MW) and remaining (28.9 MW) from the State Grid.

47.5.8 The capital cost of the project is Rs.498 Crores and Capital Cost for Environment Protection Measures is proposed as Rs. 55 Crores. The employment generation from proposed project will be 350 nos. through direct employment and 500 nos. through indirect employment.

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

47.5.10 Name of the EIA consultant: M/s. Pioneer Enviro Laboratories & Consultants Pvt. Ltd. [Sl. No. 135, List of ACOs with their Certificate no. NABET/EIA/1922/RA0149, valid up to 22/03/2022; Rev. 15, October 11, 2021].

47.5.11 Proposed Terms of Reference (15<sup>th</sup> October, 2021 to 15<sup>th</sup> January, 2022):

Attributes	Sampling		Remarks
	No. of Stations	Frequency	
<b>A. Air</b>			
a. Meteorological parameters	1	On hourly basis for one season	<ul style="list-style-type: none"> <li>• Wind Speed</li> <li>• Wind Direction</li> <li>• Temperature</li> <li>• Relative Humidity</li> <li>• Rainfall</li> </ul>
b. AAQ parameters	8	24 hourly Twice a week for 3 months (One Season)	Parameters are being Monitored: <ul style="list-style-type: none"> <li>• PM<sub>2.5</sub></li> <li>• PM<sub>10</sub></li> <li>• SO<sub>2</sub></li> <li>• NO<sub>x</sub></li> <li>• CO</li> </ul>
<b>B. Noise</b>	8	On hourly basis for 24 Hrs. at each station	Parameters to be Monitored: <ul style="list-style-type: none"> <li>• Day equivalent</li> <li>• Night equivalent</li> </ul>
<b>C. Water</b>			

Attributes	Sampling		Remarks
	No. of Stations	Frequency	
a. Ground Water	8	One sample at each of the locations	Parameters will be Monitored: as per IS: 10500
b. Surface Water	5	One sample at each of the locations	Parameters will be Monitored: as per BIS: 2296
<b>D. Land</b>			
a. Soil quality	8	One sample at each of the locations	Parameters will be Monitored: Texture, infiltration rate, SAR, bulk density, CEC, pH, Ca, Mg, Na, K, Zn, Mn , organic carbon
b. Land use	--	--	LU map will be prepared by concerned FAE for study area
<b>E. Biological</b>			
i. Aquatic	--	Once in Season	---
ii. Terrestrial	--	Once in Season	---
<b>F. Socio economic parameters</b>	--	Once in Season	Social Impact Assessment will be carried out by concerned FAE for study area
<b>G. Traffic Density</b>	--	Once in Season	Vehicular traffic study will be carried out at Transportation route.

- 47.5.12 During the presentation, project proponent proposed to avoid the canal passing across the site and the land beyond that in south direction. In this regard, revised lay out map depicting the project area as 62.8 ha from earlier 64.37 ha has been submitted. Project area has been updated in para 47.5.3 above.

#### Observations of the Committee

- 47.5.13 The EAC noted the following:
- Instant proposal is for undertaking EIA study for setting up of Integrated Steel Plant at Akaltara Village, Simga Tehsil, Balodabazar District, Chhattisgarh.
  - The project was proposed in the 64.37 ha area. Due to the exclusion of canal passing through the project site, the PP revised the project area to 62.8 ha. Accordingly, Green belt area will have to be developed in 20.94 ha area.
  - A seasonal nallah passes through the plant site. PP has committed to landscape the nallah 10 m on both sides and not to disturb the natural flow.
  - Akaltara village is 250 m away from plant boundary.
  - 2728 KLD water shall be sourced from Sheonath river 5.9 Km away. Water availability study in Sheonath River considered present and planned users shall be carried out.

### Recommendations of the Committee

- 47.5.14 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:
- Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - Action plan for fugitive emission control in the plant premises shall be provided.
  - The seasonal nallah passing through the project site shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides of the nallah.
  - Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted. This shall include 30-meter-wide green belt development within the project area towards Akaltara village.
  - Action plan for 100 % solid waste utilization shall be submitted.
  - Action plan for rain water harvesting shall be submitted.
  - Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
  - 2728 KLD water shall be sourced from Sheonath river. Ground water abstraction is not permitted.
  - Status of forest clearance for diversion of 16.58 ha forest land shall be submitted.
  - Action plan for treatment, storage and utilization of tailings shall be submitted.

47.6 Expansion of Integrated Steel Plant from 9.6 to 15.6 MTPA (Liquid Steel) by **M/s. Arcelormittal Nippon Steel India Limited** located at Hazira Village, Chorasi Tehsil, **District Surat, Gujarat**. [Online Proposal No. IA/GJ/IND/231036/2021; File No :IA-J-11011/44/2004-IA.II (I)] – **Prescribing of Terms of Reference – regarding.**

47.6.1 M/s. Arcelormittal Nippon Steel India Limited has made an online application vide proposal no. IA/GJ/IND/231036/2021, dated 06/10/2021 along with the application in prescribed format (Form- I), Copy of Pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no 3(a) Metallurgical Industries (ferrous & non-ferrous), 1(d) Thermal Power Plant and 4(b)Coke oven plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

### Details submitted by Project proponent

47.6.2 The project of M/s. Arcelormittal Nippon Steel India Limited is located in Hazira Village, Chorasi Tehsil, District Surat, Gujarat is for Expansion of Integrated Steel Plant from 9.6 to 15.6 MTPA (Liquid Steel).

47.6.3 Environmental site settings:

S No	Particulars	Details	Remarks
1	Total land	Total land: 884.88 ha. (about 885 ha) Industrial: 805 ha. Private: 14.15 ha Forest land 65.73 ha	
2	Existence of habitation	Nil	

S No	Particulars	Details	Remarks
	& involvement of R & R, if any.		
3	Latitude and Longitude of the project site	21° 6' 43.72''N 72° 38' 40.29''E	
4	Elevation of the project site	4 - 6 m AMSL	
5	Involvement of Forest land if any.	Yes, 65.73 ha.	Stage II Clearance Received for 65.73 ha land area
6	Water body exists within the project site as well as study area.	<b><u>Project site:</u></b> Nil <b><u>Study area:</u></b> Arabian sea: 1 Km/ South Tapi River: 0.5 km/ East Details of Ponds Hazira village pond: 2.2km/ South Suvali village pond: 3.3 km/ NNW Mora village pond: 2.7km/ North Junagam village pond: 1.4km/ West Bhesan village pond: 12.5km/ NE Tapi River: 0.5 km/ East Mindhola River tributary: 12.02/ SE	
7	Existence of ESZ/ESA/ national park/wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area.	Nil.	

47.6.4 The existing project was accorded environmental clearance vide no. EC NO. J-11011/381/2014-IA.II (I) dated 09.03.2016. Consent to Operate for the existing unit was accorded by State Pollution Control Board vide no. and dates as given below:

CTO No.	Date of issue	Validity up to
GPCB/CCA-SRT-1082(5) ID 28839 ( <b>Pipe Mill</b> )	07/04/2020	31/12/2024
GPCB/CCA-SRT-1162 (2) ID 22968 ( <b>Plate Mill</b> )	07/04/2020	31/12/2024
AWH 103579 ( <b>Power Plant</b> )	19/08/2019	31/03/2024
GPCB/CCA-SURAT-1190(6)/ID 14186 ( <b>Conarc division</b> )	20/05/2020	31/12/2024
GPCB/CCA-SURAT-340 (15)/ID 20680( <b>HRC Division</b> )	07/04/2020	31/12/2024

47.6.5 Implementation status of the existing EC:

S No	Facilities	Units	As per Previous ECs	Implementation Status as on 18.10.2021	Production as per CTO
1.	HBI Plant (DRI Mod I to VI)	MTPA	7.83	7.83	7.83
2.	Blast Furnace(BF)	MTPA	5.04	2.04	2.04
3.	Sinter Plant	MTPA	8.48	1.48	1.48
4.	Coke Oven (Recovery Type)	MTPA	2.55	1.35	2016 EC approved for 2.55 MTPA, we are proceeding only with 1.35 MTPA since 1.2 MPA originally secured in 2010 EC has now lapsed. 1.35 is under implementation.
5.	Air Separation Plant	Nm <sup>3</sup> /hr	4,24,744	3,60,544	3,60,544
6.	SMS-1 (EAF 4 Nos.)	MTPA	0	4.6 *	Earlier planning was to remove 4.6 MTPA EAF -4 nos. and replacing with BOF-3 nos. in its place but that could not be implemented due to fund constraints and legal cases at the NCLT. * Original capacity prior to EC 2016 was 4.6 MTPA only and is now submitted to retain this original capacity. CTO has been sanctioned for 4.6 MTPA.
7.	SMS-3 (BOF- 3 nos.)	MTPA	4.6	0	0
8.	SMS-2	MTPA	5.0	5.0	5.0
	Total SMS Production		9.6	9.6	9.6
9.	Corex Plant	MTPA	1.7	1.7	1.7
10.	Lime Plant (Lime/Dolime)	MTPA	0.93	0.93	0.93
11.	CPP	MW	604	566	566

S No	Facilities	Units	As per Previous ECs	Implementation Status as on 18.10.2021	Production as per CTO
12.	Plate Mill	MTPA	1.5	1.5	1.5
13.	CSP and HRC	MTPA	8.0	8.0	8.0
14.	CRM	MTPA	1.5 + 0.54 **	2.04	2.04
15	Jetty	Meter	734	734	734
			456	456	456
16.	Waste Heat Recovery based Power Plant	MW	45	25	25
	Pipe Mill				
17.	H Saw Pipes	MTPA	0.15 + 0.15 ***	0.30	0.30
	L Saw Pipes	MTPA	0.33	0.33	0.33

\*\* CTO taken for additional 0.54 MTPA from GPCB

\*\*\* CTO taken for additional 0.54 MTPA from GPCB

#### 47.6.6

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

S No	Name	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configura tion	Producti on TPA	Configurat ion	Producti on TPA	Configurat ion	Producti on TPA
1.	HBI Plant (DRI Mod I to VI)	DRI Module I to VI	7830000	--	--	Mod I to VI	7830000
2.	Blast Furnace (BF)	1 x 2200 cum.	2040000	Upgradation of existing BF#1 2x4500 cum	960000 8000000	BF#1 1x3200 cum BF#2&3 2x4500 cum	3000000 8000000 11000000
3.	Sinter Plant	1 x 120 sqm	1480000	~ 650 sqm	7000000	~ 770 sqm	84800000
4.	Coke Oven (Recovery Type)	2 x 57 Ovens	1350000	4x59 Ovens	3050000		4400000
5.	Air Separation Plant	---	360544 Nm <sup>3</sup> /hr.	2200 TPD	64200 Nm <sup>3</sup> /hr.		424744 Nm <sup>3</sup> /hr.
6.	SMS-1 (EAF 4 Nos.)	4 x 150 Ton	4600000	--		4 x 150 Ton	4600000
7.	SMS-2 (ConArc 2 Nos.)	2 x 200 Ton	5000000	--	2x200 Ton	2 x 200 Ton	5000000
8.	SMS-3 (BOF- 3 nos.)	---	---	3x350 Ton	6000000	3x350 Ton	6000000
9.	Corex		1700000	---	---	---	1700000

S No	Name	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configura tion	Producti on TPA	Configurat ion	Producti on TPA	Configurat ion	Producti on TPA
	Plant*						
10.	Lime Plant (Lime/Dolime)	4 x 300 Ton Shaft Kilns	930000	4 x 600 Ton + 1 x 500 Ton Shaft Kilns + 1 x 200 Ton Rotary Kiln	800000	4 x 300 Ton + 4 x 600 Ton + 1 x 500 Ton Shaft Kilns + 1 x 200 Ton Rotary Kiln	2000000 (270000 Covered under ToR 2021)
11.	CPP	1 x 525 MW Gas Based 1 x 31 MW By product 1 x 10 MW TRT	566	By-product Gas Fired By-product Gas Fired TRT BF #2&3	38 MW  200 MW  50 MW	1 x 525 MW Gas Based 1 x 38 MW By-Product	854
12.	Plate Mill	1 x 1.5 MTPA	1500000	--	--	1x1.5 MTPA	1500000
13.	CSP and HRC	CSP 1 x 3.5 MTPA HRC 1 x 4.5 MTPA	3500000  4500000	1 x 6 MTPA	6000000	CSP 1 x 3.5 MTPA HRC 1 x 4.5 MTPA HRC 1 x 6 MTPA	14000000
14.	CRM		2.0		3.2		5.2
15.	Jetty (Not being dealt by EAC of Ind 1 sector)		734 meters  456 meters	---  ---	---  ---	--  ---	1190 meters
16.	Waste Heat Recovery Plant	1x25 MW	25 MW	1 x 100 MW CDQ 1 x 20 MW CDQ	100 MW  20 MW	---	145
17.	H Saw Pipes		300000	---	---		300000
	L Saw Pipes		330000	---	---		330000
* Plant will be operated till the proposed expansion is completed. Thereafter it will be shut down safely and will be started only in case of any unit going down but maintaining sanctioned production of hot metal							

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

S No	Raw Material	Quantity required per annum			Source	Distance from site (Approx. Kms)	Mode of Transportation
		Existing	Proposed	Total			
1.	DR Grade Pellets	11,823,300	0	11,823,300	AMNSI's Palletization plants located at Vizag and Paradeep	5200/5750	Sea Route
2.	BF Grade Pellets	5,400,000	6,759,536	12,159,536			
3.	Calibrated Lump Ore	0	127,660	127,660	NMDC mines in Kirandul, Dist. Dantewada, CG	450+5200	Rail + Sea Route
4.	Iron Ore Fines	185,000	3,942,444	4,127,444	Goa, Odisha NMDC mines	900/5750	Sea Route
5.	Coal-PCI-BF	408,000	2,036,444	2,444,444	RBCT, SA Australia Japan Poland Russia	7680 11053 13231 16044 10245	Sea Route
6.	Coal for Corex	2,770,000	-2,770,000	0			
7.	Metallurgical Coal	1,957,500	4,501,564	6,459,064			
8.	Coke	1,155,000	-1,155,000	0			
9.	BF and Sinter Grade Flux (Limestone +Dolomite + Pyroxenite + Quartzite)	690,000	493,715	1,183,715	Dubai and Oman	2640/2200	Sea Route
10.	SMS grade Limestone and Dolomite	1,863,000	2,562,564	4,425,564			

- 47.6.8 The water requirement for the project is estimated as 3,815 m<sup>3</sup>/hr, out of which 3,400 m<sup>3</sup>/hr. of fresh water requirement will be obtained from the River Tapi and remaining requirement of 600 m<sup>3</sup>/hr will be recovered from Effluent Treatment Plant. The Permission for drawl of surface water is obtained from Narmada Water Resources Water Supply and Kalpasar Department vide letter no. 248/2021/1444 dated 27<sup>th</sup> July 2021.
- 47.6.9 The power requirement for the project is estimated as 1573 MW, out of which 810 MW will be obtained from the Captive Power Plant, 243 MW from Third party and 520 MW from Grid.
- 47.6.10 The capital cost of the project is Rs. 35,145 Crores and the capital cost for environmental protection measures is proposed as Rs. 1565 Crores. The employment generation from the proposed project / expansion is direct 1750 and indirect 5250.



47.6.11 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.

47.6.12 Name of the EIA consultant: M/s. Kadam Environmental Consultants [Sl. No. 20, List of ACOs with their Certificate no. NABET/EIA/1922/RA0138, valid up to 25/05/2022; Rev. 15, October 11, 2021].

47.6.13 Proposed Terms of Reference (**Baseline data collection period: 15<sup>th</sup> March, 2021 – 15<sup>th</sup> June, 2021**):

S No	Attributes	Sampling		Remarks
		No. of stations	Frequency	
<b>A.</b>	<b>Air</b>			
a.	Meteorological parameters Temperature, wind speed, wind direction, Relative humidity, Rainfall, cloud cover	At Site	Continuous for 12 weeks	
b.	AAQ parameters PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> , HC, CO	8	24 hrs twice a week at each station spread over the entire season with gaseous samples being changed six times (at 8-hour intervals).	
<b>B.</b>	<b>Noise</b>	8	24 Hrs at each location once only	
<b>C.</b>	<b>Water</b>			
	Surface water/Ground water quality parameters Ground water parameters as per IS 10500 Standard Limits for drinking water Surface water parameter as per Inland Surface Water (CPCB)	8 + 8 (Groundwater + Surface water)	Each sample taken once during the monitoring period	
<b>D.</b>	<b>Land</b>			
a.	Soil quality Porosity, Water Holding Capacity, Permeability, Particle Size Distribution, Texture, Cation Exchange Capacity, SAR, Exchangeable Sodium, Electrical conductivity, pH, Calcium, Magnesium, Sodium, Potassium, Organic carbon, Total Nitrogen, Available potassium	8	Each sample taken once only	

S No	Attributes	Sampling		Remarks
		No. of stations	Frequency	
b.	Land Use		10 Km Radius Study area	
<b>E.</b>	<b>Biological</b>			
a.	Aquatic	Aquatic (Phyto, Zoo, Benthos) Terrestrial (Mammals, Avifauna, Herpetofauna)	10 Km Radius Study area	
b.	Terrestrial			
<b>F.</b>	<b>Socio-economic parameters</b>	Nearby villages	10 Km Radius Study area	

47.6.14 M/s. Arcelor Mittal Nippon Steel India Limited has earlier made an application online vide proposal no. IA/GJ/IND/195125/2021 dated 28/01/2021. The proposal was placed before the EAC (Industry 1) in its 30<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 10 - 11<sup>th</sup> February, 2021. During the course of meeting, the project proponent requested the EAC and Ministry to withdraw their proposal as they would like to modify their proposal. In this regard, project proponent also sent an email to the Ministry as well as EAC members on 10/02/2021.

47.6.15 In view of the above, the Committee recommended for accepting the withdrawal of the instant proposal.

47.6.16 M/s. Arcelormittal Nippon Steel India Limited has made an online application vide proposal no. IA/GJ/IND/231036/2021, dated 06/10/2021. The proposal was considered in 47<sup>th</sup> Re-constituted EAC (Industry- 1) held on 28-29<sup>th</sup> October, 2021. The observations and recommendation is given as below:

#### Observations of the Committee

- 47.6.17 The EAC noted the following:
- PP has not clarified as to what will be the mode of disposal of RW Treatment sludge.
  - There is no information available in PFR on existing modification going on as per TOR of 2021. These units have not been installed so far. The pollution increase due to these units has not reflected in BL data being/going to be collected. There is no mention of cumulative impact to be carried out for facilities which have been accorded standard ToR accorded vide proposal no. IA/GJ/IND/189821/2020 on 08/02/2021.
  - Scheme for transport of 20 MTPA cargo to the plant from port and to the port from plant (nearly 3-4 Km) has not furnished in PFR. The breakup of percentage of dry bulk and break bulk cargo is not given. It may be noted that break bulk cargo cannot be handled by belt conveyors.
  - 65.73 ha Forest land is required for expansion. Stage II clearance for the same has been taken.

- v. The layout of the plant shows scattered tree plantation. No green belt in planned manner along the plant boundary is visible. PP has not submitted a planned green belt layout.
- vi. MEROS technology for control of dioxins and furan has not been proposed.
- vii. Type of GCP (dry or wet) for BF has not been described.
- viii. Existing plant has only 22 % green belt. After expansion the proposed green belt is only 28 % against the requirement of 33%. Layout clearly indicates that enough land is not available for expansion project for green belt development.
- ix. PFR is giving details of expansion project only. It shall include Jetty and existing ongoing modification and running plant details.
- x. PFR does not give details of locations for relocated facility like Office, training center, Control room, Briquette house etc.
- xi. AAQ stations proposed are inadequate.
- xii. PP has obtained standard ToR on 27/10/2021 from Infra sector vide proposal no IA/GJ/NCP/233331/2021 for Construction of New Jetty (700 m) and Upgradation/ Augmentation of existing Shallow Jetty (456 m & 592 m) to Deep draft Jetty which will catering to the instant expansion proposal of steel plant. Proponent failed to integrate the same in the instant proposal under consideration.
- xiii. PP has sought for waiver of public hearing. As per the Ministry's O.M. No.J-11011/321/2016-IA.II(I) dated 27/04/2018, public hearing exemption is not available for the metallurgical industries even if the project site is located within the industrial estates/parks.

#### Recommendations of the Committee

47.6.18 In view of the foregoing and after detailed deliberation, the committee recommended to differ the proposal and sought additional information as enumerated under para 47.6.17 above.

47.7 Expansion of Integrated Steel Plant from 6 MTPA Liquid Steel to 25.2 MTPA Liquid Steel (24.79 MTPA Crude Steel) and 12.5 MTPA Cement by **M/s. Jindal Steel & Power Limited** located at Village Kerjang, Tehsil Chhendipada, **District Angul, Odisha**. [Online Proposal No. IA/OR/IND/228087/2021; File No.: J-11011/365/2006-IA.II(I)] – **Amendment in Terms of Reference– regarding.**

47.7.1 M/s. Jindal Steel & Power Limited has made an application online vide proposal no. IA/OR/IND/228087/2021, dated 17/09/2021 along with Form 3 and sought for amendment in the Terms of Reference accorded by the Ministry vide letter no. J-11011/365/2006-IA.II(I) dated 08/02/2021.

#### Details submitted by the project proponent

47.7.2 M/s. Jindal Steel and Power Limited was originally accorded environmental clearance vide letter no. J-11011/365/2006 dated 22/02/2007 and amended on 14/11/2008, 08/02/2017, 26/06/2018, 22/01/2019 and 18/01/2021. The EC was accorded for the following product capacities:

S No.	Facilities	Units	Capacity	Implementation status as on 31/12/2020 as reported by the PP
i.	Pellet Plant	MTPA	5.0	Not Implemented

S No.	Facilities	Units	Capacity	Implementation status as on 31/12/2020 as reported by the PP
ii.	Coal Gasifier	Nm <sup>3</sup> /year	4000x10 <sup>6</sup>	2100x10 <sup>6</sup>
iii.	DRI plant	MTPA	4.0	2.0
iv.	Blast Furnace	MTPA	4.25	4.25
v.	Coke Oven	MTPA	2.0	2.0
vi.	Sinter Plant	MTPA	5.0	5.0
vii.	SMS	MTPA	6.0	6.0
viii.	Rolling mills	MTPA	6.0	2.9
ix.	Ferro-alloy plant	MTPA	0.08	Not Implemented
x.	Lime Dolime plant	TPD	3000	2200
xi.	Process gas/ pressure recovery turbine	MW	62	30.5
xii.	Coal based Power Plant	MW	810	810

47.7.3 M/s. Jindal Steel & Power Limited had applied for grant of ToR for expansion of Integrated Steel Plant from 6.0 MTPA liquid steel to 25.2 MTPA liquid steel (24.79 MTPA Crude Steel) and 12.5 MTPA Cement plant at Village Kerjang, Tehsil Chhendipada, District Angul, Odisha. The proposal was considered in 28<sup>th</sup> meeting of REAC (Industry- 1) held on 18-20<sup>th</sup> January, 2021. During consideration of the proposal, the EAC observed that the existing project was obtained Environment Clearance during 22/02/2007 for setting up of 6 MTPA ISP. However, as per the implementation status furnished by the PP, only 4.5 MTPA ISP has been commissioned. In view of this, EAC recommended that the instant expansion proposal may be titled as expansion from 4.5 to 25.2 MTPA ISP in place of expansion from 6.0 to 25.2 MTPA ISP. Accordingly, the ToR for the expansion of Integrated Steel Plant from 4.5 MTPA Liquid Steel to 25.2 MTPA Liquid Steel (24.79 MTPA crude steel) and 12.5 MTPA Cement plant at village Kerjang, Tehsil Chhendipada, District Angul, Odisha was accorded by MoEF&CC vide letter no. J-11011/365/2006-IA-II(I) dated 08/02/2021 for undertaking detailed EIA/EMP study.

47.7.4 Subsequently, M/s. JSPL submitted a representation to the Ministry on 29/01/2021 stating that in their EC amendment letter accorded on 08/02/2017, MoEF&CC clarified that validity of EC refers to start of production by the project/activity, it does not say start of full production as per the sanctioned environment clearance capacity. In view of this, the environment clearance gets completed if the project starts the production within the validity period. 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 amended 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, the PP submitted the ToR amendment application vide proposal no. IA/OR/IND/212826/2021 dated 21/05/2021 wherein the PP has included all the unimplemented as well partly implemented portion of the facilities envisaged under the 6 MTPA EC dated 22/02/2007 under the proposed expansion of ISP from 6 MTPA to 25.2 MTPA. Accordingly, ToR amendment was accorded on 16/06/2021 with a title “Expansion of Integrated Steel Plant from 6 MTPA liquid steel to 25.2 MTPA liquid steel (24.79 MTPA Crude Steel) and 12.5 MTPA Cement plant by M/s. Jindal Steel & Power Limited located

at Village Kerjang, Tehsil Chhendipada, District Angul, Odisha” along the following configuration:

S No.	Plant	As per ToR dated 08/02/2021		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 <sup>3</sup> /hr	2100x10 <sup>6</sup> Nm <sup>3</sup> /year	-	-	7x37500 Nm <sup>3</sup> /hr	2100x10 <sup>6</sup> Nm <sup>3</sup> /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 <sup>2</sup>	10.75 MTPA	-	-	2x490.5 m <sup>2</sup>	10.75 MTPA
5.	Blast Furnace	1x4554 m <sup>3</sup> 1x5400 m <sup>3</sup> 2x6000 m <sup>3</sup>	18.75 MTPA	-	-	1x4554 m <sup>3</sup> 1x5400 m <sup>3</sup> 2x6000 m <sup>3</sup>	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	<b>1x3.1 MTPA</b> 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 <b>1x5 MTPA</b>	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

47.7.5 The project proponent vide online proposal no. IA/OR/IND/228087/2021 dated 17/09/2021 again sought for amendments in the ToR accorded on 8/2/2021 and 16/06/2021 due to Change in Layout of expansion project due to avoiding acquisition of Revenue Forest Land, change in land requirement and minor change in layout. Change in configuration of some facilities in expansion project keeping overall steelmaking capacity at 25.2 MTPA are as given below:

S No	Plant/Equipment/Facility	Configuration as per existing EC	Configuration of expansion project as per approved TOR	Proposed Configuration of expansion project after TOR amendment	Final Configuration after amendment of TOR	Remarks
1.	Coal Gasification plant	4000 million Nm <sup>3</sup> /year	-	-	4000 million Nm <sup>3</sup> /year	-
2.	DRI Plant	4 MTPA (2x2 MTPA)	2x2.7 MTPA	2x2.7 MTPA Addition of 0.7 MTPA in existing DRI of 2 MTPA	10.1 MTPA	0.7 MTPA increase within existing DRI
3.	Coke Oven	2.0 MTPA (4x72 ovens)	5.6 MTPA (2x62, 6x54)	5.17 MTPA (2x70, 4x56)	7.17 MTPA (4x72, 2x70, 4x56)	Capacity decrease of 0.43 MTPA
4.	Sinter Plant	5 MTPA (1x490 m <sup>2</sup> )	5.75 MTPA (1x490 m <sup>2</sup> )	11.5 MTPA (2x490 m <sup>2</sup> )	16.5 MTPA (3x490 m <sup>2</sup> )	Capacity increase of 5.75 MTPA
5.	Blast Furnace	4.25 MTPA (1x4554 m <sup>3</sup> )	14.5 MTPA (1x5400 m <sup>3</sup> , 2x6000 m <sup>3</sup> )	14 MTPA (2x5400 m <sup>3</sup> , 1x6000 m <sup>3</sup> )	18.25 MTPA (1x4554 m <sup>3</sup> , 2x5400 m <sup>3</sup> , 1x6000 m <sup>3</sup> )	Capacity Decrease of 0.5 MTPA
6.	EAF	3 MTPA (1x250 T)	4.5 MTPA (2x250 T)	6 MTPA (1x250 T, 1x360 T)	9.0 MTPA (2x250 T, 1x360 T)	Capacity increase of 1.5 MTPA
7.	BoF	3 MTPA (1x250 T)	14.7 MTPA (1x250 T, 3x380 T, 2x250 T)	13.2 MTPA (2x300 T, 2x360 T)	16.2 MTPA (1x250 T, 2x300 T, 2x360 T)	Capacity decrease of 1.5 MTPA
8.	Plate mill	1.5 MTPA	0.5 MTPA	0.5 MTPA	2.0 MTPA	-
9.	Bar Mill	1.4 MTPA	-	-	1.4 MTPA	-
10.	Wire Rod mill	-	1.2 MTPA	1.2 MTPA	1.2 MTPA	-
11.	Hot rolling mill	3.1 MTPA	18 MTPA (3x6 MTPA)	18 MTPA (3x6 MTPA)	21.1 MTPA (1x3.1 MTPA, 3x6 MTPA)	-
12.	CRM Complex	-	7.5 MTPA	7.5 MTPA	7.5 MTPA	-
13.	Calcination plant	3000 TPD (2x600 TPD, 2x500 TPD, 2x400 TPD)	13x600 TPD	12x600 TPD	10200 TPD (14x600 TPD, 2x500 TPD, 2x400 TPD)	Capacity decrease of 1x600 TPD
14.	Oxygen plant	2x1200 TPD, 3x200 TPD, 1x1710 TPD, 3x200 TPD	1x2000 TPD, 3x3600 TPD	2x2700 TPD, 2x2800 TPD	2x1200 TPD, 6x200 TPD, 1x1710 TPD, 2x2700 TPD, 2x2800 TPD	Capacity decrease of 1800 TPD

S No	Plant/Equipment/Facility	Configuration as per existing EC	Configuration of expansion project as per approved TOR	Proposed Configuration of expansion project after TOR amendment	Final Configuration after amendment of TOR	Remarks
15.	Power Plant	810 MW (6x135 MW)	600 MW (1x350 MW 1x250 MW)	550 MW (2x275 MW)	1360 MW (6x135 MW, 2x275 MW)	Capacity decrease of 50 MW
16.	Ferro alloy plant	0.08 MTPA	0.376 MTPA	0.376 MTPA	0.456 MTPA	-
17.	Pellet Plant	5 MTPA	21 MTPA (3x7 MTPA)	21 MTPA (3x7 MTPA)	26 MTPA (1x5 MTPA, 3x7 MTPA)	-
18.	Cement plant		12.5 MTPA	12.5 MTPA	12.5 MTPA	-
19.	Iron Ore slurry		36 MTPA	36 MTPA	36 MTPA	-

47.7.6 Details of other amendments proposed in the TOR dated 8/2/2021 and 16/06/2021:

Reference of approved TOR	As per approved TOR	Proposed amendment	Remarks
3 (i) of letter dated 08/02/2021	2224.96 ha [1416.06 ha (Existing) + 808.902 ha (Additional)]	2398 ha [1416.06 ha (Existing) + 981.94 ha (Additional)]	Addition of plant area 173.04 ha due to avoiding acquisition of Revenue Forest Land, change in land requirement and minor change in layout.
3(v) of letter dated 08/02/2021	Forest land in existing and expansion project – 190.62 hectares	Forest land in existing project 163 ha and no additional forest land involved in expansion proposal.	No additional forest land in the proposed expansion project

47.7.7 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.

47.7.8 The proposal cited above was considered in 45<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28-29<sup>th</sup> September, 2021. The EAC deferred the proposal for sought for additional information.

