

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

Summary record of the twelfth (12th) meeting of re-constituted expert appraisal committee held during 21-23rd October, 2019 for environmental appraisal of Industry-I sector projects constituted under the provisions of Environmental Impact Assessment (EIA) notification, 2006.

The twelfth meeting of the Re-Constituted Expert Appraisal Committee (EAC) for Industry-1 Sector as per the provisions of the EIA Notification, 2006 for Environmental Appraisal of Industry-1 Sector Projects was held during 21-23rd October, 2019 in the Ministry of Environment, Forest, and Climate Change. The list of participants is annexed.

After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim. The minutes of 11th meeting held during 24-25th September, 2019 were confirmed by the EAC as already uploaded on PARIVESH.

22nd October, 2019

12.14 Capacity Expansion 31,320 to 1,30,320 TPA Ferro alloys production by installation of additional 3x9 MVA+ 1X24 MVA Submerged Arc Furnace (SAF) along with 1,50,000 TPA Briquetting Plant and 18,000 TPA Sinter Plant by **M/s Sri Jayalakshmi Ferro Alloys Pvt. Ltd.** Located at Pedabantupalli, Vizianagaram, **Andhra Pradesh** [Online Proposal No.IA/AP/IND/117330/2008, File No. J-11011/331/2008-IAII(I)] – **Environment Clearance – regarding.**

12.14.1 M/s.Sri Jayalakhshmi Ferro Alloys Pvt Ltd has made online application vide proposal no. IA/GJ/IND/114302/2008 dated 12th September, 2019 in the prescribed Form -2 along with copies of EIA/EMP report and other documents seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries (Ferrous and Non-ferrous) under Category “A” EIA Notification, 2006 and the proposal is appraised at Central level.

Details submitted by the Project Proponent

12.14.2 The project of proposed expansion of M/s Sri Jayalakshmi Ferro Alloys (P) Limited, located at Village: Pedabantupalli, Mandal: Gurla, Dist: Vizianagaram, State-Andhra Pradesh was initially received in the Ministry on 03.05.2018 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC-1] during its 32nd meeting held on 13.06.2018. Accordingly, the Ministry of Environment, Forest & Climate Change had prescribed ToR to the project on 20.06.2018 vide Lr.No. J-11011/331/2008-IA. II (I).

12.14.3 Based on the ToRs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 09.09.2019 vide Online Application No. IA/AP/IND/117330/2008.

12.14.4 The project of M/s Sri Jayalakshmi Ferro Alloys (P) Limited located in Village: Pedabantupalli, Mandal: Gurla, Dist: Vizianagaram, Andhra Pradesh State is for

enhancement of production of ferro-alloys from 31,320 to 130,320 TPA and installation of 150,000 TPA Briquetting Plant and 18,000 TPA Sinter Plant.

12.14.5 The existing project for production capacity of 31,320 TPA Ferro Alloys was accorded environmental clearance vide Ir. No. J-11011/331/2008-IA II(I) on 29/04/2009. SJFAPL requested the MoEF&CC for change in product mix within the total production capacity of 31,320 TPA for production of either of Ferro-manganese or Silco-manganese or in combination of any. The amendment to the existing environment clearance was issued by MoEF&CC vide File No. J-11011/331/2008-IA II (I) dated 01/05/2018.

12.14.6 The Status of compliance of earlier EC was obtained from Regional Office (South Eastern Zone), Chennai vide Lr. No. EP/12.1/802/AP/1479, dated 14thSeptember, 2018. There is no non-compliances reported by Regional officer. The proposed capacity for different products for new site area as below:

S. No	Name of Unit	Existing		Proposed		Final	
		No. of Units & Capacity	Production Capacity (TPA)	No. of Units & Capacity	Production Capacity (TPA)	No. of Units & Capacity	Production Capacity (TPA)
1	Submerged Arc Furnace	2x9 MVA	31,320 Ferro Manganese / Silico Manganese	3x9 MVA + 1x24 MVA	99,000 Ferro Manganese /Silico Manganese / Ferro silicon/Ferro Chrome	5x9 MVA + 1x24 MVA	1,30,320 Ferro Manganese /Silico Manganese/ Ferro silicon/ Ferro Chrome
2	Briquetting Plant	-	-	1	1,50,000	1	1,50,000
3	Sinter Plant	-	-	1	18,000	1	18,000

12.14.7 The proposed expansion project will require an additional land of 3.63 hectares apart from the existing land of 13.9 hectares. The entire land has been acquired for the project. No forestland is involved. It has been reported that no water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

12.14.8 The topography of the area is gently undulating and reported to lies between 18°19'16.9"N to 18°19'36.9"N Latitude and 83°28'35.2"E to 83°28'55.9"E Longitude in Survey of India topo sheet E44L7, E44L8, E44L11 & E44L12 at an elevation of 116 m AMSL. The ground water table reported to ranges between 0.75 to 11.26 mbgl during the post-monsoon season and 1.41 to 12.20 mbgl during the pre-monsoon season.

12.14.9 No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area

also does not report to form corridor for Schedule-I fauna.

- 12.14.10 The process of project showing the basic raw material used and the various processes involved to produce the final output, waste generated in process.

Basic Raw Material Used

Raw Materials	Production of 1,30,320 TPA of Either of the Product									
	Ferro Manganese			Ferro Chrome		Ferro Silicon		Silico Manganese		
	Existing	Proposed	Total	Existing	Proposed	Existing	Proposed	Existing	Proposed	Total
Mn ore	81,470	257,530	3,39,000	-		-	-	55,520	175,480	2,31,000
Coke	25,050	79,200	1,04,250	-	1,18,000	-	26,000	15,660	49,500	65,160
Dolomite	6,250	19,750	26,000	-	-	-	-	-	-	-
Chrome ore Fines	-		-	-	1,50,000	-	-	-	-	-
Chrome Ore Lump	-		-	-	33,000	-	-	-	-	-
Friable	-		-	-	57,000	-	-	-	-	-
Magnetite	-		-	-	52,000	-	-	-	-	-
Quartz	-		-	-	1,05,000	-	2,34,600	-	-	-
Charcoal	-		-	-	-	-	1,70,000	-	-	-
Mill scale	-		-	-	-	-	6,500	-	-	-
Coal	-		-	-	-	-	-	18,745	59,255	78,000
High MNO slag	-		-	-	-	-	-	15,140	47,860	63,000
Total	112,770	356,480	4,69,250	-	5,15,000	-	4,37,100	105,065	332,095	4,37,160

Raw Material Transportation details.

S.No.	Raw Material	Maximum Qty (TPA)	Source	Mode of Transport	Distance of Source from Project Site (in km)
1	Mn Ore	339000	Brazil, Singapore, Australia, South Africa, Gabon Port: Vizag Port	By Road	Approx. 90

S.No.	Raw Material	Maximum Qty (TPA)	Source	Mode of Transport	Distance of Source from Project Site (in km)
2	Coke	118000	China, Gangavaram Port & RINL Coke	By Road	Approx. 100
3	Dolomite	26000	Khamma, Telengana	By Road	Approx. 470
4	Chrome Ore Lumps	33000	Domestic, Odisha	By Road	Approx.400
5.	Crome Ore Fines	150,000	Domestic, Odisha	By Road	Approx.400
5	Magnesite	52000	Salem, Tamil Nadu	By Road	Approx.710
6	Quartz	234600	Dattirajeru Mandal, Vizianagaram	By Road	Approx.17
7	Charcoal	170000	Visakhapatnam, Andhra Pradesh	By Road	Approx.100
8	Mill Scale	6500	Visakhapatnam, Andhra Pradesh	By Road	Approx.100
9	Coal	78000	South Africa, Port:Gangavaram Port	By Road	Approx.100
10	High MnO Slag	63000	Japan, Port : Vizag Port	By Road	Approx.90

Process involved

- 12.14.11 Production of Ferro Alloys (Fe-Mn/Fe-Cr/Si-Mn/Fe-Si) through Submerged Arc Furnaces, briquettes production from the chrome ore fines in briquetting plant and utilization of flue dust and GCP dust for Sinter production in Sinter plant.

Waste Generated in the process

Solid Waste	Production of 1,30,320 TPA of either of product				Utilization
	Ferro Manganese (TPA)	Ferro-Chrome (TPA)	Ferro-Silicon (TPA)	Silico-manganese (TPA)	
Slag Generation	78,000	65000	-	65000	Fe-Mn slag will be used in Si-Mn production. Si-Mn slag will be utilized in road/land development. Fe-Cr slag will be disposed-off in landfill after TCLP test.
Bag Filter Dust generation	3,000	2600	-	2500	Fe-Mn and Si-Mn dust will be used in Sinter Plant and Fe-Cr dust will be used in Briquette plant.

- 12.14.12 The targeted production capacity of Ferro Alloys is 130,320 TPA. The raw material transportation after reaching port or directly will be done through roads.
- 12.14.13 The water requirement of the project is estimated as 165 KLD requirement will be obtained through groundwater. The permission for drawl of 170 KLD of groundwater is already obtained from Ground Water & Water Audit Deptt., Govt. of Andhra Pradesh vide Ir. No. 1633/Hg-II/2018 dated 19.09.2019.
- 12.14.14 The power requirement of the project is estimated 56 MVA will be sourced from Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), necessary permission is obtained.
- 12.14.15 Baseline Environmental Studies were conducted during Summer Season i.e., from 01.03.2018 to 31.05.2018. Ambient air quality monitoring has been carried out at 8 locations during the study period and the data submitted indicated: PM₁₀ 48.20 to 91.4 µg/m³, PM_{2.5} (35.2 to 55.4 µg/m³), SO₂ (9.4 to 22.3 µg/m³) and NO_x (17.3 to 43.8 µg/m³). The results of the modeling study indicate that the maximum increase of GLC for the proposed project is 2.58 µg/m³ with respect to the PM₁₀, 1.55 µg/m³ with respect to the PM_{2.5}, 1.13 µg/m³ with respect to SO₂ and 0.81 µg/m³ with respect to the NO_x.
- 12.14.16 Ground water quality has been monitored in 8 locations in the study area and analyzed. pH: 7.34 to 7.93, Total Hardness: 184.52 to 320.52 mg/l, Chlorides: 62.15 to 126.45 mg/l, Fluoride: 0.52 to 1.03 mg/l. Heavy metals are within the limits. Surface water samples were analyzed from 8 locations. pH: 7.41 to 8.33, DO: 5.30 to 6.7 mg/l and BOD: 12.50 to 21.56 mg/l. COD from 38.10 to 63.15 mg/l.
- 12.14.17 Noise levels are in the range of 50.8 to 63.5 dB (A) for day time and 38.9 to 56.8 dB (A) for night time.
- 12.14.18 No R&R is involved as the land required for expansion is already acquired by the proponent.
- 12.14.19 It has been reported that maximum 81,000 TPA of waste will be generated due to the project, will be either reused in production process or will be used in road construction. It has been envisaged that an area of 5.79 ha will be developed as green belt around the project site to attenuate the noise levels and trap the dust generated due to the project development activities.
- 12.14.20 It has been reported that the latest Consent to Operate from the Andhra Pradesh Pollution Control Board was obtained vide File No APPCB/VSP/VZN/18930-1/CFO/HO/2017 dated 17.04.2019 and consent is valid up to 30.04.2020.
- 12.14.21 The Public hearing of the project was held on 04.01.2019 near the existing plant of M/s Sri Jayalakshmi Ferro Alloys Pvt. Ltd. under the Chairmanship of Sri K. Venkata Ramana Reddy (District Joint Collector-Vizianagaram district) for production of 99,000 TPA Ferro-alloys through setting-up of 3x9MVA and 1x24 MVA Submerged Arc Furnace under the expansion proposal and installation of Briquette Plant of capacity 18,000 TPA & Sinter Plant of capacity 15,000 TPA. The issues raised during public hearing are regarding employment, pollution, CSR activities by the plant, potable drinking water and land requirement for the project.

An amount of Rs 162 Lakhs has been earmarked for CER based on public hearing / Socio-economic issues.

S. No	Name & Village of Participant	Issues Raised	Action Plan		
			Commitment	Time Frame	Budget
1	Sri JathuPatyam Naidu, Pedabantupalli Sri K. Srinivasa Rao, Routhupalli Sri K. Krishna Murthy Naidu, Chinnabantupalli Sri Y. Chennakesava Reddy, NGO, Kadapa. Sri R.Ramakrishna, Sarpanch, VP Rega Sri Satish, Pedabantupalli Sri Ramesh Naidu, Anakapalli. Sri G. Venkat Naidu, Pedabantupalli Sri SaripalliEswara Rao, Pedabantupalli Sri L. Chandra Sekhar, NGO	Employment for the local people Committee for employment to be constituted Employment, priority to be given to SC/ST	<ul style="list-style-type: none"> Expansion project will be generating around 600 direct employments. Preferences will be given to the locals on the basic of their Qualification. SJFAPL Management explained that there will be requirement for skilled, semi-skilled and unskilled. Women will also be given employment based on requirement Employment will be given irrespective of their caste and creed. Proposed Project will also generate 500 indirect employments 	5 Years	Vocational Training Centre will be opened at 5 villages for Skill development and for providing Industrial training Budget of Rs. 25 lakhs allotted for the proposal
2	Sri K. Srinivasa Rao, Routhupalli Sri JathuPatyam Naidu, Pedabantupalli Sri K. Krishna Murthy Naidu, Chinnabantupalli Sri Y. Chennakesava	Air Pollution Provide Pollution control measures with best technologies	<ul style="list-style-type: none"> 6 nos. of additional Pulse Jet Type Bag Filters have been proposed with the expansion project. Green belt will be developed in 2.29 hectare area in addition to 3.5 ha. area already planted which will act as barrier for air pollution and noise. 	5 years	Air Pollution Control Equipment will be installed at a budget of 870 lakhs Rs. 20 lakhs has been kept for greenbelt development.

S. No.	Name & Village of Participant	Issues Raised	Action Plan		
			Commitment	Time Frame	Budget
	Reddy, NGO, Kadapa. Sri R.Ramakrishna, Sarpanch, VP Rega Sri Ramesh Naidu, Anakapalli. Sri L. Chandra Sekhar, NGO		<ul style="list-style-type: none"> Regular water sprinkling on strategic locations will ensure control of fugitive dust from the proposed project. 		
3	Sri K. Krishna Murthy Naidu, Chinnabantupalli Sri L. Chandra Sekhar, NGO	Roads are Completely Damaged	<ul style="list-style-type: none"> Bitumen road for the plant will be constructed after implementation of the proposed project. Roads will be developed in Chinnabantupalli, Regati, Anakapalli, Routhupalli and Pedabantupalli villages 	5 years	Rs. 20 lakhs is allotted for development of roads in 5 villages.
4	Sri Suresh MPTC, Regati, Sri R.Ramakrishna, Sarpanch, VP Rega	No Information was provided regarding PH in villages	<ul style="list-style-type: none"> PH notice was given to all village panchayats and their respective heads PH was advertised in English Newspaper "The Indian Express" and Regional Newspaper "Sakshi" one month before the PH was conducted PH details and its venue was announced in every village. 	-	--
5	Sri Y. Chennakesava Reddy, NGO, Kadapa Sri R.Ramakrishna,	Followings to be provided under CSR: – Rainwater	<ul style="list-style-type: none"> CER budget of 162 lakhs, will be spent on development of nearby villages Vocational training camps will be established in the 	5 years	CER budget of 162 lakhs for 5 years has been allotted

S. No.	Name & Village of Participant	Issues Raised	Action Plan		
			Commitment	Time Frame	Budget
	Sarpanch, VP Rega Sri Ramesh Naidu, Anakapalli. Sri G. Venkat Naidu, Pedabantupalli Sri R. Srinivasa Rao, Pedabantupalli Sri L. Chandra Sekhar, NGO	Harvesting, – Green Belt Development, Sprinkling on Roads, – RO for drinking water, – Construction of junior college, Community hall and hospital	villages to develop skill and self-employment. • Community development in nearby 5 villages will help in social development of the area.		
6	Sri R. Srinivasa Rao, Pedabantupalli	Agricultural lands is getting damaged due to discharge of waste water	• As the project will adopt Zero liquid discharge, no discharge of Waste water is envisaged from the project.	---	Fertilizers will be provided to nearby villages and is allotted a budget of Rs. 5 lakhs per year under CSR

12.14.22 The capital cost of the project is Rs 182.13 Crores and the capital cost for environmental management is proposed as Rs 1143 Lakhs. The annual recurring cost towards the environmental management is proposed as Rs 115 Lakhs/year. An amount of Rs 162 Lakhs has been earmarked for CER based on public hearing issues and need based assessment has been provided in EMP. The employment generation from the proposed project of expansion is 600.

12.14.23 Greenbelt will be developed in 5.79 Ha which is about 33% of the total acquired area. Indigenous trees with tree density of 1600 trees per hectare (650 nos. of plant per acre) with local board leaf species shall be planted. Out of 5.79 ha area earmarked for greenbelt development, at present 5000 nos. of trees has already been planted in approx. 4.8 ha area. Additionally, 4000 trees shall be planted covering total 5.79 ha area. A budget of **Rs. 20 Lakhs** has been kept for Green belt development.

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

12.14.25 Name of Environment Consultant – **M/s VardanEnvironet.**, S.L. No. 158 in QCI list of accredited consultants dated 15.10.2019. Certificate No.

NABET/EIA/1619/SA 077.

Observations of the Committee:

- 12.14.26 The committee observed that the metal recovery has not been included in the EIA report.
- 12.14.27 Soak pits are provided for treatment of domestic sewage.
- 12.14.28 CER is proposed to be implemented in 5 years.

Recommendations of the Committee:

- 12.14.29 After detailed deliberations, the Committee recommended the proposal for grant of Environmental Clearance under the provisions of the EIA Notification, 2006 subject to following specific conditions in addition to the applicable general conditions as per the Ministry's Office Memorandum no. 22-34/2018-IA.III dated 9/8/2018.
 - i. Jigging plant for recovery of metal from slag shall be installed.
 - ii. Project Proponent shall install STP of adequate capacity for treatment of domestic sewage.
 - iii. CER activities shall be implemented within two years.
 - iv. TCLP analysis shall be conducted for assessment of nature of the waste before the disposal of waste material.
 - v. Emissions from the chimney shall be restricted to 30mg/m³.
 - vi. 100% rainwater harvesting shall be carried out.
 - vii. Zero Liquid Discharge shall be implemented.
 - viii. 100% waste utilization shall be implemented.

12.15 Changes in plant configuration for proposed Expansion of Integrated Steel Plant from 5.0 MTPA to 10 MTPA by **M/s JSW Steel Ltd.**, located at village Dolvi, District **Raigad, Maharashtra**. [Online Proposal No. IA/MH/IND/41055/2015, File No. J-11011/76/2013-IA II (I)] – **Environment Clearance under para 7(ii) of EIA Notification, 2006 - regarding.**

12.15.1 M/s.JSW SteelLtd.,has made online application vide proposal no. IA/MH/IND/41055/2015dated 12thOctober, 2019 in the prescribed Form -2 along with copies of EIA/EMP report and other documents seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries (Ferrous and Non-ferrous) under Category “A” EIA Notification, 2006 and the proposal is appraised at Central level.

