

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

SUMMARY RECORD OF THE EIGHTH (8th) MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE HELD DURING 26TH JUNE, 2019 FOR ENVIRONMENTAL APPRAISAL OF INDUSTRY-I SECTOR PROJECTS CONSTITUTED UNDER THE PROVISIONS OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) NOTIFICATION, 2006.

The eighth 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 26th June, 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 7th meeting held during 29-31st May, 2019 were confirmed by the EAC and already uploaded on Parivesh portal. Following corrections have been made on the uploaded minutes with respect to item no. 7.17 and 7.41 as below:

Agenda Item No. 7.17:

Proposed Modernization and Expansion Plan (MEP) of Existing Paper/Board Manufacturing Plant by M/s **JK Paper Limited** located at JKPL Unit: CPM, Fort Songadh, P.O Central Pulp Mills, District Tapi, **Gujarat** – [Proposal No. IA/GJ/IND/4883/2008, MoEFCC File No.J-11011/416/2008-IAII(I)] – Environment Clearance - regarding.

S.No.	For	Read as
1	Para No.7.17.1: M/s JK Paper Limited made application vide online proposal no. IA/GJ/IND/4883/2008 dated 15 th February, 2019 along with the application in prescribed format (Form-I) for expansion and modernization of Existing Paper/Board Manufacturing Plant by replacing existing Recovery Boilers with one new Energy Efficient Recovery Boiler (EERB) and enhancing the inhouse Pulp Production without increasing the total Paper/Board Production Capacity under the provisions of 7 (ii) of EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 5(i) Pulp and Paper Manufacturing Industry under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.	M/s JK Paper Limited made application vide online proposal No. IA/GJ/IND/4883/2008 dated 15 th February 2019 alongwith prescribed format (Form-2), EIA report and other requisite documents for expansion and moderinisation of existing paper /board manufacturing plant. The proposed project activity is listed at S.No.5(i) Pulp and Paper Manufacturing Industry under Category ‘A’ of the Schedule of the EIA Notification, 2006 and appraised at Central Level.

2	Para 7.17.29: A Specific Conditions	
	(ii) The specific water consumption shall not exceed 32 m ³ per tonne of paper production.	The specific water consumption shall not exceed 32 m ³ per tonne of product.
	(iii) The energy consumption shall not exceed 1330 kwh per tonne of paper production.	The energy consumption shall not exceed 1330 kwh per tonne of paper product.
	(iv) Specific coal consumption shall not exceed 1.4 ton/ ton of paper production.	Specific coal consumption shall not exceed 1.4 ton/ ton of paper product.
3	Para 7.17.29: B. General Conditions:	
	III. Water quality monitoring and preservation:	
	xi. Water meters shall be provided at the inlet to all unit processes in the steel plants.	xi. Water meters shall be provided at the inlet to all unit processes in the pulp and paper manufacturing unit.
	xii. The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	The project proponent shall make efforts to minimise water consumption in the pulp and paper manufacturing unit by segregation of used water, practicing cascade use and by recycling treated water.

Agenda Item No. 7.41:

Expansion of cement plant with clinker 1.485 MTPA to 3.485 MTPA and Cement 1.65 MTPA to 5.5 MTPA by installation of new unit –II for additional clinker production of 2.0 MTPA and Cement of 3.35 MTPA of **M/s The India Cements Ltd** located at Village Chilamkur, Yerrakuntla Mandal, District YSR Kadapa, Andhra Pradesh [Online proposal No. IA/AP/IND/105923/2019; MoEFCC File No. J-11011/126/2011-IA-II(I)] – **Amendment in Terms of Reference – regarding.**

For	Read as
<p>Para 7.41.4. Now, the Project Proponent wants to retain the prescribed ToRs for expansion of original capacity proposed earlier, i.e., from 1.485 MTPA to 3.485 MTPA and Cement Production from 1.65 MTPA to 5.00 MTPA.</p>	<p>Now, the Project Proponent request to amend ToRs for expansion, i.e., clinker production from 1.485 MTPA to 3.65 MTPA and Cement Production from 1.65 MTPA to 5.5 MTPA.</p>