47.7.9 M/s. Jindal Steel & Power Limited has submitted the ADS reply on 11/10/2021. Reply of ADS given by PP is given as below:

**Additional Detail Sought**

Project proponent shall submit additional information regarding production capacities of all the different units envisaged under the EC dated 22/02/2007 inter-alia EC obtained for the oxygen plant – 5310 TPD capacity along with the implementation status of all the units envisaged under the EC dated 22/02/2007 for further consideration of the proposal.

### Reply Submitted by PP against ADS

The final configuration of the 6 MTPA integrated steel plant as per the said EC and its amendments from time to time along with the implementation status of each unit is given below:

S No	Name of the units	Final production capacity as per EC	Capacities implemented (Implementation Status)
1	Pellet Plant	5.0 MTPA	To be implemented
2	Coal Gasifier	4000 million Nm <sup>3</sup> /year	2100 million Nm <sup>3</sup> /year (Partially implemented)
3	DRI Plant	4.0 MTPA	2.0 MTPA (Partially implemented)
4	Blast Furnace	4.25 MTPA	4.25 MTPA
5	Coke Oven & by product plant	2.0 MTPA	2.0 MTPA
6	Sinter Plant	5.0 MTPA	5.0 MTPA
7	SMS	6.0 MTPA	6.0 MTPA
8	Rolling mill	6.0 MTPA	2.9 MTPA (Partially implemented)
9	Ferro Alloy plant	0.08 MTPA	To be implemented
10	Lime/ Dolime Plant	3000 TPD	2200 TPD (Partially implemented)
11	Process Gas/ pressure recovery turbines	62 MW	30.5 MW (Partially implemented)
12	Coal based Power Plant	810 MW	810 MW

Regarding EC for Oxygen plant, it is submitted that the EIA report submitted for seeking major amendment in EC dated 14/11/2008 included the Oxygen plant of 7200 TPD capacity as one of the proposed facilities in the integrated steel plant. However, the Oxygen plant was not included in the table mentioned in the EC amendment dated 14/11/2008. The reason for excluding the same in the table of configuration of EC may be due to the fact that Oxygen plant does not require EC. The said oxygen plant has been partially implemented with capacity of 3000 TPD.

- 47.7.10 Based on the reply of ADS made by PP on 11/10/2021, proposal was reconsidered in 47<sup>th</sup> Re-constituted Expert Appraisal Committee (Industry 1 sector) held on 28 -29<sup>th</sup> October, 2021. The observations and recommendations of the EAC is given as below:

### Observations of the Committee

- 47.7.11 The EAC noted the following:
- The proponent has originally obtained EC on 22/02/2007 for setting up of 6 MTPA Integrated Steel Plant Village Kerjang, Tehsil Chhendipada, District Angul, Odisha.
  - During 8/02/2017, MoEF&CC clarified in the aforementioned project that **validity of EC refers to start of production by the project/activity, it does not say start of full production as per the sanctioned environment clearance capacity. In view of this, the environment clearance gets completed if the project starts the production within the validity period.**



- iii. Project proponent has applied for expansion of ISP capacity from 6 to 25.2 MTPA. The matter was deliberated upon by the EAC wherein EAC noted that PP has commissioned only 4.5 MTPA against the sanctioned capacity of 6 MTPA. Hence, the EAC has recommended the proposal for grant of ToR from 4.5 to 25.2 MTPA ISP. Accordingly, ToR was accorded on 8/2/2021.
- iv. Subsequently, PP has sought for amendment in the ToR dated 8/2/2021 (Proposal no. IA/OR/IND/212826/2021 dated 21/05/2021) for change in title of the project from 6 to 25.2 MTPA ISP based on their EC amendment letter accorded to them on 8/2/2017. In the said application, the partly implemented/un implemented facilities inter-alia 5 MTPA pellet plant and 3.1 MTPA Hot strip mill envisaged under the EC dated 22/02/2007 have been incorporated by the PP under the proposed expansion activity. Accordingly, ToR amendment was accorded on 16/06/2021.
- v. Instant proposal is for seeking amendment again in the ToR dated 8/2/2021 and 16/06/2021 as the project proponent has inadvertently indicated the units which were either partially implemented (or) yet to be implemented under the existing environment clearance dated 22/02/2007 in the proposed expansion. Besides, the proponent also proposed minor change in configuration in the proposed expansion project without changing the steelmaking capacity.
- vi. The Committee noted that as per the EC amendment letter dated 8/02/2017 issued to the proponent, MoEF&CC already clarified that **validity period of the 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.**
- vii. As per the available records, the production capacities (implemented/unimplemented) envisaged under the EC dated 22/02/2007 and its subsequent amendments along with the proposed expansion of ISP from 6.0 to 25.2 MTPA is given as below in the table.

S No	Plant Equipment/ Facility	As per EC dated 22/02/2007 and its subsequent amendments (A = A1+A2)*							As per approved TOR dated 08/02/2021 and amendment dated 16/06/2021		Proposed changes in ToR (B)		Final after amendment of TOR (A+B)		Remarks
		Total (A)		Implemented (A1)		Un-implemented (A2)		As per CTO	Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	
		Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	Capacity							
1.	Coal Gasification Plant	4000 Million Nm³/year	4000 Million Nm³/year	2100 Million Nm³/year	2100 Million Nm³/year	1900 Million Nm³/year	1900 Million Nm³/year	1900 Million Nm³/year	7x37500 Nm³/hr	2100x10 <sup>6</sup> Nm³/year	Capacity proposed in the ToR to be deleted.		4000 Million Nm³/year	4000 Million Nm³/ year	-
2.	DRI Plant	2x2 MTPA	4 MTPA	1x2 MTPA	2 MTPA	1x2 MTPA	2 MTPA	1.8	2x2 MTPA 2x2.7 MTPA	9.4 MTPA	2x2.7 MTPA + Addition of 0.7 MTPA in 2 MTPA under EC dated 22/02/2007	5.4 MTPA + 0.7 MTPA	1x2 MTPA 3x2.7 MTPA	10.1 MTPA	0.7 MTPA increase within 2 MTPA DRI under EC dated 22/02/07
3.	Coke Oven	4x72 ovens	2 MTPA	4x72 ovens	2 MTPA	-	-	2.0	4x72 ovens 2x63 ovens 6x54 ovens	7.6 MTPA	2x70 ovens, 4x56 ovens	5.17 MTPA	4x72 ovens, 2x70 ovens, 4x56 ovens	7.17 MTPA	Capacity decrease of 0.43 MTPA
4.	Sinter Plant	1x490 m²	5 MTPA	1x490 m²	5 MTPA	-	-	4.0	2x490.5 m²	10.75 MTPA	2x490 m²	11.5 MTPA	3x490 m²	16.5 MTPA	Capacity increase of 5.75 MTPA
5.	Blast Furnace	1x4554 m³	4.25 MTPA	1x4554 m³	4.25 MTPA	-	-	3.2	1x4554 m³ 1x5400 m³ 2x6000 m³	18.75 MTPA	2x5400 m³, 1x6000 m³	14 MTPA	1x4554 m³, 2x5400 m³, 1x6000 m³	18.25 MTPA	Capacity decrease of 0.5 MTPA
6.	EAF	1x250 T	3 MTPA	1x250 T	3 MTPA	-	-	4.5	3x250 T	7.5 MTPA	1x250 T, 1x360 T	6 MTPA	2x250 T, 1x360 T	9.0 MTPA	Capacity increase of 1.5 MTPA
7.	BoF	1x250 T	3 MTPA	1x250 T	3 MTPA	-	-		2x250 T 3x380 T	17.7 MTPA	2x300 T, 2x360 T	13.2 MTPA	1x250 T, 2x300 T, 2x360 T	16.2 MTPA	Capacity decrease of 1.5 MTPA

S No	Plant Equipment/ Facility	As per EC dated 22/02/2007 and its subsequent amendments (A = A1+A2)*							As per approved TOR dated 08/02/2021 and amendment dated 16/06/2021		Proposed changes in ToR (B)		Final after amendment of TOR (A+B)		Remarks
		Total (A)		Implemented (A1)		Un-implemented (A2)		As per CTO	Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	
		Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity								
8.	Plate Mill	1x1.5 MTPA	1.5 MTPA	1x1.5 MTPA	1.5 MTPA	-	-	2.6	1x2.0 MTPA	2.0 MTPA	-	0.5 MTPA	1x2.0 MTPA	2.0 MTPA	-
9.	Bar Mill	1x1.4 MTPA	1.4 MTPA	1x1.4 MTPA	1.4 MTPA	-	-		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	1x1.2 MTPA	1.2 MTPA	-
11.	Hot Rolling Mill	1x3.1 MTPA	3.1 MTPA	-	-	1x3.1 MTPA	3.1 MTPA	-	1x3.1 MTPA 3x6 MTPA	21.6 MTPA	3x6 MTPA	18 MTPA	1x3.1 MTPA 3x6 MTPA	21.1 MTPA	-
12.	CRM Complex	-	-	-	-	-	-	-	3x2.5 MTPA	7.5 MTPA	3x2.5 MTPA	7.5 MTPA	3x2.5 MTPA	7.5 MTPA	-
13.	Calcination Plant	2x600 TPD, 2x500 TPD, 2x400 TPD	3000 TPD	2x600 TPD, 2x500 TPD	2200 TPD	2x400 TPD	800 TPD	1000 TPD	15x600 TPD 2x500 TPD	10,000 TPD	12x600 TPD	7200 TPD	14x600 TPD, 2x500 TPD, 2x400 TPD	10,200 TPD	Capacity decrease of 600 TPD
14.	<u>Oxygen Plant</u>	<u>2x1200 TPD,</u> <u>3x200 TPD,</u> <u>1x1710 TPD,</u> <u>3x200 TPD</u>	<u>5310</u>	<u>2x1200 TPD,</u> <u>3x200 TPD,</u> <u>1x1710 TPD,</u> <u>3x200 TPD</u>	<u>5310</u>	-	-	5310	2x1200 TPD 6x200 TPD 1x2000 TPD 1x1710 TPD 3x3600 TPD	18,110 TPD	2x2700 TPD, 2x2800 TPD	11,000 TPD	2x1200 TPD, 6x200 TPD, 1x1710 TPD, 2x2700 TPD, 2x2800 TPD	16310 TPD	Capacity decrease of 1800 TPD
15.	Power Plant	6x135 MW	810 MW (coal)	6x135 MW	810 MW (coal)	-	-	810	6x135 MW	1410 MW	2x275 MW	550 MW	6x135 MW, 2x275 MW	1360 MW	Capacity decrease of

*MoM of 47<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28-29<sup>th</sup> October, 2021*

S No	Plant Equipment/ Facility	As per EC dated 22/02/2007 and its subsequent amendments (A = A1+A2)*							As per approved TOR dated 08/02/2021 and amendment dated 16/06/2021		Proposed changes in ToR (B)		Final after amendment of TOR (A+B)		Remarks
		Total (A)		Implemented (A1)		Un-implemented (A2)		As per CTO	Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	
		Configu-ration	Capacity	Configu-ration	Capacity	Configu-ration	Capacity	Capacity							
			based)		based)				(Coal based) 1x350 MW, 1x250 MW (Gas based)						50 MW
16.	Ferro Alloy Plant	3x24 MVA	0.08 MTPA	-	-	3x24 MVA	0.08 MTPA	-	1x18 MVA 1x15 MVA 4x45 MVA 1x15 MVA 1x6 MVA	0.376 MTPA	0.376 MTPA	0.376 MTPA	3x24 MVA, 1x18 MVA, 2x15 MVA, 4x45 MVA, 1x6 MVA	0.456 MTPA	-
17.	Pellet Plant	1x5 MTPA	5 MTPA	-	-	1x5 MTPA	5 MTPA	-	3x7 MTPA 1x5 MTPA	26 MTPA	3x7 MTPA	21 MTPA	1x5 MTPA 3x7 MTPA	26 MTPA	-
18.	Cement Plant	-	-	-	-	-	-	-	3x3.5 MTPA 1x2 MTPA	12.5 MTPA	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	2x18 MTPA	36 MTPA	-

*\*Note - MoEF&CC vide letter dated 08/02/2017 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.*

### Recommendation of the Committee

47.7.12 In view of the foregoing and after deliberations, the Committee recommended that the unit configuration and production capacities stated in the ToR accorded on 8/02/2021 and 16/06/2021 shall be amended as per the table given at para no. 47.7.11 in light of the Ministry's EC amendment letter dated 08/02/2017. All other terms and conditions stated in the ToR dated 8/02/2021 and its subsequent amendment dated 16/06/2021 shall remain unchanged.

47.8 Expansion of existing Iron Ore Beneficiation- 10,00,000 TPA throughput, Iron Ore Pellets 6,00,000 TPA, Sponge Iron- 54,000 TPA, SMS- 50,400 TPA, Rolled Products- 42,000 TPA, Producer Gas Plant- 17,100 Nm<sup>3</sup>/hr, Pulverized Coal Ignition- 4.16 TPH & Slag Crusher- 1.25 TPH to Proposed final capacity of Beneficiation plant- 20,00,000 TPA throughput, Iron Ore Grinding- 15,00,000 TPA, Iron Ore Pellets- 18,00,000 TPA, Sponge Iron- 3,72,900 TPA, SMS- 54,000 TPA, Rolled Products- 4,10,000 TPA, CPP- 44 MW (30 MW WHRB & 14 MW AFBC), PGP Plant- 17,100 Nm<sup>3</sup>/Hr; PCI Plant- 13.16 TPH & Slag Crushing Plant- 11.25 TPH by **M/s. MSP Sponge Iron Ltd.** located at Village- Haldiaguna, P.O- Gobardhan, Tehsil- Keonjhar Sadar, **District- Keonjhar, Odisha.** [Online Proposal No. IA/OR/IND/231821/2021; File No.: J-11011/116/2011-IA.II(I)] – **Amendment in Terms of Reference– regarding.**

47.8.1 M/s. MSP Sponge Iron Limited has made an online application vide proposal no. IA/OR/IND/231821/2021 dated 10/10/2021 along with Form 3 and sought for amendment in standard Terms of Reference accorded by the Ministry vide letter no. No. J-11011/116/2011-IA.II(I) dated 03/08/2021.

### Details submitted by the project proponent

47.8.2 M/s. MSP Sponge Iron Limited has been obtained standard Terms of Reference from MoEF&CC vide letter no J-11011/116/2011-IA.II(I) dated 03/08/2021 for the facilities given as below.

47.8.3 The production capacity and configuration of the project as per ToR dated 03/08/2021:

S N o	Facility	Existing		Proposed	
		Configuration	Capacity (TPA)	Configuration	Capacity (TPA)
1	Iron ore Beneficiation plant	1x1.0 MTPA	10,00,000	2x1.0 MTPA	20,00,000
2	Pellet plant	1x0.6 MTPA	6,00,000	1x0.6 MTPA + 1x1.2 MTPA	18,00,000
3	Sponge Iron	DRI: 2x50 TPD & 2x40 TPD	54,000	DRI 1x350 TPD, 1x600TPD & 2x50 TPD & 2x40 TPD	3,72,900
4	SMS	IF: 3x5 T	50,400	IF: 3x5T, 3x8T, 2x10T & 4x20T	4,83,500
5	Rolling Mill		42,000		4,10,000
6	Captive Power Plant	--	--	WHRB: 30 MW, AFBC: 14 MW	44 MW

S N o	Facility	Existing		Proposed	
		Configuration	Capacity (TPA)	Configuration	Capacity (TPA)
7	Producer Gas Plant	17,100 Nm <sup>3</sup> /hr		17,100 Nm <sup>3</sup> /hr	
8	Pulverized Coal Ignition	4.16 TPH	--	13.16 TPH	--
9	Slag Crusher	1.25 TPH	--	11.25 TPH	--

47.8.4 No amendment has been proposed by project proponent in production capacity and configuration.

**Reason for amendment sought:**

47.8.5 The subject of the ToR has not reflected all the facilities for which ToR was accorded. Hence, proponent requested for amendment in the subject of the ToR.

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

Project proponent has committed to replace the existing 4 no of DRI Kilns (2x40TPD and 2x50 TPD) with 1x200 TPD DRI Kiln on receipt of EC for the expansion project.

**Observations of the Committee**

47.8.7 The Committee noted the following:

i. M/s. MSP Sponge Iron Limited has been obtained standard Terms of Reference from MoEF&CC vide letter no J-11011/116/2011-IA.II(I) dated 03/08/2021 and submitted application for seeking amendment in ToR subject as “*Expansion of existing Iron Ore Beneficiation- 10,00,000 TPA throughput, Iron Ore Pellets 6,00,000 TPA, Sponge Iron- 54,000 TPA, SMS- 50,400 TPA, Rolled Products- 42,000 TPA, Producer Gas Plant- 17,100 Nm<sup>3</sup>/hr, Pulverized Coal Ignition- 4.16 TPH & Slag Crusher- 1.25 TPH to Proposed final capacity of Beneficiation plant- 20,00,000 TPA throughput, Iron Ore Grinding- 15,00,000 TPA, Iron Ore Pellets- 18,00,000 TPA, Sponge Iron- 3,72,900 TPA, SMS- 34,000 TPA, Rolled Products- 4,10,000 TPA, CPP- 44 MW (30 MW WHRB & 14 MW AFBC), PGP Plant- 17,100 Nm<sup>3</sup>/Hr; PCI Plant- 13.16 TPH & Slag Crushing Plant- 11.25 TPH by M/s. MSP Sponge Iron Ltd. located at Village- Haldiaguna, P.O- Gobardhan, Tehsil- Keonjhar Sadar, District- Keonjhar, Odisha*”.

ii. The proponent has been proposed for ground water abstraction for proposed expansion project.

**Recommendations of the Committee**

47.8.8 In view of the foregoing and after deliberations, the Committee recommended for amendment of ToR dated 03/08/2021 as mentioned at para no. 47.8.7 subject to stipulation of following additional specific ToRs:

- Project proponent shall submit a scheme for phasing out existing DRI Kilns of 2x40 TPD and 2x50 TPD with 1x200 TPD.
- Action plan for gradual phasing out of ground water abstraction for the existing and proposed expansion project shall be submitted.

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

47.9 Expansion of Integrated Steel Plant - Mini Blast Furnace (1,80,000 to 5,00,000 TPA), Sinter Plant (10,90,000 to 14,40,000 TPA) & Pellet Plant (9,00,000 to 12,00,000 TPA) by revamping, augmentation & up gradation of existing technologies & facilities and increasing annual working days along with Expansion in Pig Casting Machine (600 to 1500 TPD) & Oxygen Plant (60 to 260 TPD) by **M/s. Rashmi Metaliks Limited** located at Village Gokulpur, P.O. Shyamraipur, P.S. Kharagpur (Local), **District West Medinipur, West Bengal**. [Online Proposal No. IA/WB/IND/234684/2016; File No.: J-11011/237/2016-IA.II(I)] – **Environment Clearance– regarding.**

47.9.1 M/s. Rashmi Metaliks Limited has made an online application vide proposal no. IA/WB/IND/234684/2016 dated 20/10/2021 along with copy of EIA/EMP Report, Form – 2 and certified existing EC compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

47.9.2 The details of the ToR are furnished as below:

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

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

47.9.4 Environmental Site Settings:

S. No.	Particulars	Details	Remarks
i.	Total land	58.27 ha (Industrial land) [Expansion within existing land, hence no additional land will be acquired].	Land Use – Industrial
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total land is under the possession of the company.	-
iii.	Existence of habitation & involvement of R&R, if any.	No habitation exists within the plant site and R & R is not applicable.	Total project area is under the possession of the company.

S. No.	Particulars	Details	Remarks
iv.	Latitude and Longitude of the project site	<b>Latitude:</b> 22°21'19.98"N to 22°22'2.41"N <b>Longitude:</b> 87°17'11.02"E to 87°17'56.84"E	--
v.	Elevation of the project site	35 m above mean sea level	--
vi.	Involvement of Forest land if any.	No Forest Land is involved in the proposed expansion project area.	--
vii.	Water body exists within the project site as well as study area	<b>Plant site:</b> No water body exists within the plant site. <b>Study area:</b> Following water bodies falls within 10 km radius: <ul style="list-style-type: none"> <li>• Kasai River (~4 km in NNE direction),</li> <li>• Medinipur high level canal (~6 km in NE direction).</li> <li>• Ponds like Shabhaspally pond, Bhagwanpur pond, Vidyasagarpur pond, Chandabila pond, Gokulpur pond, Alichak pond, Narayanpur pond and Rupnarayanpur pond exists in 10 km radius area.</li> </ul>	--
viii.	Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Nil.	-

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



Name of the Unit	Sanctioned Capacity with configuration as per existing EC	Environmental Clearance for Existing Capacity	Consent for Existing capacity from West Bengal Pollution Control Board (WBPCB)
Mini Blast Furnace	1,80,000 TPA	From MoEF&CC, New Delhi vide File No. J-11011/227/2007-IA- II (I) dated 12/06/2008, validity extended on 12/02/2015 & transfer of EC on 06/01/2017**and latest consolidated EC vide File No. J-11011/237/2016-IA.II (I) dated 17/05/2019	Vide consent letter no. C0102836 dated 16/03/2017, and C0113728 dated 12/11/2018, CO113721 dated 12/11/18, CO113765 dated 30/07/2019 and validity up to 31/03/2022
Sinter Plant	10,90,000 TPA (2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup> )		
Pig Casting Machine	600 TPD		
SMS	5,00,000 TPA (7 x 20 T I.F /AOD)		Vide consent letter no. C0106590 dated 11/06/2018 and validity up to 31/03/2022.
Oxygen Plant	60 TPD		<b>Not yet implemented. To be dropped</b>
Lime Calcination Plant	1200 TPD		
Pellet Plant	9,00,000 TPA	J-11011/372/2014-IA- II (I), from MoEF&CC, New Delhi dated 06/12/2016 and latest consolidated EC vide File No. J-11011/237/2016-IA.II (I) dated 17/05/2019	From West Bengal State Pollution Control Board vide consent letter no. C0102836 dated 16/03/2017 and validity up to 31/03/2022.
Ductile Iron Pipe Plant	5,50,000 TPA	J-11011/237/2016-IA.II (I), from MoEF&CC, New Delhi dated 17/05/2019 for Expansion of Ductile Iron Plant (DIP) (2,00,000 TPA to 5,50,000 TPA)	Vide consent letter no. C0102836 dated 16/3/2017, CO113797 dated 02/12/2019 and CO131931 dated 31/03/2021 valid up to 31/03/2022.
Rolling Mill	3,65,200 TPA	Memo No.253 -2N-77/2016 (E) dated 06/06/2017 from WBPCB - No increase in Pollution Load Committee, West Bengal and latest consolidated EC vide File No. J-11011/237/2016-IA.II (I) dated 17/05/2019	From West Bengal State Pollution Control Board vide consent no. C0102836 dated 16/03/2017 and C0106572 dated 12/03/2018 & validity up to 31/03/2022.
Coal Gasifier (Stand By)	6000 Nm <sup>3</sup> /hr		From West Bengal Pollution Control Board vide consent letter no.

Name of the Unit	Sanctioned Capacity with configuration as per existing EC	Environmental Clearance for Existing Capacity	Consent for Existing capacity from West Bengal Pollution Control Board (WBPCB)
Railway Siding	88,50,000 TPA	-	C0102836 dated 16/03/2017, Memo No. 66-3888/WPB(HRO)-K/2014(Pt-II) dated 16/08/2018 and validity up to 31/3/2022.

\*\*Environmental Clearance was initially accorded vide file dated 12<sup>th</sup> June, 2008 for MBF (1x215 m<sup>3</sup> + 1x320 m<sup>3</sup>), Sinter Plant (2x25 m<sup>2</sup> + 1x 70 m<sup>2</sup>), Pig Casting Machine (600 TPD), DRI Kilns (10x100 TPD + 3x350 TPD), SMS (4 x 40 T EAF & LF), Oxygen Plant (60 TPD) & Lime Calcination Plant (1200 TPD) to M/s Rashmi Metaliks Limited. Certain facilities i.e., Sponge Iron Plant -6,00,000 TPA (DRI Kiln – 10x100 TPD & 3x350 TPD) with AFBC, WHRB based Captive Power Plant along with MBF (1x320 m<sup>2</sup> - 3,00,000 TPA Hot Metal/Pig Iron) was transferred to M/s Orissa Metaliks Private Limited vide letter dated 6<sup>th</sup> January 2017 from Ministry.

47.9.6 Implementation status of the existing EC:

S. No.	Facilities	Units	As per EC mentioned above	Implementation Status as on 19 <sup>th</sup> Oct., 2021	Production as per CTO
1.	Mini Blast Furnace	TPA	1,80,000 (1x 215 m <sup>3</sup> )	Operational	1,80,000 (1x 215 m <sup>3</sup> )
2.	Sinter Plant	TPA	10,90,000 (2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup> )	Operational	10,90,000 (2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup> )
3.	Pig Casting Machine	TPD	600	Operational	600
4.	SMS	TPA	5,00,000 (7 x 20 T I.F /AOD)	EC obtained for 5,00,000 TPA and the same capacity has been installed but as on date 4,44,000 TPA is maximum operational capacity after obtaining valid CTO.	4,44,000
5.	Oxygen Plant	TPD	60	Operational	60
6.	Lime Calcination Plant	TPD	1200	Not yet implemented. To be dropped	Nil
7.	Pellet Plant	TPA	9,00,000	Operational	9,00,000

S. No.	Facilities	Units	As per EC mentioned above	Implementation Status as on 19 <sup>th</sup> Oct., 2021	Production as per CTO
8.	Ductile Iron Pipe Plant	TPA	5,50,000	Operational	5,50,000
9.	Rolling Mill	TPA	3,65,200	Operational	3,65,200
10.	Coal Gasifier (Stand By)	Nm <sup>3</sup> /hr	6000	Operational	6000

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

S. No.	Name of the Units	Existing Units		Proposed Units		Total (Existing + Proposed)	
		Configuration	Production	Configuration	Production	Configuration	Production
1.	Mini Blast Furnace	1 x 215 m <sup>3</sup>	1,80,000 TPA	1 x 450 m <sup>3</sup> (Revamping of existing MBF by changing core size)	3,20,000 TPA (Capacity enhancement)	1 x 450 m <sup>3</sup>	5,00,000 TPA
2.	Sinter Plant	2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup>	10,90,000 TPA	No change	3,50,000 (Capacity enhancement)	2 x 25 m <sup>2</sup> + 1 x 70 m <sup>2</sup>	14,40,000 TPA
3.	Pig Casting Machine	1 x 600 TPD	600 TPD	1 x 900 TPD	900 TPD (New Installation)	1 x 600 TPD + 1 x 900 TPD	1500 TPD
4.	Pellet Plant	-	9,00,000 TPA	-	3,00,000 TPA (Capacity enhancement)	-	12,00,000 TPA
5.	Oxygen Plant	1 x 60 TPD	60 TPD	1 x 200 TPD	200 TPD (New Installation)	1 x 60 TPD + 1 x 200 TPD	260 TPD
6.	SMS	7 x 20 T I.F /AOD	5,00,000 TPA	-	0	7 x 20 T I.F /AOD	5,00,000 TPA
7.	Ductile Iron Pipe Plant	-	5,50,000 TPA	-	0	-	5,50,000 TPA
8.	Lime Calcination Plant	-	1200 TPD	-	(-) 1200 TPD	-	0
9.	Rolling Mill	-	3,65,200 TPA	-	0	-	3,65,200 TPA
10.	Coal Gasifier (Stand By)	-	6000 Nm <sup>3</sup> /hr	-	0	-	6000 Nm <sup>3</sup> /hr
11.	Railway Siding	-	88,50,000 TPA	-	0	-	88,50,000 TPA

47.9.8 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 Materials	Quantity required per annum (in TPA)			Source	Distance from Plant Site (kms)	Mode of Transportation
		Existing	Expansion	Total			
1.	I/o Lumps & Fines	23,10,731	(+) 7,75,269	30,86,000	Barbil-Joda, Orissa, Jharkhand, Karnataka	201	Rail
2.	Coal and Coal Dust	56,900	(+) 35,500	92,400	E-Auction, Purchased from BCCL, Dhanbad or Imported	177	Rail
3.	Ferro Alloys	8,650	-	8,650	Rashmi Cement Limited, Jhargram	40	Road
4.	Coke & Coke fines	1,57,400	(+) 83,400	2,40,800	Existing source (Jindal, VISA, Bengal Energy etc.)/ Imported	100	Rail
5.	Dolomite	87,200	(+) 28,000	1,15,200	From Birmitrapur, Orissa / Bilaspur, CG	264/541	Rail
6.	Limestone	1,41,894	(+) 36,106	1,78,000	From Birmitrapur, Orissa / Bilaspur, Raipur CG / Katni MP	264/541	Rail
7.	Quartzite	73,800	(+) 1,31,200	2,05,000	From Belpahar Orissa / Bilaspur, Raipur CG	264/541	Rail
8.	Pyroxenite	5,400	(+) 9,600	15,000	From Jharkhand, Orissa	264/541	Rail
9.	Inoculants	528	-	528	Local Market	<150	Road
10.	Magnesium	935	-	935	Local Market	<150	Road
11.	Runner Coat	2811	-	2811	Local Market	<150	Road
12.	Slag Coagulant	762	-	762	Local Market	<150	Road
13.	Zinc	1040	-	1040	Local Market	<150	Road
14.	Bitumen Solution/ Epoxy Paint	2314 KL/Year	-	2314 KL/Year	WRAS* Approved Vendor	<150	Road
15.	Bentonite	9,000	(+) 3,000	12,000	From Kutch, Gujarat	--	Rail
16.	Mould Powder	1,491	-	1,491	Local Market	<150	Road
17.	Sponge Iron	4,90,000	-	4,90,000	Rashmi Cement Limited, Jhargram, Orissa	5/40	Road

S. No.	Raw Materials	Quantity required per annum (in TPA)			Source	Distance from Plant Site (kms)	Mode of Transportation
		Existing	Expansion	Total			
					Metaliks Private Limited, Kharagpur		
18.	Molten Hot Metal	3,00,000	(-) 2,00,000	1,00,000	Orissa Metaliks Private Limited Unit-II, Kharagpur	--	Rail

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

47.9.9 The water requirement for the project is estimated as 1955 m<sup>3</sup>/day (1950 m<sup>3</sup>/day existing + 5 m<sup>3</sup>/day additional domestic water for drinking purpose only because of increase of man days and number of workers), out of which 1,458 m<sup>3</sup>/day of fresh water requirement will be obtained from bore well, 400 m<sup>3</sup>/day from treated waste / nallah water & remaining 97 m<sup>3</sup>/day will be met from rainwater harvesting pond. The permission for drawl of 1458 KLD groundwater is obtained from State Water Investigation Directorate (SWID) vide Lr. No. 007401 dated 29<sup>th</sup> Feb., 2012, Lr. No. 011088 dated 23<sup>rd</sup> Feb., 2011, Lr. No. 011087 dated 23<sup>rd</sup> Feb., 2011, Lr. No. 011801 dated 25<sup>th</sup> May, 2011, Lr. No. 009568 dated 22<sup>nd</sup> Jan., 2010, Lr. No. 009567 dated 22<sup>nd</sup> Jan., 2010, Lr. No. 009566 dated 22<sup>nd</sup> Jan., 2010, Lr. No. 007403 dated 29<sup>th</sup> Feb., 2012 and Lr. No. 007402 dated 29<sup>th</sup> Feb., 2012 and for 800 KLD treated waste/ nalla water from Kharagpur Municipality vide memo no. 1293 PW dated 17/06/2021.