Details submitted by the Project Proponent

12.15.2 The proposal for configuration change ofin the expansion project of Integrated Steel Plant (from 5.0 MTPA to 10.0 MTPA) by revising the production capacities of Sinter

Plant (8 to 4 MTPA) and Pelletization Plant (4 to 9 MTPA) was initially received in the Ministry on 2nd November, 2018 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised in the 2nd meeting of the Re-constituted EAC (Industry-I) held during 10th to 12th December, 2018 and prescribed ToRs (without fresh Public Hearing) to the project for undertaking detailed EIA study for obtaining Environmental Clearance under provisions of para 7(ii) of EIA Notification, 2006. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 21st December, 2018 vide letter no. IA-J-11011/76/2013-IA.II (I).

- 12.15.3 Based on the ToRs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 12th October, 2019 vide Online Application No. IA/MH/IND/117746/2012. The proposal was considered in the Re-constituted EAC (Industry-I) meeting held during 30th- 31st July, 2019. As the EIA report was not inline with generic structure of Appendix-III of EIA Notification, 2006 and disclosure of consultant was not furnished in the application, the Committee returned the proposal in the present form.
- 12.15.4 The project of M/s. JSW Steel Ltd located in Dolvi Village, Pen Taluka, Raigad District, Maharashtra State is for proposed Change In Plant Configuration for Expansion project of Integrated Steel Plant (from 5.0 MTPA to 10.0 MTPA) by revising the production capacities of Sinter Plant (8 to 4 MTPA) and Pelletization Plant (4 to 9 MTPA) at Village: Dolvi, Taluka : Pen, District: Raigad, Maharashtra. The expansion project was accorded environmental clearance vide letter no. J-11011/76/2013-IA II (I) dated 25th August, 2015.
- 12.15.5 The Status of compliance of earlier EC was obtained from Regional office, Nagpur vide letter no. 5-71/2015(ENV)/5695 dated 12.09.2019. No non-compliances were reported by Regional Office, Nagpur, MoEF&CC.
- 12.15.6 Details of production capacities after Change in Plant Configuration are given in below table:

S. No.	Unit Name	Existing Capacity at 5 MTPA	Additional granted Capacity as per previous EC dated 25.08.2015	Additional Granted Capacity after Change in Plant Configuration	Total Capacity after change in configuration	Remarks
		A	B	C	A+C	
1	DRI (Gas based Mega Module)	2.0 MTPA	2.0 MTPA	2.0 MTPA	4.0 MTPA	No change
2	Pellet Plant	4.0 MTPA	4.0 MTPA	9.0 MTPA	13.0 MTPA	Increase by 5 MTPA
3	Coke Oven including By-product	1.0 MTPA	-	-	1.0 MTPA	No change

S. No.	Unit Name	Existing Capacity at 5 MTPA	Additional granted Capacity as per previous EC dated 25.08.2015	Additional Granted Capacity after Change in Plant Configuration	Total Capacity after change in configuration	Remarks
		A	B	C	A+C	
	plant					
4	Sinter Plant	6.0 MTPA	8.0 MTPA	4.0 MTPA	10.0 MTPA	Decrease by 4MTPA
5	Blast furnace including pig casting	3.6 MTPA	4.5 MTPA	4.5 MTPA	8.1 MTPA	No change
6	SMS(CONARC)	5.2 MTPA	-	-	5.2 MTPA	No change
7	SMS(BOF)	-	6.0 MTPA	6.0 MTPA	6.0 MTPA	No change
8	Ladle Furnace(LF)	2X200+250t	2 X 300 T	2 X 300 T	2X200t+250t + 2 X 300 T	No change
9	VD/VOD & RH-TP	1X200t+1X205t	2 X 300 T	2 X 300 T	1X200t+1X205t+2 X 300T	No change
10	CSP(HRC Coil) Thin Caster-cum-Hot Strip Finishing Train	3.5 MTPA	-	-	3.5 MTPA	No change
11	Conventional Slab Caster	2X1Strand 3.68MTPA A	2X2 Slab Casters 5.73 MTPA	2X2 Slab Casters 5.73 MTPA	9.41 MTPA	No change
12	Billet Caster	-	1X6 Strands	1X6 Strands	1X6 Strands	No change
13	Plate Mill	1.5 MTPA	-	-	1.5 MTPA	No change
14	Hot Rolling Mill with Shearing and Slitting	-	5.0 MTPA	5.0 MTPA	5.0 MTPA	No change
15	Bar Mill	-	1.4 MTPA	1.4 MTPA	1.4 MTPA	No change
16	CRM	1 MTPA	1.5 MTPA	1.5 MTPA	2.5 MTPA	No change
17	Galvanizing Line	0.6 MTPA	-	-	0.6 MTPA	No change
18	Electrical Steel CRGO Line	0.4 MTPA	-	-	0.4 MTPA	No change
19	Tin Plate Mill	0.4 MTPA	-	-	0.4 MTPA	No change
20	Colour	0.5	-	-	0.5 MTPA	No change

S. No.	Unit Name	Existing Capacity at 5 MTPA	Additional granted Capacity as per previous EC dated 25.08.2015	Additional Granted Capacity after Change in Plant Configuration	Total Capacity after change in configuration	Remarks
		A	B	C	A+C	
	Coating line	MTPA				
21	Lime/dolo Plant	1800 tpd	3X600 TPD	3X600 TPD	3600 TPD	No change
22	Oxygen Plant	4100 tpd	3500 TPD	3500 TPD	7600 TPD	No change
23	Captive Power Plant	300 MW	300 MW	300 MW	600 MW	No change
24	Township	-	150 acres township of 7500 dwellings	150 acres township of 7500 dwellings	150 acres township of 7500 dwellings	No change
25	Solid waste Incinerator	-	-	250 kg/hr	250 kg/hr	New Facility

- 12.15.7 The total land required for the project is 615.135ha (1520 acre); which is already industrial land and Change in Plant Configuration will be carried out within the existing plant premises. The entire land is totally under the possession of M/s. JSW Steel Limited. No forest land is involved. A sub-creek passes through the project area. It has been reported that four water bodies i.e. Amba River, Bhogeswari river, Nigade Nadi and Konjar Nala exist within the study area and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.
- 12.15.8 The topography of the areas in the eastern and south eastern portion are at higher elevation and rest of the study area is at lower elevation except few parts in south west direction and reported to lie between 18°40'38.7" N to 18°42'14.3" N Latitude and 73°01'40.9" E to 73°04'20.74" E Longitude in Survey of India toposheet no. E43 G13, E43 H1, E43 G14, E43 H2 at an elevation difference of more than 400m. The ground water level reported to range between 0.9 m to 7.1 m below the land surface during the study period. The water table is observed at an average depth of about 2.8 m in the project area & almost the same height is maintained all over the plant. Based on CGWB data, it has been reported that the area is designated as Safe area.
- 12.15.9 No National Park / Wildlife Sanctuary / Biosphere Reserve / Tiger Reserve / Elephant Reserve etc. are reported to be located in the core and buffer zone of the project. The list of flora and fauna provided through the Primary survey and Secondary data reports the presence of No Schedule-I in the study area. (Chapter 3, Section 3.5.9.3, Pg. No. 134 of Updated Final EIA/EMP Report).
- 12.15.10 The raw materials required in consequence of proposed Changes in Plant Configuration are Iron Ore Fines, Iron Ore Lumps, Limestone, Dolomite etc. The proposed project involves setting up of 9.0 MTPA Pellet Plant (PP II) and 4.0 MTPA Sinter Plant (SP III).

Pellet Plant II – Main Plant Facilities

The palletization process involves three steps:

- Raw material preparation
- Forming green pellets
- Pellet hardening

Sinter Plant III

Sintering is an agglomeration process in which iron ore fines are mixed with return materials, limestone, and finely sized fuel such as coke breeze. The raw materials are mixed before they are placed on the traveling grate of the sinter machine. Near the head end of the grate, the surface of the raw materials is ignited by a gas fired ignition furnace located over the bed. As the bed burns, carbon dioxide, cyanides, sulfur compounds, chlorides, fluorides and oil and grease are driven off with the gases.

The sinter drops off the grate at the discharge end and is cooled (by air), crushed, and screened to maintain uniformity in the size of the sinter fed to blast furnaces. Improperly sized sinter and fines from screening are returned for reprocessing. Dust, fines, scraps, used oils sludge etc. will be generated as waste in the process.

- 12.15.11 The targeted production capacity of Sinter Plant (8 to 4 MTPA) and Pelletization Plant (4 to 9 MTPA). Iron ore will be sourced from NMDC- Bachel & Kirandul, which will be sourced through by Rail/sea; Limestone will be sourced from Rajasthan or imported, which will be sourced through by Rail/Sea and Dolomite will be sourced from Rajasthan/Karnataka and Egypt, which will be sourced through by Rail/Sea.
- 12.15.12 Water requirement for the project is estimated as 115123 m³/day; which will be sourced from the Amba River. The permission for drawl of Surface Water (113.66 MLD) has been obtained from Irrigation Dept of Govt. of Maharashtra vide 4/566/2016 dated 06/02/2016 (For 7 MLD), vide letter no. 2507/2018 dated 03/08/2018 (For 7 MLD), vide letter no. 594/2016 dated 08/02/2016 (For 46.6 MLD) and vide letter no. 2019/(44/15) dated 28/05/2019 (for 55 MLD).
- 12.15.13 Total power requirement after proposed change in plant configuration is estimated as 843MW at 10 MTPA; which is being / will be sourced from Captive source and MSEB Grid.
- 12.15.14 Baseline Environmental Studies were conducted during Post Monsoon Season i.e., from November 2018 to January 2019. Ambient air quality monitoring was carried out at 8 locations during 01st Nov., 2018 to 31st Jan., 2019 and the data submitted indicated: PM₁₀ (70.7 to 812.9 µg/m³), PM_{2.5} (28.6 to 295.2 µg/m³), SO₂ (0.3 to 14.5 µg/m³) and NO₂ (0.9 to 50.5 µg/m³). The high level of dust is mainly attributed to the construction of National Highway Roads converted from 2 lane to 4 lane and

the construction activity is at its peak. Due to road construction using heavy equipment and machinery, congestion of traffic and unpaved road surfaces, the dust emission is very high and is expected to reduce to pre-construction levels after the road widening is completed. The results of the modeling study indicate that the maximum increase of GLC for the proposed change in Project is 1.3 $\mu\text{g}/\text{m}^3$ with respect to the PM_{10} , 11.6 $\mu\text{g}/\text{m}^3$ with respect to the SO_2 , 2.3 $\mu\text{g}/\text{m}^3$ with respect to the NO_x . The variation of predicted GLC of PM_{10} EIA study in 2019 is lower (PM_{10} , 0.08 to 1.3 $\mu\text{g}/\text{m}^3$, SO_2 , 0.11 to 11.6 $\mu\text{g}/\text{m}^3$, NO_x 0.14 to 0.23 $\mu\text{g}/\text{m}^3$) than earlier EIA done by M/s MECON (PM -1.0 to 15.3, SO_2 - 0.1 to 4.2 $\mu\text{g}/\text{m}^3$, NO_x - 0.1 to 7.3 $\mu\text{g}/\text{m}^3$) due to change in configuration and upgradation of the existing plant.

- 12.15.15 Ground water quality has been monitored at 8 locations in the study area and analyzed. pH: 6.8 - 7.6, Total Hardness: 100 - 280 mg/l, Chlorides: 20 to 189 mg/l. Heavy metals are within the limits. Surface water samples were analyzed from 12 locations for Estuarine water. pH: 7.1 - 8.3, DO: 2.2 to 5.7 mg/l and COD: 298 – 346 mg/l. Surface water samples were analyzed from 5 locations for Lake/Pond/Dam water. pH: 7.1 - 8.9, DO: 0.7 to 3.0 mg/l and BOD: 64 to 459 mg/l, COD: 48 - 252 mg/l.
- 12.15.16 Treated wastewater meeting norms will be discharged to the marine environment after obtaining permission from relevant authorities.
- 12.15.17 Noise levels are in the range of 55.8 to 96.4 LeqdB(A) during daytime on working days and from 41.7 to 97.2 LeqdB(A) during nighttime on working days. Noise levels are in the range of 57.5 to 96.0 Leq dB (A) during daytime and from 41.1 to 96.8 Leq dB (A) during nighttime on non-working days.
- 12.15.18 It has been reported that there is no population / habitation in the core zone of the project. No R&R is involved.
- 12.15.19 Dust, fines and scraps collected from various air pollution control equipment are being/will be totally circulated into the process. Sludge and filters will be sent to TSDF authorized recyclers. Used or spent oil, wastes or residue containing oil and Empty barrels / containers/ liners contaminated with hazardous chemicals / wastes contaminated with oil to the authorized recyclers for disposal.
- 12.15.20 It has been reported that the Consent to Establish for the Expansion capacities from the Maharashtra Pollution Control Board is obtained vide Consent Order no. Format 1.0 /BO/CAC-Cell/UAN No 0000022288-18/CAC-1802000 254 dated 07/02/2018 and consent is valid up to Commissioning of the unit or 5 years whichever is earlier. The Consent to Operate has been obtained from MPCB for existing Sinter Plant – I & II vide letter no. Format 1.0/BO/CAC-Cell/Uan No. 0000056996-18/8th CAC - 1901000686 dated 10.01.2019 (Valid up to 31.12.2023) and For Pellet Plant – I vide letter no. Format 1.0/BO/CAC-Cell/Uan No.0000045570-18/5th CAC - 1811000098 dated 02.11.2018 (Valid upto 30.09.2022)

- 12.15.21 Public hearing for the proposed change in configuration in the expansion project was exempted.
- 12.15.22 The capital cost of the Expansion project is Rs. 17000 Crores; for Change In Plant Configuration is Rs. 242 Crores; and the capital cost for environmental protection measures is proposed as Rs. 2327 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 455.85 Crores. The detailed CSR plan has been provided in the EMP has been provided in EMP in its page no. (Chapter 8, Pg. No. 244 – 245 of Updated Final EIA/EMP Report).The expenditure towards CER is Rs 118.0 Crore, and the details are given in Table 8.5.The employment generation from the proposed Change In Plant Configuration project is 5000 persons.
- 12.15.23 Greenbelt will be developed in 250 acres within the plant premises and another 510 acres outside the plant;out of which 447 acre area (29.21% of total plant area) have already been developed under greenbelt / plantation. In addition to this, dense Mangrove vegetation (Natural) covers the Northwestern to Southwestern boundary of Plant site in 152 acre (10% of total plant area), making a Total of 39.21 % of existing Greenbelt. Other than the above, JSWSL has proposed to do the part plantation outside the premises in the nearby areas over 578 acre land as per recommendation by Expert appraisal Committee (EAC) in 19thand 20thmeeting dated 8th- 9thJune, 2017 & 11th- 12thJuly, 2017.
- 12.15.24 The proponent has mentioned that there are two court cases under EIA Notification to the project or related activity. Details for the same are as below:

S.No.	Court Cases	Parties	Status
1	Before NGT Pune (WZ) Appeal No. 59 of 2015.	Dwarkanath Patil and Anr. Vs MoEF and Ors	<ul style="list-style-type: none"> Misc. Application No. 23 of 2016 filed in the proceedings is pending Civil Writ Pending - Proceedings before NGT stayed. The proceedings in the matter are stayed by way of order dated 7th December 2016 passed by the Hon'ble High Court in Writ Petition No. 13483 of 2016. The stay of proceedings is extended till further orders by order dated 6th January 2017.
2	Civil Writ Petition No. 13483 of 2016 (High Court of Bombay)	JSW Steel vs MoEF and Ors	<ul style="list-style-type: none"> Writ Petition is filed being aggrieved by refusal of NGT to dismiss the Appeal No. 59 of 2015. JSW filed application stating that the matter is squarely covered under the PIL. No. 102 of 2014 and

S.No.	Court Cases	Parties	Status
			<p>is currently pending before the Hon'ble High Court of Bombay.</p> <ul style="list-style-type: none"> • The proceedings in the matter at NGT are stayed by way of order dated 7thDecember 2016 passed by the Hon'ble High Court in Writ Petition No. 13483 of 2016. The stay of proceedings is extended till further orders by order dated 6th January 2017. • Civil Writ Pending - Proceedings before NGT stayed. Next Date in High Court is 2ndJanuary 2020. (PENDING).

Observations of the Committee:

- 12.15.25 The Committee observed ToR was issued to M/s. JSW Steel with recommendations for fresh ToR for preparation of EIA report without fresh public consultation as provided under para 7(ii) a of the EIA Notification, 2006. Therefore, the proposal is for modification of the existing Environmental Clearance for expansion project under para 7(ii) of EIA Notification, 2006.

Recommendations of the Committee:

- 12.15.26 After detailed deliberations, the Committee recommended the proposal for grant of Environmental Clearance under the provisions of the EIA Notification, 2006 subject to following specific conditions in addition to the applicable general conditions as per the Ministry's Office Memorandum no. 22-34/2018-IA.III dated 9/8/2018.

“PP shall develop green belt in an area of 16% of project area within the project site and 33% of project area within the 10km of study area.”

- 12.16** Increase in clinker production from 3 million TPA to 4 million TPA and cement production from 5 million TPA to 6 million TPA through up-gradation and optimization of plant parameters/capacity utilization by **M/s. Maihar Cement** (a Division of Century Textile & Industries Ltd) located at Maihar Cement Post Sarla Nagar, District Satna, **Madhya Pradesh** - [Online Proposal No. IA/MP/IND/73253/2018, File No. J-11011/113/2018-IAII(I)] – **Environment Clearance** - regarding.

- 12.16.1 M/s Maihar Cement (a Division of Century Textile & Industries Ltd) has made online application vide proposal no. IA/MP/IND/73253/2018 dated 12th July, 2019 in the prescribed Form -2 along with copies of EIA/EMP report and other documents seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(b) Cement Plants under Category “A” due to the applicability of general condition of the EIA Notification, 2006 and the proposal is appraised at Central level.