26th June, 2019

8.1 Expansion in Sponge iron Plant (6,00,000 TPA to 7,80,000 TPA) & Mini Blast Furnace with Oxygen Plant (3,00,000 TPA to 3,90,000 TPA) by process optimization & increasing number of working days/annum by **M/s. Orissa Metaliks Private Limited** located at village Gokulpur, P.O.Shyamraipur, P.S.Kharagpur, District West Medinipur, **West Bengal** – [Proposal No. IA/WB/IND/107252/2019, MoEF&CC File No.J-11011/227/2007-IAII(I)] – **Environment Clearance under para 7(ii) of EIA Notification, 2006 - regarding.**

8.1.1 M/s. Orissa Metaliks Private Limited has made an online application vide proposal no. IA/WB/IND/107252/2019 dated 18th June, 2019 along with Form – 2 seeking environmental clearance under the provisions of para 7(ii) 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.

Details submitted by the project proponent

8.1.2 The Ministry of Environment, Forest and Climate Change has accorded Environmental Clearance to M/s. Rashmi Metaliks Limited vide letter no. J-11011/228/2007-IA.II.(I) dated 12/06/2008 for setting up of steel plant (5,00,000 TPA, MBF&SMS) at village Shyamraipur, Gokulpur, Kharagpur, Paschim Medinipur, West Bengal. Subsequently, the EC was amended by the Ministry vide letter dated 10/12/2008, 12/02/2015, 6/01/2017 and 30/08/2018. The EC was transferred in the name of M/s. Orissa Metaliks Private Limited vide dated 06.01.2017

8.1.3 It has been reported that following are the unit configuration and production capacity of the existing units:

Name of the Units	Existing Facility & Production Capacity	Name of Product
Sponge Iron Plant (DRI Kiln)	6,00,000 TPA (6 x 100 + 1 x 350 + 1 x 600 + 1 x 500 TPD)	Sponge Iron
WHRB Based CPP	52 MW (6 X 10 + 1 X39 TPH+2 X60) TPH	Power
AFBC Based CPP	6 MW	Power
CFBC Based CPP	25 MW	Power
Mini Blast Furnace with Oxygen plant	3,00,000 TPA (1 x 320 m ³)	Pig Iron/ Molten Metal

8.1.4 The present proposal of the company is to enhance the production capacity of existing sponge iron plant from 6,00,000 TPA to 7,80,000 TPA and existing Mini Blast Furnace from 3,00,000 TPA to 3,90,000 TPA by process optimization & increasing no of working days in a year. The details of the existing and proposed production details are furnished as below:

Name of the Units	Existing Production & Configuration (As per earlier EC)	Additional Production	Total Production After Expansion
Sponge Iron Plant (DRI Kiln)	6,00,000 TPA (6 x 100 + 1 x 350 + 1 x 600 + 1 x 500)	1,80,000 TPA	7,80,000 TPA (6 x 100 + 1 x 350 + 1 x 600 + 1 x 500)
Mini Blast Furnace with Oxygen plant	3,00,000 TPA (1 x 320 m ³)	90,000 TPA	3,90,000 TPA
WHRB Based CPP	52 MW (6x10 + 1x39 + 2x60 TPH)	-	52 MW
AFBC Based CPP	6 MW	-	6 MW
CFBC Based CPP	25 MW	-	25 MW

Observations of the Committee

8.1.5 The committee noted that compliance to the existing Environmental Clearance conditions with respect to green belt development in 33% of the area, rainwater harvesting in 13 tube wells are yet to be verified by the concerned authorities. Further, the document inter-alia containing material and energy balance, pollution load assessment for the proposed capacity vis-à-vis existing capacity has not been submitted by the project proponent which are essentially required by the EAC for making due diligence under para 7(ii) of the EIA Notification, 2006.

Recommendations of the Committee

8.1.6 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. Compliance report from West Bengal Ground Water Resources Department regarding rain water harvesting/recharging around the 13 tube wells.
- ii. Compliance report from Regional Office of the MoEF&CC regarding the status of green belt development in the existing unit.
- iii. Process modification, material and energy Balance envisaged for the proposed capacity enhancement including details of coal quality, iron ore quality and water balance.
- iv. Pollution load assessment for the proposed capacity vis-à-vis existing capacity and the likely emission norms to be met including the details of Air Pollution Control Devices (APCD).
- v. Explore the possibility of using surface water instead of ground water drawl from the tube wells shall be furnished.