47.9.10 The power requirement for the project is 115.78 MW (106.48 MW existing plant + 9.3 MW additional for proposed expansion), which will be sourced from State Grid (WBSEDCL) & Associate Company.

47.9.11 Baseline Environmental Studies:

Period	Post Monsoon Season (October to December, 2019)
AAQ parameters at 8 locations	PM <sub>2.5</sub> - 24.8 to 54.9 µg/m <sup>3</sup> PM <sub>10</sub> - 58.3 to 96.8 µg/m <sup>3</sup> SO <sub>2</sub> - 5.8 to 20.4 µg/m <sup>3</sup> NO <sub>2</sub> - 10.2 to 29.8 µg/m <sup>3</sup> CO - <0.5 to 1.54 mg/m <sup>3</sup>
	<b><i>Additional 1 month January, 2021</i></b> PM <sub>2.5</sub> - 26.3 to 50.8 µg/m <sup>3</sup> PM <sub>10</sub> - 55.9 to 90.2 µg/m <sup>3</sup> SO <sub>2</sub> - 5.2 to 19.2 µg/m <sup>3</sup> NO <sub>2</sub> - 11.3 to 27. 8 µg/m <sup>3</sup> CO -<0.5 to 1.39 mg/m <sup>3</sup>

Period	Post Monsoon Season (October to December, 2019)
AAQ modeling (Incremental GLC)	PM = - 5.23 µg/m <sup>3</sup> SO <sub>2</sub> = - 0.16 µg/m <sup>3</sup> NO <sub>x</sub> = - 0.13 µg/m <sup>3</sup> Decrease in GLC is due to modification in existing pollution control equipment to meet the latest stringent norms.
Ground water quality at 8 locations	pH - 6.66 to 7.03 Total Hardness - 125.02 to 403.64 mg/l Chlorides - 50.23 to 121.23mg/l Fluoride - 0.47 to 0.91 mg/l Heavy metals are within the limits.
Surface water quality for Kasai River an 8 ponds	pH - 6.98 to 7.52 Dissolved Oxygen - 5.7 and 7.1 mg/l Biochemical Oxygen Demand - 4.15 and 6.33 mg/l Chemical Oxygen Demand- 17.85 and 25.54 mg/l
Noise levels	52.8 to 69.8 Leq dB (A) for the Day Time and 42.6 to 61.3 Leq dB (A) for the Night Time.
Traffic assessment study findings	Existing Traffic Load (Baseline): 20,833 PCU/Day Traffic capacity as per IRC 106: 1990 for the 4-Lane Divided (Two way) highway (NH – 49 – Formerly known as NH 6): 86,400 PCU/Day. Additional traffic load during operation of the expansion project: 456PCU/day ( <i>considering 100% movement by Road in a worst case scenario</i> ). However, 90% movement of material will be done by rail only. Only 10% i.e. 45.6 PCU/Day will be additional contribution to traffic load. Currently 24.1% of the design service volume of the road is being utilised. Level of service because of additional traffic load during operation of the expansion project ( <i>considering 100% movement by Road in a worst case scenario</i> ) will be 0.246 Volume/ capacity ratio as per IRC 106: 1990 Norms and the present road network is good enough to bear the minor increased traffic load after proposed expansion at the plant site.
Flora and fauna	No Schedule-I species is present in study area. No Critically Endangered flora found in the study area.

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

S. No.	Type of waste	Source	Quantity Generated (TPA)			Mode of Treatment/ Disposal
			Existing	Additional	Total after expansion	
1.	Core Sand & Slag	DIP	14929	--	14,929	Used for land leveling & road construction purpose.
2.	Miss Roll/ End Cuts	Rolling Mill	14,300	--	14,300	Used in S.M.S. Plant
3.	SMS Slag	SMS	16,200	--	16,200	Used for Road construction, Paver Block Making & cement manufacturing after recovering metal

S. No.	Type of waste	Source	Quantity Generated (TPA)			Mode of Treatment/ Disposal
			Existing	Additional	Total after expansion	
						& flux from Slag Crushing unit
4.	Sinter Dust	Sinter	2,62,297	(+) 84,224	3,46,521	Used in Sinter Plant.
5.	MBF Slag	MBF	1,07,500	(+) 82,500	1,90,000	Used in Associate Company Cement Plant
6.	Dust from APC Devices	APC devices of SMS, DIP & Sinter	54,917	---	54,917	Used in Sinter Plant and also for Brick Manufacturing. Zinc Dust is sold to PCB certified Paint manufacture.
7.	MBF Dust & Sludge	MBF	1,04,500	(+) 1,38,300	2,42,800	
8.	Scrap		Variable	-	Variable	Used in Sinter Plant
8.	Cement Slurry	DIP	1572	-	1,572	Used for Brick making and also Used in associate company Cement Plant
9.	Coal Tar	Gasifier	78	-	78	Sold to WBPCB authorized Vender
10	Dust from ESP and Bag Filters of Pellet Plant	Pellet plant	25,200	(+) 8,400	33,600	100% reused in process
<b>HAZARDOUS WASTE</b>						
1	Zinc Ash	DIP	75	--	75	Sold to WBPCB Authorized Vendors
2	Damaged Bag Filters	APC devices	100	(+) 20	120	Sent to WBPCB Authorized CHWTSDf
3	Used Oil	Machinery & automobile	16,000 Litre	(+) 2,000 litre	18,000 Litre	Sold to WBPCB Authorized Vendors
4	Cotton Waste	Entire Plant	180 kg	(+) 20 kg	200 kg	Sent to WBPCB Authorized CHWTSDf

47.9.13 Public Consultation:

Details of advertisement given	The Telegraph, Millennium Post (In English), dated 6 <sup>th</sup> September, 2020. Anandabazar Patrika, Bartaman & Aajkaal (In Bengali) dated 6 <sup>th</sup> September, 2020.
Date of public consultation	8 <sup>th</sup> October, 2020
Venue	Mahasakti Mahasangha, Satkui, PO - Matkatpur (Near B.D.O. Office, Kharagpur-I), District- Paschim Medinipur, West Bengal.
Presiding Officer	Additional District Magistrate (LR) and DL & LRO, District – Paschim Medinipur, West Bengal.
Major issues raised	<ul style="list-style-type: none"> <li>• Employment</li> <li>• Environment – APCD, Pollution Control, Housekeeping</li> <li>• Education</li> <li>• Health</li> <li>• CSR Activities related etc.</li> </ul>

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

S. No.	PROPOSED ACTIVITIES	IMPLEMENTATION OF EMP FOR SOCIAL AND INFRASTRUCTURE DEVELOPMENT ON THE BASIS OF PHYSICAL TARGETS			
		Year 1	Year 2	Year 3	Total Cost (In Lakhs)
PUBLIC HEARING RELATED ACTIVITIES					
1	Development & construction of Pond in nearby village	Restoration of Existing pond (m <sup>3</sup> ) - 2,000 at Village Barkola (₹ 5.00 Lakhs)	--	Restoration of Existing pond (m <sup>3</sup> ) - 2,000 at Village Gokulpur (₹ 5.00 Lakhs)	₹ 10.00
2	Development & repairing of road in nearby villages	--	Development of Road (Village Gokulpur) - 0.7 Km	--	₹ 30.00
		--	--	Cons. of new road (Village Gokulpur) - 0.3 Km	
3	Vocational Training Center for Educated youth of villages and Skill development to unemployed local youth through National Skill Development Corporation, Govt. of India Scheme.	Providing training to local village youths for three months period (15 persons)	Contribution to DM, Paschim Medinipur & ITI, Kharagpur (Skill development fund - ₹ 05 Lakhs each)	Providing training to local village youths for three months period (15 persons)	₹ 17.00
4	Development of parks, plantation of trees in the nearby areas.	Plantation alongside the road near factory (NH-6) – 670 Nos.	Beautification of Sushumapally park at Kharagpur – 500 Nos.	Plantation in Village Shyamraipur – 500 Nos.	₹ 10.00
NEED BASED ACTIVITIES					
6	Financial Support to the Local School for extension of building / class room/ toilets/ development of school infrastructure & library facilities	Barkola High School - ₹ 3.00 Lakhs	Gokulpur High School - ₹ 3.00 Lakhs	Baharpat Primary School - ₹ 3.00 Lakhs	₹ 9.0
7	Financial support to charitable Dispensary with specialist doctor / Primary Health Center	Samraipur-01 (cost for 1 doctor, 2 nurses, Support staffs, medicine) - ₹ 5.00 Lakhs	--	Barkola-01 (cost for 1 doctor, 2 nurses, Support staffs, medicine) - ₹ 5.00 Lakhs	₹ 10.0
8	Street Lighting (Solar/Led) provision at suitable public places	Kalaikunda - 20 Nos.	Barkola - 20 Nos.	Gokulpur - 20 Nos.	₹ 1.0
9	Creation of irrigation infrastructure in the peripheral villages (Supply of Pest Control Machine), organize training programmes for	Supply of Pest Control Machine (10 no.@ ₹ 3,000) and training programmes for the local farmers in	Supply of Pest Control Machine (10 no.@ ₹ 3,000) and training programmes for the local farmers in	Supply of Pest Control Machine (10 no.@ ₹ 3,000) and training programmes for the local farmers in	₹ 3.0



S. No.	PROPOSED ACTIVITIES	IMPLEMENTATION OF EMP FOR SOCIAL AND INFRASTRUCTURE DEVELOPMENT ON THE BASIS OF PHYSICAL TARGETS			
		Year 1	Year 2	Year 3	Total Cost (In Lakhs)
	the local farmers to learn the modern techniques of the agricultural practices	collaboration with Govt. institute at village Barkola fund - ₹ 1.00 Lakh	collaboration with Govt. institute at village Gokulpur fund - ₹ 1.00 Lakh	collaboration with Govt. institute at village Shyamraipur fund - ₹ 1.00 Lakh	
<b>TOTAL</b>					<b>₹ 90.0</b>

47.9.14 The capital cost of the expansion project is Rs. 90 Crores and the capital cost for environmental protection measures is proposed as Rs. 5.4 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 54 Lakhs/annum. The employment generation from the proposed expansion project is 300 persons (100 regular and 200 contractual). The details of cost for environmental protection measures are as follows:

S. N o.	Environment / Social Control Measure	Cost (in Lakhs)						Remarks
		Existing		Proposed		Total		
		Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	
1	Cost of Air Pollution Control Devices/ System	270.0	27.0	183.0	22.0	453.0	49.0	Existing Capital & Recurring Cost is as per consolidated EC accorded vide File No. J-11011/237/2016-IA.II (I) dated 17.05.2019
2	Cost of Water conservation & Pollution Control	120.0	12.0	40.0	3.0	160.0	15.0	
3	Cost of Solid Waste Management System	70.0	7.0	30.0	2.0	100.0	9.0	
4	Green belt development	40.0	4.0	70.0	7.0	110.0	11.0	
5	Noise Reduction Systems	80.0	8.0	10.0	10.0	90.0	18.0	
6	Occupational Health Management	70.0	7.0	15.0	2.0	85.0	9.0	
7	Risk Mitigation & Safety Plan	30.0	3.0	20.0	1.5	50.0	4.5	
8	Online Monitoring Surveillance System (Modification/ up gradation)	--	--	67.0	2.0	67.0	2.0	
9	Up gradation/ Modification of Environmental Management Cell & Laboratory	20.0	2.0	5.0	2.5	25.0	4.5	
10	Implementation of	--	--	10.0	2.0	10.0	10.0	

S. N o.	Environment / Social Control Measure	Cost (in Lakhs)						Remarks
		Existing		Proposed		Total		
		Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	Capital	Recurring (per Annum)	
	Controlling measures to minimise impacts due to transportation and traffic							
11	Budgetary provision for fulfilling the commitment made to address the concerns raised during the public consultation	413.0	To be spent in 5 years	90.0	To be spent in 3 years	503.0	**	

47.9.15 Greenbelt has been developed in 19.23 ha (47.52 acres) of the total project area. A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary has been developed as greenbelt and it is being certified by IRO, MoEF&CC. Local and native species will be planted with a density of 2500 trees per hectare. As on date, in the FY 2021-22, 5450 trees have already been planted. RML will strengthen the existing greenbelt by gap filling and increasing the tree density to 2500 trees/Ha by another one (1) year. In continuation with the expansion project, addition 1.16 ha (2.86 Acres) will be developed as greenbelt @ 2500 trees per hectare by FY 2023-24. Post expansion the ultimate area developed as greenbelt will be 35% of total plant area. For this Rs. 70.0 lacs fund is earmarked in CAPEX and Rs. 7.0 lacs as recurring cost which will be spent by company for development / maintenance of greenbelt.

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

47.9.17 Name of the EIA consultant: J.M. Enviro Net Pvt. Ltd., [at S No. 44, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

#### **Certified Compliance report from Regional Office**

47.9.18 The status of compliance of earlier EC's was obtained from Integrated Regional Office of MoEF&CC, Kolkata vide letter no. 102-179/07/EPE/22 dated 1<sup>st</sup> March, 2021 in the name of M/s. Rashmi Metaliks Limited. In reply of the observations in the latest CCR the company submitted action taken report to IRO, Kolkata vide letter no. RML/KGP/20-21/01 dated 04/03/2021. In order to verify the corrective action, the plant site was revisited by IRO, Kolkata on 23/04/2021 and certified closure report was issued vide letter no. 102-179/07/EPE/61 dated 28/04/2021. The details of the observations made by RO in the report dated 24<sup>th</sup> April, 2021 along with present status as furnished by the PP is given as below:

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

### Observations of the Committee

47.9.19 The Committee observed the following:

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

- x. Scheme for traffic management from parking area to and from highway has not been furnished.
- xi. Performance testing schedule for PCDs has not been furnished.
- xii. Stack emission calculations have been carried out based on the CEMS data and not on the anticipated emission from the stacks.

#### Recommendations of the Committee

47.9.20 In view of the foregoing and after detailed deliberations, the committee recommended to return the proposal in its present form due to the shortcomings given at para no 47.9.19 above.

47.10 Proposed expansion of Steel Plant by enhancement of existing 2x250 m<sup>3</sup> Blast Furnace volume to 2x300 m<sup>3</sup> Blast Furnace volume, installation of 3x4 MVA Ferro Alloys Plant, 0.6 MTPA Sinter Plant and 2,52,000 TPA DI Pipe Plant at the existing premises by **M/s. Jai Balaji Industries Limited** located at Village: Banskopa, P.O.: Rajbandh, Tehsil & P.S.: Kanksa, **District: Paschim Burdwan, West Bengal**. [Online Proposal No. IA/WB/IND/6259/2009; File No.: J-11011/724/2008-IA.II(I)] – **Environment Clearance– regarding**

47.10.1 M/s Jai Balaji Industries Limited (Unit - III) has made an online application vide proposal no. IA/WB/IND/6259/2009 dated 11<sup>th</sup> October, 2021 along with copy of EIA/EMP report, Form-2 and certified existing EC compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no.3 (a) Metallurgical Industries under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

#### Details submitted by Project proponent

47.10.2 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
15 <sup>th</sup> December 2018	3 <sup>rd</sup> meeting of REAC, held on 10 <sup>th</sup> January 2019.	Standard Terms of Reference along with Specific and Additional Terms of Reference were granted	17 <sup>th</sup> January, 2019

47.10.3 The project of M/s Jai Balaji Industries Limited located at Village: Banskopa, P.O.: Rajbandh, Tehsil & P.S.: Kanksa, District: Paschim Bardhaman in West Bengal State is for enhancement of existing 2x250 m<sup>3</sup> Blast Furnace volume to 2x300 m<sup>3</sup> Blast Furnace volume, installation of 3x4 MVA Ferro Alloys Plant, 0.6 MTPA Sinter Plant and 2,52,000 TPA DI Pipe Plant for production of 6,00,000 TPA Sinter, 1,08,500 TPA Hot Metal / Pig Iron, 39,600 TPA Ferro Chrome and 2,52,000 TPA DI Pipe.

47.10.4 Environmental Site Settings:

S. No.	Particulars	Details	Remarks
i.	Total land	The proposed project will be installed on the available land of total 72.84 Hectares (180 Acres) within the existing plant premises.	Land use: Industrial - 72.84 ha No additional land shall be acquired.
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	No additional land shall be acquired.	-
iii.	Existence of habitation & involvement of R&R, if any	The proposed project will be installed on the available land of total 72.84 Hectares (180 Acres) within the existing plant premises. No additional land shall be acquired.	-
iv.	Latitude and Longitude of the project site	Latitude: 23°28'52.29"N to 23°29'36.47"N Longitude: 87°21'52.30"E to 87°22'24.95"E	-
V.	Elevation of the project site	65 m to 73 m	-
vi.	Involvement of Forest land if any.	Status of stage I Forest Clearance: Not Applicable	-
vii.	Water body exists within the project site as well as study area	<b>Project site:</b> None  <b>Study area</b> Damodar River - 5.0 Km in SW direction	-
viii.	Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve / tiger reserve / elephant reserve etc. if any within the study area	Nil	-

47.10.5 The existing project was accorded environmental clearance vide letter no. J-11011/724/2008-IA.II(I) dated 30<sup>th</sup> August, 2010. The latest Consent to Operate for the existing units was accorded by West Bengal Pollution Control Board vide Consent Letter No. CO123325, Memo No. 1302/dr\_co\_s/12/0031 dated 31/07/2019 valid up to 31/07/2024.

47.10.6 Implementation status of the existing EC.

Sl. No.	Name of Units	Capacity as per EC from MoEF&CC dated 30/08/2010 (in TPA)		Remarks
		Units as per EC	Capacity of Existing Units	
1.	Iron ore beneficiation	6,00,000	-	Dropped

Sl. No.	Name of Units	Capacity as per EC from MoEF&CC dated 30/08/2010 (in TPA)		Remarks
		Units as per EC	Capacity of Existing Units	
2.	Pellet Plant	6,00,000	-	Dropped
3.	Sinter Plant	6,08,256	6,08,256	Installed
4.	Blast Furnace	5,04,000 (2×250 m <sup>3</sup> )	5,04,000 (2×250 m <sup>3</sup> )	Installed
5.	Pulverized Coal Injection (PCI)	97,200	97,200	Installed
6.	Desulphurization	5,04,000	-	Dropped
7.	Electric Arc Furnace for Steel Making	4,50,000 (1×60 T)	4,50,000 (1×60 T)	Installed
8.	Oxygen Plant	58,320	58,320	Installed
9.	Lime Kiln	54,000	-	Dropped
10.	Ductile Iron Pipe	2,52,000	2,52,000	Installed
11.	Rolling Mill	6,00,000	-	Dropped
12.	Producer Gas Plant	4x3000 Nm <sup>3</sup> /hr	-	Dropped

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

Sl. No.	Facilities	Capacity as per EC from MoEF&CC Dt. 30/08/2010 (in TPA)		Proposed Capacity (TPA)		Ultimate Capacity (TPA)	Remarks
		Units as per EC	Existing Capacity	Existing Capacity Enhancement	New Installation		
1	Iron ore beneficiation	6,00,000	-	-	-	-	Dropped
2	Pellet Plant	6,00,000	-	-	-	-	Dropped
3	Sinter Plant	6,08,256	6,08,256	-	6,00,000	12,08,256	New Installation
4	Blast Furnace	5,04,000 (2×250 m <sup>3</sup> )	5,04,000 (2×250 m <sup>3</sup> )	1,08,500 TPA (By increasing MBF capacity from 2×250 m <sup>3</sup> to 2×300 m <sup>3</sup> )	-	6,12,500 (2×300 M <sup>3</sup> )	Enhancement of Existing 2×250 M <sup>3</sup> Blast Furnace volume to 2×300 m <sup>3</sup> Blast Furnace.
5	Pulverized Coal Injection (PCI)	97,200	97,200	-	-	97,200	-
6	Desulphurization	5,04,000	-	-	-	-	Dropped
7	Electric Arc Furnace for Steel Making	4,50,200 (1×60 T)	4,50,000 (1×60 T)	-	-	4,50,000 (1×60 T)	-
8	Electric Arc for Ferro Alloy	-	-	-	3×4 MVA Ferro Alloys Plant	Ferro-Chrome 39,600	New Installation
9	Oxygen Plant	ASU - 40,320 VPSA - 18,000	58,320	-	-	58,320	-

Sl. No.	Facilities	Capacity as per EC from MoEF&CC Dt. 30/08/2010 (in TPA)		Proposed Capacity (TPA)		Ultimate Capacity (TPA)	Remarks
		Units as per EC	Existing Capacity	Existing Capacity Enhancement	New Installation		
10	Lime Kiln	54,000	-	-	-	-	Dropped
11	Induction Furnace with Ductile Iron Pipe Plant	2,52,000	2,52,000		2,52,000	5,04,000	New Installation
12	Rolling Mill	6,00,000	-	-	-	-	Dropped
13	Producer Gas Plant	4×3000 Nm <sup>3</sup> /hr	-	-	-	-	Dropped

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

Sl. No	Raw Material	Annual Requirement (in TPA)			Source	Distance (in km)	Transportation		
		Under Operation	Expansion / Proposed	Total			Internal	Rail	Road
SINTER PLANT									
1	Iron ore fines	590000	550000	11,40,000	Barbil-Joda, Orissa	325	-	11,40,000	-
2	Limestone with fines	84000	82000	1,66,000	Katni MP	875	-	1,66,000	-
4	Dolomite	60000	56000	1,16,000	Bhutan	968	-	1,16,000	-
5	Coke Breeze	60000	54000	1,14,000	Local Market	200	-	-	1,14,000
BLAST FURNACE									
1	Sinter	800000	1,80,000	9,80,000	In house sinter plant	-	9,80,000	-	-
2	Iron ore lump	200000	45,000	2,45,000	Barbil	325	-	2,45,000	-
3	Coke	300000	67,500	3,67,500	Local Market	200	-	-	3,67,500
4	Pulverised coal	85800	24,200	1,10,000	In house PCI plant	-	1,10,000	-	-
5	Quartzite	1000	225	1,225	Local market	200	-	-	1,225
PCI PLANT									
1	Pulverized Coal	85800	24,200	1,10,000	Imported - Haldia Port	260-270	-	-	90,000
					Barbil	325	-	20,000	-
SMS (EAF ROUTE)									
1	DRI	4,50,000	-	4,50,000	Local Market	200	-	4,50,000	
2	Revert Scrap	18,000	-	18,000	In-house	-	18,000	-	-
3	Lime	41,500	-	41,500	Local market	200	-	-	41,500
FERRO ALLOY PLANT (EAF ROUTE)									
1	Chrome ore	-	59,500	59,500	Orissa	475-490	-	22,540	36,960
2	Silicon Chrome Alloy	-	25,000	25,000	Local Market	200	-	-	25,000
3	Lime	-	43,500	43,500	Local market	200	-	-	43,500
DUCTILE IRON PIPE PLANT									
1	Pig Iron	252000	252000	5,04,000	In-house Conveyor		5,04,000	-	-
2	Scrap	5000	5000	10,000	In-house		10,000	-	-
TOTAL							16,22,000	21,59,540	7,19,685
Percentage (%)							36%	48%	16%

47.10.9 The water requirement for the total project is 2280 m<sup>3</sup>/day (Existing Requirement: 1488 m<sup>3</sup>/day, Additional Requirement for proposed expansion project: 792 m<sup>3</sup>/day). The permission for drawl of 3000 m<sup>3</sup>/day water is obtained from Asansol Durgapur

Development Authority vide Memo No. ADDA/DGP/ED/G-02/2021-22/CS-144 dated 02/07/2021.

47.10.10 The power requirement for the total project is estimated as 47.1 MW (Existing Requirement: 24 MW, Additional Requirement for proposed expansion project: 23.1 MW), which will be sourced from Damodar Valley Corporation (DVC) supply.

47.10.11 Baseline Environmental Studies:

Period	1 <sup>st</sup> December, 2018 – 28 <sup>th</sup> February, 2019
AAQ parameters at 8 locations	PM <sub>2.5</sub> = 21 - 42 µg/m <sup>3</sup> PM <sub>10</sub> = 55 - 89 µg/m <sup>3</sup> SO <sub>2</sub> = 5 - 21 µg/m <sup>3</sup> NO <sub>2</sub> = 12 - 42 µg/m <sup>3</sup> CO = 0.184 - 1.345 mg/m <sup>3</sup>
AAQ modelling (Incremental GLC)	PM = 4.47 µg/m <sup>3</sup> (0.8 km in SSE) SO <sub>2</sub> = 0.49 µg/m <sup>3</sup> (1.2 km in SW) NO <sub>x</sub> = 1.23 µg/m <sup>3</sup> (1.2 km in SW)
Ground water quality at 9 locations	pH: 6.75 – 7.34, Total Hardness: 148 – 226 mg/l, Chlorides: 86 – 160 mg/l, Fluoride: 0.21 - 0.45 mg/l, Iron: 0.22 – 0.38 mg/l, TDS: 326 – 559 mg/l
Surface water quality at 10 locations (2 River water & 8 pond water samples)	<b>River Water (2 samples – SW1 and SW2)</b> pH: 7.34 and 7.42, DO: 7.2 & 7.1 mg/l, BOD: 2 & 2 mg/l, COD: 8 & 10 mg/l, Fe: 0.14 & 0.12 mg/l, Coliform: 1310 - 1500 MPN/100ml, TDS: 168 & 187 mg/l, Total Hardness: 98 & 84 mg/l, Chloride: 36 & 39 mg/l. <b>Pond Water</b> pH: 7.12 – 7.56, DO: 5.9 – 6.8 mg/l, BOD: 3 - 8 mg/l, COD: 16 - 32 mg/l, Fe: 0.17 – 0.27 mg/l, Coliform: 550 - 1110 MPN/100ml, TDS: 267 – 386 mg/l, Total Hardness: 136 - 168 mg/l, Chloride: 66 – 96 mg/l
Noise levels	55.8 - 70.1 dBA for day time and 44.9 - 58.5 dBA for night time.
Traffic assessment study findings	Existing Load: 8262 PCU/day near NH-2 at EPIP Main Gate  Total Load after Expansion: 9149 PCU/day near NH-2 at EPIP Main Gate  As per IRC:106 – 1990 code, Guidelines for Capacity of Urban Roads in Plain Areas, PCU capacity per day is 36,000 near EPIP Main gate. The total traffic load during operation of the proposed expansion shall be well within the traffic capacity.
Flora and fauna	No Schedule-I species is present in study area. No Critically Endangered flora found in the study area.

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



S. N.	Type	Quantity in Tons/Year			Utilization
		Existing Units	Proposed Units	Total	
1	Slag from MBF	2,04,792	40,958	2,45,750	Will be sold to nearby Cement Plant as per present practice
2	Dust from GCP and Bag Filters of Blast Furnace	20,417	4,083	24,500	100% to be reused in Sinter Plant as per present practice
3	Slag from EAF	50,000	-	50,000	<p>After metal recovery about 10% metal is recovered from the total slag and the balance 45,000 TPA (as stone chips / road construction materials) is used for road construction &amp; repairing / land filling purposes.</p> <p>Considering 3 m width &amp; depth 30 inch (0.75 m) of the road and density of the slag as 3.5 ton/cum, 7875 T slag may be consumed for 1.0 km stretch. Therefore, the entire quantity of slag generated in a year (45,000 TPA) can be utilized for the construction of around 5.7 km roads among which around 2.3 km are internal roads i.e. within the plant site. As per an estimate, it was found that around 200 km undeveloped (Kuchha) road is existing in the surrounding villages in the 10 km radius area. Hence, there is lot of potential of slag utilisation during construction of these roads.</p>
4	Slag from Ferro Alloy Plant through EAF Route	-	85,000	85,000	<p>The maximum slag generation shall be 85,000 TPA considering 100% production. After metal recovery about 10% metal is recovered from the total slag and the balance 76,500 TPA (as stone chips / road construction materials) shall be used for road construction &amp; repairing / land filling purposes after TCLP test.</p> <p>Considering 3 m width &amp; depth 30 inch (0.75 m) of the road and density of the slag as 2.5 ton/cum, 5625 T slag shall be consumed for 1.0 km stretch. Therefore, the entire quantity of slag generated in a year will be utilized for the construction of around 14 km roads. Besides, significant amount of slag will also be used for landfilling purposes both inside &amp; outside the project site.</p>

47.10.13 Public Consultation:

Details of advertisement given	26 <sup>th</sup> October, 2019 in Bengali newspaper “Ei Somoy” and English newspaper “The Times of India”
Date of public consultation	3 <sup>rd</sup> December, 2019 at 12.00 hrs.
Venue	Meeting hall of Gopalpur G.P. of Kanksa Block, Dist. - Paschim Bardhaman, West Bengal
Presiding Officer	Additional District Magistrate, Paschim Bardhaman
Major issues raised	<ul style="list-style-type: none"> <li>• Development of football/cricket coaching centre</li> <li>• Generation of employment for the local people and youths</li> <li>• Installation at fencing at the playground</li> <li>• Steps to be taken to control environmental pollution especially operation of Air Pollution Control Device during operation of the unit</li> <li>• Solid waste management in the plant</li> <li>• Provision of scholarship to the economically poor students</li> <li>• Safety and welfare about the labour/employee of the existing plant</li> <li>• Arrangement of health camp, distribution of medicines etc. at nearby villages</li> <li>• Measures to be taken to control noise of the plant</li> <li>• Environmental pollution at Gopalpur area</li> <li>• Plantation programme in &amp; around the industry</li> <li>• Source of water for the proposed expansion project</li> </ul>

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

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
• Development of football/cricket coaching centre	Cricket/Football Coaching Centre at the playground of the nearby villages will be developed in consultation & co-ordination with Local Authorities	Physical Target	Cricket/Football Coaching Centre comprising of all necessary infrastructures like two rooms building, sports items etc. will be developed at the playground.		
		Budget: Rs. 33 Lakhs	Rs. 11 Lakhs	Rs. 11 Lakhs	Rs. 11 Lakhs
• Generation of employment for the local people and youths	In the proposed project, top most priority will be given to the local people based on their academic qualification.  Skill development to unemployed local youths through National Skill Development Corporation, Govt. of India Scheme. Construction of a building along with the necessary infrastructures for this purpose like different machineries for industries.	Physical Target	Construction of a 4 – room building with infrastructure development like installation of 10 sewing machines, 10 computer systems & 12 machines for making hand craft items along with necessary raw materials for training purpose.		
		Budget : Rs. 43 Lakhs	Rs. 15 Lakhs	Rs. 15 Lakhs	Rs. 13 Lakhs

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
<ul style="list-style-type: none"> <li>Installation of fencing at the playground</li> </ul>	Fencing will be created at the playground to protect it from infiltrators.	Physical Target	Approx. 7000 sq. ft. (considering 5 ft height) barbed wired fencing will be created at the playground.		
		Budget : Rs. 3 Lakhs	Rs. 3 Lakhs	-	-
<ul style="list-style-type: none"> <li>Steps to be taken to control environmental pollution especially operation of Air Pollution Control Device during operation of the unit</li> <li>Environmental pollution at Gopalpur area</li> </ul>	<ul style="list-style-type: none"> <li>Adequate control measures like installation of ESP, Bag filters, dust suppression system, fume extraction system, sprinklers &amp; stacks of adequate height at relevant places will be installed.</li> <li>Air borne dust shall be controlled by mobile water tanker inside the plant premises.</li> <li>Maintenance of air pollution control equipment shall be done at regular intervals.</li> <li>All roads shall be paved on which movement of raw materials or products will take place inside the plant premises.</li> <li>No waste water will be discharged outside the plant area. The plant is designed as a zero discharge plant. The entire wastewater will be recirculated and recycled.</li> <li>The equipment shall comply with the Statutory limit of 85 dB(A) (at 1 m. from the source). Noise Reduction Systems will be provided.</li> </ul>	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.		
		Budget	Included in the EMP Cost.		
<ul style="list-style-type: none"> <li>Solid waste management in the plant</li> </ul>	<ul style="list-style-type: none"> <li>Blast Furnace Slag will be sold to nearby Cement Plants.</li> <li>Dust collected from ESP of Sinter Plant will be reused for sinter making. The hearth layer is also reused in sinter machine.</li> <li>Ferro Chrome slag after chrome recovery through the Jigging process will be used in land filling / road construction purpose after TCLP test.</li> <li>Slag from Magnesium converter will be used for Land filling/Road Construction purpose.</li> <li>The Runner Scrap will be remelted. Magnesium dust will be used in Sinter Plant.</li> </ul>	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.		
		Budget	Included in the EMP Cost.		