- 12.16.2 M/s Maihar Cement, Sarla Nagar, Tehsil Maihar, Dist Satna (MP) proposes capacity expansion in production of clinker (from 3.0 MTPA to 4 MTPA) and Production of cement (from 5 MTPA to 6 MTPA) through up-gradation and optimization of plant parameters /capacity utilization in pyro processing section and cement mill section. The project was initially received in the Ministry on 19th April 2018 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006.
- 12.16.3 The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its 30th meeting held on 10.04.2018 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 19th April 2018 vide Lr. No. J-11011/113/2018-IA II (I)
- 12.16.4 Based on the ToRs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 12.07.2019 vide Online Application No.IA/MP/IND/73253/2018.
- 12.16.5 The project of M/s Maihar Cement, located in Sarla Nagar, Tehsil Maihar, Distt. Satna (MP) is for enhancement of production of clinker capacity of the plant (from 3.0 Million TPA to 4 Million TPA) and cement production (from 5 Million TPA to 6 Million TPA), which is about 20% through up-gradation and optimization of plant parameters /capacity utilization in pyro processing section and cement mill section.
- 12.16.6 The project is in operation prior to EIA notification 2006 and 1994. Environment clearance for the existing project is not applicable. The consent to establish for capacity enhancement from 3 MTPA to 5 MTPA in cement production was accorded by MP state pollution control board vide number 18718 dated 03.10.2005 and consent to operate under air and water act vide number 7214 & 7216 dated 12.09.2007. The validity of existing CTO is up to 30.09.2020. The existing capacity of plant i.e. 5 MTPA was enhanced from 3 MTPA through modification in year 2005. Since cost of project was less than 50 crores and hence the project was exempted from requirement of environment clearance under EIA notification 1994.
- 12.16.7 The proposed capacity for different products for new site area as below:

unit	Existing Capacity	Additional Capacity	Total Capacity after expansion
Clinker (MTPA)	3	1	4
Cement (MTPA)	5	1	6
Captive Power Plant (MW)	2 X15.7	Remain same	2 X 15.7
Feasibility study has been carried out for power generation potential of 16 MW for installation of WHR plant.			

- 12.16.8 The total land acquired for the project is 199.023 ha. The proposed modifications will be carried out within the existing plant; no additional land is required. No agricultural land, grazing land, forestland is involved. The entire land has been acquired for the project. No River passes through the project area. It has been reported that the Tamas

River, Ghusru river, Serainji Nalla, Andhayari Nalla, Godin Nalla, Lilji Nall, Kanindari river exist within the study area and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

- 12.16.9 The topography of the area is flat and reported to lies between Longitude: 24°10'N to 24°15'N and Latitude: 80°45' E to 80°50' E in Survey of India topo sheet No 63D/16 at an elevation of 441-341m AMSL. The ground water table reported to ranges between 2 m to 30 m below the land surface during the post-monsoon season and 4 m to 38 m below the land surface during the pre-monsoon season. Based on the hydro-geological study, it has been reported that the radius of influence of pumped out water will be 142 to 334m. Further the stage of groundwater development is reported to 79% and thereby it is designated as semi critically areas.
- 12.16.10 No National Park/WL/Biosphere Reserve/Tiger Reserve/Elephant Reserve etc are located are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna. Certain schedule-I faunal species Barking Deer, the Peacock, Chital, Sambhar, Jungle Cat, Hyena, Fox and Porcupine alongwith the Vultures and the Indian Python, are reported in the study area. The wildlife conservation plan duly authenticated/approved by the Chief Wildlife Warden of the State Government for conservation of Schedule-I fauna is submitted (Annexure-4 of EIA).
- 12.16.11 The Raw Materials required for the proposed expansion of plant are limestone, laterite, and bauxite. The clinkerization plant is based on dry process technology for cement manufacturing with pre-heater and pre calciner technology.
- Crushing of limestone at the mine site.
 - Pre-blending of crushed limestone.
 - Drying - cum-grinding of raw materials.
 - Homogenization of raw meal in a blending silo.
 - Clinkerisation of the raw meal in a rotary kiln with pre-heater and pre-calcinator.
 - Grinding, storage and packing.
 - No waste will be generated during clinker/cement manufacturing process.
- 12.16.12 The targeted production capacity of the clinker (4 MTPA), Cement (6 MTPA) & CPP (2X15.7 MW). Limestone is being sourced from Captive four limestone mines of Maihar Cement which are located adjacent to the plant. The cumulative production capacity is 4.90 MTPA of Limestone and 0.1 MTPA of Laterite which be transported through OLBC. Coal and Petcoke are being sourced through linkage and being transported through Wagon/trucks.
- 12.16.13 About 2950 kl/ day of water is required for cement plant complex inclusive of power plant section, which is being sourced from a perennial river "Tamus" during the rainy season only ,whereas during non-monsoon season, water is sourced from water reservoir having capacity of 20,40,000 kl developed at Mine leases. Marginal increase of 25 kl per day is envisaged during the proposed expansion. It is also reported that Maihar Cement has also developed a reservoir in the Cement Plant

having capacity of 5,75,000 kl and is capable of meeting about 40 days water requirements of the Cement Plant. The permission of drawl of surface water is obtained from Irrigation department of Madhya Pradesh vide letter no. 6/6/74/G/33/Bhopal dated 13/02/1975.

- 12.16.14 Total power requirement for simultaneous running of the complete plant is about 47 MW which is being sourced through MPSEB, as well as two Thermal Power Plant with a capacity of 15.7 MW each
- 12.16.15 Baseline Environmental Studies were conducted during summer season i.e., from March to May, 2018 Ambient air quality monitoring has been carried out at ten locations during 1stMarch to 31stMay 2018 and the data submitted indicated: PM₁₀ (42.24µg/m³ to 72.90 µg/m³), PM_{2.5} (16.66 to 30.05 µg/m³), SO₂ (6 to 6.97 µg/m³) and NO_x (8 to 13.99 µg/m³). The results of the modeling study indicates that the maximum increase of GLC for the proposed project is 0.48 µg/m³ with respect to the PM₁₀, 2.0 µg/m³ with respect to the SO₂ 5.31µg/m³ with respect to the NO_x.
- 12.16.16 Ground water quality has been monitored in eight locations in the study area and analysed. pH: 6.37 to 8.28, Total Hardness: 76 to 452 mg/l, Chlorides: 5.99 to 127.96 mg/l, Fluoride: 0.10 to 1.0mg/l. Heavy metals are within the limits. Surface water samples were analysed from 8 locations. pH: 7.06 to 8.34; DO: 4.20 to 5.30 mg/l and BOD: 2 mg/l. COD from 4 to 70 mg/l.
- 12.16.17 Ambient Noise levels are in the range of 53.71 to 76.75 dB(A) for daytime and 32.84 to 54.34 dB(A) for nighttime.
- 12.16.18 It has been reported that there is no population/habitation in the core zone of the project. No R&R is involved.
- 12.16.19 No solid waste is/will be generated from the cement manufacturing process. Dust collected from various air pollution control equipment will be totally recirculated into process. STP sludge being/will be utilized as manure for green belt development within premises. Fly ash generated from captive power plant will be utilized in cement manufacturing process. No hazardous waste will be generated except the used oil which will be collected in drums, temporarily stored at earmarked place and will be sold to the authorized CPCB recyclers. Total area covered under plantation is about 149 acres (60 ha) with 8,23,000 number of trees. Further development of green belt over 5 ha of area is also proposed around the plant periphery and open space which is being/will help to attenuate the noise levels and trap the dust generated due to the project development activities.
- 12.16.20 It has been reported that the Consent to Operate for the existing capacities from the MP Pollution Control Board is obtained vide consent order no – AWH 50596 valid up to 30.09.2020
- 12.16.21 Public Hearing was conducted on 8thMarch 2019 in Presence of Collector Satna and RO, MPPCB, Satna (MP) at outside of the boundary of plant for proposed expansion of clinkerization plant (3 to 4 MTPA) and Cement Plant (5 to 6 MTPA) along with existing power plant of 2 X15.7 MW power plant. Total 150 number of people were

attended public hearing and 20 numbers of comments have been received which are mostly pertaining to further provision of need base facilities in nearby village. The issue raised during public hearing are approach road for temple, lighting arrangement over road, provision of playground, provision of common toilet facility, drinking water facility in some of the ward, deepening of river, construction of Barat Ghar etc for which Rs 53 Lacs has been earmarked by the propjet proponent.

- 12.16.22 The existing capital cost of the project is Rs 989.11 Crores, which will be increased by 80 Crores. The existing capital cost for environmental protection measures is Rs 83.69 crores which will be increased by Rs 5.43 Crores. The annual recurring cost towards the environmental protection measures is Rs 4.03 Crores which will be Rs 4.87 Crores after expansion.

Total Cost (EMP + CER+ Plantation + Monitoring) for Existing & proposed project			
S.No	Particular	Amount (Rs in Lacs) Capital	Amount (Rs in Lacs) per annum – Recurring
2B	Maintenance of Plantation	-	490
2c	Plantation (Capital cost) within plant	14.87 @ 15	-
	Sub Total	14.87 @ 15	490
4	CER cost	80	40
	Sub Total	80	40
Remark: Existing Cost over CER aspects is reported as 200 lacs per year which will be continue in future also. This amount Rs 80 lacs per year will be spent over a period of 2 years (@ Rs 40 Lacs per Year) in addition to the existing activities being carried out.			
5	Occupational health and safety exp.	195.70	50 (avg)
	Sub Total	196	50 (Avg)
Remark: Existing Cost over OHS aspects is about 65 lacs per year			
6	Environmental Monitoring cost	843	46.12 @ 47
	Sub Total	843	46.12 @ 47
	Grand Total	1134	603

- 12.16.23 The unit has incurred Rs 2.25 Crore in 2015-16, Rs 1.06 Crores in year 2016-17 and Rs 2.10 Crores in Year 2017-18 on CSR aspects. In line with the OM of MoEF&CC dated 1st May 2018. Additional provision of Rs 0.80 Crores has been proposed towards the CER which is in addition to the existing activities/expenses being carried out for the project.

- 12.16.24 The existing employment is about 2253 number and will be increased by 20-25 numbers during operation of the proposed expansion.

- 12.16.25 Total area covered under plantation is about 149 acres (60 ha) with 8,23,000 number of trees. Further development of green belt over 5 hectare of area is also proposed around the plant periphery and open space as per CPCB/MoEF CC, New Delhi guidelines.
- 12.16.26 The proponent has mentioned that there is no court case or violation under EIA Notification to the project related activity.

Observations of the Committee:

- 12.16.27 The committee observed that the baseline data was not reported in the format as specified in the SOPs in NABL Accreditation. Therefore, the committee asked to submit the data in revised format. Accordingly, PP submitted the data in the specified format.

Recommendations of the Committee:

- 12.16.28 After detailed deliberations, the Committee recommended the proposal for grant of Environmental Clearance under the provisions of the EIA Notification, 2006 subject to following specific conditions in addition to the applicable general conditions as per the Ministry's Office Memorandum no. 22-34/2018-IA.III dated 9/8/2018.
- i. Particulate Emissions from the stack shall be maintained below 25 mg/m³.
 - ii. The implementation status of Wildlife conservation plan shall be submitted with six monthly compliance report.
 - iii. Air cooled condensers shall be installed with CPP
 - iv. No ground water extraction. Water shall be withdrawn from Tamas river and rainwater storage ponds.

12.17 Expansion of Kraft Paper Plant from 100 TPD to 200 TPD; Agro/Mixed Hard Wood/Waste Paper Pulp/Ready Pulp from 100 TPD to 200 TPD; Co-generation Power Plant 2.5 MW by M/s K R Pulp and Papers Limited (Unit-I) located At Village Rampura, Tehsil Sadar (Shahjahanpur), District Shahjahanpur, **Uttar Pradesh** [Online Proposal No. IA/UP/IND/107930/2018, File No. J-11011/289/2018-IAII(I)]– **Re-consideration for Environment Clearance based on ADS reply - regarding.**

- 12.17.1 The proposal was placed before the Reconstituted Expert Appraisal Committee (Ind 1) meeting held on 30th July, 2019 (Agenda Item no. 9.2) and the Minutes of Meeting are as given below:

Details submitted by the project proponent

The Project Proponent and the accredited Consultant M/s. J.M. Enviro Net Pvt. Ltd. (Serial No. 88) made a detailed presentation on the salient features of the project and informed that:

The proposal of M/s K R Pulp & Papers Limited (Unit I) for expansion of Kraft Paper Plant from 100 TPD to 200 TPD; Agro/Mixed Hard Wood/Waste Paper Pulp/Ready Pulp from 100 TPD to 200 TPD; Co-generation Power Plant 2.5 MW located in Village Rampura, Tehsil Sadar, District Shahjahanpur, State Uttar Pradesh was initially received in the Ministry on 29th August, 2018 for obtaining Terms of

Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its 36th meeting held on 9th October, 2018 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 10th December, 2018 vide Lr. No. IA-J-11011/289/2018-IA.II (I).

Based on the ToRs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 10th July, 2019 vide Online Application proposal no. IA/UP/IND/2366/2008.

The project of M/s K R Pulp & Papers Limited (Unit I) located in Village Rampura, Tehsil Sadar, District Shahjahanpur, Uttar Pradesh is for enhancement of production of Kraft Paper Plant from 100 TPD to 200 TPD. The existing project is operating on the basis of CTO air and water and NOC vide letter no. G06631/C-5/2/NOC-3/97 dated 10.1.97 issued by UPPCB.

Certified CTO compliance from RO, Bareilly has been obtained and the visit was conducted on 2.1.2019 and 21.1.2019. There is no non-compliances reported by Regional Officer. The existing and proposed capacity for different products for site area as below:

Units	Existing capacity	Proposed additional capacity	Total capacity after expansion
Kraft Paper	100 TPD	100 TPD	200 TPD
Co-generation power plant*	2.5 MW	Nil	2.5 MW

*Currently, 2.5 MW co-generation power plant exists. After expansion, power and steam will be sourced from 18 MW power plant in Unit II. 2.5 MW Co-generation power plant will be operational as and when required.

The total land required for the project is 11 ha (27.18 acres) which is already an industrial land. No forestland is involved. The proposed expansion will be done within the existing plant premises so no additional land is required for the expansion. No river passes through the project area. It has been reported that no water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

The topography of the area is flat and reported to lie between 27°50'36.05"N to 27°50'49.49" Latitude and 79°50'57.97"E to 79°51'17.24"ELongitude in Survey of India toposheet No. 54 M/13 and 54 M/9at an elevation of 149 m msl. The ground water level reported to be ranging between 4.8 To 6.6 m below the land surface during the post-monsoon season and 5.5 To 7.8 m below the land surface during the pre-monsoon season. Further, the overall stage of groundwater development is reported to be less than 70% for study area (Block /Tehsil-Sadar) as per Central Ground Water Board and thereby these areas are categorized under 'SAFE' zone.

No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report for corridor for Schedule-I fauna.

The process of project showing the basic raw material used and the various processes involved to produce the final output, waste generated in process.

S. No.	Process stage after expansion	Pollutants	Treatment facility
1	Raw material handling & processing (Bagasse/mixed hard wood and wheat straw)	Wastewater from washing	Effluent Treatment Plant
		Discarded pith and straw waste	Fired in boiler as fuel
2	Cooking in Digester with caustic	-	
3	Blow tank	-	
4	Brown stock washing and cleaning	Black liquor	Recycled through conventional chemical recovery process in Unit II.
5	Stock preparation and addition of supplementary pulp	-	-
6	Paper machine	Wastewater	Effluent Treatment Plant
7	Effluent Treatment Plant	ETP sludge	Used as fuel in boiler
8	Co-generation power plant	Particulate matter and gaseous emissions	Bag filter and adequate stack height

The targeted production capacity of Kraft Paper plant is 200 TPD. The basic raw material for the plant i.e. Bagasse/mixed hard wood and wastepaper/Ready pulp which will be procured from nearby Sugar Mill/Farmers and plywood industries. The transportation will be done through Road.

S. No.	Particulars	Existing requirement (TPD)	Additional Requirement (TPD)	Total Requirement (TPD)	Source and mode of transport	Approx. distance from plant site	Storage Area and Storage capacity
(A) Raw material consumption							
1	Bagasse/mixed hard wood and waste paper/Ready pulp	234 (Agro and waste paper)	259.4	493.4 (Agro/mixed wood/waste paper/ready pulp)	Nearby Sugar Mill/Farmers and plywood industries through truck/trolleys by road	150-200 Km	30,000 Ton open yard
(B) Chemical consumption							
1	Caustic	13.4	62.9	76.3	95% from CRP through	500 Km	100 Ton tanks

					pipeline and 5% from Local chemical suppliers through tanker by road		
2	Rosin	1.0	1.0	2.0	Local chemical suppliers through tanker by road	500 Km	30 Ton tanks
3	Alum/AKD	9.0	6.0	15.0	Local chemical suppliers through tanker by road	500 Km	50 Ton tanks

Total water requirement after expansion will be 4135 m³/day. The permission for drawl of groundwater is obtained from Central Ground Water Authority vide Lr. No. CGWA/NOC/IND/ORIG/2019/5380 dated 28th May, 2019.

After expansion, the total power requirement of the project is estimated as 4.0 MW which will be sourced from captive power plant of 18 MW to be installed in Unit II and in emergency it is being/will be sourced from existing 2.5 MW co-generation power plant and DG Sets.

Baseline Environmental Studies were conducted during Post Monsoon Season i.e., from 1stOctober, 2018 to 31stDecember, 2018. Ambient air quality monitoring has been carried out at eight locations during October to December and the data submitted indicated: PM₁₀ (62.4 µg/m³ to 94.6 µg/m³), PM_{2.5} (38.9 µg/m³ to 54.5 µg/m³), SO₂ (6.3 to 20.6 µg/m³) and NO_x (15.8 to 41.4 µg/m³). The results of the modelling study indicate that the maximum increase of GLC for the proposed project is 0.73 µg/m³ with respect to the PM₁₀, 0.40µg/m³ with respect to the SO₂ and0.68µg/m³ with respect to the NO_x.

Ground water quality has been monitored in nine locations in the study area and analysed. pH: 7.19 to 7.92, Total Hardness: 133.65 to 361.35 mg/l, Chlorides: 10.85 to 61.64 mg/l, Fluoride: 0.26 to 0.85 mg/l. Heavy metals are within the limits. Surface water samples were analysed from 3 locations. pH: 7.73 to 7.89; DO: 3.6 to 6.4 mg/l and BOD: 2.3 to 26.4 mg/l. and COD from 7.90 to 126.9 mg/l.

Noise levels are in the range of 52.8 to 73.9 Leq dB(A) for daytime and 42.8 to 67.4 Leq dB(A) for nighttime.

R& R is not applicable. Proposed expansion will be done within existing plant premises and no additional land has been acquired.

It has been reported that a total of 3.4 TPD of ETP Sludge, 12 TPD of fly ash, 170 TPD of black liquor solids and 250 litre/ month of used oil will be generated due to the project. ETP sludge is being/will be burnt in the boiler as fuel, fly ash is/will be used as manure/for in- house brick manufacturing/given for brick manufacturing, black liquor solids will be incinerated in conventional chemical recovery plant in Unit II after expansion to obtain caustic (white liquor), used oil is/will be sent to CPCB authorised recyclers. It has been envisaged that an area of 3.6 ha has already been developed as green belt around the plant site to attenuate the noise levels and trap the dust generated due to the project development activities.

It has been reported that the Consent to Operate (Water and Air) from the Uttar Pradesh Pollution Control Board has been obtained vide Lr. No. 39604/UPPCB/Bareilly (UPPCBRO)/CTO/water/SHAHJAHANPUR/2018 dated 11.4.2019 and 39595/UPPCB/Bareilly(UPPCBRO)/CTO/air/SHAHJAHANPUR/2018 dated 11.4.2019. and consent is valid from 11.2.2019 to 31.12.2020.