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
	<ul style="list-style-type: none"> <li>Core sand in Casting Area as well as the same from the Annealing Furnace will be used in Land Filling purposes.</li> <li>Zinc Dust will be sold to SPCB certified Paint manufacturer.</li> <li>Solid waste of domestic / commercial origin generated in the plant will be disposed of suitably in consultation with the concerned Civic body.</li> </ul>				
• Provision of scholarship to the economically poor students	• Scholarship will be given to the meritorious and needy students.	Physical Target	Scholarship will be given to the economically poor students by sponsoring them for education after conducting competitive examination		
		Budget	Shall be included in the CSR budget of the company		
• Safety and welfare about the labour/employee of the existing plant	<ul style="list-style-type: none"> <li>All the plant employees will be forced to use needed safety gears. All contractor personnel and temporary staff will also be advised to use safety equipment. All the safety system will be as per the standards OHSAS 18001: 1999 / OHSAS 18002 / 2002.</li> <li>All workers &amp; staffs will be covered under ESI &amp; Mediclaim subject to ceiling limit</li> </ul>	Physical Target	It will be done on regular basis.		
		Budget	Included in the EMP Cost.		
• Arrangement of health camp, distribution of medicines etc. at nearby villages	Periodic health check-up programme will be conducted by arranging camps through Primary Health Care Centers in nearby villages and medicines will be distributed to the economically needy people.	Physical Target	Health checkup camps shall be organized on half-yearly basis, in 5 nearby villages for general body, eyes, blood test and donation along with mass vaccination for polio, dengue, typhoid, malaria, etc. For this purpose, one doctor along with 2 – 3 assistants shall be deputed. This will come under CSR activities of the company.		
		Budget	Shall be included in the CSR budget of the company		
• Measures to be taken to control noise of the plant	The equipment shall comply with the Statutory limit of 85 dB(A) (at 1 m. from the source). Noise Reduction Systems will be provided.	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.		
		Budget	Included in the EMP Cost.		
• Plantation programme in & around the industry	• The company has earmarked 59.4 acres (33% of 180 acres) of land for Green Belt Development within its plant	Physical Target	The physical Target for the entire activities shall be achieved in 3 years.		
			Development of 1 no. park along with	Development of 1 no. park along with	1500 nos. Tree plantation

Concerns raised during Public Hearing	Physical Activity and Action Plan	Particulars	YEAR OF IMPLEMENTATION		
			1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
			1000 nos. tree plantation & distribution of saplings.	1000 nos. tree plantation & distribution of saplings.	& distribution of saplings.
			Greenbelt development inside the plant included in the EMP Cost.		
		Budget: Rs. 40 Lakhs	Rs.15 Lakhs	Rs.15 Lakhs	Rs.10 Lakhs
	<p>site considering the upcoming EC. 45 acres of greenbelt has already been developed all around the plant boundary area as well as within the project site. Green belt development programme for the rest 14.4 acres will also be developed simultaneously within the commissioning period of the proposed project.</p> <ul style="list-style-type: none"> <li>Development of Parks and Tree Plantation Programme (3500 nos) in the nearby villages will be done and distribution of saplings will be done to the nearby villagers and school students in consultation with local civic bodies.</li> </ul>				
<b>Total Budget - Public Hearing related: Rs. 119 Lakhs</b>					

Need based Activities	Particulars	Year of Implementation		
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Distribution of Masks, Duster and sanitizer to the local people. COVID vaccination will also be done to the local people	Physical Target:	4,000 nos. Mask and Duster per month, 1000 bottles Sanitiser and COVID Vaccination to the local people		
	Budget: Rs. 30 Lakhs	Rs. 30 Lakhs	-	-
Providing Dustbins (300 nos @Rs. 1000/- per unit) in nearby villages (under Swachh Bharat Scheme) for waste segregation and handling	Physical Target:	100 nos. Dustbins	100 nos. Dustbins	100 nos. Dustbins
	Budget: Rs. 3.0 Lakhs	Rs. 1 Lakhs	Rs. 1 Lakhs	Rs.1 Lakhs
Rain Water Harvesting ponds in nearby villages (4 nos. @ Rs. 5 Lakhs per pond).	Physical Target:	2 Rain Water Harvesting pond	2 Rain Water Harvesting pond	-
	Budget: Rs. 20 Lakhs	Rs. 10 Lakhs	Rs. 10 Lakhs	-
Construction of 11 nos. of ground water Recharging system for rainwater in nearby villages (@2.5 lakhs per system).	Physical Target:	4 no. of ground water Recharging system	4 no. of ground water Recharging system	3 no. of ground water Recharging system
	Budget: Rs. 27.5 Lakhs	Rs. 10 Lakhs	Rs. 10 Lakhs	Rs. 7.5 Lakhs
Drainage Development & maintenance - Side drains &	Physical Target:	Development &	Development &	Development &

Need based Activities	Particulars	Year of Implementation		
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
Culvert		maintenance of drains & Culvert on drainage in adjacent villages	maintenance of drains & Culvert on drainage in adjacent villages	maintenance of drains & Culvert on drainage in adjacent villages
	Budget: Rs. 68.5 Lakhs	Rs. 24.5 Lakhs	Rs. 22 Lakhs	Rs. 22 Lakhs
Providing sanitary napkins to women for hygienic awareness.	Physical Target:	It will be done on regular basis.		
	Budget : Rs. 8 Lakhs	Rs. 3 Lakh	Rs. 3 Lakh	Rs. 2 Lakh
Providing transportation to school students of nearby villages	Physical Target:	Provision of bus	Provision of bus	Provision of bus
	Budget : Rs. 24 Lakhs	Rs. 8 Lakhs	Rs. 8 Lakhs	Rs. 8 Lakhs
<b>Total Budget - Need based activities: Rs. 181 Lakhs</b>				
<b>Overall Budget (Public Hearing related + Need based Activities): Rs. 300 Lakhs</b>				

- 47.10.14 The capital cost of the project is Rs. 258.7 Crores and the capital cost for environmental protection measures is proposed as Rs. 20 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 170 Lakhs. The employment generation from the proposed project / expansion is 700 persons. The details of cost for environmental protection measures is as follows:

S. No.	Description of Item	Proposed Cost (Rs. in Crores)	
		Capital Cost	Recurring Cost
i.	Air Pollution Control/Noise	10	1.06
ii.	Water Pollution Control	2.8	0.28
iii.	Green Belt Development	1.3	0.07
iv.	Solid/Hazardous Waste Management	1.0	0.1
v.	Noise Reduction	0.6	0.06
vi.	Occupational Health Management	0.4	0.04
vii.	Risk Mitigation & Safety Plan	0.5	0.05
viii.	Environmental Management Department	0.4	0.04
ix.	Addressal of Public Consultation concerns	3.0	-

- 47.10.15 M/s Jai Balaji Industries Limited has earmarked 59.4 acres (24.04 hectares) of land (33% of 180 acres (72.84 hectares)) for Green Belt Development within its project site. Proponent reported that 45 acres (18.21 hectares) of greenbelt has already been developed all around the plant boundary area as well as within the project site within the plant premises where around 27,320 number of trees (@1500 trees per hectares, as per earlier EC dated 30/08/2010) have been planted. Green belt development programme for the remaining 14.4 acres (5.83 hectares) will also be developed simultaneously within the commissioning period of the proposed project as per the CPCB guidelines in consultation with the DFO where around 14,575 number of trees

(@2500 trees per hectares) will be planted. Thus, finally total 41,895 number of trees shall come under greenbelt in the plant premises. Local and native species will be planted.

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

47.10.17 Name of the EIA consultant: M/s Envirotech East Pvt. Ltd [S. No.173,List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified Compliance report from Regional Office:**

47.10.18 The status of compliance of earlier EC was obtained from MoEF&CC Regional Office, Bhubaneswar vide letter no. 102-313/EPE dated 01/03/2021 in the name of M/s Jai Balaji Industries Ltd. Action taken report on partial compliances/non-compliances of existing EC conditions was submitted on 29/07/2021. IRO, MoEF&CC Kolkata examined the ATR submitted and issued the review of ATR vide letter no. 102-313/EPE/170 dated 16/08/2021. Corrective action taken report against the observations made by IRO, MoEF&CC Kolkata on partial compliances/ non-compliances was submitted by proponent vide letter no. JBIL/III/EC/MOEF/IRO/02 dated 28/09/2021.

Sl No.	Stipulated Conditions Observations made by RO, MoEF&CC Bhubaneswar as per report dated 01/03/2021	Review of ATR (29/07/2021) by IRO, MoEF&CC Kolkata as per report dated 16/08/2021	Corrective Action Taken by Proponent as per report dated 28/09/2021	Present Status as reported by Proponent as on date	Remarks
1	<b>Observation made during the visit:</b> It is required to install on-line ambient air quality monitoring station in consultation with State Pollution Control Board, West Bengal at the earliest.	<b>Partially Complied</b> As per ATR submitted it is observed that purchase order for two on-line ambient air quality monitoring stations dated 27/02/2021 has been placed.	Proforma Invoice for supply of the ordered materials is submitted by PP and commissioning of the equipment will be done within October 2021 as per undertaking.	Waiting for delivery	Commissioning of the equipment will be done within October 2021 as per undertaking as soon as the delivery will be completed.
2	<b>Observation made during the visit:</b> It is required to monitor Chromites in influent and effluent surface, sub-surface and ground water on regular basis and reports to be submitted along with six monthly compliance reports. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to along with six monthly compliance reports.	<b>Partially complied</b> As per ATR submitted by the PP, it has been observed that monitoring report of raw water suggests absence of chromite. However monitoring reports of influent, effluent surface water and leachate study for the effluent generated have not been submitted by the PP.	Monitoring reports of influent, effluent surface water and leachate study for the effluent generated is submitted by PP.	Complied	Complied
3	<b>Observation made during the visit:</b> It is required to develop a 3-tier avenue plantation using native species should be	<b>Being Complied</b> As per ATR submitted by the PP, it has been observed that the PP has developed 3-tier	-	Complied	Complied

Sl No.	Stipulated Conditions Observations made by RO, MoEF&CC Bhubaneswar as per report dated 01/03/21	Review of ATR (29/07/2021) by IRO, MoEF&CC Kolkata as per report dated 16/08/2021	Corrective Action Taken by Proponent as per report dated 28/09/2021	Present Status as reported by Proponent as on date	Remarks
	developed along the roads.	plantation along the roads.			
4	<b>Observation made during the visit:</b> It is required to submit the regular report regarding toxic metal content in the waste material and its composition, end use of solid / hazardous waste to the Ministry's Regional Office at Bhubaneswar, WBPCB and CPCB.	<b>Partially complied</b> As per the ATR the PP has not submitted monitoring reports pertaining to toxic metal content in the waste material and its composition, end use of solid / hazardous waste to the Ministry's Integrated Regional Office at Kolkata, WBPCB and CPCB. The invoice of slag sold to cement plants has been submitted to the Office	The monitoring report pertaining to toxic metal content in the waste material and its composition is submitted by PP. There is no toxic metal present in the slag.	Complied	Complied
5	<b>Observation made during the visit:</b> It is required to develop the green belt all around the plant boundary area and 33% of total plant area as per the CPCB guidelines in consultation with the DFO.	<b>Partially complied</b> As per the ATR submitted by the PP, it has been observed that development of greenbelt in 33% of total plant area as per the CPCB guidelines in consultation with the DFO has not been achieved as yet.	Development of 3-tier avenue plantation using native species has already been started along the roads. The recent photographs for the same have been submitted by PP.	In progress, Development of 3-tier avenue plantation using native species has already been started along the roads.	Shall be completed within December 2021.
6	<b>Observation made during the visit:</b> At least 5% of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to Ministry's Regional Office. Implementation of such program should be ensured accordingly in a time bound manner. Occupational Health data for the last 3 years has to be submitted.	<b>Being Complied</b> As per the ATR submitted by the PP, it has been observed that the PP has submitted item-wise details along with time bound action plan of total 3 crores marked for corporate social responsibility.	-	Complied	Complied
7	<b>Observation made during the visit:</b> It is required to upload the status of compliance of the stipulated environment clearance conditions,	<b>Partially complied</b> As per the ATR submitted it is observed the PP has only submitted the screenshot of the	The link pertaining to status of compliance of the stipulated environment clearance	Complied	Complied



Sl No.	Stipulated Conditions Observations made by RO, MoEF&CC Bhubaneswar as per report dated 01/03/2021	Review of ATR (29/07/2021) by IRO, MoEF&CC Kolkata as per report dated 16/08/2021	Corrective Action Taken by Proponent as per report dated 28/09/2021	Present Status as reported by Proponent as on date	Remarks
	including results of monitored data on the company website and should update the same periodically.	website. The link pertaining to status of compliance of the stipulated environment clearance conditions, including results of monitored data of the company website may be submitted.	conditions, including results of monitored data of the company website is <a href="https://www.jaibala.jigroup.com/environment/">https://www.jaibala.jigroup.com/environment/</a> .		
8	<b>Observation made during the visit:</b> It is required to provide the copies of advertisements made in newspapers regarding grant of EC to the project.	<b>Not complied</b> Copies of advertisements made in newspapers regarding grant of EC to the project have not been submitted.	The copies of advertisements made in newspapers regarding grant of EC to the project is submitted by PP.	Complied	Complied
9	<b>Observation made during the visit:</b> It is required to provide the details regarding the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work	<b>Being Complied</b> PA's have provided the details regarding the date of financial closure and final approval of the project.	-	Complied	Complied

### Observations of the Committee

47.10.19 The Committee noted the following:

- Surface water analysis result is not correct as there is no co-relation between the total coliform and BOD reported values. Fresh analysis of surface water sampling needs to be carried out.
- The budget proposed for environment protection measures needs to be revisited and enhanced.
- Banskopa village is adjacent to the southern boundary of project. Mitigation measures to contain the pollution level towards the village side has not been incorporated in the EIA report.
- PP has mentioned that the furnace oil is required in 41 cum/hr for Laddle preheating. The said quantity appears to be on higher side and PP need to give clarification on the same.
- Condition pertaining to the installation of Continuous Ambient Air Quality Station (CAAQMS), Continuous Emission Monitoring System and green belt development is yet to be complied by the project proponent.
- Action plan submitted to address the issues raised during public hearing is not as per the MoEF&CC O.M. dated 30/09/2020. PP need to submit the revised action plan.
- Water permission is obtained from Asansol Municipal Authority (AMA) for withdrawal of surface water from Ajay River. Clarification is required from PP in

this regard as the AMA not appears to the concerned competent authority for issuing water withdrawal permission from Ajay river.

viii. Water balance diagram is incomplete.

### Recommendations of the Committee

47.10.20 In view of the foregoing and after detailed deliberations, the committee recommended to return the proposal in its present form due to the shortcomings given at para no 47.10.19 above.

47.11 Expansion of Integrated Steel Plant (16 MTPA to 18 MTPA) and captive power Plant 1490 MW by **M/s. JSW Steel Limited located** at Vijayanagar Works Toranagallu Village, **Ballari District, Karnataka**. [Online Proposal No. IA/KA/IND/229388/2018, File No. J11011/489/2009-IA.II(I)] – **Reconsideration for Environment Clearance after ADS reply– regarding.**

47.11.1 M/s. JSW Steel Limited has made an online application vide proposal no. IA/KA/IND/229388/2018 dated 20/09/2021 along with copy of EIA/EMP report and Form-2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no.3(a) Metallurgical industries (ferrous & nonferrous) under Category “A” of the schedule of the EIA Notification, 2006 and is appraised at the Central level.

47.11.2 The project was initially considered in 45<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28-29<sup>th</sup> September, 2021 wherein additional details were sought. M/s. JSW Steel Limited submitted the ADS reply on dated 14<sup>th</sup> October, 2021 and the proposal is re-considered in the 47<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28<sup>th</sup> – 29<sup>th</sup> October, 2021.

### Details submitted by Project proponent

47.11.3 The details of the ToR are furnished as below:

Date of application	Consideration	Details	Date of accord
22/06/2018	35 <sup>th</sup> meeting held during 17 <sup>th</sup> to 18 <sup>th</sup> September, 2018	Terms of Reference	09/10/2018

47.11.4 The project of M/s. JSW Steel Limited located in Toranagallu Village Ballari District, Karnataka is for enhancement of production capacity of its Integrated Steel Plant from 16 MTPA to 18 MTPA.

47.11.5 Environmental Site Settings:

SNo	Particulars	Details	Remarks
i.	Total land	Revised area - 3234.2 ha [Private: 3234.2 ha; Govt.: 0; Other: 0]	Land use: Industrial
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014.	All land parcels are already in procession of JSW.	

SNo	Particulars	Details	Remarks																																																																																																											
iii.	Existence of habitation & involvement of R&R, if any.	No R&R is required.																																																																																																												
iv.	Latitude and Longitude of the project site.	Latitudes (North) – From 15°10’0.12” To 15°12’0” Longitudes (East) – From 76°37’58.8” To 76°40’0.12” <b>GPS COORDINATES OF THE PROPOSED UNITS</b> <table><tr><th>Units</th><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td rowspan="5">BF5, SMS4, HSM3 and Oxygen Plant Area</td><td>A</td><td>15°11’14.70"N</td><td>76°40’32.97"E</td></tr><tr><td>B</td><td>15°11’14.69"N</td><td>76°41’8.08"E</td></tr><tr><td>C</td><td>15°11’8.20"N</td><td>76°41’19.85"E</td></tr><tr><td>D</td><td>15°10’32.84"N</td><td>76°41’0.64"E</td></tr><tr><td>E</td><td>15°10’52.70"N</td><td>76°40’19.91"E</td></tr><tr><td rowspan="7">SMS3 Expansion</td><td>F</td><td>15°10’55.40"N</td><td>76°40’0.99"E</td></tr><tr><td>G</td><td>15°10’53.84"N</td><td>76°40’4.04"E</td></tr><tr><td>H</td><td>15°10’49.95"N</td><td>76°40’1.69"E</td></tr><tr><td>I</td><td>15°10’48.00"N</td><td>76°40’5.36"E</td></tr><tr><td>J</td><td>15°10’45.50"N</td><td>76°40’3.90"E</td></tr><tr><td>K</td><td>15°10’47.44"N</td><td>76°40’0.27"E</td></tr><tr><td>L</td><td>15°10’48.89"N</td><td>76°40’1.10"E</td></tr><tr><td rowspan="3">Pellet Plant 3</td><td>M</td><td>15°10’50.46"N</td><td>76°39’58.26"E</td></tr><tr><td>N</td><td>15°10’22.61"N</td><td>76°41’3.25"E</td></tr><tr><td>O</td><td>15°10’14.20"N</td><td>76°41’17.61"E</td></tr><tr><td rowspan="4">CRM 3</td><td>P</td><td>15°10’7.60"N</td><td>76°41’6.66"E</td></tr><tr><td>Q</td><td>15°10’12.85"N</td><td>76°40’57.28"E</td></tr><tr><td>R</td><td>15°11’58.95"N</td><td>76°39’7.94"E</td></tr><tr><td>S</td><td>15°11’48.39"N</td><td>76°39’28.10"E</td></tr><tr><td rowspan="5">Sinter Plant 5</td><td>T</td><td>15°11’37.61"N</td><td>76°39’21.98"E</td></tr><tr><td>U</td><td>15°11’48.49"N</td><td>76°39’1.43"E</td></tr><tr><td>V</td><td>15°10’56.82"N</td><td>76°37’55.13"E</td></tr><tr><td>W</td><td>15°10’47.85"N</td><td>76°38’11.27"E</td></tr><tr><td>X</td><td>15°10’46.78"N</td><td>76°38’10.76"E</td></tr><tr><td rowspan="5">New Ash Pond</td><td>Y</td><td>15°10’49.39"N</td><td>76°38’5.83"E</td></tr><tr><td>Z</td><td>15°10’46.77"N</td><td>76°38’4.26"E</td></tr><tr><td>AA</td><td>15°10’51.25"N</td><td>76°37’56.26"E</td></tr><tr><td>AB</td><td>15° 9’15.94"N</td><td>76°43’33.66"E</td></tr><tr><td>AC</td><td>15° 9’12.36"N</td><td>76°43’31.91"E</td></tr><tr><td rowspan="3"></td><td>AD</td><td>15° 9’5.36"N</td><td>76°43’36.56"E</td></tr><tr><td>AE</td><td>15° 9’3.06"N</td><td>76°43’44.38"E</td></tr><tr><td>AF</td><td>15° 9’9.10"N</td><td>76°43’47.76"E</td></tr></table>	Units	Point	Latitude	Longitude	BF5, SMS4, HSM3 and Oxygen Plant Area	A	15°11’14.70"N	76°40’32.97"E	B	15°11’14.69"N	76°41’8.08"E	C	15°11’8.20"N	76°41’19.85"E	D	15°10’32.84"N	76°41’0.64"E	E	15°10’52.70"N	76°40’19.91"E	SMS3 Expansion	F	15°10’55.40"N	76°40’0.99"E	G	15°10’53.84"N	76°40’4.04"E	H	15°10’49.95"N	76°40’1.69"E	I	15°10’48.00"N	76°40’5.36"E	J	15°10’45.50"N	76°40’3.90"E	K	15°10’47.44"N	76°40’0.27"E	L	15°10’48.89"N	76°40’1.10"E	Pellet Plant 3	M	15°10’50.46"N	76°39’58.26"E	N	15°10’22.61"N	76°41’3.25"E	O	15°10’14.20"N	76°41’17.61"E	CRM 3	P	15°10’7.60"N	76°41’6.66"E	Q	15°10’12.85"N	76°40’57.28"E	R	15°11’58.95"N	76°39’7.94"E	S	15°11’48.39"N	76°39’28.10"E	Sinter Plant 5	T	15°11’37.61"N	76°39’21.98"E	U	15°11’48.49"N	76°39’1.43"E	V	15°10’56.82"N	76°37’55.13"E	W	15°10’47.85"N	76°38’11.27"E	X	15°10’46.78"N	76°38’10.76"E	New Ash Pond	Y	15°10’49.39"N	76°38’5.83"E	Z	15°10’46.77"N	76°38’4.26"E	AA	15°10’51.25"N	76°37’56.26"E	AB	15° 9’15.94"N	76°43’33.66"E	AC	15° 9’12.36"N	76°43’31.91"E		AD	15° 9’5.36"N	76°43’36.56"E	AE	15° 9’3.06"N	76°43’44.38"E	AF	15° 9’9.10"N	76°43’47.76"E	-
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	AF	15° 9’9.10"N	76°43’47.76"E																																																																																																											
v.	Elevation of the project site.	540 m above msl	-																																																																																																											
vi.	Involvement of Forest land if any	No Forest Land Involved	-																																																																																																											
vii.	Water body exists within the project site as well as study area	<b>Project site:</b> Nil <b>Study area:</b> Daroji Kere 3.2 Km NE of the plant	-																																																																																																											

SNo	Particulars	Details	Remarks
		Taranagar Dam 7 Km SW of the pant JSW's reservoir near Gonahal 4 Km NW	
viii.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	<p><b>Study area:</b>  <u>Daroji Bear Sanctuary and its Eco-sensitive Zone</u></p> <p>Daroji Bear Sanctuary is located at a distance of 6.7 Km from the main expansion area and at a distance of 3.8 Km from existing JSW Plant Boundary.</p> <p>As per Supreme Court Order dated 04/12/2006, NBWL recommendation for the previous expansion over the same land area was obtained from standing committee of NBWL vide letter no 6-79/2015 WL (35th Meeting) dated 24/08/2015.</p> <p>The proposed expansion of 16-18 MTPA will be carried out with in the land area for which SCNBWL Clearance and Environment Clearance was obtained. In the meantime, ESZ for Daroji Bear Sanctuary was notified SO 3528 (E) dated 25.09.2019. The distance of boundary of the plant from ESC boundary is reported to be 2.35 Kms as per the authenticated map of the State Forest Department.</p>	On 25 <sup>th</sup> September 2019, Gazette Notification S.O. 3528 (E) regarding Daroji Bear Sanctuary Eco Sensitive Zone came into effect. An area to an extent varying from 1.0 kilometer to 4.7 kilometer around the boundary of Daroji Bear Sanctuary in Ballari district in the State of Karnataka was notified as Daroji Bear Sanctuary Eco Sensitive Zone.

47.11.6 The existing project was accorded environmental clearance vide Ir.no. J-11011/489/2009 IA-II(I) dated 1/10/2015 and amendments dated 9/06/2016, 22/01/2018 and 29/05/2018. Consent to Operate for the existing plant was accorded by Karnataka State Pollution Control Board project vide Ir.no. 126/PCB/MIN/CFO/2016-17/OB/318 dated 20/06/2016 and vide KSPCB OM No. KSPCB/Corp Cell/2021/644 dated 02/06/2021, the validity of CTO is extended up to 30/09/2021.

47.11.7 Implementation status of the existing EC:

S No	Facility	Units	Capacity		
			As per EC	Implementation Status as on date	As per CTO
1	Ore beneficiation Plant	OBP-1	1 x 4.5 MTPA	1 x 4.5 MTPA	1 x 4.5 MTPA
		OBP-2	1x 2.5 MTPA	1x 2.5 MTPA	1x 2.5 MTPA
			1x 5.0 MTPA	1x 5.0 MTPA	1x 5.0 MTPA
			1 x 7.5 MTPA	1 x 7.5 MTPA	1 x 7.5 MTPA
2	Coke Oven	CO1 (NR)	0.64 MTPA	-	0.64 MTPA

S No	Facility	Units	Capacity		
			As per EC	Implementation Status as on date	As per CTO
		CO2 (NR)	0.64 MTPA	-	0.64 MTPA
		CO3	1.5 MTPA	1.5 MTPA	1.5 MTPA
		CO4	2 MTPA	2 MTPA	2 MTPA
		CO5	3 MTPA	-	-
		CO6	1.5 MTPA	-	-
3	Sinter Plants	SP1	2.3 MTPA	2.3 MTPA	2.3 MTPA
		SP2	2.3 MTPA	2.3 MTPA	2.3 MTPA
		SP3	5.75 MTPA	5.75 MTPA	5.75 MTPA
		SP4	2.3 MTPA	2.3 MTPA	2.3 MTPA
		SP5	1.75 MTPA	-	-
		SP6	5.75 MTPA	-	-
4	Pellet Plants	PP1	5 MTPA	5 MTPA	5 MTPA
		PP2	5 MTPA	5 MTPA	5 MTPA
5	Hot Metal- COREX	COREX 1	0.8 MTPA	0.8 MTPA	0.8 MTPA
		COREX 2	0.8 MTPA	0.8 MTPA	0.8 MTPA
6	Hot Metal- Blast Furnace	BF1	2.5 MTPA	1.88 MTPA	1.88 MTPA
		BF2	2.17 MTPA	2.16 MTPA	2.16 MTPA
		BF3	4.4 MTPA	3 MTPA	3 MTPA
		BF4	3 MTPA	3 MTPA	3 MTPA
		BF5	3 MTPA	-	-
7	DRI Plant	-	1.2 MTPA	1.2 MTPA	1.2 MTPA
8	Pig Caster	-	1x1200 TPD +3x3600 TPD	1x1200 TPD +2x3600 TPD	1x1200 TPD +2x3600 TPD
9	Crude steel	SMS1	3.8 MTPA	3.8 MTPA	4 MTPA
		SMS2	6.4 MTPA	6 MTPA	6 MTPA
		SMS3	2x1.2 MTPA (EAF)	1x1.2 MTPA (EAF)	1x1.2 MTPA (EAF)
		SMS4	2x200 T converter (BOF)	-	-
10	Lime Kilns	LCP1	4x300 TPD	4x300 TPD	4x300 TPD
		LCP2	4x300 TPD + 4x600 TPD	4x300 TPD + 3x600 TPD	4x300 TPD+ 3x600 TPD
		LCP3	2x600 TPD	1x600	1 x600
		LCP4	3x600 TPD	-	-
11	Casters	Slab Caster 1	3.2 MTPA	3.2 MTPA	4 MTPA
		Slab Caster 2	6.4 MTPA	6.4 MTPA	6.4 MTPA
		Slab Caster 3	1.6 MTPA	1.6 MTPA	1.6 MTPA
		Slab Caster 4	3.6 MTPA	-	-
		Billet Caster 1	1.5 MTPA	0.5 MTPA	0.5 MTPA
		Billet Caster 2	3.0 MTPA	3.0	3.0
12	Hot Strip Mills	HSM1	4.0 MTPA	3.2 MTPA	3.2 MTPA
		HSM2	5.2 MTPA	5.0 MTPA	5.0 MTPA
		HSM3	3.6 MTPA	-	-
13	Pipe Mill	-	0.4 MTPA	-	-
14	Wire Rod Mill	WRM1	0.6 MTPA	0.6 MTPA	0.6 MTPA
		WRM2	1.2 MTPA	-	-
15	Rebar &Section Mills	BRM1	1.0 MTPA	1.0 MTPA	1.0 MTPA
		BRM2	-	-	-
16	Cold Rolling Mills	CRM1	1.8 MTPA	1.0 MTPA	1.0 MTPA
		CRM2	2.3 MTPA	2.0 MTPA	2.0 MTPA
17	Galvanizing Lines	CGL1	4x0.25 MTPA	0.4 MTPA	0.4 MTPA

S No	Facility	Units	Capacity		
			As per EC	Implementation Status as on date	As per CTO
		CGL2	2x0.45 MTPA	-	-
18	Colour Coating Line	-	0.5 MTPA	-	-
19	Captive Power Plants	CPP1 – Gas based	100 MW	100 MW	100 MW
		CPP2 – Gas based	130 MW	130 MW	130 MW
		CPP3 – Coal + Gas	300 MW	300 MW	300 MW
		CPP4 – Coal + Gas	300 MW	300 MW	300 MW
		CPP5	660 MW	-	-
20	Incinerator	-	1000 kg/h	250 kg/h	250 kg/h
21	Slag Grinding and mixing unit	CP1	0.2 MTPA	0.2 MTPA	0.2 MTPA
		CP2	2.0 MTPA	2.0 MTPA	2.0 MTPA
22	Oxygen Plant (Out sourced)	-	1x2500 TPD	1x2500 TPD	1x2500 TPD
			4x1800 TPD	4x1800 TPD	4x1800 TPD
			1x900 TPD	1x900 TPD	1x900 TPD
23	Township	-	6 Nos	4 Nos	4 Nos