The Public hearing of the project was held on 15/05/2019 at plant site under the chairmanship of Mr. Amar Pal Singh (Additional District Magistrate, Shahjahanpur) for the expansion of Kraft Paper Plant from 100 TPD to 200 TPD; Co-generation Power Plant 2.5 MW. The issues raised during public hearing are air and water pollution, dust and ash dispersion, employment. An amount of 29 Lakhs (1% of total capital cost as per O.M. on CER dated 1stMay, 2018) has been earmarked for Enterprise Social Commitment based on public hearing issues.

The capital cost of the project is Rs 29.88 Crores and the capital cost for environmental protection measures is proposed as Rs. 5.81 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 1.4 Crores/annum. The detailed CSR plan has been provided in the EMP in its page No. 195. Total direct employment after expansion will be 149 persons during operation phase.

Greenbelt has been developed in 3.6 ha which is about 33% of the total acquired area. A 5-10 m wide greenbelt, consisting of at least 3 tiers around plant boundary has been/will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species has been planted with a density of 1500 trees per hectare. Additional no. of 1000 saplings will be planted and nurtured to make greenbelt denser.

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

Observations of the Committee (9th EAC meeting held on 30th July 2019):

The compliance of the EC was monitored by Regional Office when the plant was not in operation.

The Project is located in the Ganga basin and Notification 7th October 2016 is applicable wherein no discharge of treated /untreated effluent directly or indirectly is permitted in /tributaries of Ganga.

Recommendations of the Committee (9th EAC meeting held on 30th July 2019):

After detailed deliberations, the committee sought additional information on the following issues.

- i. Explore the possibility for recycling the effluents and prepare action plan for using the same in the plant in accordance with the requirement of Notification, SO 3086 7th October 2016.
- ii. As no additional groundwater abstraction is allowed, the project proponent should explore the possibility of using surface water and water from rainwater harvesting and storage and other surface sources.
- iii. The estimated emissions from recovery boiler and power plant shall be revisited.
- iv. As the usage of pet coke is not permitted, alternative plan should be submitted.
- v. Certified Compliance report of existing EC from Regional Office, MoEF&CC shall be furnished.

12.17.2 The Project Proponents submitted reply to the Additional Details Sought on 03.10.2019 and the replies are given below:

S. No.	Additional Details Sought	Reply
1	Explore the possibility for recycling the effluents and prepare action plan for using the same in the plant in accordance with the requirement of Notification, S.O. 3086 7 th October, 2016. Explore the possibility for recycling the effluents.	<p>As per committee's suggestion, freshwater requirement after expansion has been further reduced from 16560 to 15890 KL/D (39.70 KL/ton of paper) against the CPCB Charter standard of 50 KL/ton.</p> <p>EC was obtained in 2009 for existing 200 TPD writing and printing paper and freshwater requirement was 16560 KLPD i.e. 82.8 m³/ton of paper whereas the company explored possibilities of internal reuse and recycle and brought down the usage to 9940 KLPD i.e. 49.7 m³/ton of paper. Now, the company is proposing expansion from 200 to 400 KLPD and total freshwater requirement per ton of paper is 15890 KLPD (39.7 m³/ton) from existing 49.7 m³/ton of paper. Hence, overall reduction in freshwater requirement i.e. 10 KL per ton of paper after expansion.</p> <p>In compliance to above notification, after expansion company will be used internally within process 2010 KLPD whereas 13000 KLPD will be treated in ETP and used for irrigation in nearby villages for which irrigation network has already been proposed</p> <p>Request- During NO NEED period (such as, monsoon / crop pattern / no need by farmers), the company should be allowed to discharge treated wastewater into adjacent Bakshi drain conforming to EP Act for land discharge.</p>
2.	No additional groundwater abstraction is allowed. It is required to explore the possibility for using surface water and water from rainwater harvesting and storage and other surface sources.	<p>The company has reduced the water consumption from 16560 to 9940 KLD for current operation (i.e. 49.7 KL/ton) since the last EC obtained in 2009 by installation of Anaerobic Treatment System, imported from Netherland, the pioneer country in wastewater treatment. Additional water requirement for proposed 200 TPD is 5950 KLPD (29.75 m³/ton of paper). So, total freshwater</p>

S. No.	Additional Details Sought	Reply
		<p>requirement after expansion will be 15890 KLPD (39.7 m³/ton of paper). The CGWA permission for ground water withdrawal has already been obtained vide letter no. CGWA/NOC/IND/REN/2/2019/5562 and validity is from 22/05/2018 to 20/05/2023 and the permission has been obtained after compliance of all the terms and conditions only.</p> <p>Regarding surface water possibility, the company tried to explore and approached the concerned department for permission of water withdrawal from River Garrah. They expressed their inability for permission due to non-availability of water in the river.</p> <p>Regarding rainwater harvesting, the company has already made provisions for collection of rain water, roof top water in storage ponds, reservoir and uses the collected water as fresh water for various requirements within industry.</p>
3.	The estimated emissions from recovery boiler and power plant shall be revisited	Revised estimated emissions for co-generation power plant and chemical recovery boiler are submitted.
4.	As the usage of pet coke is not permitted, alternative plan should be submitted.	The Company has proposed pet coke usage only in lime kiln. Pet coke is permitted for use in LIME KILN. (Vide Notification No. G.S.R. 45(E) dated 19.1.2018 and Supreme Court orders dated 13.12.2017).
5.	Certified Compliance report of existing EC from Regional Office, MoEF&CC shall be furnished.	Certified EC compliance report has been obtained by MoEFCC, Regional Office-Lucknow vide letter no. IV/ENV/UP/IND-120/305/2009/106 dated 24.09.2019. The site visit was conducted on 9.9.2019.

Observations of the Committee:

- 12.17.3 The Committee observed that the additional information submitted by the proponent is adequate. Though the unit is meeting the requirements of water consumption in the revised charter, Committee emphasized for further reduction of water consumption.

Recommendations of the Committee:

- 12.17.4 After deliberations, the Committee recommended the proposal for grant of Environmental Clearance under the provisions of the EIA Notification, 2006 subject to following specific conditions in addition to the applicable general conditions as per the Ministry's Office Memorandum no. 22-34/2018-IA.III dated 9/8/2018.
- i. 50% reuse and recycling of treated water in phased manner in five years by up-gradation, modification and optimization in the existing treatment facilities. Consequently, the company shall reduce the water consumption from 4135 m³/day to 2450 m³/day within 5 years.
 - ii. After expansion of the project, 100% groundwater recharge against the ground water abstraction shall be carried out in the study area. Rainwater harvesting shall be taken up in nearby areas.

12.18 Proposed Expansion of Writing & Printing Paper Plant (200 to 400 TPD) and Co-generation Power Plant (12 MW to 30 MW) by M/s K R Pulp and Papers Limited (Unit-II) located At Village Rampura, Tehsil Sadar (Shahjahanpur), District Shahjahanpur, Uttar Pradesh -[Online Proposal No.IA/UP/IND/2366/2008, File No. J-11011/1132/2007-IAII(I)] - Re-consideration for Environment Clearance based on ADS reply - regarding.

12.18.1 The proposal was placed before 9th Reconstituted Expert Appraisal Committee (Ind 1) meeting held on 30th July, 2019 (Agenda Item no. 9.2) and the Minutes of Meeting are as given below:

The Project Proponent and the accredited Consultant M/s. J.M. EnviroNetPvt. Ltd. (Serial.No. 88) made a detailed presentation on the salient features of the project and informed that:

The proposal of M/s K R Pulp & Papers Limited (Unit II) located in Village Rampura, Tehsil Sadar (Shahjahanpur), District Shahjahanpur, State Uttar Pradesh was initially received in the Ministry on 1st September, 2018 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its 35th meeting held on 18th September, 2018 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 9th October, 2018 vide Lr. No. IA J-11011/1132/2007-IA.II (I).

Based on the ToRs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 10th July, 2019 vide Online Application proposal No. IA/UP/IND/2366/2008.

The project of M/s. K R Pulp & Papers Limited (Unit II) located in Village Rampura, Tehsil Sadar (Shahjahanpur), District Shahjahanpur, State Uttar Pradesh is for Expansion of Writing & Printing Paper Plant (200 to 400 TPD) and Co-generation Power Plant (12 MW to 30 MW). The existing project was accorded environmental clearance vide letter no. J-11011/1132/2007-IA-II (I) dated 12th February, 2009.

The status of compliance of earlier EC was obtained from Regional Office, Lucknow vide letter no. IV/ENV/UP/Ind-120/305/2009/668 dated 5th March, 2019. There is no

non compliances reported by Regional Officer. The existing and the proposed capacity for different units of the plant are as below:

Units	Existing capacity	Proposed additional capacity	Total capacity after expansion
Writing and printing paper	200 TPD	200 TPD	400 TPD
Co-generation power plant	12 MW (Co-gen Power Plant)	18 MW*	30 MW
Chemical recovery plant	Non-Conventional Recovery** (300 TPD)	700 TPD (New Conventional Recovery Plant with Lime Kiln)	700 TPD (New Conventional Recovery Plant with Lime Kiln)

Note: *11 MW generated by steam from Conventional recovery plant & 7 MW from proposed 60 TPH boiler.

**After expansion, existing non -conventional chemical recovery plant will be kept on standby.

The total land required for the project is 24 hectares which is already an industrial land. No forestland involved. Expansion will be done within existing plant premises only so no additional land is required. The natural drain Bhaksi Nala passes through the plant area. It has been reported that this natural drain i.e., Bhaksi Nala exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

The topography of the area is flat and reported to lie between 27° 50' 19.37'' to 27° 50' 41.61''N Latitude and 79° 50' 55.93'' to 79° 51' 25.64''E Longitude in Survey of India toposheet No. 54 M/13 and 54 M/9 at an elevation of 148-149m msl. The ground water level reported to be ranging between 4.8 To 6.6 m below the land surface during the post-monsoon season and 5.5 To 7.8 m below the land surface during the pre-monsoon season Further, the overall stage of groundwater development is reported to be less than 70% for study area (Block /Tehsil-Sadar) as per Central Ground Water Board and thereby these areas are categorized under 'SAFE' zone.

No national park/Wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report for corridor of Schedule-I fauna.

The process of project showing the basic raw material used and the various processes involved to produce the final output, waste generated in process.

S. No.	Process stage after expansion	Waste generated	Treatment facility
1.	Raw material handling & processing (Bagasse/mixed hard wood and wheat straw)	Wastewater from washing	Effluent Treatment Plant
		Discarded pith and straw waste	Used as fuel in boiler

2.	Cooking in Digester with caustic	-	-
3.	Blow tank	-	-
4.	Brown stock washing and cleaning	Black liquor	Recycled through conventional chemical recovery process
5.	Oxygen delignification	-	
6.	Bleaching	Wastewater	Effluent Treatment Plant
7.	Stock preparation and addition of supplementary pulp	-	-
8.	Paper machine	Wastewater	Effluent Treatment Plant
9.	Effluent Treatment Plant	ETP sludge	Used as fuel in boiler
10.	Co-generation power plant	Particulate matter and gaseous emissions	ESP as APCE and adequate stack height
11.	Chemical recovery plant	Gaseous emissions	ESP as APCE and adequate stack height
12.	Lime kiln	Gaseous emissions	ESP as APCE and adequate stack height

The targeted production capacity of writing and printing paper plant is 400 TPD. The raw material (bagasse, wheat straw, mixed hard wood) would be procured from nearby sugar mills/farmers/ply wood industry. The raw material transportation will be done through Road

Raw material requirement

S. No.	Particulars	Existing requirement (TPD)	Additional Requirement (TPD)	Total Requirement (TPD)	Source and mode of transport	Approx. distance from plant site	Storage Area and Storage capacity
(A) Raw material consumption							
1	Bagasse, wheat straw, mixed hard wood	784	778	1562	Nearby Sugar Mill/ Farmers/ Ply Wood Industry by road	130 Km Radius	Yard with capacity 80000 Ton
(B) Chemical consumption							
1	Caustic	62	99	161	95% from	400 Km	700 Ton

S. No.	Particulars	Existing requirement (TPD)	Additional Requirement (TPD)	Total Requirement (TPD)	Source and mode of transport	Approx. distance from plant site	Storage Area and Storage capacity
					CRP through pipeline and 5% from Market By road		
2	Sodium Chlorate	2.59	4.0	6.59	Nearby markets by road	800-1000 Km	200 Ton
3	Hydrogen peroxide	2.06	2.43	4.49	Nearby markets by road	800-1000 Km	50 Ton
4	AKD	2.4	2.4	4.8	Nearby markets by road	200-300 Km	80 Ton
5	Starch	0.8	1.6	2.4	Nearby markets by road	500-800 Km	50 Ton
6	Oxygen	0	6	6	In-house by pipeline	--	--
7	PCC/GCC	20	55	75	In house/market	0-500 km	500 ton

Fuel requirement

S. No.	Fuel	Existing Requirement	Additional Requirement	Total quantity	Approx. distance	Source	Storage facility with capacity
(A)	Fuel for Boiler						
1.	Rice Husk and Coal with Pith & Sludge in combination	Rice husk - 430 T/Day or Coal - 360 T/Day and Pith & sludge in combination	Coal - 300 T/Day	Rice husk - 430 T/Day & 300 T/Day coal Or Coal - 660 T/Day with Pith & sludge in combination	100-1000 Km	Open market by road	12000 Ton

S. No.	Fuel	Existing Requirement	Additional Requirement	Total quantity	Approx. distance	Source	Storage facility with capacity
(B) Fuel for lime kiln							
1.	Pet coke	Nil	Pet coke 45 T/Day	Pet coke 45 T/Day	300 Km	Nearby Refineries Or Open market by road	2500 Ton
2.	Furnace Oil	Nil	Furnace Oil 22 T/Day	Furnace Oil 22 T/Day	300 Km	Nearby Refineries Or Open market by road	100 Ton

Total fresh water requirement after expansion will be 16560 KLD which will be met from the ground water. The permission for drawl of groundwater is obtained from Central Ground Water Authority vide Lr. No. CGWA/NOC/IND/REN/2/2019/5562 dated 18th June 2019.

The total power requirement of the project after expansion is estimated as 21 MW which will be sourced from existing 12 MW and proposed 18 MW co-generation power plant and Chemical recovery boiler.

Baseline Environmental Studies were conducted during Post Monsoon Season i.e. from 1st October, 2018 to 31st December, 2018. Ambient air quality monitoring has been carried out at 8 locations during October to December, 2018 and the data submitted indicated PM₁₀ (62.4 to 94.6 µg/m³), PM_{2.5} (38.9 to 54.5 µg/m³), SO₂ (6.3 to 20.6 µg/m³) and NO_x (15.8 to 41.4 µg/m³). The results of the modelling study indicates that the maximum increase of GLC for the expansion project is 1.45 µg/m³ with respect to the PM₁₀, 0.46 µg/m³ with respect to the PM_{2.5}, 2.09 µg/m³ with respect to SO₂, 3.35 µg/m³ with respect to the NO_x.

Ground water quality has been monitored in 9 locations in the study area and analysed. pH: 7.19 to 7.92, Total Hardness: 133.65 to 361.35 mg/l, Chlorides: 10.85 to 61.64 mg/l, Fluoride: 0.26 to 0.85 mg/l. Heavy metals are within the limits. Surface water samples were analysed from 3 locations. pH: 7.73 to 7.89; DO: 3.6 to 6.4 mg/l and BOD: 2.3 to 26.4 mg/l; COD from 7.90 to 126.9 mg/l.

Noise levels are in the range of 52.8 to 73.9 Leq dB(A) for daytime and 42.8 to 67.4 Leq dB(A) for night time.

R& R is not applicable. Proposed expansion will be done within existing plant premises and no additional land is acquired for the same.

It has been reported that a total of 16 TPD ETP sludge, 198 TPD fly ash, 232 TPD lime sludge, 529.4 TPD black liquor solids and 15 LPD used oil will be generated due to the project. ETP sludge is being/will be burnt in the boiler, Fly ash is being/will be used for in house brick manufacturing unit, given to farmers as manure, given to brick manufacturers. Lime sludge will be burnt in lime kiln to obtain calcium oxide, black liquor solids will be incinerated in conventional chemical recovery plant after expansion to recover caustic (White liquor), lime grit will be given to brick manufacturers and low land filling, used oil is being/will be sent to CPCB authorized recyclers. It has been envisaged that an area of 7.9 ha is already developed as green belt around the plant site to attenuate the noise levels and trap the dust generated due to the project development activities.

It has been reported that the Consent to Operate (Water and Air) from the Uttar Pradesh Pollution Control Board has been obtained vide Lr. No. 38657/UPPCB/Bareilly(UPPCBRO) /CTO/water/SHAHJAHANPUR /2018 dated 11.4.2019 and 38652/UPPCB/Bareilly(UPPCBRO) /CTO/air/SHAHJAHANPUR/2018 dated 11.4.2019 and consent is valid from 03/04/2019 to 31/12/2020

The Public hearing of the project was held on 15/05/2019 at plant site under the chairmanship of Mr. Amar Pal Singh (Additional District Magistrate, Shahjahanpur) for Expansion of Writing & Printing Paper Plant (200 to 400 TPD) and Co-generation Power Plant (12 MW to 30 MW). The issues raised during public hearing are for CSR activities, air and water pollution, mitigation measures and monitoring. An amount of 370 Lakhs (maximum percentage of total capital cost i.e. 460.25 Crores as per Office Memorandum on CER dated 1st May, 2018) has been earmarked for Enterprise Social Commitment based on public hearing issues.

The capital cost of the project is Rs. 460.25 Crores and the capital cost for environmental protection measures is proposed as Rs. 21.03 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 4.35 Crores / annum. The detailed CSR plan has been provided in the EMP in its page No. 190 to 191. Total direct employment after the proposed expansion is 541 persons during operation phase.

Greenbelt has been developed in 7.9 Ha which is about 33% of the total acquired area. A 5-10 m wide greenbelt, consisting of at least 3 tiers around plant boundary has been/will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species has been planted with a density of 1500 trees per hectare. Additional no. of 1800 saplings will be planted and nurtured to make greenbelt more dense.

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

Observations of the Committee (9th EAC meeting held on 30th July 2019):

The compliance of the EC was monitored by Regional Office when the plant was not in operation.

The Project is located in the Ganga basin and Notification 7th October 2016 is applicable, whereby no discharge of treated /untreated effluent directly or indirectly is permitted in /tributaries of Ganga.

Recommendations of the Committee (9th EAC meeting held on 30th July 2019):

After detailed deliberations, the committee sought additional information on the following issues.

- i. Explore the possibility for recycling the effluents and prepare action plan for using the same in the plant in accordance with the requirement of Notification, S.O. 3086 7th October, 2016.
- ii. No additional groundwater abstraction is allowed. It is required to explore the possibility for using surface water and from rainwater harvesting and storage and other sources.
- iii. The estimated emissions from recovery boiler and power plant shall be revisited.
- iv. Usage of pet coke is not permitted.
- v. Certified Compliance report of existing EC from Regional Office, MoEF&CC shall be furnished.

12.18.2 The Project Proponent submitted reply to the Additional Details Sought on 03.10.2019 .and the replies are given below:

S. No.	Additional Details Sought	Reply
1	Explore the possibility for recycling the effluents and prepare action plan for using the same in the plant in accordance with the requirement of Notification, S.O. 3086 7 th October, 2016. Explore the possibility for recycling the effluents.	As per committee's suggestion, after expansion, freshwater requirement has been further reduced from 4135 KLD to 4050 KLD (20.25 kl/ton of paper) against the CPCB Charter standard of 25 kl/ton of paper. Fresh water requirement for existing 100 TPD kraft paper was 2430 KLD (24.3 kl/tonne of paper) whereas after expansion to 200 TPD, the freshwater requirement will be 4050 KLD (20.25 kl/tonne of paper). Hence, overall reduction in freshwater requirement i.e. 4.05 kl per ton of paper. In compliance to above notification, after expansion company will treat 3476 KLPD of effluent in ETP and will be using 285 KLPD within plant premises and remaining 3191 KLPD will be used for irrigation in nearby villages agricultural land for which irrigation network has already been proposed. Request: During NO NEED period (such as, monsoon / crop pattern / no need by farmers), the company should be allowed to discharge treated wastewater into adjacent Bakshi drain conforming to EP Act for land discharge.
2.	No additional groundwater abstraction is allowed. It is required to explore the possibility for using surface water and water from rainwater harvesting and storage and other surface sources.	Existing freshwater requirement for 100 TPD kraft paper is 2430 KLPD and additional freshwater requirement for proposed 100 TPD is 1620 KLPD. So, total freshwater requirement after expansion is 4050 KLPD. CGWA permission has already been obtained vide letter no. CGWA/NOC/IND/ORIG/2019/5380 and valid from 22.05.2019 to 21.5.2021 and the company is/will be complying all the terms and conditions.

		The company tried to explore the possibility of using surface water and approached the concerned department for permission of water withdrawal from river Garrah. They expressed their inability for permission due to non-availability of water in the river. Regarding rainwater harvesting, the company has proposed for collection of rainwater, roof top water in storage ponds, reservoir and use the collected water as fresh water for various requirements within industry.
3	The estimated emissions from recovery boiler and power plant shall be revisited	Unit I is not proposing chemical recovery boiler as well as power plant. Both will be installed in Unit II as a part of expansion. So, this point is not applicable.
4	As the usage of pet coke is not permitted, alternative plan should be submitted.	Unit I is not proposing pet coke usage. So, this point is not applicable.
5	Certified Compliance report of existing EC from Regional Office, MoEF&CC shall be furnished.	KR Pulp and Papers Limited (Unit I) is operational based on NOC and Consent to Operate obtained from Uttar Pradesh Pollution Control Board. CTO (water and air) conditions has been certified by Regional Officer, UPPCB, Bareilly and visit was conducted on 21.1.2019. The certified CTO compliance has been obtained.

Observations of the Committee:

12.18.3 The Committee observed that the additional information submitted by the proponent is adequate. Though the unit is meeting the requirements of water consumption in the revised charter, Committee emphasized for further reduction of water consumption.

Recommendations of the Committee:

12.18.4 After detailed deliberations, the Committee recommended the proposal for grant of Environmental Clearance under the provisions of the EIA Notification, 2006 subject to following specific conditions in addition to the applicable general conditions as per the Ministry's Office Memorandum no. 22-34/2018-IA.III dated 9/8/2018.

- i. 50% reuse and recycling of treated water in phased manner in five years by up-gradation, modification and optimization in the existing treatment facilities. Consequently, the company shall reduce the water consumption from 15,890 m³/day to 8,390 m³/day within 5 years.
- ii. After expansion of the project, 100% ground water recharge against the ground water abstraction shall be carried out in the study area. Rainwater harvesting shall be taken up in nearby areas.

12.19 Proposed Steel Plant [(800TPD Pellet Plant; 600 TPD DRI; 1000 TPD Induction Furnace; Rolling Mill 975 TPD; 12 MW (7 MW (WHRB) and 5 MW (FBC))] **by M/s. Genext Steels Pvt. Ltd** located at Survey No. 661,662,664,665,1822 & 1823 Village Bagodara, Tehsil Bavla, District Ahmedabad, **Gujarat**. [Online Proposal No.

IA/GJ/IND/70023/2017, MoEF&CC File No. J-11011/501/2017-IAII(I)] - Re-consideration for Environment Clearance based on ADS reply - regarding.

12.19.1 The proposal was deferred in the EAC (Industry-1) meeting held during 29-31st May 2019. The Minutes of the meeting as given below.

M/s. Genext Steels Pvt Limited (Steel Division) has made an online application vide proposal no. IA/GJ/IND/70023/2017 dated 17th April, 2019 along with copies of EIA/EMP report and Form – 2 seeking environmental clearance under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries (Ferrous and Non-ferrous) under Category “A” EIA Notification, 2006 and the proposal is appraised at Central level.

Integrated Steel Plant [800 TPD Pellet Plant; 600 TPD DRI; 1000 TPD Induction Furnace; Rolling Mill 1000 TPD (975 TPD TMT bars + 25 TPD Mill scale); 12 MW [7 MW (WHRB) and 5 MW (FBC)] of M/s Genext Steels Pvt. Ltd. located Survey Nos. 661, 662, 664, 665, 1822 & 1823, Village: Bagodara, Tehsil: Bavla, District: Ahmedabad (Gujarat) was initially received in the Ministry on 30/09/2017 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its 24th meeting held on 14/11/2017 and further project proponent has made presentation on the additional details sought on 13.03.2018 in its 29th Meeting and on 12/06/2018 of 32nd meeting of the Expert Appraisal Committee on Industry – 1 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 19/06/2018 vide Letter No. IA-J-11011/501/2017-IA.II(I).

Based on the ToRs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 01/04/2019 vide Online Application No. IA/GJ/IND/70023/2017.

The proposed capacity for different products of integrated steel plant is given below:

Sr. No.	Name of Unit	Product	Plant Configuration	Production Capacity
1	Pellet Plant	Pellets	4 x 200 TPD	800 TPD
2	DRI Kilns	Sponge Iron	4 x 150 TPD	600 TPD
3	Steel Melting Shop	MS Billets	Induction furnace: 4 x 25 MT/heat CCM: Eight-strand billet caster	975 TPD
4	Rolling Mill	Structural steel, TMT bars & Rolled products	2 x 500 TPD	1000 TPD

5	Power Plant			
A	WHRB	Electricity	1 x 7 MW	7 MW
B	FBC	Electricity	1 x 5 MW	5 MW

The total land required for the proposed plant is 15.3061 ha and the entire land is non-agricultural land. No forestland involved. The entire land has been acquired for the project. No River passes through the project area. It has been reported that no water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

The topography of the area is flat with little undulating at few places and lies from 22°37'42.86"N to 22°37'33.45"N, 22°37'24.77"N to 22°37'23.77"N Latitude and 72°10'5.95"E to 72°9'37.75"E, 72°9'48.08"E to 72°9'52.39"E Longitude in Survey of India topo sheet No. F43G2 & F43G6, at an elevation of 44-55 m AMSL. The ground water table reported to ranges between 20-25m below the land surface during the post-monsoon season and 25-30m below the land surface during the pre-monsoon season. Based on the hydro-geological study, it has been reported that the radius of influence of pumped out water will be 15 m. Further, the stage of groundwater development is reported to be 36.74% and 60.28% in core and buffer zone respectively and thereby these are designated as safe/critically exploited areas.

The National Park/WL etc. are not located at a distance of 10 KM from the site/No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna. The authenticated list of flora and fauna provided through the District management plan of DFO, Ahmadabad reporting presence of no /schedule-I fauna in the study area.

The list of raw material for the proposed project is given below:

Sr. No.	Name of raw materials	Quantity (TPD)	Source	Mode of Transport
Pellet Plant				
1.	Iron Ore fines/ Iron Oxide (Mill Scale)	832	Rajasthan, Chhattisgarh, Karnataka, Orissa and Mill scale from rolling mill working in vicinity	By Truck (through covered trucks)
2.	Bentonite	48	Kutch (Gujarat)	By Truck (through covered trucks)
3.	Imported Coal	128	South Africa from Kandla Port(Gujarat)	By Truck (through covered trucks)
DRI Kiln				
1.	Pellets	800	Internal	Through covered conveyors

2.	Imported Coal	570	South Africa from Kandla Port(Gujarat)	By Truck (through covered trucks)
3.	Dolomite	48	Local/Gujarat	By Truck (through covered trucks)
Induction Furnace with Concast				
1.	Sponge Iron	582	Internal	Through covered conveyors
2.	M S Scrap	562	Bhavnagar/Alang Imported	By Truck (through covered trucks)
3.	Ferro Alloys	12.5	Local/Gujarat	By Truck (through covered trucks)
Rolling Mill				
1.	Billets	1000	Internal	Through covered conveyors
For Power Plant [FBC boiler - Power generation 5 MW]				
1.	Dolochar	100	Internal	Through covered conveyors
2.	Imported Coal	30	South Africa from Kandla Port	By Truck (through covered trucks)

The targeted production capacity of the Pellet plant is 800 TPD/0.292 MTPA. The Ore for the plant would be procured from Rajasthan, Chhattisgarh, Karnataka, and Orissa. The ore transportation will be done through Road.

The water requirement of the project is estimated as 1018m³/day, out of which 905 m³/day of fresh water requirement will be obtained from the Ground water and the remaining requirement of 113 m³/day will be met from the Recycle water from treated industrial effluent/domestic water wastewater. The permission for drawl of groundwater is under process.

The power requirement of the project is estimated as 57 MW, out of which 12 MW will be obtained from the Captive Power Plant(7 MW (WHRB) + 5 MW (FBC) = 12 MW) and Remaining 45 MW will be procured from the State Grid, i.e. Gujarat State Electricity Corporation Limited (GSECL).

Baseline Environmental Studies were conducted during winter season i.e., from January 2018 to March 2018, Ambient air quality monitoring has been carried out at 8 locations during January 2018 to March 2018 and the data submitted indicated: PM₁₀ (50.6 µg/m³ to 77.2µg/m³), PM_{2.5} (26 to 45.5 µg/m³), SO₂ (9.6 to 18.2µg/m³) and NO_x (12.1 to 24.4 µg/m³). The results of the modeling study indicates that the maximum increase of GLC for the proposed project is 11.741 µg/m³ with respect to the PM₁₀, 8.423 µg/m³ with respect to the SO₂, 7.842 µg/m³ with respect to the NO_x.

Ground water quality has been monitored in **eight** locations in the study area and analyzed. pH: 7.5 to 7.9, Total Hardness: 362 to 447 mg/l, Chlorides: 958 to 1486 mg/l, Fluoride: 0.63 to 0.72 mg/l. Heavy metals are within the limits. Surface water samples were analyzed from **six** locations. pH: 7.46 to 8.02; DO: 4.9 to 6.6 mg/l and BOD: < 10 mg/l, COD from 15 to 25 mg/l.

Noise levels are in the range of 40.6 to 45.9 dB(A) for daytime and 50.0 to 56.6 dB(A) for nighttime.

It has been reported that there are 18409 people in the core zone of the project. No/ R&R is involved.

It has been reported that a total of 31500 tons/annum of waste (Slag-Non-hazardous) will be generated due to the project, which will be used in road making and land filling in low lying area and no waste will be dumped in the earmarked dump yard. It has been envisaged that an area of 5.0500 ha will be developed as green belt around the project site to attenuate the noise levels and trap the dust generated due to the project development activities. Summary of Solid and Hazardous waste is given below:

Sr. No.	Type of Waste	Category of Waste	Quantity	Disposal facility
Hazardous waste				
1.	ETP Sludge & MEE salt	35.3	5.0 MT/month 13 MT/month	Collection, Storage, Transportation & disposed at TSDF site.
2.	Used Lubricating oil	5.1	5.0 Kl/year	Collection, Storage, Transportation and sale to Registered re-processors.
3.	Discarded Drums & containers	33.1	500 Nos./month	Collection, Storage, Transportation, decontamination and sale to registered recyclers.
Solid waste				
Pellet Plant:				
1.	Ash	--	32 TPD	Collection, Storage and sold to brick manufacturing units.
Sponge Iron Plant				
1.	Ash	--	36 TPD	Collection, Storage and sold to Cement Plants & Brick manufacturers.
2.	Dolochar	--	100 TPD	Collection, Storage and used in FBC power plant/brick manufacturing units.
Induction Furnace				

1.	Slag	--	90 TPD	Slag from SMS will be crushed and iron will be recovered & then remaining non-magnetic material will be sold to brick manufacturers/for road construction.
Rolling Mill				
1.	Mill Scale	--	25 TPD	Will be reused in the Pellet Plant
Power Plant				
1.	Ash from power plant	--	1.5 TPD	Ash will be sold to Cement Plants/ Bricks manufacturers

It has been reported that the project has obtained Consent to Establish(CTE) from the Gujarat Pollution Control Board vide CTE No. 99044 dated 29/01/2019 and is valid up to 28/12/2025.

The Public hearing of the project was held on 03/11/2018 at Project site, Survey Nos. 661, 662, 664, 665, 1822 & 1823, Village: Bagodara, Tehsil: Bavla, District: Ahmadabad (Gujarat) under the chairmanship of Additional Collector & Additional District Magistrate as a representative District Collector & District Magistrate, Ahmadabad. The main issues raised during public hearing are employment generation and given priority to local people. An amount of 50Lakhs has been earmarked for Enterprise Social Commitment based on public hearing issues. The issues raised during the public hearing and response given is furnished as below:

Sl. No.	Main issues raised	Action plan proposed	Budgetary allocation	Timeline for implementation
1	Employment shall be given to local people and care must be taken for no creation of pollution	Management as given the commitment to take care for no creation of pollution. APCM like ESP and bag filters will be installed and efficiently operated and GPCB & CPCB norms will be maintained and assured that in the event of non-functioning of EMS, the plant	EMS budget of Rs. 4000 Lakhs as Capital Cost and Rs. 800 Lakhs/annum as operating Cost	Capital cost along with project implementation and operating Cost at the time operational phase.

		will be taken under shut down.		
2	Local employment	Management as given the commitment to give priority of local people for employments.	--	--

The capital cost of the project is Rs. 261.0 Crores and the capital cost for environmental protection measures is proposed as Rs. 40.0 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 8.0 Crores. The total employment generation from steel plant will be 500-700 persons.

The capital expenditure on CER will commensurate with the investment and shall be Rs. 5.22 crores in 5 years on the basis of MOEF&CCs office memorandum dated 01.05.2018, for greenfield projects. The CER action plan is given as below:

Sr. No.	Activities	Years (Rs. in Crore)					Total Budget (Rs. in Crore)
		1 st	2 nd	3 rd	4 th	5 th	
A	Based on need based & SIA study						
1	Educational facilities & trade training to educated unemployed	0.1	0.1	0.1	0.1	0.1	0.5
2	Health and Family Welfare facilities	0.3	0.3	0.3	0.3	0.3	1.5
3	Drinking water and sanitation facilities	0.26	0.26	0.26	0.26	0.26	1.3
4	Women Empowerment activities	0.18	0.18	0.18	0.18	0.18	0.9
5	Preservation of Environment and Sustainable Development- Maintaining village ponds, encouraging rainwater harvesting in village	0.12	0.1	0.1	0.1	0.1	0.52
Total		0.96	0.94	0.94	0.94	0.94	4.72
B	Based on Public Consultation / Hearing						
1	Educational facilities & trade training to educated unemployed	0.1	0.1	0.1	0.1	0.1	0.5
Total (A+B)		1.06	1.04	1.04	1.04	1.04	5.22

Greenbelt will be developed in 5.05 ha which is about 33 % of the total acquired area. A 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 5000 saplings will be planted and nurtured in 5.0500 hectares in 5 years.

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

Name of the consultant: Shivalik Solid Waste Management Limited, Punjab [Sr. No. 140, List of Accredited Consultant Organizations (Alphabetically) Rev. 81, October, 2019].

After detailed deliberations, the Committee deferred the consideration of the proposal cited above and sought following additional information for further consideration of the proposal:

- Permission for groundwater abstraction,
- Feasibility of drawl of surface water and
- Feasibility for transportation of material through railway siding

12.19.2 The project proponent has submitted the aforesaid additional information to the Ministry on 07/10/2019.

12.19.3 The project proponent made a presentation before the Committee on the ADS points. Point wise submission made by the PP against the additional information is furnished as below:

Sr. No.	Information sought by EAC	Response submitted by PP
1	Permission for groundwater abstraction	We have obtained CGWA permission. Copy of the same is enclosed herewith as Annexure-I (System Generated copy) .
2	Feasibility of drawl of surface water	Surface water is not available for industrial usage in the vicinity of the project site. Letter from GWSSB (Gujarat Water Supply & Sewerage Board), a Govt. of Gujarat Undertaking for providing surface water is enclosed herewith as Annexure-II .
3	Feasibility for transportation of material through railway siding	<u>Option 1:</u> Senior Divisional Commercial Manager, Ahmadabad Division inform that nearest railway station capable of handling steel traffic is Kankaria Goods Shed, which is 65 km away from the project site. If Kankaria Goods Shed is used, then material is required to cross major part of Ahmedabad city. Hence it is not feasible. Copy of the letter

		<p>issued by Senior Divisional Commercial Manager, Western Railway is enclosed herewith for your ready reference as Annexure-III.</p> <p><u>Option 2:</u> Other nearest railway siding could be at village Arnej on Ahmadabad to Botad line with accessible distance of about 15 km. However, this line was meter gauge and is currently being removed by IRL and broad gauge line may get started in upcoming years. So currently no nearby feasible rail transport is available.</p> <p><u>Option 3:</u> In future, if above discussed village Arnej railway siding is accessible, even then connecting this railway siding to the plant with private siding will not be techno-commercially feasible, for a mini steel plant of our size as the volumes will not be economical.</p> <ul style="list-style-type: none"> ➤ Total inward and outward trucks and tankers for the proposed project will not add any major transportation load on the existing transport system. ➤ Additionally, Construction work of six lane roads of NH-8A (Ahmadabad to Rajkot) is in progress and around 80% of work is already completed, which will lead to improved Level of Service. Copy of letter issued by NHAI is enclosed as Annexure-IV. <p>Considering all above options, railway siding is presently not feasible. In future, we will take necessary actions in the favour of environment.</p>
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Observations of the Committee:

12.19.4 The committee observed that the ADS reply of the Project Proponent has pointed to a new possibility of procuring raw material from different sources located at such places that transportation from these places would avoid the busy road passing through the Bawala industrial estate. The reply from the PP indicates the possibility of local procurement of iron oxide/millscale. But the proposal was only indicative and the available quantities and local sources were not furnished. Therefore, the details of transport and vehicular traffic could not be assessed and quantified.