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

Sl no	Name of the Unit	Facilities at various stages of expansion in MTPA				Total Capacity (at 16 MTPA)	Facilities Proposed (at 18 MTPA)	Total Capacity (at 18 MTPA)
		4 -MTPA	4-10 MTPA	10-16 MTPA	At 16 MTPA			
1	Ore Beneficiation Plant - product	OBP-11 x 4.5	OBP-2 1x 2.5, 1x 5.0 & 1 x 7.5,	Nil	1 x 4.5 1x 2.5 1x 5.0 1 x 7.5	19.5	<b>OBP-1 facilities to be Relocated to OBP-2</b>	19.5
2	Pellet Plants	PP1- 1- 5.0	PP-2- 5.0	Nil	PP 1 & 2 2 x 5 .0	10	<b>PP-3 6.8</b>	16.8
3	Sinter Plants	SP1	SP 2 -2.3 SP 3- 7.5	SP4 -2.3 SP5 -1.75 SP6 -5.75	SP1-6 3x 2.3 2 x 5.75 1 x 1.75	20.15	<b>SP-5: 2.3 SP-6: deferred in lieu of PP-3</b>	14.95
4	Coke Oven – NR	CO 1 &2 2 x0.64 1.28	Nil	Dismantling of Existing NR Coke Oven	0	0	<b>No addition</b>	0
5	Coke Oven – Recovery type	Nil	Coke 3 - 1.5	CO 1&2 - 1.5	CO 1-5 2x1.5 1x2.0 1x3.0	8.0	<b>No addition</b>	8.0
6	Hot metal – Corex	Corex 1 & 2(2x0.8)	Nil	Nil	Corex 1- 2 2 x 0.8	1.6	<b>No addition</b>	1.6
7	Hot metal- Blast Furnace	BF-1-2.5 BF-2-2.17	BF 3 & 4 2 x 3.0	BF-3- 4.4 BF-5- 3.0	BF 1 -5 1x 2.5 1x 2.17 1x4.4 2x 3.0	15.07	<b>BF-5 of 3.0 MTPA to be built as 4.5 MTPA</b>	16.57
8	Pig Casting Machines (TPD)	1200	7200	3600	12000	12000	<b>MGP-5000 TPD</b>	17000 TPD

Sl no	Name of the Unit	Facilities at various stages of expansion in MTPA				Total Capacity (at 16 MTPA)	Facilities Proposed (at 18 MTPA)	Total Capacity (at 18 MTPA)
		4 -MTPA	4-10 MTPA	10-16 MTPA	At 16 MTPA			
9	Crude steel - BOF, EAF & auxiliaries	SMS1 3.80	SMS2 6.0	SMS2 -6.4 SMS 3 & 4- 5.6 2x200T BOF +2x1.2 EAF	SMS1-4 1x3.8 1x6.4 1x3.0 1x2.6	15.8	<b>SMS-3: In place of 1 EAF, 1 ZPF is considered SMS-4 will be changed from 2 x 200T to 2 x 350T &amp; will operate at 4.8 MTPA</b>	18
10	Lime Kiln (TPD)	LCP-1 4x300	LCP-2 4x300 4x600	LCP-3 4 x 600	LCP 1- 4 8 x 300 8 x 600	7200	<b>No addition</b>	7200 TPD
11	Slab Caster	SMS-1 3.2	SMS2 6.4	SMS-3- 1 x1.6 SMS-4- 1x3.6	Slab Caster 1- 4 14.8	14.8	<b>SMS-4 slab caster changed from 1 x 3.6 MTPA to 2 x 2.5 MTPA</b>	16.2
12	Billet caster	Nil	SMS-2 1.5	SMS-3 3.0	4.5	4.5		4.5
13	HSM	HSM 1 1x4.0	HSM-2 1x5.2	HSM-3 1x3.6	HSM1-3 12.8	12.8	<b>HSM-3 upgraded to 5.0</b>	14.2
14	Plate Mill	Nil	Nil	Nil	Nil	Nil	<b>No addition</b>	Nil
15	Pipe Mill	Nil	0.4	Nil	1x 0.4	0.4	<b>No addition</b>	0.4
16	Wire rod mill	Nil	WRM-1 1x0.6	WRM-2 1.2	WRM 1-2 1x0.6, 1x1.2	1.8	<b>No addition</b>	1.8
17	Rebar & Section mill	Nil	BRM-1 1x1.0	Nil	BRM-1 1.0	1	<b>New BRM-2 of 1.2 MTPA</b>	2.2
18	Cold Rolling Mill Complex		CRM-1- 1.8 CRM-2- 2.3	Nil	CRM1&2 4.1	4.1	<b>CRM-3 of 2.3 MTPA</b>	6.4
19	Galvanizing Lines	Nil	Nil	CGL-1- 4x0.25 CGL-2- 2x0.45 -	CGL 1&2 4x0.25 2x0.45	1.9	<b>No addition</b>	1.9
20	Color Coating Line	Nil	0.5	Nil	0.5	0.5	<b>No addition</b>	0.5
21	Power Plant and process steam boilers in MW	CPP 1X100 CPP-2 1x130 all gas	CPP 3 & 4 2x300 gas+coal	CPP5- 1X660 coal	CPP 1-5 1X100, 1X130, 2x300,1x660	1490	<b>No addition</b>	1490 MW
22	Incinerator (kg/hr)	Nil	2 x 250kg/h	250kg/h	2 x 250kg/h	1000kg/h	<b>No addition</b>	1000kg/h
23	Slag Grinding and mixing unit	CP-1 1x 0.2	Nil	CP-2 1x2.0	CP-1&2 1x0.2 1x2.0	2.2	<b>No addition</b>	2.2

Sl no	Name of the Unit	Facilities at various stages of expansion in MTPA				Total Capacity (at 16 MTPA)	Facilities Proposed (at 18 MTPA)	Total Capacity (at 18 MTPA)
		4 -MTPA	4-10 MTPA	10-16 MTPA	At 16 MTPA			
24	Oxygen Plant	1x2500 TPD=2500 TPD	2x1800 TPD + 1x900 TPD	2X1800 TPD	1 x 2500 TPD 4 x 1800 TPD 1 x 900 TPD	10600 TPD	1 x 2060(TP) 1 x 2200	14860 TPD

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

S No.	Raw materials	Quantity Required ton/annum			Source and location		Distance of Domestic sources from Plant (km)	Mode of Transport
		Existing (at 16 MTPA)	Expansion (add. for 18 MTPA)	Total (After Expansion)	Import Source	Domestic Source		
1	Iron ore fines	2,16,77,778	27,09,722	2,43,87,500	Australia, Brazil	Bannihatti, Sandur, Hospet, Chitradurga, Orissa & Goa	30 30 35 125 1294 349	Pipe conveyor Pipe conveyor Rail/Road Rail Rail Rail
2	Iron ore lumps	12,53,333	1,56,667	14,10,000	South Africa, Australia	Bannihatti, Sandur, Hospet,	30 30 35	Rail/Road
3	Coking coal	96,00,000	12,00,000	1,08,00,000	Australia, Canada, USA, Mozambique	-	-	Sea/Rail
4	COREX coal	11,20,000	0	11,20,000	Australia, Russia, South Africa	-	-	Sea/Rail
5	PCI coal	30,34,000	2,80,000	33,14,000	Australia, Russia	-	-	Sea/Rail
6	Anthracite coal	3,82,222	47,778	4,30,000	Russia, Finland, Latvia	-	-	Sea/Rail
7	Limestone LCP	40,15,665	5,01,958	45,17,623	UAE, Oman	-	-	Sea/Rail
8	Limestone Agg	8,51,766	1,06,470	958236	UAE, Oman	-	-	Sea/Rail
9	Dolomite Agg	6,47,420	80,927	7,28,347	Thailand, UAE, Oman	Bagalkot-Karnataka, Karnool-AP, Kadapa-AP	210 267 205	Sea/Rail/Road
10	Ind. limestone	71,644	-37,308	34336	-	Bagalkot-Karnataka	210	Sea/Rail
11	Ind. dolomite	10,36,428	78,998	11,15,426	-	Bagalkot-Karnataka	210	Sea/Rail
12	Dolomite LCP	16,69,322	2,08,665	1877987	-	Bagalkot-Karnataka, Karnool-AP, Kadapa-AP	210 267 205	Sea/Rail/Road
13	Ind. quartz	6,87,098	59,855	7,46,953	-	Dhone-Kurnool	205	Rail/Road
14	Bentonite	88,889	47,957	1,00,000	-	Andhra/K'taka		Rail/Road
15	Thermal Coal	47,50,000	0	47,50,000	-	Open Market	-	Rail
<b>Total</b>		<b>5,08,85,565</b>	<b>54,04,843</b>	<b>5,62,90,408</b>				-

47.11.10 The water requirement for the entire JSW complex is estimated as 3,01,000 m<sup>3</sup>/day which is being sourced from two sources, viz Tungabhadra Dam (32.8 MGD through pipeline of 35 KM) and Alamatti dam (40 MGD through a pipeline of 178 Km). Out of this total, around 1,44,000 m<sup>3</sup>/day of fresh water is required for steel plant. Additionally, around 30,000 m<sup>3</sup>/day waste water is also being recycled and used in plant process. The



permission for drawl of raw water is obtained from Govt. of Karnataka vide Ltr. dated 09/11/2009.

47.11.11 The power requirement for the project is estimated as 1434 MW, which will be generated in the Captive Power Plants. The net available captive power generation capacity of JSW shall be 1051 MW (excluding future CPP5 of 660 MW). Power Purchase agreement has been signed with JSWEL for supply of balance power on 30/03/2019.

47.11.12 Baseline Environmental Studies:

Period	December 2018 to Feb 2019
AAQ parameters at 10 locations (min and max)	PM <sub>2.5</sub> = 31 to 59 µg/m <sup>3</sup> PM <sub>10</sub> = 50 to 95 µg/m <sup>3</sup> SO <sub>2</sub> = 9.24 to 35.6 µg/m <sup>3</sup> NO <sub>2</sub> = 9.96 to 26.88 µg/m <sup>3</sup> CO = 234 to 4259 µg/m <sup>3</sup>
AAQ modelling (Max Incremental GLC)	PM <sub>10</sub> = 15.01 µg/m <sup>3</sup> PM <sub>2.5</sub> = 4.46 µg/m <sup>3</sup> SO <sub>2</sub> = 14.75 µg/m <sup>3</sup> NO <sub>x</sub> = 10.36µg/m <sup>3</sup>
Ground water quality at 15 locations	pH: 7.32 to 8.97, Total Hardness: 96 to 816 mg/l, Chlorides: 37 to 558 mg/l, Fluoride: 0.1 to 1.5 mg/l. Heavy metals are within the limits.
Surface water quality at 5 locations	pH: 7.91 to 8.72, DO: 4.8 to 6.4 mg/l, BOD: 2 to 4 mg/l,
Noise levels (min and max)	45.5 to 53.7 dBA for the day time; 35.6 to 46.4 dBA for the Night time.
Traffic assessment study findings	The existing traffic density for different types of vehicles was counted at 03 locations during the study on a particular day for 24 hours: <ul style="list-style-type: none"> <li>• T1 – Toranagallu-Kudithini Road, JSW Steel Plant– This is located on the road to Bellary. Most of the trucks carrying finished products from the plant use this road.</li> <li>• T2 – Toranagallu - Sandur Road, Near Vidyanagar Gate. - This is located where most of the JSW employees enter the plant.</li> <li>• T3 – Toranagallu - Hospet Road, near adjoining Toranagallu By-pass and old road- This is located on the road from Toranagallu to Sandur; trucks carrying iron ore to the steel plant usually use this road.</li> </ul> <u>Study Assessment:</u> <ul style="list-style-type: none"> <li>• At T1- Toranagallu-Kudithini Road, the maximum traffic volume has reached 3542 PCUs per hour. The traffic on this road has still spare capacity. It may become necessary to regulate heavy vehicle movement to ensure that the</li> </ul>

	<p>traffic volumes do not exceed the design limits.</p> <ul style="list-style-type: none"> <li>At T2– Toranagallu - Sandur Road, Near Vidyanagar Gate the maximum traffic volume was 2716 PCUs per hour. This road is a public road and is also used by vehicles going towards Sandur – an important town of the region.</li> <li>At T3- Toranagallu - Hospet Road, near adjoining Toranagallu By-pass and old road is on the road leading to Bellary and Hospet, the maximum traffic volume was 1850 PCUs per hour. This is also a public road. However, the traffic on this road has still spare capacity.</li> </ul>
Flora and fauna	<p>Leopard, Sloth Bear, Indian Pangolin, Python, Common Indian Monitor, Pea Fowl, Steppe Eagle, Short Toed Snake Eagle are present in 10 Km Study Area. The species are mostly confined within the Daroji sanctuary.</p> <p>As per specific condition no (iii) of the existing EC for expansion from 10 MTPA to 16 MTPA, JSW has to participate in the Wildlife Conservation Plan for Sloth Bears and other Schedule-I Fauna found in the study area and in the Daroji Bear Sanctuary.</p> <p>In 2011, Karnataka Forest Department had prepared the Management Plan for Daroji Sloth Bear Sanctuary with assistance from JSWSL and other industries in the area which includes measures for conservation and protection of Faunal species found in the sanctuary along with financial outlay for implementation of the same.</p> <p>With reference to PCCF and CWW Karnataka's letter no. PCCF(WL)/D /CR-64 /2020-21 dated 29/01/2021, the Management Plan of Daroji Sloth Bear Sanctuary for the period from 2020-21 to 2029-30 has been approved. JSW shall be participating in the same in the coming years. For the future, an amount of Rs 3 Crores has been earmarked for the same.</p>

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

**Non- Hazardous Solid Wastes**

S No	Type of Waste	Generation (TPD)	Mode of Utilization/ Disposal
<b>Blast Furnace (BF)</b>			
1	Blast Furnace Air Cooled Slag	1589	For Road making purpose as a sub base material. Currently it is used for bund construction.
2	Blast Furnace Granulated slag	16570	Selling to Cement Making Plants and as slag sand, an alternate of river sand.
3	Blast Furnace Flue Dust	817	Re-used in waste to wealth to recover Fe & C
4	Blast Furnace Sludge	272	

S No	Type of Waste	Generation (TPD)	Mode of Utilization/ Disposal
5	Blast furnace bag filter dust	409	Reused in micro pellet plant, further to sinter making
COREX			
6	Corex Slag(Dry Pit Slag)	150	For Road making purpose as a sub base material. Currently it is used for bund construction.
7	Corex Granulated slag	1600	Selling to Cement Making Plants and as slag sand, an alternate of river sand.
8	Corex Coal Drying Plant Coal Dust	270	Re-used in Blast Furnace for Pulverized Coal Injection (PCI).
9	Corex GCP Sludge	260	Re-used in waste to wealth to recover Fe & C
10	Corex classifier sludge	50	Reused in micro pellet plant, further to sinter making
11	Corex bag house dust	15	
Direct Reduced Iron (DRI)			
12	DRI sludge	234	Re-used in base mix further to Sinter plant.
13	Product fines	150	
14	Oxide fines	240	
Steel Melting Shop – 1,2 & 4 (BOF)			
15	Fume Extraction System(FES) Dust	67	Re-used in micro pellet plant further to sinter making
16	Mill Scale	160	Used for mill scale briquetting for further use in BOF as coolant
17	GCP sludge	979	Re-used in micro pellet plant further to sinter making
18	Ladle Furnace(LF) Slag	890	
19	BOF slag	10688	Used in micro pellet plant, blast furnace and sinter as source of flux, as scrap in BOF and bund construction
Steel Melting Shop - 3 (EAF & ZPF)			
20	Fume Extraction System(FES) Dust	118	Used in mill scale briquetting plant further in SMS
21	EAF/ZPF slag	2397	Used as scrap in BOF and For Road making purpose as a sub base material & for making sub base of Inter plant railway network.
22	Ladle Furnace(LF) Slag	148	Re-used in micro pellet plant further to sinter making
23	Mill scale	20	Used for mill scale briquetting for further use in BOF as coolant
24	Combustion Chamber Dust	50	
Hot Strip Mill- 1,2 &3			
25	Mill Scale	700	Used for mill scale briquetting for further use in BOF as coolant
26	Sludge	29	
Wire Rod mills			

S No	Type of Waste	Generation (TPD)	Mode of Utilization/ Disposal
27	Mill scale	69	Used for mill scale briquetting for further use in BOF as coolant
28	Sludge	7	Re-used in micro pellet plant further to sinter making
Bar rod mills			
29	Mill scale	102	Used for mill scale briquetting for further use in BOF as coolant
30	sludge	8	Re-used in micro pellet plant further to sinter making
Lime calcinations Plants			
31	Dolo (Dolime) Fines	288	Re-used in CRM, Corex, and Sinter Plant.
32	Lime Fines	480	
33	Bag house Fines (Lime/Dolo dust)	180	Re-used in micro pellet plant further to sinter making
Refractory:			
34	Used Refractory Bricks	170	Sold to authorized recycler
35	Refractory Dust	110	Used in bund construction
Cold Rolling Mill (CRM-1,2&3)			
36	Iron Oxide from Acid Regeneration Plant(ARP)	88	Re-used in Mill Scale Briquetting Plant & PP-2.
37	Grinding Sludge	15	Re-used in Sinter plant / Selling to Authorized Recyclers / Re-processors.
38	Magnetic Separator Sludge	11	Burning in Incinerator
39	Zinc dross	24	Selling to Authorized Recyclers/Re processor
40	Effluent Treatment Plant (ETP) Sludge	23	Re-used in micro pellet plant further to sinter making
Coke Ovens			
41	CDQ dust	241	Re-used in micro pellet plant further to sinter making
42	Coke breeze	526	Re-used in sinter making
43	Tar	767	Sold
44	Decanter tank sludge	3	Reused in coke oven
45	BOD sludge	6	
Captive Power Plants			
46	Bottom Ash	33	Used for bricks manufacturing
47	Fly Ash	163	Sold to Cement Making

### Hazardous Solid Wastes

S No	Category	Quantity (TPA)	Proposed disposal
1	Used oil	73	Disposed to auth. Reprocessor
2	Waste oil	479	Disposed to auth. Reprocessor
3	Oil soaked cotton waste	57	Incinerate
4	Waste pickled liquor	180248	Reprocessing own
5	Acid residue	490735	To be treated in ETP
6	Alkali Residue	1783051	To be treated in ETP
7	Decanter tank sludge	827	Used back in Coke oven
8	ETP Sludge	5589	Used back in PP
9	Impure sulphur	217	Disposed to TSDF
10	Oil & grease skimming residue	1944	Incinerate
11	Filter & filter material having organic compound	34	Incinerate
12	Ash from incinerator	407	used in bund
13	Discarded plastics containers	48	Disposed to auth. Reprocessor
14	Discarded MS containers	385	Disposed to auth. Reprocessor
15	Used Batteries	1740	Disposed to auth. Reprocessor
16	BOD sludge	1829	Used back in Coke oven
17	ZLD salt	504	Disposed to TSDF
18	Chrome sludge	147	Disposed to TSDF
19	Zinc dross	1395	Disposed to auth. Reprocessor

#### 47.11.14 Public Consultation:

Details of advertisement given	<ul style="list-style-type: none"> <li>Prajavani (Kannada) on 07/12/2020</li> <li>The New Indian Express (English) on 07/12/2020</li> <li>E Namma Kannada Nadu (Daily local) on 10/12/2020</li> </ul>
Date of public consultation	08 <sup>th</sup> January, 2021 (11 am)
Venue	Proposed Project Site
Presiding Officer	Additional Deputy Commissioner & Additional District Magistrate, Ballari District
Major issues raised	<ul style="list-style-type: none"> <li>Generation of Employment to Locals</li> <li>Improvement in Health Care Facilities</li> <li>Improving Educational Facilities</li> <li>Improving the quality of life of farmers.</li> <li>Development of Greenery around plant</li> </ul>

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

Sn.	Project/ Program	Physical Target	Year wise Progress		
			2021-22	2022-23	2023-24
Medical Facilities					
1	Upgradation of facilities at Sanjeevani Hospital				
1.1	Phase 1	Sq. feet	48768	0	0

Sn.	Project/ Program	Physical Target	Year wise Progress		
			2021-22	2022-23	2023-24
	<ul style="list-style-type: none"> <li>Construction of New block</li> <li>Construction of Café, Kitchen, Burns ICU Block</li> <li>Construction of Service Block</li> </ul>				
1.2	Renovation / Redoing of Existing Block : <u>Phase 1</u>	Sq. feet	13575	0	0
1.3	<u>Phase 2</u> Construction of OPD & Pharmacy Block and Development of Roads and Pathways	Sq. feet	0	20283	0
<b>Education</b>					
2	<ul style="list-style-type: none"> <li>Face lift and improve the facilities of the Anganwadies in 8 DIZ villages namely Vaddu, Toranagallu, Kurekuppa, Talur, Bannihatti, Joga, Dodda Anantapur and Taranagar</li> <li>Painting for Anganwadies</li> <li>Repairs for building as required</li> <li>Providing Teaching &amp; Learning material</li> <li>Providing play equipment as required</li> </ul>	No. of Anganwadies	10	10	10
3	<ul style="list-style-type: none"> <li>Improving the existing 8 Government Schools (Shuseelanagar Higher Primary School, Lakshmipura High School Lakshmipura Higher Primary School, Sandur Government girls high school, Sandur Government PU college girls, BBhujanganagar Yashavantnagar Taranagara Ashraya) into model schools is being planned and approved. Need based Interventions Proposed</li> <li>Renovation of School Toilets</li> <li>Renovation of School building</li> </ul>	Schools	4	2	2
<b>Environment</b>					
4	Development of greenery around Sultanpur village (nos of trees to be planted)	No. of trees	5000	0	0
5	Development of Greenery in surrounding 12 villages	No. of trees Lakhs	2	2	2
6	Installation of CAAQMS station at Sultanpur – Shared by 3 industries (Nos), over and above 5 CAAQS stations installed by JSW Steel.	Nos.	1	0	0
<b>Agri Livelihoods</b>					
7	Excavation of farm ponds in farmer's fields for irrigation requirements in following 52 surrounding villages- Vaddu, Basapur, Talur, Joga, Kurekuppa, Toranagallu Station, Toranagallu Village, Sultanpur, Taranagara, Bannihatti, Gangalapura, Gadiganur, Buvanahalli, Kotaginahal, Dodda Anthapura, Chikka Anthapura, Kodalu, Lingadahalli, Hosa Daroji, Hosa Madapura, Hale Daroji, Hale Madapura, Krishnanagara, Muraripura, Daulatpura, Bailuvaddigere, Kaakubalu, Gundluvaddigere Dharmasagar, Papinayanakanahalli, Sandur, Bhujanganagar, Lakshmipura, Nagalapura, Nandihalli, Kamattur, Yashavantnagar, Garaga, Sushilanagar, Ramghad, Siddapura, Jayasinghapura, Venkatagiri, U Rajapura, Ubbalagandi, Ranjithapur, Seenabasappa camp, Mallapura, Naulatti, Vittalapur, Devagiri,	No. of farm ponds	60	80	100

Sn.	Project/ Program	Physical Target	Year wise Progress		
			2021-22	2022-23	2023-24
	Narayanapur, Gunda Dharmapura, Subbarayanahalli camp (size of farm ponds (Max Size) : 100 ft X 100 ft X 12 ft				

- 47.11.15 The capital cost of the project is Rs. 2857 Crores and the capital cost for environmental protection measures is proposed as Rs. 324.5 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 74.8 Crores. The employment generation from the proposed project / expansion is about 3700 nos. The details of cost for environmental protection measures is as follows:

S No	Description	Cost (Rs. in Crores)	
		Capital	Recurring
1.	Air Pollution Control/ Noise	154	48
2.	Water Pollution Control	52	12
3.	Solid Waste Management	9	2
4.	Environmental Monitoring and Management	2.5	0.6
5.	Occupational Health (Existing Facilities will be utilized)	0	0
6.	Rainwater Harvesting	0	1.5
7.	Energy Conservation	105	10.5
8.	Green Belt Development	2	0.2
9.	Addressal of Public Consultation concerns	40.97	0

- 47.11.16 The existing project area of JSW is 7742 acres. Greenbelt has been developed over 2250 acres at present. Further Greenbelt will be developed in 150 acre land within plant boundary. In addition to this, additional plantation shall be carried out over 240 acres of land owned by JSW close to plant Boundary, which is connected to existing project area by a 7m wide 5.7 Km long road of JSW (Area of approach road - 10 acres). After this, including the area of approach road and additional plantation area of 240 acres, the revised project area of JSW shall become 3234.20 ha (7992 acres). The revised green cover area of JSWSL will be 1069 ha (2640 acres) which is 33.03 % of total project area. Gap filling plantation shall be carried out over existing greenbelt area to increase the existing plantations density. A 2m - 20m wide greenbelt, consisting of at least 3 tiers around plant boundary is developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 8,40,000 saplings will be planted and nurtured in 157.8 ha (390 acre) by October 2022
- 47.11.17 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.
- 47.11.18 Name of the EIA consultant: M/s MECON Limited [Sl. No. 51, List of ACOs with their Certificate / Extension Letter no. Rev. 14, September 15, 2021].

### Certified compliance report from Regional Office

47.11.19 The Status of compliance of earlier EC was obtained from Regional Office, Bangalore vide letter no. EP/12.1/2015-16/16/Kar dated 09/08/2021 in the name of M/s. JSW Steel Limited. The site visit was carried out on 28/07/2021. The Action taken report on the observations made during the visit was submitted to Regional officer MoEF&CC, Bangalore vide letter dated 02/08/2021. MoEF&CC (RO), Bangalore evaluated the same and incorporated the action plan in the Final Certified Compliance report dated 09/08/2021. The details of the observations made by RO in the report dated 09/08/2021 along with its re-assessment / present status as furnished by the PP is given as below:

S No	Observation of RO (Visit dated 28/07/2021 / Report dated 09/08/2021)	Response by PP to RO, MoEF&CC dated 02/08/2021		Response by PP as on date
		Compliance / Action Plan by M/s. JSW Steel Limited	Schedule of Completion	
1.	Spillages and accumulation of materials along the conveyor/junction houses which causes dust pollution.	<p>To address the issue of spillages &amp; emission control &amp; management formed a committee in the month of August 2020.</p> <p>The team had audited the all Junction Houses and Conveyor Transfer Points. As per audit findings of the Committee, the major reasons are attributed to improper Sealing's &amp; Material carry back. To address this issue,</p> <ul style="list-style-type: none"> <li>• Conveyor seal points was implemented in 52 Junction houses (Completed)</li> <li>• Proposed to implement seal points in balance 24 junctions by 31/10/2021</li> <li>• To address the issue of Spillages, by eliminating carry back, completed modification of 5 critical chutes at Raw Material Handling area, Blast Furnace-3 &amp; Lime calcination Plant-2. (Completed)</li> <li>• Proposed to modify 5 junction houses by 31/03/2022.</li> </ul>	<p>30/06/2021</p> <p>31/10/2021</p> <p>30/06/2021</p> <p>31/03/2022</p> <p>Continuously on monthly basis</p>	<p>JSW Steel handles large volume of raw materials for steel production. In the process of transferring the materials fugitive emissions are generated from Junction houses, where the material is transferred from one conveyor to another.</p> <p>At JSW Steel, there are more than 600 Junction houses, which are provided with either bag filters or water spray to suppress dust. A dedicated team of specially trained personnel has been formed who audit all the Junction houses regularly. The audits include monitoring of spillage control; efficiency of bag filters; closing of openings; material build up in Junction houses etc. JSW has also introduced a 5-STAR RATING for critical junction house to sustain and motivate the departmental maintenance personnel</p> <p>During the visit on 28.07.2021, emissions/spillages were seen in 24 Junction houses. While the spillages have been cleared, five Junction houses need major modifications to avoid spillage and the modification will be completed by <b>31.03.2022</b>.</p>



S No	Observation of RO (Visit dated 28/07/2021 / Report dated 09/08/2021)	Response by PP to RO, MoEF&CC dated 02/08/2021		Response by PP as on date
		Compliance / Action Plan by M/s. JSW Steel Limited	Schedule of Completion	
		<ul style="list-style-type: none"> <li>To sustain above standard operating practice, had implemented 5 star rating for critical junction house through scheduled Internal Auditing.</li> </ul>		
2.	Damage of internal road and fugitive emission due to truck movement	<p>To control fugitive emission and to reduce the no of trucks carrying the iron ore o\to plant-</p> <ul style="list-style-type: none"> <li>JSW Steel had put up Railway line (11 KM) from Nandi Halli Stock Yard to Plant.</li> <li>Also implemented Pipe Conveyor from NandhiHalli Stock yard to Plant 24 KM (Present capacity is 5 MTPA due to restriction of 12 hour operation)</li> <li>Proposed to enhance to 25 MTPA once approved by Forest Department. After complete commissioning of 36 MTPA, the 3000 trucks will be eliminated completely. By 31/12/2023.</li> </ul>	<p>31/03/2014</p> <p>27/05/2019</p> <p>31/12/2023</p>	<p>To control fugitive emission and to reduce the no of trucks carrying the iron ore o\to plant-</p> <ul style="list-style-type: none"> <li>JSW Steel had put up Railway line (11 KM) from Nandi Halli Stock Yard to Plant.</li> <li>Also implemented Pipe Conveyor from NandhiHalli Stock yard to Plant 24 KM (Present capacity is 5 MTPA due to restriction of 12 hour operation)</li> <li>Proposed to enhance to 25 MTPA once approved by Forest Department. After complete commissioning of 36 MTPA, the 3000 trucks will be eliminated completely. By 31/12/2023.</li> </ul>
3.	Occasional Lateral/ Roof Top emission from Steel Melting Shop 1 & 2	<p>To control emissions from SMS 1 &amp; 2 Converter Primary Venturi Scrubbers and Secondary Dedusting along with Dog house were provided. Due to Process disturbance instantaneous fugitive emissions were observed from Converters.</p> <p>Following are the action plan to control Roof Top emissions-</p>	31/03/2022	<p>JSW Steel has implemented a comprehensive system of primary and secondary fume extraction systems in SMS 1&amp;2 to control process dust emissions. However, due to changes in raw material quality, upsets in operating systems, a part of transient emissions are not captured by the secondary emission control and eventually are seen from the roof top for small periods of time.</p> <p>To take care of these</p>

S No	Observation of RO (Visit dated 28/07/2021 / Report dated 09/08/2021)	Response by PP to RO, MoEF&CC dated 02/08/2021		Response by PP as on date
		Compliance / Action Plan by M/s. JSW Steel Limited	Schedule of Completion	
		<ul style="list-style-type: none"> <li>• SMS-1: Augmentation of Primary &amp; Secondary dedusting system by 31/03/2022.</li> <li>• SMS-2: Implementation of Secondary Dedusting. (Completed)</li> <li>• Proposed to maximize usage of Mill scale Briquetting as coolant in SMS-1 &amp; 2 Converter from 570 t/day 700 t/day to reduce Roof top emissions. By 30.11.2021</li> <li>• In SMS-2, Gas Cleaning Assistant (GCA) as a part of Primary Dedusting to control Roof Top emissions will be implemented by 31/03/2022</li> <li>• Augmentation of Primary dedusting systems will be implemented by 31/03/2023.</li> </ul>	<p>Completed</p> <p>30/11/2021</p> <p>31/03/2022</p> <p>31/03/2022</p>	<p>emissions, as a part of continuous improvements, augmentation of fume extraction facilities has been proposed and is under implementation at an estimated cost of Rs 195 Cr and the details are given below:</p> <p>a) Maximise use of Mill scale Briquetting as coolant in SMS-1 &amp; 2 Converter from 570 t/day 700 t/day: <b>30.11.2021</b></p> <p>b) SMS-1: Augmentation of Primary &amp; Secondary dedusting system by enhancing the capacity of bag filters: by <b>31.03.2022</b> linked with Converter shutdowns.</p> <p>c) SMS-2:</p> <p>i. Augmentation of Secondary Dedusting: <b>Completed and is in regular operations.</b></p> <p>ii. Implementing of Gas Cleaning Assistant (GCA), a proprietary software in the secondary gas cleaning system to monitor the suction volumes as per the requirement: <b>By 31.03.2022</b></p> <p>iii. Augmentation of primary dedusting systems, requiring periodic shutdowns for implementation: <b>By 31.10.2022</b></p>
4.	Fugitive emissions from Coke Oven	This Incidence was occurred due to tripping of Compressor of Bag House during Pulsing due to problem in Instruments. Corrective action initiated and Bag House Operation was restored on the same day.	Completed on the same day.	This incidence occurred due to tripping of air compressor connected to the Bag House: <b>Corrective action taken and Bag House Operation was restored. Completed</b>

S No	Observation of RO (Visit dated 28/07/2021 / Report dated 09/08/2021)	Response by PP to RO, MoEF&CC dated 02/08/2021		Response by PP as on date
		Compliance / Action Plan by M/s. JSW Steel Limited	Schedule of Completion	
5.	<p>Suggestions</p> <ul style="list-style-type: none"> <li>• PA should take necessary action /correction measures for prevention of spillages from conveyor and junction houses within two months</li> <li>• All the accumulated dust materials due to spillage shall be removed within two months</li> <li>• All the damages of internal roads shall be rectified within three months. Further, the transport through trucks be gradually reduced by enhancing of capacity of pipe conveyor transport and rail transport.</li> <li>• Shall take required corrective measures as proposed such as primary/secondary de-dusting, Gas cleaning assistant, maximizing the usage of coolant etc at SMS within four months.</li> </ul>	-	-	Shall be complied.