Recommendations of the Committee:

12.19.5 The Committee deferred the proposal for want of detailed information and clarification on the local sources of raw material and corresponding vehicular traffic assessment.

12.20 Proposed expansion of Integrated Steel Plant for ultimate production of 1.8 MTPA pellets, 0.85 MTPA Sinter, 0.3 MTPA Coke, 36000 Nm³/hour producer gas, 0.89 MTPA sponge iron, 0.6 MTPA hot metal / pig iron, 1.51 MTPA billets, 1.0 MTPA long

steel products, 0.1 MTPA DI pipe, 1.2 MTPA cement grinding unit, 0.1 MTPA Ferro Alloys and 136 MW captive power plant by **M/s. ShyamSel and Power Limited** located at Village Dhasna, Jamuria, P.O. Bahadurpur, **District Paschim Burdwan, West Bengal** [Online Proposal No. IA/WB/IND/6700/2008, MoEF&CC File No. J-11011/887/2007-IAII(I)] - **Re-consideration for Environment Clearance based on ADS reply - regarding.**

- 12.20.1 M/s. Shyam Sel and Power Limited has made an online application vide proposal no. IA/WB/IND/6700/2008 dated 20/07/2019 along with copies of EIA/EMP report and Form – 2 seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries (Ferrous and Non-ferrous) under Category “A” EIA Notification, 2006 and the project is appraised at the Central level.
- 12.20.2 The aforesaid proposal was considered in the 9th meeting of the Reconstituted Expert Appraisal Committee meeting held during 30-31st July, 2019 and the relevant portion of the minutes of the meeting is given as below:

Details submitted by the project proponent

M/s. Shyam Sel and Power Limited has proposed for expansion of Integrated Steel Plant for ultimate production of 1.8 MTPA Pellets, 0.85 MTPA Sinter, 0.3 MTPA Coke, 36000 Nm³/hour Producer Gas, 0.89 MTPA Sponge Iron, 0.6 MTPA Hot Metal/Pig Iron, 1.51 MTPA Billets, 1.0 MTPA Long Steel Products, 0.1 MTPA DI Pipe, 1.2 MTPA Cement Grinding Unit, 136 MW Captive Power Plant & 0.1 MTPA Ferro Alloys at Village Dhasna, Jamuria, P.O. Bahadurpur, District Paschim Burdwan, West Bengal was accorded Standard ToRs by the Ministry on 1st November, 2018 vide letter No. J-11011/887/2007-IA.II (I).

The project of **M/s Shyam Sel & Power Limited** is located in Village Dhasna, Jamuria, P.O. Bahadurpur, District Paschim Burdwan, West Bengal State. The proposal is for expansion of Integrated Steel Plant for ultimate production of 1.8 MTPA Pellets, 0.85 MTPA Sinter, 0.3 MTPA Coke, 36000 Nm³/hour Producer Gas, 0.89 MTPA Sponge Iron, 0.6 MTPA Hot Metal/Pig Iron, 1.51 MTPA Billets, 1.0 MTPA Long Steel Products, 0.1 MTPA DI Pipe, 1.2 MTPA Cement Grinding Unit, 136 MW Captive Power Plant & 0.1 MTPA Ferro Alloys.

The existing and proposed capacity for different units and products are as below:

Sl. No	Name of Product	Name of Unit	Capacity of Existing Unit	Capacity of Proposed Expansion Unit	Ultimate Capacity of Product
1	Sinter	Sinter Plant	-	0.85 MTPA	0.85 MTPA (850000 TPA)
2	Iron Ore Pellets	Pellet Plant 1	0.48 MTPA	Capacity increase to 0.6 MTPA	1.8 MTPA (1800000 TPA)
		Pellet Plant 2	0.12 MTPA	Capacity increase to 0.6 MTPA	
		Pellet Plant 3	-	0.6 MTPA	
3	Hot Metal / Pig Iron	Blast Furnace	-	0.6 MTPA (1x450 m ³)	0.6 MTPA (600000 TPA)
4	Sponge Iron	Direct Reduced Iron (DRI) Plant	2 x 100 TPD 3 x 300 TPD 2 x 90 TPD	4 x 350 TPD (0.462 MTPA)	0.89 MTPA (890000 TPA)

Sl. No	Name of Product	Name of Unit	Capacity of Existing Unit	Capacity of Proposed Expansion Unit	Ultimate Capacity of Product
			(0.4248 MTPA)		
5	Ferro Alloys	Ferro Alloy Plant	3 x 9 MVA 2 x 4.5 MVA (0.1 MTPA)	-	0.1 MTPA (100000 TPA)
6	Steel Billets/ Ingots	Steel Melting Shop (SMS) (Induction Furnace route)	7x18 T 2x15 T 4x5 T (0.6066 MTPA)	5 x 18 T 8 x 8 T (0.5082 MTPA)	1.11 MTPA (1110000 TPA)
		SMS (Electric Arc Furnace route)	-	1 x 45 T (0.4 MTPA)	0.4 MTPA (400000 TPA)
		Total Steel Billets / Ingots from SMS			
7	Rolled Products & Structural (angle, channel, Joist, etc)	Rolling Mill – 1 Structurals	48,000 TPA	Capacity increase to 0.15 MTPA	1 MTPA (1000000 TPA)
		Rolling Mill – 2 TMT Bars	55,008 TPA	Capacity increase to 0.15 MTPA	
		Rolling Mill – 3 Wire Rods	19,6992 TPA	Capacity increase to 0.2 MTPA	
		Rolling Mill – 4 Long Product	-	0.3 MTPA	
		Rolling Mill – 5 Long Product	-	0.2 MTPA	
8	Coke	Coke Oven Plant	-	0.3 MTPA	0.3 MTPA (300000 TPA)
9	Ductile Iron Pipe	DI Pipe Plant	-	0.1 MTPA	0.1 MTPA (100000 TPA)
10	Electricity	Captive Power Plant	91 MW (WHRB - 48 MW CFBC - 43 MW)	45 MW (WHRB)	136 MW (93 MW-WHRB 43 MW-CFBC)
11	Cement	Cement Grinding Unit	-	1.2 MTPA	1.2 MTPA (1200000 TPA)
12	Producer Gas	Producer Gas Plant	-	36,000 Nm ³ /Hour	36000 Nm ³ /Hour

The Status of compliance of earlier EC was obtained from Regional Office Bhubaneswar vide Lr. No.102-222/EPE dated 11/12/2018 and 14/01/2019 wherein it

is mentioned that dust pollution is prevailing in the plant site and control measures needs to be adopted for dust control.

No additional land is required for the expansion units. All new units shall be accommodated within available 262.64 Hectares land (649 acres) within the existing plant boundary. Land is already in possession of the Company. The river Ajay and Damodar passes at a distance of 7 km and 11 km respectively, from the project site. Modification / diversion in the existing natural drainage pattern at any stage have not been proposed.

The topography of the area is flat and reported to lies between Latitude: 23°40'38.51"N to 23°41'49.87"N and Longitude: 87°06'57.27"E to 87°07'35.84"E and at an elevation of 106.68 m AMSL. The total thickness of the aquifer in the study area varies from 2.1 to 16.5 m.

No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.

The raw material requirement, source and mode of transportation is given as below:

Sl. No.	UNITS	RAW MATERIAL	ANNUAL REQUIREMENT (IN TPA)	SOURCES	MODE OF TRANSPORTATION	
					Rail	Road
1.	Coke Oven Plant	Coking Coal	420000	Imported	315000	105000
2.	Sinter Plant	Iron Ore Fines	751658	Barbil-Joda, Orissa	601326	185332
		Limestone	17989	From Birmitrapur, Orissa / Bilaspur, Raipur CG / Katni MP	-	17989
		Quicklime	42481	Local Market	-	42481
		Dolomite	75166	From Birmitrapur, Orissa / Bilaspur, CG	75166	-
		Coke Breeze	60133	In House – Conveyor	-	-
3.	Blast Furnace	Iron Ore Lumps	128520	Barbil-Joda, Orissa	128520	-
		Coke	211680	Imported	169344	42336
		PCI Coal	65520	Imported	52416	13104
		Lime stone	52500	From Birmitrapur, Orissa / Bilaspur, Raipur CG / Katni MP	-	52500
		Dolomite	48300	From Birmitrapur, Orissa / Bilaspur, CG	38640	9660
		Quartzite	5250	From Belpahar Orissa // Bilaspur, Raipur CG	-	5250
		Sinter	843192	In-house	-	-
4.	Sponge Iron Plant	Coal	1018828	Imported	815062	203766
		Dolomite	520027	From Birmitrapur, Orissa / Bilaspur, CG	416022	104005
		Pellet	1517630	In-house - Conveyor	-	-

Sl. No.	UNITS	RAW MATERIAL	ANNUAL REQUIREMENT (IN TPA)	SOURCES	MODE OF TRANSPORTATION	
					Rail	Road
5.	Pellet Plant	Iron Ore Fines	2160000	Barbil-Joda, Orissa	1944000	216000
		Limestone	18000	From Birmitrapur, Orissa / Bilaspur, Raipur CG / Katni MP	-	18000
		Bentonite	153000	Local Market	-	153000
		Coal	72000	Imported	64800	7200
6.	Producer gas Plant	Coal	158400	Imported	126720	31680
7.	Ductile Iron Pipe	Pig Iron	90000	In-house	-	-
		Zinc	700	Local Market	-	700
		Scrap	10000	In-house	-	-
8.	SMS (EAF Route)	Pig Iron	309913	In-house	-	-
		Scrap	19370	In-house	-	-
		Ferro	750	In-house	-	-
		Lime	39204	Local Market	-	39204
		DRI	66825	In-house	-	-
9.	Rolling Mill (EAF Billet)	EAF Billet	306000	In-house		
10.	SMS (IF Route)	Pig Iron- In House	104086	In-house	-	-
		Scrap	47348	In-house	-	-
		Ferro	1500	Local Market	-	1500
		DRI	871200	In-house	-	-
		Mkt. Pig Iron	37957	Local Market	-	37957
11.	Rolling Mill (IF Billet)	IF Billet	714000	In-house	-	-
12.	Cement Grinding Unit	Clinker	708000	Local Market	566400	141600
		Gypsum	60000	Dalmia Cement	-	60000
		Slag from BF	163800	In-house	-	-
		Fly Ash from CPP	288000	In-house	-	-
13.	Ferro	Ore	226300	Imported/Odisha	226300	-
		Coke & Coal	70300	Assam and Jharkhand	56240	14060
		Quartzite	32750	Local Market	-	32750
		Dolomite	30000	Imported	24000	6000
14.	CPP	Coal	229000	Imported/Local Market	183200	45800
		Dolochar	229000	In House	-	-

The details of solid waste generation and its management is furnished as below:

Sl. No.	Type	Quantity in Tons / Year	Utilization
1.	Dolochar from 4X350 TPD DRI Kilns	1,11,000	To be used in FBC power plant.
2.	Slag from 1x450 m ³ MBF	1,63,800	To be used for Cement making.
3.	Slag from (5X18 T + 8X8 T) Induction Furnaces	61,000	Slag will be used for Road Construction purpose / other civil construction purpose.
4.	Tar Sludge from Producer gas plant	12,000	Sold to WBPCB authorized vendor.
5.	Coal Ash from PGP	47,500	To be used for Making construction materials
6	Dust from ESP and Bag Filters of Sinter Plant	50,000	To be reused in process
7	Dust from ESP and Bag Filters of Pellet Plant	1,40,700	To be reused in process
8	Dust from GCP and Bag Filters of Blast Furnace	60,200	To be reused in Sinter Plant
9	Dust from ESP and Bag Filters of DRI Plant	70,500	To be reused in Sinter Plant
10	Dust from Bag Filters of Induction Furnaces	60,200	To be reused in process
11	Mill scales from rolling mill and casting machines	20,000	To be reused in Induction Furnaces

The targeted production capacity of the Integrated Steel Plant after expansion is 1.8 MTPA pellets, 0.85 MTPA Sinter, 0.3 MTPA Coke, 36000 Nm³/hour producer gas, 0.89 MTPA sponge iron, 0.6 MTPA hot metal/pig iron, 1.51 MTPA billets, 1.0 MTPA long steel products, 0.1 MTPA DI pipe, 1.2 MTPA cement grinding unit, 136 MW captive power plant and 0.1 MTPA Ferro Alloys. The major raw material, which will be handled, consists of Iron Ore, Coal, dolomite, Limestone, Manganese Ore, Quartzite etc. The raw materials will be purchased from mines located in Orissa, West Bengal, Jharkhand, MP and Chhattisgarh (depending upon availability). Coking coal will be imported. Raw materials will be received at railway siding located inside plant boundary.

The daily make up water requirement for the entire project is estimated as 11,170 m³/day (Existing Units: 4831 m³/day, Proposed Units: 6339 m³/day). The raw water will be sourced mainly from Ajay River / ADDA supply.

The power requirement of the project is estimated as 232 MW, out of which 136 MW will be obtained from proposed Captive Power Plant and the remaining 96 MW power will be obtained from State grid.

Baseline Environmental Studies were conducted during summer season i.e. from Oct, 2018 to Dec, 2018. Ambient air quality monitoring has been carried out at 8 locations and the data submitted indicated: PM₁₀ (61µg/m³ to 118 µg/m³), PM_{2.5} (23µg/m³ to 52µg/m³), SO₂ (7 µg/m³ to 27 µg/m³) and NO_x (13 µg/m³ to 44 µg/m³). The results of the modeling study indicate that the maximum increase of GLC for the proposed

project is 8.0 µg/m³ (SE direction), 5.2 µg/m³ (SE direction) and 3.0 µg/m³(SE direction), with respect to the PM, SO₂ and NO_x.

Ground water quality has been monitored in 8 locations in the study area and analyzed. pH: 6.9 to 7.5, Total Hardness: 178 to 231 mg/l, Chlorides: 58 to 102 mg/l, Sulphate: 6 to 15 mg/l, Nitrate: 1.5 to 3.5 mg/l. Heavy metals are within the limits. Surface water samples were analyzed from 8 locations – 2 Ajayriver water samples and 6 pond water samples. For AjayRiver water, pH: 6.8 and 7.0; DO: 6.8 mg/l and 6.9 mg/l and BOD: 6 and 5 mg/l. For 6 pond water samples, pH: 6.7 to 7.4; DO: 5.7 to 6.4 mg/l and BOD: 5 to 9 mg/l.

Noise levels in the study area are in the range of 56.4 - 68.6 dBA for day time and 45.9 – 59.0 dBA for night time.

The Public hearing of the project was held on 31st May, 2019 at Nazrul Bhaban, Nandi Road, Jamuria, Dist. Paschim Bardhaman, West Bengal under the chairmanship of Sri. Prasanta Mandal, Additional District Magistrate, (Environment), Paschim Bardhaman for the proposed expansion project. The issues raised during the public hearing are abatement of pollution, employment opportunities and infrastructure related activities etc.,

The company has earmarked an amount of INR 8.15 Crores towards Corporate Environment Responsibility (CER) activities. This fund shall be utilized over a period of 3 years.

The capital cost of the project is Rs. 1661.02 Crores and the capital cost for environmental protection measures is proposed as Rs. 174 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 17.4 Crores. 7000 persons will get Employment during operational phase. The details of capital cost for environmental protection measures and annual recurring cost towards the environmental protection measures is as follows:

Item	Cost (in Crores)	Cost (in Crores)
Cost of Air Pollution Control Systems	78.00	7.8
Cost of Water conservation & Pollution Control	15.75	1.58
Cost of Solid/hazardous Waste Management System	14.25	1.43
Green belt development	15.75	1.58
Noise Reduction Systems	15.00	1.5
Occupational Health Management	13.50	1.35
Risk Mitigation & Safety Plan	15.75	1.58
Environmental Management Department	6.00	0.60
GRAND TOTAL	174.00	17.40

Greenbelt will be developed in 93 ha which is about 35.4% of the total acquired area. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 1,30,500 saplings will be planted and nurtured in 87 Hectares in 5 years.

There is no court case or violation under EIA Notification to the project or related activity.

Name of the consultant: M/s. Envirotech East Private Limited [S.No. 52, List of Accredited Consultant Organizations (Alphabetically) Rev. 78, July 10, 2019].

Observations of the Committee (REAC meeting held during 30-31st July, 2019)

The Committee noted that with respect to project cited above, a complaint has been received in the Ministry wherein the complainant alleged that the project proponent has established 2 modules of pellet plant with a capacity of 0.6 MTPA each against the sanctioned capacity of 0.6 MTPA as per the EC accorded by the Ministry. Further, it is alleged that the project proponent has reported that capacity of the pellet plant modules as 0.48 MTPA and 0.20 MTPA in place of 0.6 MTPA each. It is also mentioned that unit has exceeded the pellet production beyond the sanctioned capacity of 0.6 MTPA. In this regard, the project proponent made available the inspection report of WBPCB dated 8/08/2018 wherein it has been categorically stated that the capacity of pellet plant module as 40000 TPM (0.48 MTPA) and 10000 TPM (0.20 MTPA) respectively. Besides, the Committee noted that issues such as management of tar and phenolic effluents, permission for water drawl power generation from DRI plant, action plan for rain water harvesting and green belt development have not been adequately covered in the EIA report. The cost earmarked towards CER related activities is not as per the Office Memorandum of MoEF&CC. Higher concentration of Particulate matter is reported at the project site and reasons for the same has not been furnished.

**Recommendations of the Committee
(REAC meeting held during 30-31st July, 2019)**

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

- i. Closure report from Regional Office of the MoEF&CC on the non-compliances observed in its report dated 11/12/2018 and 14/01/2019.
- ii. Report from Regional Office of MoEF&CC regarding existing configuration of two pellet plant modules along with year-wise production levels of pellet plant for the last three years shall be submitted.
- iii. CER table shall be revised in accordance with the MoEF&CC O.M. dated 1/05/2018.
- iv. Action plan for management of tar and phenolic effluent shall be submitted.
- v. Action plan for green belt development covering 33% inside plant and 7% of project land outside the plant shall be furnished.
- vi. Note on possible power generation from DRI plant and productivity of the blast furnace shall be furnished.
- vii. Scheme for rain water harvesting shall be furnished.
- viii. Justification/reason for reporting of higher concentration of PM₁₀ and PM_{2.5} in ambient air at the project site and the actions proposed by the industry to control the stack emissions shall be submitted.
- ix. Permission for water drawl from the Competent Authority shall be submitted.

12.20.3 The project proponent has submitted the aforesaid additional information to the Ministry on 11/10/2019. The reply given by the project proponent is summarized as below:

ADS-1

- i. Closure report from Regional Office of the MoEF&CC on the non-compliances observed in its report dated 11/12/2018 and 14/01/2019.

Reply:Regional Office of MoEF&CC at Bhubaneswar vide letter dated 17/10/2019 furnished their report wherein it was stated that the project proponent has complied (or) in the process of complying with the stipulated EC conditions and action plan was sought on green belt development in 37% area and permission obtained from Ministry regarding dumping of fly ash at abandoned mines of M/s. Eastern Coal Fields Limited. In this regard, PP has furnished the action taken report to the Regional Office.

ADS-2

- ii. Report from Regional Office of MoEF&CC regarding existing configuration of two pellet plant modules along with year-wise production levels of pellet plant for the last three years shall be submitted.

Reply: Regional Office of MoEF&CC at Bhubaneswar vide letter dated 17/10/2019 furnished their report wherein it was stated the following:

- There are two pellet plant with a capacity of 0.48 MTPA and 0.12 MTPA respectively. The kiln size for the both the pellet plants are of the same dimension as per the installation certificate of the equipment supplier.
- Pellet plant production data

S.No.	Year	Iron ore pellet production (MT)	By product/ Off grade pellet production (MT)	Total
i.	2014-15	311645	3360	315005
ii.	2015-16	475309	12160	487469
iii.	2016-17	583994	42067	626061
iv.	2017-18	593997	26480	620477
v.	2018-19	595515	51060	646575
vi.	April 2019 to July 2019	176129	40979	217108

Project proponent has exceeded the total pellet production quantities during 2016-17, 2017-18 and 2018-19. The increase in production is due to the inadvertent inclusion of off grade/by product grade of pellet in total production capacity.

- The issues raised in the representation dated 5/07/2019 of Shri.Subhasish Bose does not have any significant merit.

ADS-3

- iii. CER table shall be revised in accordance with the MoEF&CC O.M. dated 1/05/2018.

Reply: The company proposes to invest INR 8.15 Crores on the Corporate Environment Responsibility (CER) activities. This fund shall be utilized over a period of 3 years. Company has identified certain areas, to be considered for implementing the CER activities in the context of the local scenario of the area. The revised action plan is given as below:

Sl. No.	PROPOSED CER ACTIVITIES	INVESTMENT (IN LACS)			Total (Lakhs)
		Year 1	Year 2	Year 3	
A)	PUBLIC HEARING RELATED ACTIVITIES				
1.	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.	16	16	12	44
2.	Development of parks, plantation of trees in the nearby areas.	15	15	5	35
3.	Reformation of the Singaran River by clearing of water hyacinth and plastic waste	30	10	10	50
4.	Drinking water supply facility for the local villagers by treating (Ajay / Domadara) river water by putting a water treatment plant.	10	10	5	25
5.	Development of ponds in local village (5 nos. @ Rs. 6 Lakhs per pond)	18	12	-	30
6.	Construction of sheds in nearby two primary schools to avoid dust in mid-day meal of students.	10	10	8	28
7.	Construction of primary health centers along with all necessary facilities with provision of Doctors (Gynecologist, Child Specialist and General Physician) round the clock in two villages.	31	31	-	62
8.	Rain Water Harvesting ponds in nearby villages (5 nos. @ Rs. 6 Lakhs per pond).	18	12	-	30
B)	NEED BASED ACTIVITIES				
9.	Renovation of Chandipur & Hubdubi Health Centers.	15	10	10	35
10.	Construction of 12 Set Toilets at nearby villages (@ Rs. 3.00 Lakhs per set of 2 Toilets, separately for Ladies & Gents)	12	12	12	36
11.	Construction and repairing of Metal Road (10 km) in villages (@ Rs. 8 Lakhs per Km)	40	24	16	80
B)	NEED BASED ACTIVITIES				
12.	Development of Community Hall - three number in nearby villages	20	20	20	60
13.	Street Lighting (Solar/Led) provision at suitable public places – 80 nos. (@ Rs. 0.50 Lakhs per Solar Light)	20	10	10	40
14.	Drainage Development - side drains & Construction of Culvert on drainage	15	10	7	32
15.	Providing Dustbins in local villages (under Swach Bharta Scheme)	6	6	6	18
16.	Transportation facility for school students - Mini Bus 2 numbers	14	14	-	28

Sl. No.	PROPOSED CER ACTIVITIES	INVESTMENT (IN LACS)			Total (Lakhs)
		Year 1	Year 2	Year 3	
17.	Creation of irrigation infrastructure in the peripheral villages (Water Harvesting Structure, Up gradation of Pond, Supply of Crop harvesting machine, Pest Control Machine)	35	30	22	87
18.	Workshop centre with latest tailoring machines for training women (like tailoring, stitching, Pickle & Sauces making, Soft Toys & Gem Jeweller, and Beautician Courses and for making affordable price of Sanitary Pads.)	15	10	10	35
19.	Setting up of Football Academy	10	-	-	10
20.	Providing ambulance (2 nos.) for the local people	12.5	12.5	-	25
21.	Fund for Eye Hospital (New Laser Equipment)	25	-	-	25
Sub-Total		387.5	274.5	153	815
GRAND TOTAL					

ADS-4

- iv. Action plan for management of tar and phenolic effluent shall be submitted.

Reply: Coal Tar generated from Produce Gas Plant (PGP) shall be collected using centrifugal tar separator (Indirect type) and will be used as a Fuel in DRI Kiln / alternately sold to authorized re-processors. In indirect type Centrifugal Tar Separator, there is no direct contact of gas with water. The cooling is done by heat transfer through wall to circulating water. Tar is removed by centrifugal action without any washing with water. Therefore, phenolic water is not generated in this method of tar separation and the associated water pollution issues are completely eliminated. Hence, treatment of phenolic effluent does not arise.

ADS-5

- v. Action plan for green belt development covering 33% inside plant and 7% of project land outside the plant shall be furnished.

Reply: M/s Shyam Sel & Power Ltd. has earmarked 87 Hectares (214 acres) for Green Belt Development, which is 33% of the total plant area of 262.64 hectares (649 acres) of land. Out of this 214 acres of land for greenery, 110 acres of land is already used for greenery development within the plant premises where around 67,000 number of trees (@1500 trees per hectares) have been planted. Remaining 104 acres of land will be utilised for greenery development in the plant area where around 63,500 number of trees (@1500 trees per hectares) will be planted. Thus, finally total 1,30,500 number of trees shall come under greenbelt in the plant premises (@1500 trees per hectares).

In addition to that around 18.4 Hectares (45.5 acres) of land (7% of total plant area) will be used for greenbelt development purpose outside the plant premises. This 45.5 acres of land is just adjacent to the main plant. Around 27,600 number of trees (@1500 trees per hectares) will be planted in this additional land. Thus, total plantation area will be 105.4 Hectares (259.5 acres).

ADS-6

- vi. Note on possible power generation from DRI plant and productivity of the blast furnace shall be furnished.

Reply:

Possible Power Generation from DRI Plant:

Power generation from the existing & the proposed DRI plant,

Description	Existing	Proposed	Total
DRI Plant Capacity	2x100 TPD + 3x300 TPD + 2x90 TPD	4x350 TPD	2680 TPD
Power Generation	4 MW + 21 MW + 4 MW = 29 MW	32 MW	61 MW

Productivity of the blast furnace

M/s. Shyam Sel and Power Limited is envisaging to install a Mini Blast Furnace with Chinese Technology. The Salient Features of the Blast Furnace to be installed as proposed by the Chinese suppliers are as following.

SL. NO	DESCRIPTION	VALUES
1.	WORKING VOLUME	450 Cu.M
2.	PRODUCTIVITY (ON WORKING VOLUME)	3.7 T/M ³ /DAY
3.	NO.OF WORKING DAYS / YEAR	350 DAYS
4.	ANNUAL PRODUCTION	5,82,750 TONS
5.	COKE RATE	400 KGS/THM
6.	PCI RATE	150 KGS/THM
7.	SLAG RATE	430 KGS/THM
8.	SINTER % IN BURDEN	85%
9.	OXYGEN ENRICHMENT OF BLAST	4%
10.	SINTER IN BURDEN	85%
11.	MAKE UP WATER CONSUMPTION	1.9 M ³ /THM

Productivity of 3.7 is achievable with 85% Sinter in Burden from a Blast furnace of 450 Cu.m working volume. The working volume of a blast furnace is the volume from the center line of Tuyeres to the top of burden level at top of blast furnace. The useful volume of a blast furnace is the volume calculated from the level of center line of the tap hole to the level of top of burden inside the blast furnace. Thus, the useful volume of a blast furnace is about 12% more than that of working volume.

ADS-7

- vii. Scheme for rain water harvesting shall be furnished.

Reply: The total plant area after expansion will be 262.64 Hectares land (649 acres). The company has already set up two Rain water harvesting (RWH) tanks of total volume around 97,000 m³ in the existing plant premises. Another three Rain water harvesting tanks of total 3,15,000 m³ capacity is proposed in the expansion project. Thus, after expansion total volume of rain water harvested will be 4,12,000 m³. Area earmarked for existing & proposed RWH tanks is 6.85 acres & 22.15 acres respectively. Hence, the total area under rain water harvesting comes to 29 acres.

ADS-8

viii. Justification/reason for reporting of higher concentration of PM₁₀ and PM_{2.5} in ambient air at the project site and the actions proposed by the industry to control the stack emissions shall be submitted.

Reply: Ambient Air Quality was monitored at 8 locations around the project site. PM₁₀ was found ranging between 61-118 µg/m³ and PM_{2.5} ranged between 23-52 µg/m³ at eight locations. PM₁₀ exceeded the National Ambient Air Quality Standard of 100 µg/m³ at 3 locations i.e.,

- (1) Near Project Site (Range: 70-118 µg/m³)
- (2) Dhasna (Range: 68-105 µg/m³)
- (3) Bijaynagar (Range: 62-113 µg/m³)

Other than the steel plant of M/s Shyam Sel & Power Ltd., the major source of particulate matter concentration in the Ambient Air Quality are various other industries, operating in its 10 km. radius area. They are mainly brick making plants and some other steel plants. There are altogether 210 brick making plants, existing within the study area. Apart from that, the vehicular traffic also contributes to the particulate matter concentration in the ambient air.

ADS-9

- ix. Permission for water drawl from the Competent Authority shall be submitted.
Reply: PP has submitted a permission obtained from State Level Authority of Ground water, Govt. of West Bengal for drawl of 8182.962 KLD of water from Ajay River bed and permission from Asansol Municipal Corporation for drawl of 3000 KLD of municipal water.

Observations of the Committee:

12.20.4 The committee observed that the additional information furnished by the project proponent is adequate.

Recommendations of the Committee

12.20.5 After detailed deliberations, the committee recommended the project for grant of Environmental Clearance under the provisions of EIA Notification, 2006 subject to the following specific conditions in addition to the applicable general conditions as per the Ministry's Office Memorandum No. 22-34/2018-IA.III dated 9/8/2018.

- i. Particulate emissions from the stacks shall be less than 30 mg /Nm³.
- ii. Additional green belt shall be developed in an area of 45.5 acres (18.40 ha) outside the plant premises and within the study area. Periodic compliance status shall be submitted to the Regional Office of the MoEF&CC.

- iii. Rainwater harvesting shall be carried out in and outside the project site more than the 100% water drawl for the project.
- iv. Phenolic wastewater if any, generated from the Producer Gas Plant (PGP) shall be injected into DRI circuit.
- v. Tar, tar sludge and zinc dross shall be managed as per the Hazardous and otherwaste (management & transboundary movement) Rules, 2016.
- vi. Zero Liquid discharge would be adopted.

12.21 Expansion of Vardhman Special Steels Limited from 2,00,000 TPA of Rolled Steel to 2,80,000 TPA of Rolled Steel by M/s Vardhman Special Steels Limited located at Village Dhandari Kalan/ Jamalpur, Tehsil-Ludhiana, District Ludhiana, Punjab. - [Online Proposal No. IA/PB/IND/119259/2019, File No. J-11011/74/2013-IAII(I)]- Prescribing of Terms of Reference – regarding.

- 12.21.1 The project proponent submitted application in the prescribed format along with Form-1 and other reports to the Ministry online on 24/10/2019 vide online application No. IA/PB/IND/119259/2019 to propose ToRs for undertaking detailed EIA study under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries (Ferrous and Non-ferrous) under Category “A” EIA Notification, 2006 and the proposal is appraised at Central level.

Details submitted by the project proponent

- 12.21.2 The existing project was accorded environmental clearance vide Ir.no. J-11011/74/2013-IA II(I) dated 30/06/2015 Consent to Operate was accorded by Punjab State pollution Control Board vide Ir. No. CTOA/Varied/LDH1/2018/7259435 validity of CTO is up to 31/03/2021 for Air and vide Ir. No. CTOW/Varied/LDH1/2018/7029237 validity of CTO is up to 31/03/2021 for Water.
- 12.21.3 The proposed unit will be located at C-58 & C-59, Focal Point, Phase-III, Village Dhandari Kalan/Jamalpur, Tehsil- Ludhiana, District-Ludhiana, State-Punjab. It is proposed to set up the plant for producing 2,80,000 TPA based on indigenous and imported technology.
- 12.21.4 The land area acquired for the proposed plant is 8 acres (3.24 ha) out of which 0 acre is an agricultural land, 0 acre is grazing land and 8 acres is others (C-58 & a portion of 8 acres in C-59, Dhandari Kalan/Phase III, Jamalpur, Punjab, Government Land). No/forestland involved. The entire land has been acquired for the project. Of the total area 3.7 ha (9.14 acre) (~33%) land will be used for green belt development.
- 12.21.5 No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.
- 12.21.6 Total project cost is approx. INR 159 Crore. Proposed employment generation from proposed project will be 805 direct employment and indirect employment shall be 2-3 times.
- 12.21.7 The targeted production capacity of the plant is 2,80,000 TPA. Being a secondary steel plant no Iron ore for the plant would be needed. Other Raw materials will be

transported through Road. The proposed capacity for different products for new site area as below:

Name of unit	No. of units	Capacity of each Unit	Production Capacity (After Expansion)
EAF(to be upgraded)	1	35T(nominal capacity)	3,00,000 TPA
Third stand in existing CCM	1	-	2,91,000 TPA
Walking Beam Furnace	1	45TPH	2,91,000 TPA
New Rolling Mill Stands before the existing Continuous Mill	2 Stands	-	2,80,000 TPA

- 12.21.8 The electricity load of 36 MVA will be procured from Punjab State Power Corporation Limited (PSPCL). Company has also proposed to install Nil DG Set.
- 12.21.9 Proposed raw material and fuel requirement for project are 3,75,991 TPA. The requirement would be fulfilled by purchase as well as internal generation. Fuel consumption will be mainly Fuel oil and HSD.
- 12.21.10 Water Consumption for the proposed project will be 766 KLD and wastewater generation will be 42 KLD which will be reused. Domestic wastewater will be treated in STP and industrial wastewater generated will be treated in ETP and reused in plant.
- 12.21.11 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.
- 12.21.12 **Environment Consultant-** Greenc India Consulting Pvt. Ltd., **Sl. No in the QCI List-74**

Observations of the Committee:

- 12.21.13 The project is located in the Critically Polluted Area (CPA) namely Ludhiana, Punjab wherein the Comprehensive Environmental Pollution Index (CEPI) score is reported as 73.48 by CPCB.

Recommendations of the Committee:

- 12.21.14 After detailed deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA study in addition to the generic ToR enclosed at **Annexure I read with additional ToRs at Annexure-2:**
- i. Project shall be designed for emission of particulate matter less than 30 mg/m³
 - ii. EIA report shall include inter alia the aspects of Zero Liquid Discharge and 100 % waste utilization.

- 12.22** Proposed Enhancement in production of sponge iron from 90,000 TPA to 2,25,000 TPA, MS Billet of 1,76,400 TPA by installation of four no. of induction furnace of capacity 15 TPH, one Captive power plant of capacity 30 MW & 1,50,000 TPA TMT

Bar of **M/s. Ramgarh Sponge Iron Private Limited** located at Village Hosir, P.O. Dari, District Hazaribagh, **Jharkhand**. [Online Proposal No. IA/JH/IND/114277/2019, File No. J-11011/309/2019-IAII(I)] – **Prescribing of Terms of Reference – regarding.**

- 12.22.1 M/s. Ramgarh Sponge Iron Private Limited has made application vide online proposal no. IA/JH/IND/114277/2019 dated 29/09/2019 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by the project proponent

- 12.22.2 M/s. Ramgarh Sponge Iron Private Limited is operating a 3x100 TPD sponge iron plant at Village Hosir, P.O. Dadi, District Hazaribagh, Jharkhand. The existing land is 22.2157 acres.
- 12.22.3 Now the company proposes for enhancement in production of sponge iron from 90,000 TPA (3X100 TPD) to 2,25,000 TPA (Additional 1x100 TPD and 1x350 TPD), proposed MS Billet of 1,76,400 TPA by installation of 4x15 T induction furnace, Rolling mill of 1,50,000 TPA capacity & captive power plant of 30 MW (WHRB - 16 MW & AFBC- 14 MW) capacity within the existing land of 22.2157 acres.
- 12.22.4 The latitude and longitude of the project site is given as below:

Lat.	23°42'40.47"N	23°42'38.56"N	23°42'38.06"N	23°42'33.26"N	23°42'30.93"N	23°42'29.86"N	23°42'33.14"N
Lon g.	85°24'5.69"E	85°24'11.46"E	85°24'19.61"E	85°24'22.84"E	85°24'18.21"E	85°24'11.54"E	85°24'5.60"E

- 12.22.5 The existing 3x100 TPD sponge iron is operating since 2005 based on the Consent to establish obtained from Jharkhand State Pollution Control Board vide letter no. N-292 dated 9.04.2005. Consent to Operate renewal was accorded by Jharkhand State Pollution Control Board vide Ref. No. JSPCB/HO/RNC/CTO-2012080/2018/976 dt 11.06.2018 and is valid up to 30.09.2021.
- 12.22.6 The proposed unit will be located at Village:- Hosir, P.O. Dadi, District Hazaribagh, State Jharkhand.
- 12.22.7 The land area acquired for the existing and proposed plant is 8.99 Ha out of which Nil ha is an agricultural land, Nil ha is grazing land and 8.99 ha is others. Out of the total 8.99 Ha of land has been already procured. No/forestland involved. The entire land has been acquired for the project. Of the total area 3.04 ha (33%) land will be used for green belt development.
- 12.22.8 The National Park/WL etc are located at a distance of 75 KM from the site/No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.
- 12.22.9 Total project cost is approx. 346 Crore rupees. Proposed employment generation from proposed project will be 660 direct employment and 1500 indirect employment.