47.11.20 M/s JSW Steel Limited had earlier made an online application vide proposal no. IA/KA/IND/31502/2010 dated 10/08/2021. The proposal was considered by the EAC (Industry 1) in its 43<sup>rd</sup> meeting of the Re-constituted EAC (Industry-I) held on 26-27<sup>th</sup> August, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee (EAC during 26-27<sup>th</sup> August, 2021)**

47.11.21 The Committee observed the following:

- Expansion will be carried out in the existing complex. 450 acres of land required for expansion is available within the complex, hence no additional land has been sought for the same. The capacity of fly ash pond and Gypsum storage area is also proposed to be increased. However, no details have been furnished in this regard.

- ii. As per the existing EC dated 1/10/2015, PP was supposed to develop 33% of total area as green belt. Subsequently, PP has approached the Ministry seeking amendment in the said EC to reduce the green belt to 29% of the area due to non-availability of land within the project area and requested to develop the green belt outside the project area. In this regard, Ministry is yet to take a final view in the matter as informed by the Member Secretary. Now, project proponent is proposing for expansion of steel plant in 450 acres of land available within the project area and no land has been earmarked for developing green belt in order to achieve 33% of green belt development within the project area. Further, the tree density adopted in the 29% of the green belt developed area is reported to be less than 800 saplings per acre. In view of this, first PP should rework and optimize the project layout including the expansion project area in order to achieve 33% green belt development within project area itself with a tree density of 1000 trees per acre (or) 2500 trees per hectare. Further, PP is required to submit an action plan in this regard.
- iii. RO Compliance has been received on 9/8/2021. The non-compliances that have not been complied are related to fugitive emission control on internal roads due to spillage and installation of dedusting system in SMS 2. Action plan to comply with the said non-compliances shall be submitted.
- iv. Post expansion, the PM<sub>10</sub> and SO<sub>2</sub> level in the ambient is very high. Control measures to be adopted in this regard has not been enumerated in the EIA report.
- v. Authenticated map of Chief Wildlife Warden indicating the distance between the plant boundary and ESZ boundary of Daroji Bear Sanctuary has not been submitted.
- vi. Action plan to address the issues raised during the public hearing with physical target as per MoEF&CC O.M. dated 30/09/2020 has not been submitted.
- vii. As per the baseline data collected, high fluoride level is reported in ground water sample. No explanation is available in this regard and control measures to be adopted to contain the fluoride level has not been submitted.
- viii. Permission of surface water withdrawal is much higher than requirement, PP need to clarify the same.
- ix. 4 AAQ stations have been installed and one more is to be installed near Sultanpur village.

**Recommendations of the Committee(EAC during26-27<sup>th</sup> August, 2021)**

In view of the foregoing and after detailed deliberations, the committee recommended to return the proposal in its present form to address the shortcomings enumerated at para number 47.11.20.

- 47.11.22 M/s. JSW Steel Limited again made an online application vide proposal no. IA/KA/IND/229388/2018 dated 20/09/2021. The proposal was considered by the EAC (Industry 1) in its 45<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28-29<sup>th</sup> September, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee (EAC during 28-29<sup>th</sup> September, 2021)**

- 47.11.23 The Committee observed the following:
- i. PP proposed the green belt developed about 31.01% inside the plant premises and the remaining outside the plant premises which the EAC has not accepted.
  - ii. The internal and connecting road shall be upgraded/developed to meet the load imposed due to proposed project in term of MSA as per IRC norms.

- iii. Action plan submitted for control of fugitive emissions was not satisfactory.
- iv. PP also proposed enhancement of township facility by adding one more unit. No details have been made available by the PP neither in the presentation nor during deliberations. EAC was of the view that such proposals are to be dealt in at State level.
- v. Authenticated map of Chief Wildlife Warden indicating the distance between the plant boundary and ESZ boundary of Daroji Bear Sanctuary has not been submitted.
- vi. Action plant to address the PH issues found to be not in conformity with the MoEF&CC O.M. dated 30/9/2020.

**Recommendations of the Committee (EAC during 28-29<sup>th</sup> September, 2021)**

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

- i. Revised action plan or fugitive dust control in raw material handling sections shall be submitted.
- ii. Scheme for completion of pipe conveyor of 84 Km length by FY 2024 shall be submitted.
- iii. Action plan for green belt development covering 33% of the project area with a tree density of 2500 trees per hectare within a time frame of three years shall be submitted.
- iv. Estimated impacts on Ambient air quality i.e. reduction in PM, SO<sub>2</sub>& NO<sub>x</sub> levels on implementation of measures for noise reduction, control of fugitive dust emissions, etc; proposed in the EIA report, along with the revised time targets shall be submitted.
- v. Revised action plan with physical targets to address the issues raised during public hearing as per MoEF&CC O.M. dated 30/09/2020 shall be submitted.
- vi. Undertaking from PP that requisite environment clearance for the township expansion will be obtained from SEIAA shall be submitted.

47.11.25 The proponent submitted the ADS reply on PARIVESH on 14/10/2021. The information furnished by proponent is as follows:

**i. Revised action plan or fugitive dust control in raw material handling sections shall be submitted.**

**Reply:** During coal handling and storage in coal storage yards, dust particles are carried by the wind, which cause pollution. Coal shed is the best possible solution to minimise fugitive emissions and become air born during the storage and handling of coal. Coal storage sheds are large in size and store tons of coals. By providing the covered storage, the operating expenses of the plant are also lowered.

JSW Steel Ltd shall be installing covered coal shed for PCI coal at RMHS yard (SR 4 yard for BF 3 & 4) over an area of 32325 m<sup>2</sup>. JSWSL is committed to complete the project by June 2022. Undertaking has been submitted by JSW Steel Limited vide letter Ref. No. EMD/GOV/F016/2021/3230 dated 14/10/2021.

**ii. Scheme for completion of pipe conveyor of 84 Km length by FY 2024 shall be submitted.**

**Reply:** Pipe Conveyor is a modern and environmentally friendly transport system solving numerous problems associated with conventional conveyor system, i.e. spillage of materials, limitations with regard to steep incline and curve layout, etc. Pipe conveyor belts, or tube conveyor belts, are used for enclosed material transport.

The total iron ore requirement of the plant at 18 MTPA stage is estimated around 35.8 MTPA for which around 7853 Truck trips per day would have been required. To fulfil the requirement of the key raw material (Iron Ore), JSW Steel Ltd is installing Pipe Conveyor system for transportation of iron ore fines from Kumaraswamy, Sushil Nagar & other blocks to Vijayanagar plant at an estimated cost of **Rs 1573 Cr.** The 83 Km long conveyor system is being designed for an annual throughput capacity of 55000 TPD. The system shall be installed in multiple phases. As present out of the total 83 Km length, 24 Km has been commissioned and operational.

JSW shall be completing the installation of Pipe Conveyor by 31.03.2024. Undertaking has been submitted by JSW Steel Limited vide letter Ref. No. EMD/GOV/F016/2021/3230 dated 14/10/2021. Layout of the proposed pipe conveyor has been submitted by JSW Steel Limited.

**iii. Action plan for green belt development covering 33% of the project area with a tree density of 2500 trees per hectare within a time frame of three years shall be submitted.**

**Reply:** JSW is presently having project area of 7742 acres. Of this, about 2250 acres has been developed as green belt which is about 29% of the project area. In order to further increase the green cover inside the plant boundary, JSW has identified 150 acres of vacant spaces inside the boundary and also to further increase the density of existing green cover from 800 to 1000 trees per acre. For doing this, JSW has proposed for plantation of about 6 lakh saplings inside the plant boundary. Additionally, JSW had proposed for green belt development over 90 acres of JSW's land in nearby Basapur and Vaddu villages.

Additional land of 180 acres has been identified in addition to proposed 90 acres totalling to 240 acres and 10 acre of the existing road from plant to JSW township for connecting with newly acquired vacant land. The total land has been transferred in the name of JSW Steel and under the Ownership of JSW Steel. The details of Land has been submitted by JSW Steel Limited.

With the acquisition of additional land of **250 acres-**

- **The revised project area of JSWSL will be 7992 acres,**
- Total green belt shall be **2640.52 acres.**
- Total green belt shall be **33.03 % of the project area**
- JSW is committed to develop tree density of **2500 trees per hectares** (1000 trees per acre).

The revised Green Belt Drawing has been submitted by JSW Steel Limited. The revised plan for Greenbelt development is as follows-

Plan for Greenbelt development is as follows				
Description	At Present	Additional Proposed	Total at 18 MTPA Stage	
Area (acres)				
• Within Plant Boundary of JSW	2250.52	150	2400.52	2640.52
• Over additional land owned by JSW close to plant Boundary	0	240	240	
Number of Trees (Nos)				
• Within Plant Boundary of JSW	17,76,667	6,00,000	23,76,667	26,16,667
• Over additional land owned by JSW close to plant Boundary	0	2,40,000	2,40,000	
% of Plantation Area				
• Within Plant Boundary of JSW	28.15	1.87	30.02 %	33.03 %
• Over additional land owned by JSW close to plant Boundary	0	3.1	3.1%	

The revised 3 years plan with tree density of 2500 trees/hectare is as follows-

Plantation details	Area in acres	2021-22	2022-23	2023- Sept 2024
<b>A. Within the existing plant area</b>	150	Area preparation 20000	65000	65000
<b>B. Gap plantation from 800 to 1000 nos.</b>	2250	150000	150000	150000
<b>C. Adjoining Area</b>	240	100000	100000	40000
<b>D. Surrounding hillocks under Forest department</b>	434 (234 acres completed)	20000	20000	-

Action plan for greenbelt development has been submitted by JSW Steel Limited dated 29/10/2021.

- iv. **Estimated impacts on Ambient air quality i.e. reduction in PM, SO<sub>2</sub> & NO<sub>x</sub> levels on implementation of measures for noise reduction, control of fugitive dust emissions, etc; proposed in the EIA report, along with the revised time targets shall be submitted.**

**Reply:**

**A. Measures to further reduce Ambient PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> levels in view of higher background values**

In addition to installation of various Air pollution control devices in the upcoming new units, JSWSL has also integrated measures in the existing plant to reduce overall emission load of PM, SO<sub>2</sub> and NO<sub>x</sub> during the conceptualisation of the present proposed expansion from 16 to 18 MTPA. The same are as follows:

- Commissioning of proposed 83 km long Pipe conveyor project for transportation of iron ore mines from Kumaraswamy, Sushil Nagar and other mining blocks to the steel plant by 31.03.2024. This will lead to reduction of fugitive PM, SO<sub>2</sub> & NO<sub>x</sub> emissions due to truck movement and improve the ambient air quality. In order to anticipate the reduction in PM emissions due to installation of pipe conveyor system and reduction of truck trips per day, air quality modelling has been carried out considering 30000 TPD capacity of conveyor.
- The steam generation required for existing CPP3 & 4 in existing coal-fired boilers is proposed to be supplemented by newly proposed Gas-based boilers, which will reduce the consumption of coal by 41 % and accordingly reduce the PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> emissions by 16.5 Kg/hr, 738 Kg/hr and 70.2 Kg/hr respectively.
- It is being proposed for providing Covered sheds for coal storage, which is presently stored in open area. The covered sheds will be spread over an area of 32325 m<sup>2</sup> over the existing coal storage yard. The installation of the covered shed shall be completed by 30.06.2022.

The implementation of aforementioned measures and APCs shall further bring down the pollution load from the plant operation. In order to estimate the impacts due to the above, the GLCs are predicted for contribution of JSW on ambient air quality in the absence of above activities at present. The US Environmental Protection Agency's (EPA's) AERMOD computer code is used to estimate atmospheric dispersion and concentrations of the released emissions in the immediate vicinity of the proposed sources. The modelling is conducted to be inclusive of the weather conditions that are possible and representative of the sources. The predicted GLC values have been provided in **Table 1** below.

**Table 1 – Estimated impacts due to proposed mitigative measures in existing plant**

PM <sub>10</sub>						
Sl No	AAQ location	Baseline AAQ Levels	Reduced fugitive emissions due to			Resultant AAQ in Future
			Pipe Conveyor Project	Installation of Gas fired Boilers	Coal Shed	
A1	Village Talur	75.0	5.15	0.03	0.001	69.82
A2	Village Vidya Nagar	86.0	3.7	0.04	0.002	82.26
A3	Village Vaddu	92.0	20.78	0.04	0.003	71.18
A4	Village Toranagallu	87.0	23.9	0.02	0.003	63.08
A5	Village Sultanpur	84.0	1.33	0.01	0.001	82.66
A6	Village Gadignur	73.0	1.67	0.02	0.001	71.31
A7	Village Basapur	74.0	8.53	0.01	0.001	65.46
A8	Village Kurekuppa	80.0	4.18	0.01	0.001	75.81



A9	Village Kudutini	76.0	0.95	0.01	0.000	75.04
A10	Village Kodalu	95.0	2.27	0.01	0.000	92.72
<b>SO<sub>2</sub></b>						
SI No	AAQ location	Baseline AAQ Levels	Reduced fugitive emissions due to			Resultant AAQ in Future
			Pipe Conveyor Project	Installation of Gas fired Boilers	Coal Shed	
A1	Village Talur	28.1	1.24	1.25	-	25.61
A2	Village Vidya Nagar	26.18	0.92	1.97	-	23.29
A3	Village Vaddu	25.68	5.01	1.86	-	18.81
A4	Village Toranagallu	32.76	5.58	0.68	-	26.50
A5	Village Sultanpur	26.14	0.32	0.59	-	25.23
A6	Village Gadignur	23.78	0.41	0.73	-	22.64
A7	Village Basapur	26.25	2.11	0.65	-	23.49
A8	Village Kurekuppa	26.09	1.06	0.47	-	24.56
A9	Village Kudutini	27.02	0.22	0.36	-	26.44
A10	Village Kodalu	19.61	0.55	0.27	-	18.79
<b>NO<sub>x</sub></b>						
SI No	AAQ location	Baseline AAQ Levels	Reduced fugitive emissions due to			Resultant AAQ in Future
			Pipe Conveyor Project	Installation of Gas fired Boilers	Coal Shed	
A1	Village Talur	20.02	1.81	0.12	-	18.09
A2	Village Vidya Nagar	21.62	1.35	0.19	-	20.08
A3	Village Vaddu	25.42	7.33	0.18	-	17.91
A4	Village Toranagallu	21.31	8.16	0.07	-	13.08
A5	Village Sultanpur	26.32	0.47	0.06	-	25.79
A6	Village Gadignur	24.53	0.59	0.07	-	23.87
A7	Village Basapur	21.32	3.09	0.06	-	18.17
A8	Village Kurekuppa	22.1	1.55	0.05	-	20.50
A9	Village Kudutini	19.31	0.32	0.03	-	18.96
A10	Village Kodalu	19.87	0.80	0.03	-	19.04

Concentrations are in  $\mu\text{g}/\text{m}^3$  and of 24 hours averaging time

#### **B. Ambient Noise Reduction due to installation of Pipe Conveyor for Iron Ore Transportation from nearby Mines**

The total iron ore requirement of the plant at 18 MTPA stage is estimated around 35.8 MTPA for which around 7853 Truck trips per day would have been required. After completion of the pipe conveyor project, number of truck trips per day (including return journey) shall be reduced by upto 78%. As outcome of this, in addition to improvement in the Ambient Air Quality, a significant improvement in the Ambient noise levels of this region shall be observed due to reduction in trucks carrying the ore to plant.

The anticipated noise levels due to plying of trucks in the study area at 18 MTPA for Business as usual scenario and after commissioning of the pipe conveyor at various location around the transportation route is shown in **Table 2** below.

**Table 2 – Estimated noise levels due to truck plying on nearby receptors**

Stn ID	Location	Distance from Road (Km)	Predicted Noise Levels due to trucks (dB)	
			Business as usual (at 18 MTPA)	After commissioning of Pipe Conveyor
N1	Talur	1.39	49	42
N2	Vidya Nagar	1.05	50	44
N3	Vaddu	0.32	57	50
N4	Toranagallu	0.2	56	51
N5	Sultanpur	2.9	42	37
N6	Gadignur	5.75	38	33
N7	Basapur	0.98	48	43
N8	Kurekuppa	1.74	45	39
N9	Kudutini	7.8	36	31
N10	Kodalu	3.61	41	35

From the above table, it can be seen that there will a decrease in noise levels due to commissioning of pipe conveyor on ambient noise levels at all nearby locations.

**v. Revised action plan with physical targets to address the issues raised during public hearing as per MoEF&CC O.M. dated 30/09/2020 shall be submitted.**

**Reply:** Action plan to address the issues raised during the public hearing with physical target as per MoEF&CC O.M. dated 30/09/2020.

Sn.	Project/ Program	Physical Target	Year wise Progress		
			2021-22	2022-23	2023-24
Medical Facilities					
1	Upgradation of facilities at Sanjeevani Hospital				
1.1	<u>Phase 1</u> <ul style="list-style-type: none"><li>Construction of New block</li><li>Construction of Café, Kitchen, Burns ICU Block</li><li>Construction of Service Block</li></ul>	Sq. feet	48768	0	0
1.2	Renovation / Redoing of Existing Block : <u>Phase 1</u>	Sq. feet	13575	0	0
1.3	<u>Phase 2</u> Construction of OPD & Pharmacy Block and Development of Roads and Pathways	Sq. feet	0	20283	0
Education					
2	<ul style="list-style-type: none"><li>Face lift and improve the facilities of the Anganwadies in 8 DIZ villages namely Vaddu, Toranagallu, Kurekuppa, Talur,</li></ul>	No. of Anganwadies	10	10	10

Sn.	Project/ Program	Physical Target	Year wise Progress		
			2021-22	2022-23	2023-24
	Bannihatti, Joga, Dodda Anantapur and Taranagar <ul style="list-style-type: none"> <li>• Painting for Anganwadies</li> <li>• Repairs for building as required</li> <li>• Providing Teaching &amp; Learning material</li> <li>• Providing play equipment as required</li> </ul>				
3	<ul style="list-style-type: none"> <li>• Improving the existing 8 Government Schools (Shuseelanagar Higher Primary School, Lakshmipura High School Lakshmipura Higher Primary School, Sandur Government girls high school, Sandur Government PU college girls, BBhujanganagar Yashavantanagar Taranagara Ashraya) into model schools is being planned and approved. Need based Interventions Proposed</li> <li>• Renovation of School Toilets</li> <li>• Renovation of School building</li> </ul>	Schools	4	2	2
<b>Environment</b>					
4	Development of greenery around Sultanpur village ( nos of trees to be planted)	No. of trees	5000	0	0
5	Development of Greenery in surrounding 12 villages	No. of trees Lakhs	2	2	2
6	Installation of CAAQMS station at Sultanpur – Shared by 3 industries (Nos), over and above 5 CAAQS stations installed by JSW Steel.	Nos.	1	0	0
<b>Agri Livelihoods</b>					
7	Excavation of farm ponds in farmer's fields for irrigation requirements in following 52 surrounding villages- Vaddu, Basapur, Talur, Joga, Kurekuppa, Toranagallu Station, Toranagallu Village, Sultanpur, Taranagara, Bannihatti, Gangalapura, Gadiganur, Buvanahalli, Kotaginahal, Dodda Anthapura, Chikka Anthapura, Kodalu, Lingadahalli, Hosa Daroji, Hosa Madapura, Hale Daroji, Hale Madapura, Krishnanagara, Muraripura, Daulatpura, Bailuvaddigere, Kaakubalu, Gundluvaddigere Dharmasagar, Papinayanakanahalli, Sandur, Bhujanganagar, Laksmipura, Nagalapura, Nandihalli, Kamattur, Yashavantanagar, Garaga, Sushilanagar, Ramghad, Siddapura, Jayasinghapura, Venkatagiri, U Rajapura, Ubbalagandi, Ranjithapur, Seenabasappa camp, Mallapura, Naulatti, Vittalapur, Devagiri,	No. of farm ponds	60	80	100

Sn.	Project/ Program	Physical Target	Year wise Progress		
			2021-22	2022-23	2023-24
	Narayanapur, Gunda Dharmapura, Subbarayanahalli camp (size of farm ponds (Max Size) : 100 ft X 100 ft X 12 ft				

**vi. Undertaking from PP that requisite environment clearance for the township expansion will be obtained from SEIAA shall be submitted.**

**Reply:** Undertaking has been submitted by JSW Steel Limited vide letter Ref. No. EMD/GOV/F016/2021/3230 dated 14/10/2021.

47.11.26 Based on the submission of project proponent, the proposal is re-considered by REAC (Industry 1) in its 47<sup>th</sup> meeting held on 28-29<sup>th</sup> October, 2021. The observations and recommendations of EAC is given as below:

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

- PP has been revised the total project area from 3230.2 ha to 3234.2 ha along with revised green belt area to complete 33.03% area out of 3234.2 ha. Detail has been updated 47.11.5 and 47.11.25 above.
- Updated KML file of the proposed plant with revised area.
- Survey numbers has been revised for additional land.
- Possession certificated for additional land acquired to complete 33% green belt development.
- Revised brief write up.

**Observations of the Committee**

47.11.28 The Committee noted the following:

- The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- The EAC found that the reply submitted by PP on additional information is found to be satisfactory.
- The EAC also deliberated on the certified compliance report of RO, written submissions, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.
- Total project area will be 3234.2 ha as the project proponent has acquired additional 240 acre of land near to the project site in order to achieve 33% of the green belt development of the total area.

**Recommendations of the Committee**

47.11.29 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions

as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements:

**A. Specific conditions**

- i. Green belt shall be developed in an area of 1068 ha all along the periphery of the project site by September, 2024 as committed with a tree density of 2500 trees per hectare.
- ii. Project proponent shall install covered sheds for coal storage in an area of 32325 sqm by June 2022 as committed.
- iii. 84 km long pipe conveyor shall be installed by 31/03/2024 as committed.
- iv. Ambient air quality shall be improved by adopting measures like pipe conveyor, use of by product gas in place of coal and covered shed. Noise levels shall be controlled by decrease in truck traffic after completion of the pipe conveyor.
- v. Environment Clearance for the township project shall be obtained from the concerned competent authority.
- vi. PP shall control rooftop emissions from SMS 1&2 shall be eliminated by 31/03/2022 and that from SMS 2 by installation of primary De-dusting system by 31/10/2022 as committed.
- vii. Junction houses in raw material handling area requiring repair and overhauling to control fugitive emissions shall be modified by March 2022.
- viii. Desulfurization of Coke Oven Gas, use of low Sulphur coal, Flue Gas Desulphurization in captive power plant shall be adopted to control SO<sub>2</sub> emissions.
- ix. Project proponent shall install 2 additional Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in addition to already installed 4 CAAQMS.
- x. Following Cleaner technologies shall be adopted by PP as committed:
  - a. MEROS in Sinter plants to control emissions.
  - b. Sinter cooler waste heat recovery to generate power.
  - c. Dry gas cleaning in BF and BOF converters.
  - d. TRT and Stove waste gas heat recovery system in BF.
  - e. Secondary Fume Extraction system in BOF with dog houses.
  - f. Independent FE for LRF.
  - g. Pipe conveyor to transport iron ore from various mines.
  - h. 3.5 km wind curtains in coal yard.
  - i. WHRB for EAF waste heat recovery.
  - j. Installation of Zero Power Furnace.
  - k. CO<sub>2</sub> injection for pH control in SMS.
  - l. Single oven pressure control in Coke Ovens to control Charging Emissions along with CGT car and HPLA system.
- xi. 100% solid waste utilization by means of following state-of-the-art technologies for recovery and recycling various wastes generated within the plant premises shall be adopted:
  - i. Slag sand plant for surplus granulated BF slag.
  - ii. Micro-pellet plant (2050TPD) for the dust & sludge collected from air and water pollution control equipment.
  - iii. Mill scale briquetting plant (600 TPD) for high Fe containing sludge & dust from Mills.
  - iv. Waste-to-wealth plant (600 TPD) for the Dust & sludge of low Fe values through beneficiation

- v. Steam Box technology for SMS slag ageing to make it suitable for use as aggregate in road making.
- vi. Slag sand plant (17000 TPD) is proposed for converting steel slag to sand for sale.
- vii. LHF slag briquetting plant (300 TPD) for production of briquettes to replace imported synthetic slag.
- viii. Powder steel slag fines for use in land reclamation and soil conditioning.
- ix. Carbon recovery plant - Carbon recovery shall be done from BF dust, BF GCP slurry and Corex Furnace GCP slurry recycled back into pellet plant.
- xii. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

## **B. General conditions**

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

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

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

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.
- iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.
- vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

- viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.
- ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).
- x. Land-based APC system shall be installed to control coke pushing emissions.
- xi. Monitor CO, HC and O<sub>2</sub> in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.
- xii. Vapor absorption system shall be provided in place of vapor compression system for cooling of coke oven gas in case of recovery type coke ovens.
- xiii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- xiv. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

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

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30<sup>th</sup> May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. The project proponent shall provide the ETP for coke oven and by-product to meet the standards prescribed in G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30<sup>th</sup> May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time;
- iv. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
- vi. Tyre washing facilities shall be provided at the entrance of the plant gates.
- vii. Treated water from ETP of COBP shall not be used for coke quenching.
- viii. Water meters shall be provided at the inlet to all unit processes in the steel plants.

### **IV. Noise monitoring and prevention**

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

#### **V. Energy Conservation measures**

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

#### **VI. Waste management**

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

#### **VII. Green Belt**

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

#### **VIII. Public hearing and Human health issues**

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

#### **IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.



**X.Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

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

47.12 Enhancing the Crude Steel Production from 4.656 MTPA to 5.1 MTPA (an intermediate product) by debottlenecking & improvement in shop logistic of SMS-2, without changing the overall capacity of Hot Metal Production of 5.77 MTPA & amendment in EC Conditions of existing EC by **M/s. Steel Authority of India limited (Bokaro Steel Plant)** located at Village Bokaro Steel City, Tehsil Chas, **Bokaro District, Jharkhand**. [Online Proposal No. IA/JH/IND/234162/2021; File No.: IA-J- 11011/99/2007-IA-II(I)] – **Environment Clearance under Para 7 (ii) of EIA Notification, 2006 and amendment in the EC conditions– regarding.**

47.12.1 M/s SAIL-Bokaro has made an online application vide proposal no IA/JH/IND/234162/2021 dated 17/10/2021 along with copy of Environmental Appraisal report and Form – 2 seeking Environment Clearance (EC) under the provisions of para 7(ii) of EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries (ferrous & non-ferrous) Under Category “A” of the schedule of the EIA Notification, 2006 and appraisal at Central Level.

**Details submitted by the project proponent**

47.12.2 The project of M/s SAIL-Bokaro located in Bokaro Steel City, Chas block, Bokaro District, Jharkhand State is for enhancement of Crude steel from 4.656 MTPA to 5.006 MTPA without changing the overall capacity of Hot Metal Production of 5.77 MTPA as per existing EC.

47.12.3 Environmental site settings

SNo	Particulars	Details	Remark
i.	Total land	6973.68ha [Govt. land]	Land use: Industrial use
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total 6973.68 ha of land is under possession of SAIL-Bokaro	-
iii.	Existence of habitation & involvement of R&R, if any.	No R&R is involved	-
iv.	Latitude and Longitude of the project site	Latitude: 23°38'45.25" N – 23°43'2.64"N Longitude: 86°4'1.56"E – 86°8'38.04" E	-
v.	Elevation of the project site	243 m AMSL	-
vi.	Involvement of Forest land if any.	None	-
vii.	Water body exists within the project site as well as study area	<b>Project site:</b> No natural water body <b>Study area:</b> i) Damodar River (6.5 km)	-

SNo	Particulars	Details	Remark
		ii) Garga Nadi (4.0 km) iii) Garga Reservoir (4.5 km)	
viii.	Existence of ESZ/ESA/national park /wildlife sanctuary/ biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	Nil	-

47.12.4 The project was initially accorded environmental clearance vide letter no. J-11011/99/2007-IA-II(I) dated 16/10/2008 and subsequently amended vide letters dated 28/11/2014 and 13/12/2017. The latest environmental clearance has been accorded vide letter of even no. dated 17/03/2021. Consent to Operate for the existing unit was accorded by Jharkhand State Pollution Control Board vide lr. no. JSPCB/HO/RNC/CTO-9092257/2021/80 dated 18/01/2021. The validity of CTO is up to 31/12/2024.

47.12.5 Implementation status of the existing EC:

Sl. No.	Facilities/ Units	Capacity as per EC lr. No. J-11011/99/2007-IA-II(I) dated 17/03/2021	Implementation Status as on date
1.	Coke Oven Complex	4.212 MTPA	New coke oven of 0.77 MTPA is yet to be installed.
2.	Blast Furnace Complex	5.77 MTPA	Completed
3.	Sinter Plant Complex	Existing: 5.0 MTPA New plant: 3.7 MTPA  <b>TOTAL: <u>8.7 MTPA</u></b>	New Sinter plant of 3.7 MTPA is under construction
4.	SMS Complex	SMS-1: 1.306 MTPA SMS2 : 3.35 MTPA  <b>TOTAL: <u>4.656 MTPA</u></b>	<ul style="list-style-type: none"> <li>• SMS-1 up-gradation (phase-1) under progress.</li> <li>• SMS-2 completed.</li> </ul>
5.	Slabbing Mill	Universal Slabbing Mill with 7 no. soaking pit batteries to be phased out after SMS-1 up-gradation (both phase-1 & phase-2)	As SMS-1 up-gradation (phase-1) is still not complete, the facility is still present. Being proposed to be phased out after ongoing up-gradation (i.e. phase-1) rather than after phase-2 up-gradation as envisaged earlier.
6.	Lime-Dolo Kiln	Existing: 0.2449 MTPA New kiln: 0.1642 MTPA  <b>TOTAL: <u>0.4091 MTPA</u></b>	New kiln of 0.1642 MTPA is yet to be installed
7.	Pellet Plant	2.0 MTPA	Yet to be implemented
8.	Hot Strip	4.5 MTPA	Completed

Sl. No.	Facilities/ Units	Capacity as per EC Ir. No.J-11011/99/2007-IA-II(I) dated 17/03/2021	Implementation Status as on date
	Mill		
9.	CRM complex	2.86 MTPA	Completed
10.	Oxygen Plant	3950 TPD	Under implementation

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

S. No	Name of units/ products	Capacity of units (as per existing EC)	Capacity of units as per present proposal	Total (Existing + Proposed)
1.	Coke Oven Complex	4.212	<u>No change</u>	4.212 MTPA
2.	Blast Furnace Complex	<b>5.77 MTPA</b>	<u>No change</u>	<b>5.77 MTPA</b>
3.	Sinter Plant Complex	Existing: 5.0 MTPA New plant: 3.7 MTPA  TOTAL: <u>8.7 MTPA</u>	<u>No change</u>	Existing: 5.0 MTPA New plant: 3.7 MTPA  TOTAL: <u>8.7 MTPA</u>
4.	SMS Complex	SMS-I: 1.306 MTPA SMS-II: <b>3.35 MTPA</b>  TOTAL: <u><b>4.656 MTPA</b></u>	<u>No change in SMS-1.</u> <u>Augmentation of SMS-2 from 3.35 MTPA to 3.7 MTPA</u> by debottlenecking & improvement in shop logistics.	SMS-I: 1.306 MTPA SMS-II: <b>3.7 MTPA</b>  TOTAL: <u><b>5.006 MTPA</b></u>
5.	Slabbing Mill	Slabbing Mill with 7 no. soaking pits	Will be stopped after ongoing SMS-1 up gradation (i.e. phase-1)	Will be stopped
6.	Lime-Dolo Kiln	Existing: 0.2449 MTPA New kiln: 0.1642 MTPA  TOTAL: <u>0.4091 MTPA</u>	<u>No change</u>	Existing : 0.2449 MTPA New kiln: 0.1642 MTPA  TOTAL: <u>0.4091 MTPA</u>

S. No	Name of units/ products	Capacity of units (as per existing EC)	Capacity of units as per present proposal	Total (Existing + Proposed)
7.	Pellet Plant	2.0 MTPA	<u>No change</u>	2.0 MTPA
8.	Hot Strip Mill	4.5 MTPA	<u>No change</u>	4.5 MTPA
9.	CRM complex	2.86 MTPA	<u>No change</u>	2.86 MTPA
10.	Oxygen Plant	3950 TPD	<u>No change</u>	3950 TPD

47.12.7 Details of Proposed Amendment in EC conditions in existing EC letter No. J-11011/99/2007-IA-II(I) dated 17/03/2021

The proponent has submitted that as per the EC granted vide letter dated **17/03/2021**, there are few EC Conditions which need to be dropped or amended as these EC conditions are not feasible due to technical constraints (retrofitting constraints). Details of amendments required in EC Conditions are as under:

Cond. No.	Specific Conditions	Conditions to dropped/ Amended	Remarks
i	CDQ shall be installed in coke ovens. Modified wet quenching tower shall be used as Stand by quenching in coke ovens battery.	To be amended as “CDQ shall be installed in new Coke ovens”	It is not feasible to install CDQ in existing Coke oven Batteries due to space constraint.
iv	New sinter plant shall be equipped with power generation facility from waste heat Recovered from sinter cooler	To be amended as “New Sinter plant shall be equipped with power generation facility/preheating of gas facility from waste heat recovery from sinter cooler”	Our new Sinter Plant is in final leg of construction i.e. there is provision of preheating of gases from waste heat recovery from Sinter cooler, which is also an established technology of energy conservation.
xvii	Coke Oven Gas shall be desulfurized	To be dropped	It is not feasible to desulfurize total Coke oven gas in existing recovery type Coke ovens due to retrofit constraint, however it is desulfurized partially where ever it is technically required such as HDGL of Cold Rolling mill.

Cond. No.	Specific Conditions	Conditions to dropped/ Amended	Remarks
Energy Conservation measures (v)	Ensure installation of regenerative type burners on all reheating furnaces.	To be amended as “Ensure installation of regenerative/ recuperative type burners on all reheating furnaces”	There are four Nos. of Walking beam type reheating furnaces in Hot strip Mill ,which are already equipped with recuperative type burners, which are also an established technology of energy conservation.
Waste Management (ii)	Carbon recovery plant to recover the elemental carbon present in GCP slurries for use in Sinter plant shall be installed.	To be dropped	100% of GCP sludge is being recycled.
Water Quality monitoring Vii	Treated water from ETP of COBPP shall not be used for coke quenching.	To be dropped.	CREP strongly recommended for use of treated coke oven effluent for quenching. The same is implemented at our existing COBPP facility.
Air Quality Monitoring Xii	Vapour absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.	To be dropped.	It is not feasible in existing Coke ovens due to retrofit constraint.
Air Quality Monitoring Xiii	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	To be dropped.	It is not feasible in existing raw material piles.
<b>To be amended in subject of EC</b>			
	Capacity of Existing CRM Complex (1.66MTPA)	<b>To be amended as, Capacity of Existing CRM Complex (2.86MTPA)</b>	It is typographical mistake.

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

Sn	Raw Material	Quantity required per annum (TPA)			Source	Mode of Transportation
		As per existing EC	Additional after present proposal	Total after present proposal		
1	Lump Iron Ore	9,56,300	0	9,56,300	Captive mines of RMD SAIL	Rail
2	Iron Ore Fines	1,07,85,290	0	1,07,85,290	(Bolani, Kiriburu, Meghahatuburu, Gua, Kalta, Manoharpur)	Rail
3	Limestone	8,37,260	32,083	8,69,343	SAIL Captive mines at Khanabhanjari and purchased from Jaisalmer	Rail
4	Dolomite	3,75,000	22,770	3,97,770	Captive mines at Tulsidamar/ purchased from Bhutan	Rail
5	Coking coal	45,82,667	0	45,82,667	BCCL mines & imported from Australia, New Zealand	Sea/Rail
6	Coal (CDI)	5,77,000	0	5,77,000	Imported	Sea/Rail
7	Bentonite	23,760	0	23,760	Purchased from Kuchch region	Road
<b>TOTAL</b>		<b>1,81,37,277</b>	<b>54,853</b>	<b>1,81,92,130</b>		<b>By rail – 99.87%</b> <b>By Road – 0.13%</b>

47.12.9 The water requirement for the project is estimated as 357600 m<sup>3</sup>/day at 5.77 MTPA hot metal stage, of which 44400 m<sup>3</sup>/day is the estimated water requirement for steel production, and all of which will be obtained from the Damodar River via Tenu canal/Alternate water pipeline. The permission for drawl of surface water is obtained from Water Resource Department (WRD), GoJ vide Agreement No. TDC/SAIL/RAGT-I/113/09-10 dated 23/03/2010.

47.12.10 The power requirement for the project at 5.77 MTPA hot metal stage is estimated as ~416 MW and only 2.32 MW is additionally required for present proposal which will be obtained from the existing captive power plant of BPSCL and balance will be imported from DVC.

47.12.11 Baseline Environmental Studies (From Post-project monitoring data of BSL)

<b>Period:</b>	October 2020 to March 2021*
<b>AAQ parameters at 07 locations*</b>	PM <sub>2.5</sub> = 20 to 51 µg/m <sup>3</sup> PM <sub>10</sub> = 42 to 78 µg/m <sup>3</sup> SO <sub>2</sub> = 10 to 32 µg/m <sup>3</sup> NO <sub>2</sub> = 14 to 40 µg/m <sup>3</sup>

<b>AAQ modelling</b>	Incremental GLCs in study area for: $PM_{10} = 0.0 \mu g/m^3$ $SO_2 = 0.0 \mu g/m^3$ $NO_x = 0.0 \mu g/m^3$ <i>No increase insource emission load due to present proposal, hence no additional incremental GLCs.</i>
<i>*Baseline Post-project monitoring data furnished by SAIL-Bokaro for Manual Monitoring stations</i>	

<b>Period:</b>	October 2020 to March 2021*
<b>Ground water quality at 05 locations*</b>	pH: 6.93 to 7.7, Total Hardness: 95 to 428 mg/l, Chlorides: 16.9 to 142 mg/l, Fluoride: 0.25 to 1.44 mg/l. Heavy metals are within the limits.
<b>Surface water quality at 04 locations*</b>	pH: 7.3 to 7.6; DO: 5.7 to 6.8 mg/l and BOD3 days at 27°C: 1 to 3 mg/l.
<b>Noise levels (outside plant area)*</b>	39.3 to 64.8 dB(A) for the day time and 36.2 to 54.0 dB(A) for Night time.
<b>Traffic assessment study findings</b>	No additional road transport envisaged in present proposal. Traffic volumes will remain unchanged as per existing EC.
<b>Flora and fauna</b>	No schedule-1 fauna exists in the study area.No Critically Endangered flora found in the study area.
<i>*Baseline Post-project monitoring data furnished by SAIL-Bokaro</i>	

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

Sn	Type of waste	Source	Quantity generated (TPA)	Mode of treatment/Disposal
<b>SOLID WASTES</b>				
1	BF Slag	Blast furnace	2192750	Will be 100% granulated and utilized in cement making
2	BF Flue Dust		64643	100% will be reused in sinter plant
3	BF Sludge		28850	Will be sold in secondary market
4	BOF slag	SMS complex	550659	~80% will be reused in sinter plant/SMS and used to make bricks by combining with Fly ash/road making and rest sold
5	BOF Sludge		37248	Will be sold in secondary market
6	Mill Scale	Mills area	85645	100% will be reused in sinter plant
7	Waste Refractory	Coke ovens	8151	100% will be used for Refractory / mortar production
8	Coke Breeze		459784	100% will be reused in sinter plant
9	Ferric Oxide	Misc.	7557	100% sold as scrap



Sn	Type of waste	Source	Quantity generated (TPA)	Mode of treatment/Disposal
10	ESP (RMP) dust	RMP	18972	100% will be reused in sinter plant
<b>Total Solid wastes</b>			<b>3.45 MTPA</b>	
<b>HAZARDOUS WASTES</b>				
11	Acidic Tar Sludge	By Product plant of Coke Ovens	1588	Will be disposed in captive secured land fill
12	Spent Vanadium Pentoxide		0.14	Will be disposed in captive secured land fill (SLF)
13	Sulphur Sludge		307	Will be disposed in captive SLF
14	Decanter Tar Sludge		1339	Will be partly charged in Coke oven & partly disposed in SLF
15	Tar Muck with Sand etc.		309	Will be disposed in captive SLF
16	Oil & Grease Muck	Mills area	192	Will be Disposed in captive SLF. Also, will be used in proposed Waste-to-Energy plant (BOO).
17	Asbestos Rope	Coke oven area	13	Will be disposed in captive SLF
18	Transformer oil	DNW	43 KL	Will be sold to authorised buyer
19	Oil sludge from oil regeneration unit	Oil regeneration unit	1.2	Will be disposed in captive SLF. Also, will be used in proposed Waste-to-Energy plant (BOO).
20	Zinc dross	HDGC/CRM	1548	Will be sold to authorised buyer
21	Zinc ash		215	Will be sold to authorised buyer
22	Used batteries	Mills/Iron zone/OG/Traffic	1508	Will be sold to authorised buyer
23	ETP sludge	BOD plant of COBPP	1579	Will be charged in Coke Oven batteries
<b>Total Haz. Wastes:</b>			<b>~8600 TPA solid &amp; 43 KL of liquid Haz. wastes</b>	

47.12.13 Public Consultation:

Details of advertisement given	03/11/2018
Date of public consultation	08/12/2018
Venue	Bokaro Steel City
Presiding Officer	Additional District Collector
Major issues raised	(i) Repair & maintenance of hand pumps (ii) Development of roads (iii) Plantation in villages (iv) Promotion of solar energy (v) Plastic Pollution control (vi) Action for Padlocked schools



Sn	Sector	Physical targets	Amount to be spent (in Rs. lakhs)	Status as on date
			Total in 05 years	
6	Annual repair & maint. of hand-pumps installed in peripheral villages, construction of toilets	No. of Toilets	20	06
		hand pumps repaired	100	18
		(Rs. In lakhs)	(60)	(7)
7	Repair of roads in nearby areas in Township	Road repaired (km)	30	4.5
		(Rs. In lakhs)	(400)	(42)
8	Infrastructural development as well as financial support to Bokaro Balika Kalyan Vidyalaya as well as Bokaro Steel Kalyan Vidyalaya. Additionally funding and operation of 8 different schools in township as well as peripheral areas.	No. of schools provided with infrastructure (Rs. In lakhs)	10 (435)	10 (66.18)
9	Repair & maintenance of roads in peripheral villages (both PCC & pre- mix types)	Road repaired (km) (Rs. In lakhs)	40 (15)	8 (03)
10	Greenbelt development in outside plant area (near Garga Basin)	No. of plantations (Rs. In lakhs)	100000 (25)	100000 (25)
11	Greenbelt development in peripheral villages (including Satanpura village)	No. of plantations (Rs. In lakhs)	50000 (10)	10000 (02)
	<b>SUB-TOTAL OF EXPENDITURE in Rs. (B)</b>		<b>945</b>	<b>145.18</b>
	<b>GRAND TOTAL CER BUDGET (A+B)</b>		<b>1724.5</b>	<b>280.03</b>
			<b>17.245 Crores</b>	<b>2.8003 Crores</b>

47.12.14 In addition to the capital cost of Rs. 5219.1 Crores envisaged in previous EC dated 17/03/2021, the estimated capital cost of the proposed improvement is estimated at Rs 200 Crore. The capital cost for environmental protection measures envisaged in previous EC dated 17/03/2021 is Rs. 365 Crores whereas the additional cost under proposed project is proposed as Rs 125 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 11.42 Crores. The total employment generation from the project is 3285 (i.e. 785 nos. during operation & 2500 nos. during construction period). The details of additional cost for environmental protection measures is as follows:

Sn.	Description	As per EC dated 17/03/2021		Proposed project	
		Capital Cost (in Cr.)	Recurring Cost/ annum (In Cr.)	Capital Cost (in Cr.)	Recurring Cost/ annum (In Cr.)
1.	Air & Noise Pollution Control Systems	185	42.7	125	0.77
2	Water Conservation & Pollution Control	38	12.8	-	-
3.	Solid Waste Management / Noise Control / Rainwater Harvesting	140	35.8	-	10

4	Green belt development	2	0.1	-	-
5.	Energy/Fuel management	-	-	-	0.65
<b>Sub-total Cost for Environmental Protection Measures</b>		<b>365</b>	<b>91.4</b>	<b>125</b>	<b>11.42</b>
6	Cost of addressing focus areas identified in Public consultation	9.45	-	-	-

47.12.15 Greenbelt is already developed in 2023.99 ha which is about 29.02% of the total project area. Additional greenbelt will be developed in 290 ha which will increase total greenbelt area to 2313.99 ha which is about 33.18% of the total project area. A 25m-100 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 725000 saplings will be planted and nurtured in additional 290 ha in 05 years.

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

Particulars	As per EC dated 17/03/2021	After proposed change under para 7(ii)	% increase
Land	6973.68 ha	6973.68 ha	0.0% (No change)
Greenbelt	2313.99 ha (33.18%)	2313.99 ha (33.18%)	0.0% (No change)
Water	14900 m <sup>3</sup> /hr	14900 m <sup>3</sup> /hr	0.0% (No change)
Power	415.8 MW	418.1 MW (only 2.3 MW additional for proposed changes)	0.55% increase
Raw materials	18.14 MTPA	18.19 MTPA	0.3% increase
Products	<ul style="list-style-type: none"> <li>Crude steel: 4.656 MTPA</li> <li>Pig iron: 1.045 MTPA</li> <li><b>Total Hot metal: 5.77 MTPA</b></li> </ul>	<ul style="list-style-type: none"> <li>Crude steel: 5.006 MTPA</li> <li>Pig iron: 0.783 MTPA</li> <li><b>Total Hot metal: 5.77 MTPA</b></li> </ul>	<ul style="list-style-type: none"> <li>7.5% increase in crude steel</li> <li>25.1% reduction in pig iron</li> <li><b>No change in hot metal</b></li> </ul>

47.12.17 Pollution load assessment:

Particulars	As per EC dated 17/03/2021	After proposed change under para 7(ii)	% increase
Air	Overall plant: PM-427.9 kg/hr	Overall plant: PM-422 kg/hr	Reduction by 1.4%
Water	Zero Liquid discharge	Zero Liquid discharge	No change
Solid and Hazardous waste	<ul style="list-style-type: none"> <li>Solid waste: 3.42 MTPA</li> <li>Haz. Waste: 8599 TPA (solid) &amp; 43 KL (liquid)</li> </ul>	<ul style="list-style-type: none"> <li>Solid waste: 3.45 MTPA</li> <li>Haz. Waste: 8599 TPA (solid) &amp; 43 KL (liquid)</li> </ul>	<ul style="list-style-type: none"> <li>1.1% increase in solid waste</li> <li><b>No change in</b></li> </ul>

Particulars	As per EC dated 17/03/2021	After proposed change under para 7(ii)	% increase
			Haz. waste
Traffic load	<ul style="list-style-type: none"> <li>Baseline traffic: 15138 PCUs/day</li> <li>Incremental traffic: 28 PCUs/day</li> <li>Total traffic after expansion: 15166 PCUs/day</li> <li>Carrying capacity of road(NH23/32): 40000 PCUs/day [As per IRC:73-1980]</li> </ul>	<ul style="list-style-type: none"> <li>Baseline traffic: 15138 PCUs/day</li> <li>Incremental traffic: 28 PCUs/day</li> <li>Total traffic after expansion: 15166 PCUs/day</li> <li>Carrying capacity of road(NH23/32): 40000 PCUs/day [As per IRC:73-1980]</li> </ul>	No change in incremental traffic load due to present proposal

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

47.12.19 Name of the EIA consultant: M/s MECON Limited [S.No. 52, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office:**

47.12.20 The status of compliance of earlier EC was obtained from Regional Office, Jharkhand vide letter no. 103-211/13/EPE/4362 dated 17/11/2020 in the name of M/s. SAIL-Bokaro Steel plant. The Action taken report regarding the partially complied condition was submitted to MoEF&CC vide letter no. ECD/EMS/01/2020-2212 dated 21/12/2020. MoEF&CC evaluated the same and has issued letter dated 11/01/2021. The present status of compliance to the observations made in the IRO report is given as below:

Sn	Non-compliances/partial compliances details	Observation of RO (abridged)	Condition no.			Response by SAIL-Bokaro
			EC date	Specific	General	
1	Partially complied	PP reported 30-50 m <sup>3</sup> /hr of water from seepage drain of cooling pond flowing through storm water channel and no waste water is being discharged. As per the condition, entire quantity of water to be recycled.	16/10/2008	(v)	-	<ul style="list-style-type: none"> <li>No waste water is being discharged outside the Bokaro Steel Plant. 100% (Total quantity) of effluent generated i.e.3500 m<sup>3</sup>/hr is being treated in two ETPs at OF-1 &amp; OF-2 and recycled back in the system through cooling ponds. However, around 30-50 m<sup>3</sup>/hr of water (Clean water) from seepage drain of cooling ponds is flowing through storm water channel.</li> </ul>

Sn	Non-compliances/ partial compliances details	Observation of RO (abridged)	Condition no.			Response by SAIL- Bokaro
			EC date	Specific	General	
						<ul style="list-style-type: none"> <li>BSL has delineated Action plan to recycle the balance quantity of seepage water by March 2022.</li> </ul>
2	Partially complied	As per the condition Zero effluent discharge shall be strictly followed and no waste water shall be discharged outside the premises.	16/10/2008	(vi)	-	<ul style="list-style-type: none"> <li>- Same as above</li> </ul>
3	Partially complied	As per the condition Industrial waste water after conforming to the standards should be utilised for plantation purpose.	16/10/2008	-	(vi)	<ul style="list-style-type: none"> <li>No waste water is being discharged outside the Bokaro Steel Plant.</li> <li>BSL has delineated Action plan to recycle the balance quantity of seepage water by March 2022.</li> <li>Industrial waste water from Coke Oven-ByProduct Plant and CRM-III is collected and treated in the respective Effluent Treatment Plants (ETPs). The effluent collected from all other shops is treated through ETPs at the Outfall#1&amp;2 before recycling. Relevant photographs submitted to MoEFCC.</li> <li>Quality of treated water is being monitored on regular basis by the in-house laboratory and</li> </ul>

Sn	Non-compliances/ partial compliances details	Observation of RO (abridged)	Condition no.			Response by SAIL- Bokaro
			EC date	Specific	General	
						also through NABL accredited laboratory. The water quality conforms to the prescribed standard and the treated water from the Coke Oven-By Product Plant is utilised for coke quenching, the same from the CRM-III is recycled back as process water and the remaining treated water is consumed for plantation purpose.
4	Partially complied	RO reported safeguards recommended in EIA/EMP such as: <ul style="list-style-type: none"> <li>• Replacement of battery cyclone by ESP in Sinter Plant has been partially complied</li> <li>• Gases generated during steel making in the converter has not been used as fuel in the Plant at present and expected completion date reported to be Jan.'21 which can be verified only after Jan.'21.</li> <li>• Township sewage water is yet</li> </ul>	16/10/2008	-	(x)	<ul style="list-style-type: none"> <li>• Point-wise action plan have been submitted to MoEFCC, as below:</li> <li>• Project for replacement of the existing Battery Cyclones with ESPs in the Sinter Plant is under execution. The time schedule for completion of the project as submitted to MoEFCC is by 2023.</li> <li>• Facility for recovery of converter gas and its usage as fuel has already been installed. Facility is scheduled to be put into operation by January, 2021 after compliance of all safety measures.</li> <li>• Tertiary treatment plant has been proposed to treat and recycle treated sewage water back to the plant. The timeline for installation, as submitted to MoEFCC is by December, 2022.</li> </ul>

Sn	Non-compliances/ partial compliances details	Observation of RO (abridged)	Condition no.			Response by SAIL- Bokaro
			EC date	Specific	General	
		to be recycled for use in the plant.				

47.12.21 The proposal has been considered by REAC (Industry 1) in its 47<sup>th</sup> meeting held on 28-29<sup>th</sup> October, 2021. The observations and recommendations of EAC is given as below:

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

- Project proponent has submitted the revised emission load changes due to present proposal. As per revised emission load after present proposal overall load will be decrease for PM- 33.6 kg/hr, SO<sub>2</sub>- 42.7 kg/hr and NO<sub>x</sub>- 29.1 kg/hr.
- PP submitted change in power requirement and Net energy saving due to present form. Detail is given as below:

Particulars	As per EC	After present proposal	Remarks
Power requirement	514.8 MW	418.1 MW	Increase in power consumption
Power availability	BPSCL: 302 MW Rooftop Solar Panel: 2 MW Purchased from DVC: 111.8 MW	BPSCL: 305 MW Rooftop Solar Panel: 2 MW Purchased from DVC: 108.8 MW	Increase in power generation by ~3 MW from increase NOF gas generation of 4000 Nm <sup>3</sup> /Hr. Overall, the external purchase of power will reduce.
Net Energy saving	5.52 Gcal/thm	5.45 Gcal/thm	Reduction in specific energy consumption due to stopping of energy intensive stabbing mills.

#### Observations of the Committee

47.12.23 The EAC noted the following:

- As per the records made available, the project proponent is intending to increase the Crude steel from 4.656 MTPA to 5.006 MTPA without changing the overall capacity of Hot Metal Production of 5.77 MTPA. There will be no change in land requirement and water consumption. It has been reported that there will be reduction on overall pollution load after the proposed expansion.
- The Committee noted that the addendum EIA/EMP report is found to be in order reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data reported and incremental GLC due to the proposed project are within NAAQ standards.



- iii. The Committee felt satisfied with the action taken report submitted by PP with respect to the compliance status of all the existing EC as well as the aforementioned written commitment submitted by the project proponent.
- iv. The EAC has carried out requisite due diligence of the instant proposal and considered the same under para 7(ii) (a) of the EIA Notification, 2006 and dispense with the requirement of conducting fresh public consultation in light of the observations mentioned above.
- v. With respect to amendment sought by the proponent in the existing EC conditions, the Committee acceded to the following amendment to the EC conditions. With respect to the remaining amendment to the EC conditions, the Committee did not agree and rejected it.

Cond. No.	Specific Conditions	Conditions to dropped/ Amended	Remarks
Energy Conservation measures (v)	Ensure installation of regenerative type burners on all reheating furnaces.	To be amended as “Ensure installation of regenerative/ recuperative type burners on all reheating furnaces”	There are four Nos. of Walking beam type reheating furnaces in Hot strip Mill ,which are already equipped with recuperative type burners, which are also an established technology of energy conservation.
Waste Management (ii)	Carbon recovery plant to recover the elemental carbon present in GCP slurries for use in Sinter plant shall be installed.	To be dropped	100% of GCP sludge is being recycled.
Water Quality monitoring Vii	Treated water from ETP of COBPP shall not be used for coke quenching.	To be dropped.	CREP strongly recommended for use of treated coke oven effluent for quenching. The same is implemented at our existing COBPP facility.
<b>To be amended in subject of EC</b>			
	Capacity of Existing CRM Complex (1.66MTPA)	<b>To be amended as, Capacity of Existing CRM Complex (2.86MTPA)</b>	It is typographical mistake.

#### Recommendations of the Committee

47.12.24 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the para 7(ii) of EIA Notification, 2006 subject to the stipulation of following specific conditions and general conditions as per

the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 pertaining to integrated steel plants based on project specific requirements:

**A. Specific conditions**

- i. CDQ shall be installed in coke ovens. Modified wet quenching tower shall be used as standby quenching in coke ovens battery.
- ii. Particulate matter emissions shall be less than 30 mg/Nm<sup>3</sup> in new units and in all old units it shall be achieved by Dec 2023 except for Coke oven chimneys which shall be less than 50 mg/Nm<sup>3</sup>.
- iii. New Blast Furnace shall be equipped with TRT, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.
- iv. New sinter plant shall be equipped with power generation facility from waste heat recovered from sinter cooler.
- v. Dust collected by road sweepers shall be pelletised/briquetted and used in pellet plant.
- vi. WHRS in BF stoves shall be installed in various BFs as per following schedule- BF3: FY 22-23; BF5: FY- 24-25 and BF2: FY- 29-30; & BF4: FY- 31-32 or earlier during major shut down of the furnaces.
- vii. Secondary fume extraction system in BOF 2 shall be provided by Dec 2023.
- viii. Waste to energy system for using oily scum and sludge shall be installed by March, 2023.
- ix. Project proponent shall undertake rain water harvesting and recharge to the tune of 152,44,521 m<sup>3</sup>/year by end of 2025. Level monitoring indicators for online real time measurement of rain water harvesting shall be provided.
- x. Green belt shall be developed in 33.18 % of total plant area of 6973.68 ha (including water reservoir) covering entire periphery of the plant. Native plant species shall be chosen and plantation density for green belt shall be 2500 trees per ha.
- xi. Specific performance indicators after implementation of the proposal shall be as under;
  - a. Specific Water Consumption- 3.00 Cum/tcs by 2025.
  - b. Specific Energy Consumption as- 6.00 Gcal/tcs by 2025.
  - c. CO<sub>2</sub> emission – 2.1 T-CO<sub>2</sub>/tcs by 2025.
- xii. PP shall prepare and implement an action plan giving annual improvement targets for resource conservation and environment improvement. This plan shall be monitored by the concerned Regional Office of the MoEF&CC.
- xiii. The heat rate of coal based power plant as specified by Central Electricity Authority shall be maintained and monitored.
- xiv. Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 kw shall be provided.
- xv. PTFE Membrane bags shall be used in filter bag house and designed for 150% of normal design air flow.
- xvi. Shall use ultralow NO<sub>x</sub> burner with three stage combustion, flue gas recirculation and auto combustion control system. Shall use Post combustion control system (SCR/SCNR process) with NH<sub>3</sub> monitoring when Ammonia is used.
- xvii. Coke Oven Gas shall be desulfurized.

- xviii. 100 percent solid waste generated shall be recycled, reused and/or sold. No dumping is permitted and storage for more than ninety days is not permitted.

**B. General conditions**

**I. Statutory compliance:**

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

**II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.
- iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.
- vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.
- viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

- ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).
- x. Land-based APC system shall be installed to control coke pushing emissions.
- xi. Monitor CO, HC and O<sub>2</sub> in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.
- xii. Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.
- xiii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- xiv. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

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

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

**IV. Noise monitoring and prevention**

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

**V. Energy Conservation measures**

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

**VI. Waste management**

- i. An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0 to 1.5 Kg/l shall be installed to use slag as river sand in construction industry.
- ii. Used refractories shall be recycled as far as possible.
- iii. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.
- iv. Kitchen waste shall be composted or converted to biogas for further use.

**VII. Green Belt**

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

**VIII. Public hearing and Human health issues**

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

## **IX. Corporate Environment Responsibility**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

## **X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

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

47.13 Establishment of 50 MTPA Iron Ore Beneficiation/ De-sliming Plant, 30 MTPA Grinding plant and 30 MTPA Slurry Transportation System by **M/s. JSW Utkal Steel Ltd.** located at Kalamanga village in Koira Tehsil, **District Sundargarh, Odisha**. [Online Proposal No. IA/OR/IND/233288/2021; File No.: IA-J-11011/428/2021-IAII( IND-I)] – **Prescribing of Terms of Reference – regarding.**

47.13.1 M/s. JSW Utkal Steel Limited has made an online application vide proposal no. IA/OR/IND/233288/2021 dated 14/10/2021 along with the application in prescribed format (Form-I), copy of the 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. 2(b) Mineral beneficiation under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

47.13.2 The project of M/s. JSW Utkal Steel Limited located in Kalamanga Village, Koira Tehsil, Sundargarh District, Odisha is for setting up of a new 50 MTPA Iron Ore Beneficiation/ De-sliming Plant, 30 MTPA Grinding plant and 30 MTPA Slurry Transportation System.

Till the beneficiation plants will be ready, it is proposed to install mobile /modular washing plant of capacity 1000 TPH (5 x 200 TPH).