12.22.10 The targeted production capacity Sponge Iron capacity from 90000TPA to 225000TPA, MS Billet of 1,76,400 TPA by installation of four no. of induction furnace of capacity 15 TPH, one Captive power plant of capacity 30 MW & 1,50,000 TPA TMT Bar. The ore for the plant would be procured from the nearby mines of Odisha and Jharkhand. The ore transportation will be done through Rail/Road. The proposed capacity for different products for new site area as below:

Sl. No.	Name of the Unit	Existing	Proposed in Phase I Expansion	Total Production Capacity (After expansion)
1	Sponge Iron (DRI) Kilns	3 x 100 TPD / 90000 TPA	1x100 TPD And 1x350TPD/ 1,35000 TPA	4x100TPD And 1x350 TPD/ 2,25,000 TPA
2	Induction Furnace (Steel Melting)	Nil	4 x 15 Ton / 1,80,000 TPA	4 x 15 Ton / 1,80,000 TPA
3	Continuous Caster (for Billet making)	Nil	3x6/11 m Radius/ 1,76,400 TPA	3x6/11 m Radius/ 1,76,400 TPA
4	Total Power	Nil	30 MW	30 MW
5	(steam from WHRB)		16 MW	16 MW
6	(steam from AFBC)		14 MW	14 MW
7	Rolling Mill (for TMT Bar Production)	Nil	500 TPD/1,50,000 TPA	500 TPD/1,50,000 TPA

12.22.11 The electricity load of 30 MW will be procured from captive power plant but initially the power will be sourced from JSEB for construction / erection and preliminary work. Presently 1 MW load has been sanctioned. Proposal for installation of Solar power unit as per State guidelines.

12.22.12 Proposed raw material and fuel requirement for project are Iron ore – 3,60,000TPA, Coal – 2,92,000TPA, Dolomite- 6750 TPA, Sponge Iron – 180000, Scrap & Pig Iron - 43200 TPA. The requirement would be fulfilled by nearby Iron and Manganese mines of Odisha and Jharkhand and CCL, Jharkhand. Fuel consumption will be mainly coal and electricity.

12.22.13 Water Consumption for the proposed project will be 2735 KL/ day. and waste water generation will be nil from the unit and Domestic waste water will be treated through soak pit via septic tank and industrial waste water generated will be treated by settling and reused in the process.

12.22.14 There is no court case or violation under EIA Notification to the project or related activity.

Recommendations of the Committee:

12.22.15 After detailed deliberations, the committee recommended ToRs with flowing specific ToRs.

- i. Air cooled condensers shall be included in the plant design
- ii. No ground water extraction in the proposed project.
- iii. Project proponent shall prepare and include Engineering lay out in the EIA report

12.23 Proposed Expansion of M/s M B Sponge & Power Limited located at Hijalgora, P.O. EkhraJamuria, DistPachimBardhaman, West Bengal -[Online Proposal No. IA/WB/IND/119750/2019, File No. J-11011/310/2019-IAII(I)] – **Prescribing of Terms of Reference – regarding.**

The Project Proponent vide email dated 19.10.2019 expressed their inability to participate in the meeting due to personal constraints and requested to consider the proposal in the next EAC meeting. After deliberations, the committee decided to consider the proposal in the next EAC meeting.

12.24 Expansion in Ferro Alloys Plant furnace capacity from 6 x 9 MVA to 9 x 9 MVA to produce Ferro Manganese and silico manganese by **M/s Berry Alloys Ltd.**, located at Plot No 368 and 368A, APIIC Growth Center Bobbili (Mandal), **Vizianagaram (District) Andhra Pradesh.** - [Online Proposal No. IA/AP/IND/114309/2019, File No. J-11011/1129/2007-IAII(I)] – **Prescribing of Terms of Reference – regarding.**

12.24.1 **M/s. Berry Alloys Ltd** has made application vide online proposal no. IA/AP/IND/114309/2019 dated 06.10.2019 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by the Project Proponent

12.24.2 M/s. Berry Alloys Ltd. is proposing Expansion of plant at Plot No. 368 and 368A, APIIC Growth Center, Bobbili Village & Mandal, Vizianagaram District, Andhra Pradesh. The company is proposing to install additional 3 x 9 MVA Submerged Electric Arc Furnaces. After Expansion total furnace numbers will be 9 x 9 MVA Submerged Electric Arc Furnaces. The Production details are given below:

Product	Existing Quantity	Proposed Quantity	After Expansion
Ferro Manganese	129600 TPA or	86400 TPA or	216000 TPA or
Silico Manganese	108000 TPA or	72000 TPA	180000 TPA or
Ferro Silica	25200 TPA or	-	25200 TPA or
Ferro Chrome	36000 TPA	-	36000 TPA
Synthetic Slag	-	72000 TPA	72000 TPA

12.24.3 The proposed unit will be located at Plot No. 368 and 368A, APIIC Growth Center, Bobbili Village & Mandal, Vizianagaram District, Andhra Pradesh.

12.24.4 The land area acquired for the Expansion project is 8.84 ha. 100% land is Un-irrigated Land. No forest land involved. The entire land has been acquired for the project. Of the total area 2.99 ha (33.9%) land will be used for green belt development.

Sr. No	Particular	Existing (Acres)	Proposed (Acres)	After Expansion (Acres)	Percentage
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1	Plant Area	2.5	2.5	5	22.9
2	Green Belt	4.5	2.9	7.4	33.9
3	Future Expansion	1.38	-	1.38	6.3
4	Internal Roads	1.2	-	1.2	5.5
5	Parking	0.25	-	0.25	1.1
6	Open Space	0.69	-	0.69	3.2
7	Storage Area	2.5	3.03	5.53	25.3
8	Admin Block	0.4	-	0.4	1.8
Total		13.42	8.43	21.85	100

- 12.24.5 No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.
- 12.24.6 Total project expansion cost is approx. 30.0 Crore rupees. Proposed employment generation from proposed expansion project will be 50 direct employment and 150 indirect employment.
- 12.24.7 The targeted production capacity of the Ferro Manganese – 216000 TPA or Silico Manganese – 180000 TPA or Ferro Silica - 25200 TPA or Ferro Chrome - 36000 TPA and Synthetic Slag 72000 TPA. The ore for the plant will be procured from open market. Transportation will be done through road.
- 12.24.8 The electricity load of 62000 KVA (Existing 38000 KVA + Proposed 24000 KVA) will be procured from Eastern Power Distribution Company of Andhra Pradesh Limited.
- 12.24.9 Proposed raw material requirement for project are Manganese Ore High Grade, Manganese Ore Low Grade, Ferro Manganese Slag, Coke, Coal, Quartz and Dolomite. The requirement would be fulfilled by open market.
- 12.24.10 Water Consumption for the proposed project will be 140 KLD and wastewater generation will be zero. Domestic wastewater will be treated STP and Treated wastewater will be used for Greenbelt Development.

Item	Existing Water Requirement for 6 x 9 MVA (KLD)	Proposed Water Requirement for 3 x 9 MVA (KLD)	Total Water Requirement (KLD)
Cooling Purpose	75	45	120
Domestic Purpose	15	05	20
Dust Suppression			
Greenbelt			
Total	90	50	140

- 12.24.11 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.
- 12.24.12 Environmental Consultant Name: **M/s. Paramarsh (Servicing Environment & Development)**Lucknow **Certificate No.: NABET/EIA/1821/RA 0129 valid up to**

01st May 2021

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

- i. Project shall be designed for emission of particulate matter less than 30 mg/m³
- ii. EIA report shall include inter alia the following aspects of Zero Liquid Discharge, 100 % waste utilization. Briquetting plant for dust generated in the process for recycling

12.25 Proposed Integrated Cement Project - Clinker (2.72 MTPA), Cement (4.05 MTPA), CPP (65 MW), WHRS (10 MW) and D.G. Set (1200 KVA) **by M/s. ACC Limited** located at Villages: Godadih, Bohardih and Loharsi, Tehsil: Masturi, District: Bilaspur (Chhattisgarh) - [Online Proposal No. IA/CG/IND/121351/2019, File No. J-11011/305/2019-IAII(I)] – **Prescribing of Terms of Reference – regarding.**

12.25.1 M/s. ACC Limited made application vide online proposal no. IA/CG/IND/121351/2019 dated 12/10/2019 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 Sl. No. 3(b) Cement Plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

Details submitted by the project proponent

12.25.2 M/s. ACC Limited proposes to install a new Integrated Cement Project - Clinker (2.72 MTPA), Cement (4.05 MTPA), Captive Power Plant (65 MW) & WHRS (10 MW) and D.G Set (1200 KVA) at Village: Godadih, Bohardih and Loharsi, Tehsil: Masturi, District: Bilaspur (Chhattisgarh). It is proposed to set up the plant based on dry process technology.

12.25.3 The alternate site analysis carried out by the PP is given as below:

PARTICULARS	Option 1	Option 2 (Proposed Site)	Option 3	Remarks
Location	Villages Bohardih & Godadih	Villages Godadih, Bohardih & Loharsi	Villages Chilhati & Loharsi	
Area, Ha	105	105	105	
<i>Co-ordinates</i>				
Latitude	21 ⁰ 47' 26.84" N to 21 ⁰ 48' 18.05" N	21 ⁰ 47' 49.05" N to 21 ⁰ 48' 22.54" N	21 ⁰ 47' 15.54" N to 21 ⁰ 47' 53.40" N	
Longitude	82 ⁰ 21' 5.8" E to 82 ⁰ 21' 45.97" E	82 ⁰ 19' 55.57" E to 82 ⁰ 20' 58.35" E	82 ⁰ 18' 13.55" E to 82 ⁰ 19' 19.19" E	
NH -200 (via Main State Pachpedi Road)	~14.0 km	~13.5 km	~15.0 km	From accessibility point of view

PARTICULARS	Option 1	Option 2 (Proposed Site)	Option 3	Remarks
and Approach Road)				and minimum load on environment due to transportation, Option 2 is proposed.
Bilaspur Railway station	~34.0 km	~32.5 km	~33.0 km	Option 2 is proposed by seeing ease of railway siding from the proposed Kharsia-Durg Railway Corridor.
Captive Mine (Limestone)	Adjacent	~0.5 km	~2.0 km	Option 2 is proposed.
Proposed Crusher Hopper in mine lease area H-2 block	~2.5 km	~0.5 km	~3.5 km	
Govt. proposed 132 KVA substation at Village Chilhati	~6.0 km	~2.0 km	~2.0 km	Option 2 & 3 are equivalent
HT Line	Passing through the proposed Plant site	None	None	
Habitation	Few habitations present in the proposed site	Area is free of Habitation	Area is free of Habitation	Option 2 and 3 are equivalent
Forest Land	No forest land involved	No forest land involved	No forest land involved	All options are equivalent
Protected Areas like NP, WLS, ESZ	None within 10 km	None within 10 km	None within 10 km	All options are equivalent
Canal / Nalla	Canal is passing through the proposed site	Seasonal nalla is passing through the proposed site	None	-

12.25.4 The site located at Villages Godadih, Bohardih & Loharsi Tehsil: Masturi, District: Bilaspur (Chhattisgarh) has been chosen for the project.

12.25.5 The land area required for the proposed plant is 105 ha; out of which 67.37 ha is Govt. Waste land and rest 37.63 ha is private agricultural land. No forest land is involved. The land acquired is under process. Out of the total project area, 34.65 ha (33%) will be used for greenbelt development.

12.25.6 No National Park / Wildlife Sanctuary / Biosphere Reserve/ Tiger Reserve/ Elephant Reserve, are located in the core and buffer zone of the project.

12.25.7 Total project cost is approx. Rs. 2900 Crores. Proposed employment generation from proposed project will be 200 direct employment and 600 indirect/contractual

employment.

- 12.25.8 The targeted production capacity of Integrated Cement Project is Clinker - 2.72 MTPA, Cement - 4.05 MTPA, Captive Power Plant - 65 MW & WHRS - 10 MW and D.G Set - 1200 KVA. Limestone for the plant would be sourced from Captive Limestone Mining Lease. The transportation of limestone will be done through covered conveyor belt. The proposed capacity for different products for new site area is as below:

Name of Unit	Proposed Capacity
Clinker (MTPA)	2.72
Cement (MTPA)	4.05
CPP (MW)	65
WHRs (MW)	10
D.G. Set (KVA)	1200

- 12.25.9 The electricity load of 65 MW will be sourced from proposed Captive Power Plant, WHRS & D.G Set (for emergency). Company has proposed to install D.G Set of 1200 KVA for Back-up Purpose.
- 12.25.10 Proposed Raw materials required for the project are Limestone (3.9 MTPA) which will be sourced from Captive Limestone Mining Lease near to the proposed project site. Bauxite (0.06 MTPA) will be sourced from Kavardha (Chhattisgarh); Iron Ore (0.06) will be sourced from Iron ore mines of Tilda (Chhattisgarh); Gypsum (0.25 MTPA) from Paradeep Port, Dahej port, Bharuch; Fly ash (1.22 MTPA) from Power plant in Chhattisgarh & CPP, NSPCL-Sail, JSPL; Slag (1.5 MTPA) will be sourced from JSPL, Bhilai Steel Plant. Fuel Consumption for Cement Plant will be - Petcoke (Indigenous/ Imported (0.31 MTPA) which will be imported and Indian / Imported Coal (0.48 MTPA) will be sourced from SECL & for CPP will be Indian / Imported Coal (0.52 MTPA) which will be sourced from SECL.
- 12.25.11 Water Consumption for the proposed project will be 1753 KLD; which will be sourced from Lilagarh River for which we have taken permission from the Water Resource Department. It is state of art dry process cement plant. It is Zero Liquid Discharge (ZLD) plant, No waste water will be discharged from the cement plant. Domestic waste water will be treated in STP and treated water will be used for greenbelt development/plantation & dust suppression. Waste water generated from CPP will be recycled back into the process and used for dust suppression after proper neutralization.
- 12.25.12 The proponent has mentioned that there is no court case or violation under EIA Notification 2006 to the project or related activity.
- 12.25.13 Name of the consultant: M/s. J.M. EnviroNet Pvt. Ltd. [S.No. 92, List of Accredited Consultant Organizations (Alphabetically) Rev. 81, October, 2019].

Observations of the Committee

- 12.25.14 The three sites proposed for the project were discussed in detail. After the deliberation, the proposed site no.2 was considered suitable for the project considering the meteorological conditions, siting of the village, vicinity to the mine and road linkage proposed for transportation of finished product and raw material.

Recommendations of the Committee

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

- i. No ground water extraction is permitted.
- ii. Provision of air-cooled condenser shall be made by the project proponent to conserve water.
- iii. No diversion of nallah is allowed.
- iv. Hydrography study of the project site and surrounding area of 2 km shall be conducted and furnished in the EIA report.
- v. Review the waste heat recovery design and furnish in the EIA report.
- vi. Stop dam shall be maintained as in its present position and its safety be ensured.
- vii. Design and indicate a thick green belt towards village side in addition to overall green belt development.
- viii. Action plan for railway siding for transportation of materials shall be furnished by the project proponent.
- ix. Rainwater harvesting plan shall be prepared and furnished by the project proponent.
- x. Public Hearing is to be conducted by the concerned State Pollution Control Board.
- xi. The issues raised during the public hearing and commitment of the project proponent to address the same shall be compiled and submitted in a time bound action plan. The action plan shall, inter alia, contain the year-wise activities with corresponding financial allocations.

ANNEXURE -1

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

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

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

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

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

6. **Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM₁₀, PM_{2.5}, SO₂, NO_x, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM 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. Corporate Environment Responsibility (CER)
- i. To address the Public Hearing issues, an amount as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 amounting to Rs.crores, shall be earmarked by the project proponent, towards Corporate Environment Responsibility (CER). Distinct CER projects shall be carved out based on the local public hearing issues. Project estimate shall be prepared based on PWD schedule of rates for each distinct Item and schedule for time bound action plan shall be prepared. These CER projects as indicated by the project proponent shall be implemented along with the main project. Implementation of such program shall be ensured by constituting a Committee comprising of the project proponent, representatives of village Panchayat & District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office. No free distribution/donations and or free camps shall be included in the above CER budget
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 4th August, 2009, which are available on the website of this Ministry shall also be followed.
- viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (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.

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 (PM₁₀ and P_{2.5}) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM₁₀ 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(PM₁₀ and P_{2.5}) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM₁₀ 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 basebleaching 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)

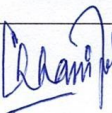
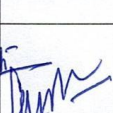
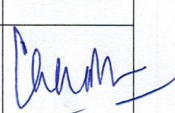
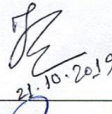
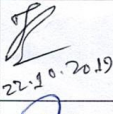
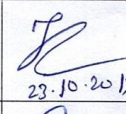
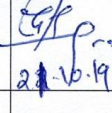
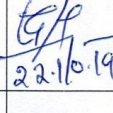
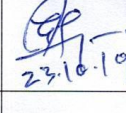
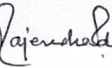
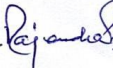
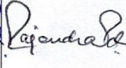
1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Emission from sulphuric acid plant and sulphur muck management.
3. Details on installation of Continuous Emission Monitoring System with 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

**LIST OF PARTICIPANTS IN 12th MEETING OF EAC (INDUSTRY-I) HELD
ON 21-23 OCTOBER, 2019**

SL. No.	NAME AND ADDRESS	POSITION	ATTENDANCE SIGNATURE		
			21/10/2019	22/10/2019	23/10/2019
1	Dr. Chhavi Nath Pandey, IFS(Retired) Email: pandeychhavinath55@gmail.com	Chairman			
Members					
2.	, Representative of Central Pulp and Paper Research Institute, Saharanpur. Email: director.cppri@gmail.com	Member	ABSENT	ABSENT	ABSENT
3.	, Representative of Indian Meteorological Department, New Delhi.	Member	ABSENT	ABSENT	ABSENT
4.	Dr. G. Bhaskar Raju Email: gbraju55@gmail.com	Member	ABSENT	ABSENT	ABSENT
5.	Dr. Jagdish Kishwan, IFS (Retd.) Email: jkishwan@gmail.com	Member	 21-10-2019	 22-10-2019	 23-10-2019
6.	Dr. G.V. Subramanyam Email: sv.godavarthi@gmail.com	Member	 21-10-19	 22-10-19	 23-10-19
7.	Shri. Ashok Upadhyaya Email: ahupadhy@rediffmail.com	Member	ABSENT	ABSENT	ABSENT
8.	Shri. R.P. Sharma Email: rps3@hotmail.com	Member			
9.	Shri. Sanjay Deshmukh Email: docsvd@yahoo.com	Member	ABSENT	ABSENT	ABSENT

SL. No.	NAME AND ADDRESS	POSITION	ATTENDANCE SIGNATURE		
			21/10/2019	22/10/2019	23/10/2019
10.	Prof. S.K. Singh Email: sksinghdee@gmail.com ✓ singhsk@email.com	Member			ABSENT
11.	Dr. R. Gopichandran Email: r.gopichandran@vigyanprasar.gov.in	Member	ABSENT	ABSENT	ABSENT
12.	Shri. Jagannath Rao Avasarala Email: avasaralajagan@gmail.com	Member			
13	Shri. J.S. Kamyotra Email: kamyotra@yahoo.co.in	Member			
14.	Shri. Aravind Kumar Agrawal Director, MoEF&CC Email: dirind-moef@gov.in	Member Secretary			