47.13.3 Environmental site settings:

S.No.	Particulars	Details	Remarks
i.	Total land	64.66 ha (159.79 acres)  The land for the proposed plant will be acquired through IDCO / direct purchase.	Land use: Private: 51.356 ha (126. 90 acres) Govt.: 13.31 ha; (32.89 acres)
ii.	Existence of habitation & involvement of R&R, if any.	Nil	Entire land is vacant from any habitation
iii.	Latitude and Longitude of the project site	Latitudes : 21°57'00" N - 22°57'10" N Longitudes : 85°18'00" E - 85°18'10" E	-
iv.	Elevation of the project site	570-578 m AMSL	
v.	Involvement of Forest land if any	Nil	
vi.	Water body exists within the project site as well as study area	<b>Project site:</b> Kalmang dry Nala (within plant area)  <b>Study Area:</b> Karo Nadi 4.2 Km, NW; Suna Nadi (Kundra Nadi) 1.2 Km, E; Teheri Nala 4.0 Km, S; Kukarhajora 7.1 Km, WNW; Samij Nala 9.4 Km, W; Korai Nala 10.8 Km, NW; Topadihi Nala 1.8 Km, N; Kunduru Nala 5.2 Km, NE; Kakarpahi Nala 3.9 Km, E;	Elevation of Suna Nadi is 561 m AMSL at nearest pond and Topadihi Nala is around 550 m AMSL
vii.	Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area	<b>Project site:</b> Nil  <b>Study Area:</b> Torha RF 8.6 km, W; Karo RF 4.9 Km, W; Kathamala RF 5.8 Km, WSW; Uliburu RF 5.8 Km, N; Lakrghat RF 4.2 Km, N; Siddhamath RF 2.6 Km, E; Baitarani RF 3.9 Km, E; Thoilkabad RF 8.9 Km, NW  Proposed Elephant Corridor: Karo-Karampada Elephant Corridor 8.6 Km, N	-

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

S. No	Name	Proposed configuration	Proposed Production
1	Iron Ore	For Iron Ore fines beneficiation	36 MTPA (Input)



S. No	Name	Proposed configuration	Proposed Production
	Beneficiation/Desliming plant	- 6 modules of 5 MTPA and 1 module of 6 MTPA each.  For Iron Ore Lumps Coarse Beneficiation – 4 modules of 3.5 MTPA each.	30 MTPA (Output-Beneficiated Iron Ore concentrate)  14 MTPA (Input) 13 MTPA (Output-Upgraded Iron Ore Lumps)
2	Grinding plant	Belt conveyor, Primary ball mill, Sump Secondary ball mill Cyclone Derrick Screen Concentrate Thickener	30 MTPA
3	Slurry Transportation System	Slurry Tanks Slurry Pumping Station	30 MTPA
4	Mobile/Modular washing plant	5 Modules of 200 TPH	1000 TPH

The beneficiated Iron ore concentrate is planned to send to end use steel plants at Paradip through dedicated slurry pipeline. The upgraded Iron Ore lumps will be transported through the nearest railway siding for further transportation to JSW steel plant. If there is delay in laying of Slurry/Tailing pipeline due to some unavoidable reasons and/or problems in pipeline operation, it is proposed to sell the concentrate/tailings in the market, depending upon the demand for the same.

- 47.13.5 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, MTPA	Source	Distance from site, Kms	Mode of Transportation
1	Iron Ore	50	Surrounding JSW Mines + Nearby Merchant Mines	0.1 to 30 Kms	Road/Rail/Conveyor

- 47.13.6 The total make-up water requirement for the proposed grinding & beneficiation plant and slurry preparation & slurry pumping facilities is about 4,000 m<sup>3</sup>/hr (96,000 m<sup>3</sup>/day) and it will be met from Baitarani River in Kanupur dam upstream/downstream side located at Champua in Keonjhar district of Odisha through a dedicated 35 km water pipeline. In principal allocation of 39 cusecs (4000m<sup>3</sup>/hr) water from Govt of Odisha, Department of Water Resources has been obtained vide letter dated 24/10/2019.

- 47.13.7 The power requirement for the project is estimated about 90 MW and will be met by power connection from Odisha Power Transmission Corporation Limited (OPTCL) Grid Sub-Station. DG sets (2 nos. of about 4.09 & 3.6 MW) will be used for emergency purpose.
- 47.13.8 The capital cost of the project is about Rs. 2537 Crores and the capital cost for environmental protection measures is proposed as Rs. 40 Crores. The employment generation from the proposed project is about 350 people including skilled, semi-skilled, unskilled and clerical manpower apart from managerial staff.
- 47.13.9 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.
- 47.13.10 Name of the EIA Consultant: M/s. VIMTA Labs, Hyderabad [S. No. 141, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].
- 47.13.11 Proposed Terms of Reference (**Baseline data already collected in Post Monsoon Period: 1<sup>st</sup> October 2020 to 31<sup>st</sup> December 2020**):

Annex 1: October 2019 to 31 December 2019).					
Attributes		Parameters	Sampling		Remarks
			No. of stations	Frequency	
A.	Air				
a.	Meteorological parameters	Wind speed, wind direction, temperature, relative humidity, rainfall, and other non-instrumental observations	1 location	Continuous for three months with hourly recording at one central location and secondary data collected from nearest IMD	Core zone of proposed plant
b.	AAQ parameters	As per NAAQ's 2009	11 locations	24 hourly samples twice a week for 13-weeks. CO is monitored for three 8 hourly samples in 24 hours for twice a week for thirteen weeks	1 in core zone; 10 in buffer zone
B.	Noise	Lday, Lnight, Leq	12 locations	Hourly readings for 24 hours at eleven locations, once during study period	1 in core zone; 11 in buffer zone
C.	Water				
	Surface water/Ground water quality parameters	Physical, chemical and bacteriological parameter	10 locations (GW) + 5 location (SW)	Grab samples were collected from surface water (SW) and ground water (GW) sources. Sampling and analysis was carried out for once	Based on the study area

Attributes		Parameters	Sampling		Remarks
			No. of stations	Frequency	
				during study period	
D.	Land				
a.	Soil quality	Soil profile with chemical constituent	12 locations	Once during study period	Based on total study area
b.	Land use	Satellite imagery interpretation, Land use details	Study area	Based on secondary data and satellite imagery	Based on total study area
E.	Biological				
a.	Aquatic	Aquatic flora and fauna in the study area	Study area	Primary survey through field studies during study period and supplemented with published data	Based on total study area
b.	Terrestrial	Terrestrial flora and fauna in the study area	Study area	Primary survey through field studies during study period and supplemented with published data	Based on total study area
F.	Socio-economic	Socio-economic characteristics	Once during study period	Based on data published in district census handbooks and field study	Based on total study area

### Observations of the Committee

47.13.12 The EAC noted the following:

- i. The details of land required for Pipe conveyor, Slurry pipe line, Route of Pipe line and land use of pipe route and area required for tailing disposal during life cycle of the project has not been furnished.
- ii. Tailing management details are not available.
- iii. It is proposed to sell the iron ore concentrate in open market if pipe line is not ready in time. Dewatering of ground concentrate in filter press and adequate storage facility shall be required at site, the details of which are not provided in PFR.
- iv. Traffic management for road transport action of Iron Ore (ROM), Washed lump Ore, ground dewatered iron ore by road in case of pipe line failure are not given.
- v. Cumulative impact details for mines, pipe lines, tailing ponds and tailing dewatering systems at remote locations are not given.
- vi. All stacks shall be designed for PM emission levels of 50 mg/Nm<sup>3</sup>. It should have been 30 mg/Nm<sup>3</sup>.
- vii. Tailings of the plant shall be pumped to tailing disposal sites. Location, area required and transport route details are not given.
- viii. Mines Ministry has not given approval for backfilling of abandoned iron ore mines.
- ix. Base line data have already been collected. The locations shown for AAQ are not adequate for spread of this size. The AAQ monitoring shall be redone.

- x. There are already two proposals (IA/OR/IND/74415/2018 and IA/OR/MIN/179208/2020) for which ToR were accorded by the Ministry for setting up of beneficiation plant which will be catering to the proposed ISP project at Paradeep. Instant proposal is a third one which will also be catering to the said ISP project. No explanation is made available by the PP in this regard.

#### Recommendations of the Committee

- 47.13.13 In view of the foregoing and after deliberations, the Committee recommended to defer the proposal and sought additional information referred at para no. 47.13.12 above for further consideration of the proposal.

- 47.14 Setting up of a leather semi-finishing unit for the production of leather having a capacity to process 100 hides and 500 skins per day by **M/s. Hindustan Industries** located at Khasra No. 686/680, Village: Panchwa, Tehsil: Kuchaman, **District: Nagaur, State: Rajasthan**. [Online Proposal No. IA/RJ/IND/232648/2021; File No.: IA-J-11011/419/2021-IA.II (IND-I)] – **Prescribing of Terms of Reference – regarding.**

- 47.14.1 M/s. Hindustan Industries has made an application online vide proposal no. IA/RJ/IND/232648/2021 dated 14/10/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 4(f) Leather/Skin/Hide Processing Industry under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

#### Details submitted by Project proponent

- 47.14.2 The project of M/s. Hindustan Industries located in Panchwa Village, Kuchaman Tehsil, Nagaur District, Rajasthan is for setting up of a new Leather Manufacturing Unit for production of 474.5 Metric Tonnes Per Annum (MTPA) of semi-finished leather having a capacity to process 100 hides and 500 skins per day.

- 47.14.3 Environmental site settings:

S. No.	Particulars	Details			Remarks
i.	Total land	0.9962 Ha [Private: 0.9962 Ha]			Land use: Industrial
ii.	Existence of habitation & involvement of R&R, if any.	The project site is barren and does not have any habitation within or near it. No R&R is required.			-
iii.	Latitude and Longitude of the project site	Point	Latitude	Longitude	-
		A	27°13'17.03"N	74°55'3.79"E	
		B	27°13'17.84"N	74°55'9.22"E	
		C	27°13'15.23"N	74°55'9.38"E	
		D	27°13'15.34"N	74°55'4.07"E	
iv.	Elevation of the project site	About 461 m AMSL.			The project site has a hilly terrain having elevations from 459 m

S. No.	Particulars	Details	Remarks
			amsl to 463 m amsl.
v.	Involvement of Forest land if any.	No forest land is involved.	-
vi.	Water body exists within the project site as well as study area	No water body exists within the project site and within the 10 km 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	-

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

S. No.	Name	Proposed Units	
		Configuration	Production (MTPA)
1	Hides	36500 Raw Hides/Year	292
2	Skins	182500 Raw Skins/Year	182.5

47.14.5 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 (MTPA)	Source	Distance from Site (km)	Mode of Transportation
1	Hides	292	Nearby abattoirs	Within 100	Truck
2	Skin	182.5	Nearby abattoirs	Within 100	Truck
3	Chemicals				
3.1	Salt	9.2	Nearby markets	9.5	Truck
3.2	Sulphuric Acid	2.45	Nearby markets	9.5	Truck
3.3	Hydrochloric Acid	4.2	Nearby markets	9.5	Truck
3.4	Basic Chromium Sulphate	28	Nearby markets	9.5	Truck
3.5	Formic Acid	22.75	Nearby markets	9.5	Truck
3.6	Sodium Sulfide	13.7	Nearby markets	9.5	Truck
3.7	Vegetable Tannins	16	Nearby markets	9.5	Truck
3.8	Lime	22.5	Nearby markets	9.5	Truck
3.9	Ammonium Chloride	4.8	Nearby markets	9.5	Truck

S. No.	Raw Material	Quantity Required per Annum (MTPA)	Source	Distance from Site (km)	Mode of Transportation
3.10	Sodium Bicarbonate	3.0	Nearby markets	9.5	Truck

- 47.14.6 The water requirement for the project is estimated as 26.2 m<sup>3</sup>/day, out of which 8.6 m<sup>3</sup>/day of fresh water requirement will be obtained from groundwater abstraction and the remaining requirement of 17.6 m<sup>3</sup>/day will be met by recycling treated water from the ETP. The permission for drawl of groundwater will be obtained from CGWA.
- 47.14.7 The power requirement for the project is estimated as 0.045 MW which will be obtained from the Rajasthan Vidyut Vitran Nigam.
- 47.14.8 The capital cost of the project is Rs. 2 Crores and the capital cost for environmental protection measures is proposed as Rs. 1.02 Crores. The employment generation from the proposed project is 25.
- 47.14.9 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.
- 47.14.10 Name of the EIA Consultant: M/s SBA Enviro Systems Pvt. Ltd. [S. No. 10, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].
- 47.14.11 Proposed Terms of Reference (**Baseline data collection period: November 2021 to January 2022**):

S. No.	Attributes	Sampling Frequency	
		No. of Stations	Frequency
A	Air		
a	Air	8	Twice a week of 24 hrs sampling for 3 months
b	Metrological Parameters	1	1 hourly continuous for a single season
B	Noise	8	1 sampling in each location for 3 months with weekly interval
C	Water		
A	Surface Water	-	No surface water body is present within the study area
b	Ground Water	8	Single sample from each location every month for 3 months
D	Land		
a	Soil Quality	8	Single sampling of each location each month for 3 months
b	Land Use	-	GIS maps will be prepared
E	Biological		
a	Aquatic	-	No surface water body is present

S. No.	Attributes	Sampling Frequency	
		No. of Stations	Frequency
			within the study area
b	Terrestrial	About 10	Primary and secondary data will be collected
F	Socio Economic	80 stakeholders	Primary and secondary data will be collected

#### Observations of the Committee

47.14.12 The EAC noted the following:

- i. TOR is being sought for undertaking EIA study for a tannery to process 100 hides per day and 500 skins per day.
- ii. Panchwa village is 1.5 km SE from site.
- iii. 26.2 KLD water is required per day. It shall be sourced from ground. Permission shall be obtained from authorities.
- iv. Hazardous waste generated from tannery shall be sent to TSDF.

#### Recommendations of the Committee

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

- i. Action plan for green belt development covering 33% of the project area shall be submitted with a tree density of 2500 trees per hectare.
- ii. Action plan for hazardous waste disposal shall be submitted.
- iii. Action plan for rain water harvesting shall be submitted.
- iv. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
- v. Effluent Treatment Plant (ETP) shall be installed and action plan to achieve the revised effluent quality norms as per MoEF&CC notification no. G.S.R. 657(E) dated 10/09/2021 shall be submitted.

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

47.15.1 M/s. Adani Enterprises Limited has made an application online vide proposal no. IA/GJ/IND/230852/2021 dated 06/10/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(b) Cement plant and 4(b) Coke oven plant under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

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

47.15.3 Environmental site settings:

SN o	Particulars	Details	Remarks																																																																																	
i)	Totalland	Total land: 800 Acres (323.8 Ha) Semi coke plant will be set up in Pocket-2. Cement plant will be set up in Pocket-1.  (The proposed project will be established in the land allocated by APSEZL, Taluka Mundra, and District Kutch in the state of Gujarat.)	The Project would be located in three separate land pockets. Pocket1:502.2acres (falling under Tunda village) Pocket2:114.9acres Pocket3:182.9Acres Pocket 2 & 3 falling under Mundra Village (which is diverted forest land for SEZ development)																																																																																	
ii)	Existenceofhabitation&involvementR&R,ifany.	The land for the proposed project has no human habitation. Hence, R & R is not involved.	---																																																																																	
iii)	LatitudeandLongitudeoftheprojectsite	<table><tr><th colspan="3">Pocket -1</th></tr><tr><th>No.</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A.</td><td>22°47'53.80" N</td><td>69°34'32.69" E</td></tr><tr><td>B.</td><td>22°47'49.99" N</td><td>69°34'35.82" E</td></tr><tr><td>C.</td><td>22°47'47.91" N</td><td>69°34'36.33" E</td></tr><tr><td>D.</td><td>22°47'11.71" N</td><td>69°34'38.80" E</td></tr><tr><td>E.</td><td>22°47'8.48" N</td><td>69°34'40.27" E</td></tr><tr><td>F.</td><td>22°46'59.14" N</td><td>69°34'50.48" E</td></tr><tr><td>G.</td><td>22°46'32.63" N</td><td>69°34'37.72" E</td></tr><tr><td>H.</td><td>22°46'47.69" N</td><td>69°34'1.83" E</td></tr><tr><td>I.</td><td>22°47'2.82" N</td><td>69°34'8.07" E</td></tr><tr><td>J.</td><td>22°47'11.44" N</td><td>69°34'4.04" E</td></tr><tr><td>K.</td><td>22°47'12.67" N</td><td>69°34'9.14" E</td></tr><tr><td>L.</td><td>22°47'13.77" N</td><td>69°34'12.71" E</td></tr><tr><td>M.</td><td>22°47'17.65" N</td><td>69°34'15.53" E</td></tr><tr><td>N.</td><td>22°47'20.39" N</td><td>69°34'14.21" E</td></tr><tr><td>O.</td><td>22°47'21.48" N</td><td>69°34'12.10" E</td></tr><tr><td>P.</td><td>22°47'21.86" N</td><td>69°34'7.96" E</td></tr><tr><td>Q.</td><td>22°47'21.32" N</td><td>69°34'0.11" E</td></tr><tr><td>R.</td><td>22°47'21.77" N</td><td>69°33'58.94" E</td></tr><tr><td>S.</td><td>22°47'23.89" N</td><td>69°33'56.55" E</td></tr><tr><td>T.</td><td>22°47'24.62" N</td><td>69°33'54.85" E</td></tr><tr><td>U.</td><td>22°47'30.38" N</td><td>69°34'4.74" E</td></tr><tr><td>V.</td><td>22°47'40.81" N</td><td>69°34'15.25" E</td></tr><tr><td>W.</td><td>22°47'42.80" N</td><td>69°34'17.68" E</td></tr><tr><td>X.</td><td>22°47'43.20" N</td><td>69°34'19.32" E</td></tr><tr><td>Y.</td><td>22°47'49.05" N</td><td>69°34'27.31" E</td></tr></table>	Pocket -1			No.	Latitude	Longitude	A.	22°47'53.80" N	69°34'32.69" E	B.	22°47'49.99" N	69°34'35.82" E	C.	22°47'47.91" N	69°34'36.33" E	D.	22°47'11.71" N	69°34'38.80" E	E.	22°47'8.48" N	69°34'40.27" E	F.	22°46'59.14" N	69°34'50.48" E	G.	22°46'32.63" N	69°34'37.72" E	H.	22°46'47.69" N	69°34'1.83" E	I.	22°47'2.82" N	69°34'8.07" E	J.	22°47'11.44" N	69°34'4.04" E	K.	22°47'12.67" N	69°34'9.14" E	L.	22°47'13.77" N	69°34'12.71" E	M.	22°47'17.65" N	69°34'15.53" E	N.	22°47'20.39" N	69°34'14.21" E	O.	22°47'21.48" N	69°34'12.10" E	P.	22°47'21.86" N	69°34'7.96" E	Q.	22°47'21.32" N	69°34'0.11" E	R.	22°47'21.77" N	69°33'58.94" E	S.	22°47'23.89" N	69°33'56.55" E	T.	22°47'24.62" N	69°33'54.85" E	U.	22°47'30.38" N	69°34'4.74" E	V.	22°47'40.81" N	69°34'15.25" E	W.	22°47'42.80" N	69°34'17.68" E	X.	22°47'43.20" N	69°34'19.32" E	Y.	22°47'49.05" N	69°34'27.31" E	---
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iv)	Elevation of project site	6m above MSL																																																																																							
v)	Involvement of forest land, if any .	The project site land (pockets) of APSEZL, on which the proposed project will be established is a diverted forest area, for which approvals have been obtained.			-																																																																																				
vi)	Water body exists within the project site as well as study area	<p><b><u>Project Site:</u></b> Not existing within the proposed location.</p> <p><b><u>Study Area:</u></b></p> <ul style="list-style-type: none"><li>• Nagavanti River ~ 6.95 km (NE) away from Pocket-1 and Khari river ~ 3.31km (N) away from Pocket-3.</li><li>• Jarpara Lake – 6.95 km (ENE) from Pocket 1</li><li>• The pockets 1&amp;2 are closer to the creek of Gulf of Kachchh.</li><li>• (Gulf of Kachchh: 4-5kms).</li></ul>																																																																																							
vii)	Existence of ESZ/ ESA/ national park/wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	None																																																																																							
		<b>Details on Reserved Forest in the study area</b>																																																																																							
		Description	Distance (km)	Direction	Pocket																																																																																				
		Mundra DHOA RF	1.45	NE	Pocket 1																																																																																				
		Mundra Mangroves RF	---	---	Pocket 1 & 2																																																																																				

SN o	Particulars	Details			Remarks
		Siracha R F	1.16	NNE	Pocket 3
		Navinal R F	2.47	NNE	Pocket 1
		Danderi R.F.	1.81	NNE	Pocket 3
viii )	Interlinked Project, if any, with status	The proposed 'Coal to PVC' project is an integrated project, as the product of one plant is used as raw material for the downstream plants.			

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

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

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

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

S No	Plant	Raw material	Quantity	Source	Distance	Means of Transportation
		Gypsum	0.3 MTPA	a) Imported from Jetty to Plant b) Domestic: Bhuj to Plant	5 kms 60 kms	Road
		Coal	1.3 MTPA	Imported Coal (Jetty to Plant)	~5 Km	By Road

47.15.6 The water requirement for the project is estimated as 160,000 m<sup>3</sup>/day [160 Million Liters per day (MLD)], which will be supplied from desalination plant of APSEZL. Out of which, 16,320 m<sup>3</sup>/day will be utilized for semi coke plant and 3,000 m<sup>3</sup>/day for cement plant.

47.15.7 The power requirement for the project is estimated as 2,000 MW, which will be supplied by the DISCOM from APSEZL. Of which about 23 MW will be required for Semi-Coke Plant and 49 MW for Cement Plant.

47.15.8 The capital cost of the project is Rs. 34,900 Crores and the capital cost for environmental protection measures is proposed as Rs. 1,056 Crores. The employment generation (during construction and operation phase) from the proposed project is ~ 20,600.

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

47.15.10 Name of the EIA Consultant: M/s. Kadam Environmental Consultants [S. No. 20, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

47.15.11 Proposed Terms of Reference (**Baseline data collection period: Summer season, 2021**):

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

S No	Attributes	Sampling		Remarks
		No. of Stations	Frequency	
b.	Ground water quality parameters	8	Once during the entire monitoring season	
<b>D</b>	<b>Land</b>			
a.	Soil Quality	10	Once during the entire monitoring season	
b.	Land use	Study area of 10 km radius	Once during the entire monitoring season	
<b>E</b>	<b>Biological</b>			
a.	Aquatic	16	Once during the entire monitoring season	Marine Samples were collected
b.	Terrestrial	Study area of 10 km radius	Once during the entire monitoring season	
<b>F</b>	<b>Socio-economic parameters</b>	Study area of 10 km radius	Once during the entire monitoring season	

47.15.12 The proposal was earlier considered during the 46<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11-12<sup>th</sup> October, 2021. The observations and recommendations of the EAC is as follows:

**Observations of the Committee (EAC during 11-12<sup>th</sup> October, 2021)**

47.15.13 The EAC noted the following:

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

**Recommendations of the Committee (EAC during 11-12<sup>th</sup> October, 2021)**

47.15.14 In view of the foregoing and after deliberations, the Committee recommended to submit additional information to address the shortcomings at para no. 47.15.13 above.

47.15.15 The proponent submitted the ADS reply on PARIVESH on 25/10/2021. The information furnished by proponent is as follows:

Sl. No.	Observations / ADS by EAC	ADS Reply
(i)	TOR is required for undertaking EIA study for an integrated complex to manufacture PVC from Coal. There are two units that fall under the purview of Industry 1 sector i.e., Coke making and Cement Plant	The ToR application for Coal to PVC Project vide proposal No. IA/GJ/IND/230852/2021 was submitted to EAC Industry-I on dated 23 <sup>rd</sup> September 2021. The EAC has appraised the project for Semi-Coke plant (2.03 MTPA), Clinker (4 MTPA and Cement Plant (6.0 MTPA) for prescribing ToR during the 46 <sup>th</sup> Meeting of EAC on dated 12/10/2021.
(ii)	Dry Carbide lime sludge shall be calcined in presence of LS and other additives to make 4 MTPA clinker for making 6 MTPA Cement	In the Acetylene Generator Unit, Carbide lime sludge generated has 30% moisture content. The moisture in the carbide lime sludge is further dried to 5-7% moisture using waste heat available in hot gases emitted from the pyro process. The semi- dry carbide lime sludge and correctives shall be mixed in a mixing chamber, in desired proportion as per designed raw mix, which is fed to raw mill for further drying & fine grinding of raw materials
(iii)	Semi Coke is produced in Vertical Furnace having 40 chambers. Coking gas shall be cleaned for tar, ammonia, naphthalene, BTX and used to manufacture Ethylene glycol	Agreed. The semi-coke is generated in the vertical furnaces. Each vertical furnace has 40 chambers. The coking gas is further cleaned to produce/manufacture saleable products such as tar, ammonium sulphate, crude benzol, sulphur. A part of the coking gas from the semi-coke plant will also be used to manufacture Ethylene Glycol.
(iv)	2.03 MTPA coke shall be quenched wet. MoEF&CC guidelines mandates that CDQ for coke production of more than 0.8 MTPA. Process flow sheet of coke plant has not been made available. No details of the proposed	The details for coke quenching process, vertical furnace is submitted by proponent. The environmental aspects, impacts and mitigation measures of the Semi-Coke Plant have been detailed in the ADS reply by the proponent.

Sl. No.	Observations / ADS by EAC	ADS Reply
	technology for coke production and for pollution control in coking plant have been furnished with proposal	
(v)	It is not clear as to how the charging emissions, coke discharge emissions, coking emissions in Coking Plant shall be controlled	The detail of coal charging and coke discharging mechanism; and their associated emissions and mitigation measures is submitted by proponent.
(vi)	Technology and Environmental management details of Cement Kiln using Carbide Plant sludge have also not been furnished	The technological and environmental management detail of cement kiln (using carbide lime sludge plant) is submitted by proponent.
(vii)	Most of the sections in Form I application has not been quantified properly which needs to be revisited and corrected.	Revised Form I has been submitted.

47.15.16 Based on the submission of project proponent, the proposal is re-considered by **REAC (Industry 1) in its 47<sup>th</sup> meeting held on 28-29<sup>th</sup> October, 2021**. The observations and recommendations of EAC is given as below:

**Observations of the Committee**

47.15.17 The EAC noted the following from the ADS reply of the project proponent.

- List of installation of such facilities and case example of flow sheet, details of emissions and discharges have not been furnished for coke ovens.
- The proposed coke oven does not meet the Indian requirement of dry coke quenching.
- There is no mention about charging emission, discharging emission control and control of emissions from off takes and lids of semi coke plant.

**Recommendations of the Committee**

47.15.18 In view of the foregoing and after deliberations, the Committee sought the following additional information from the proponent for further consideration.

- Technology proposed for semi Coke plant is not conventional and details of the actual environmental emissions from operational units using the technology which has not been made available.
- Actual environmental emissions from operational units using the technology cited above vis-a-vis compliance with the existing environmental norms notified under E(P) Act, 1986 which have not been provided by the project proponent.

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**ANNEXURE –1**

**GENERIC TERMS OF REFERENCE (ToR) IN RESPECT OF INDUSTRY SECTOR**

1. **Executive Summary**
2. **Introduction**
  - i. Details of the EIA Consultant including NABET accreditation
  - ii. Information about the project proponent
  - iii. Importance and benefits of the project
3. **Project Description**
  - i. Cost of project and time of completion.
  - ii. Products with capacities for the proposed project.
  - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
  - iv. List of raw materials required and their source along with mode of transportation.
  - v. Other chemicals and materials required with quantities and storage capacities
  - vi. Details of Emission, effluents, hazardous waste generation and their management.
  - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
  - viii. The project proponent shall furnish the requisite documents from the competent authority in support of drawl of ground water and surface water and supply of electricity.
  - ix. Process description along with major equipment and machineries, process flow sheet (Quantitative) from raw material to products to be provided
  - x. Hazard identification and details of proposed safety systems.
  - xi. Expansion/modernization proposals:
    - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MoEF&CC/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment, Forest and Climate Change as per circular dated 30<sup>th</sup> May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB/PCC shall be attached with the EIA-EMP report.
    - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. **Site Details**
  - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
- iii. Co-ordinates (lat-long) of all four corners of the site.
- iv. Google map-Earth downloaded of the project site.
- v. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vi. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- vii. Landuse break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
- viii. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
- ix. Geological features and Geo-hydrological status of the study area shall be included.
- x. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xi. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xii. R&R details in respect of land in line with state Government policy.

**5. Forest and wildlife related issues (if applicable):**

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable).
- ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha*).
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon.
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area.
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.



**6. Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

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

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.

- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

**8. Occupational health**

- i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre-designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre-placement and periodical examinations give the details of the same. Details regarding last month analysed data of abovementioned parameters as per age, sex, duration of exposure and department wise.
- iii. Annual report of health status of workers with special reference to Occupational Health and Safety.
- iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

**9. Corporate Environment Policy**

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
  - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - iv. Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
  11. To address the Public Hearing issues, provisions contained under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 30/09/2020 shall be complied.
  12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
  13. A tabular chart with index for point wise compliance of above ToRs.
  14. The ToRs prescribed shall be valid for a period of three years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

The following general points shall be noted:

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

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

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**ANNEXURE-2**

**ADDITIONAL ToRS FOR INTEGRATED STEEL PLANT**

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

### **ADDITIONAL ToRs FOR PELLET PLANT**

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

### **ADDITIONAL ToRs FOR CEMENT INDUSTRY**

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

**ADDITIONAL ToRs FOR PULP AND PAPER INDUSTRY**

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

**ADDITIONAL ToRs FOR LEATHER/SKIN/HIDE PROCESSING INDUSTRY**

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

**ADDITIONAL ToRs FOR COKE OVEN PLANT**

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

**ADDITIONAL ToRs FOR ASBESTOS MILLING AND ASBESTOS BASED PRODUCTS**

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

**ADDITIONAL ToRs FOR METALLURGICAL INDUSTRY (FERROUS AND NON-FERROUS)**

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



## **Executive Summary**


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

- i. Project name and location (Village, Dist, State, Industrial Estate (if applicable))
- ii. Products and capacities. If expansion proposal, then existing products with capacities and reference to earlier EC.
- iii. Requirement of land, raw material, water, power, fuel, with source of supply (Quantitative)
- iv. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes. Materials balance shall be presented.
- v. Measures for mitigating the impact on the environment and mode of discharge or disposal.
- vi. Capital cost of the project, estimated time of completion
- vii. Site selected for the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 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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**Re: Final MoM of 47 EAC held on 28/10/2021 & 29/10/2021**

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**From :** cnpandey@iitgn.ac.in Mon, Nov 08, 2021 06:34 PM  
**Subject :** Re: Final MoM of 47 EAC held on 28/10/2021 & 29/10/2021  1 attachment  
**To :** Sundar Ramanathan <r.sundar@nic.in>

Dear Mr Sundar,  
The MoM of the 47th EAC is approved and sent herewith as the attached document.  
Please go ahead with putting it on Parivesh.  
Best wishes,  
C. N. Pandey.  
Chairman, EAC ( IndustryI)  
MoEFCC, GoI.