8.2 Expansion of Sponge Iron Plant production from 3,00,000 TPA to 3,75,000 TPA through process optimization by **M/s. MSP Steel and Power Limited** located at Jamgaon village, Raigarh district, **Chhattisgarh** [Proposal No. IA/CG/IND/90078/2018, MoEF&CC File No. J-11011/267/2007-IAII(I)]– **Environment Clearance under para 7(ii) of EIA Notification, 2006 - regarding.**

8.2.1 **M/s. MSP Steel and Power Limited** has made an online application vide proposal no. IA/CG/IND/90078/2018 dated 25/05/2019 along with Form – 2 seeking environmental clearance under the provisions of para 7(ii) 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.

Details submitted by the project proponent

8.2.2 M/s. MSP Steel and Power Limited was granted environmental Clearance by MoEF&CC vide letter No. J-11011/267/2007-IA II (I) dated 02/04/2009 for capacity expansion of Billet production from 95,000 to 695,000 TPA and Captive Power Plant from 16 MW to 52 MW. Subsequently, amendment to the environmental Clearance was issued on 9/9/2010 for change in the capacity of Pellet plant from 0.6 MTPA to 0.9 MTPA and Captive Power Plant from 20 MW to 44 MW (AFBC Boiler). Thereafter, another amendment to the environmental Clearance was issued on 23/08/2012 for change in configuration of Steel Melting Shop within permitted production capacity of 672,172 TPA Billets and inclusion of 4.5 MW biomass based power plant.

8.2.3 It has been reported that following is the implementation status of the existing Environmental Clearance:

Facilities	As per Environmental Clearance		Installed	
	Units	Annual Production Capacity in Tons	Units	Annual Production Capacity in Tons
Sponge Iron Plant	4x300 TPD	400,000	3x300 TPD	300,000
Steel Melting Shop	3x15 Ton IF	139,680	3x15 Ton IF	139,680
	5x8 Ton IF	119,832	5x8 Ton IF	119,832
	1x18 Ton IF	46,000	1x18 Ton IF	46,000
	2x35 Ton EAF	366,660		
		672,172		305,512
Sinter Plant	1x60 m ²	641,520	Not Installed	
Blast Furnace	1x450 m ³	400,000	Not Installed	
Iron Ore Beneficiation & Pellet	---	900,000	---	900,000
Coal Washery	---	720,000	---	360,000
Rolling Mill	---	480,000	---	273,000

Facilities		As per Environmental Clearance		Installed	
		Units	Annual Production Capacity in Tons	Units	Annual Production Capacity in Tons
Power Plant	WHRB	4x8 MW	32 MW	3x8 MW	24 MW
	AFBC	1x10 MW	44 MW	1x10 MW	44 MW
		1x34 MW		1x34 MW	
	Bio-mass	1x4.5 MW	4.5 MW	1x4.5 MW	4.5 MW
			80.5 MW		72.5 MW

8.2.4 The present proposal of M/s. MSP Steel and Power Limited is for enhancement of production of Sponge Iron from 3 nos. of installed DRI Kiln from 300,000 (production under the CTO) to 375,000 TPA (25% increase is proposed) without any increase in pollution load or any additional installation.

8.2.5 The certified compliance report for the existing EC conditions was issued by the Regional Office of the MoEF&CC at Nagpur on 31/07/2018 wherein following non-compliances have been reported:

- i. Specific condition no (vi) - it was observed that PP has adopted measures like water spray system at ground hopper of raw material feeding, bag-filter connected to the CHP of Power plant, bag-filter connected to stacks of Induction Furnace. However, measure for control of secondary fugitive emission needs to be further upgraded or strengthened by the PP, House keeping practices needs to be improved to keep the open areas of the premises tidy and to keep the secondary emissions under control Similarly water sprinkling system at the transfer points along the roads need to be further strengthened as premises of the PP has been observed with substantial secondary fugitive emissions.
- ii. Specific conditions no.(VIII) and conditions no.(iii) of EC dated 09.09.2010 as per the details made available by the PP, it was observed that existing water consumption of the PP stands a 7278 m³/day while with the proposed expansion the water consumption in future will increase to total requirement of the water has been proposed to be 8289 m³/day. Details pertaining to the approval obtain by the PP for the consumption of additional water of 576.8 m³/day was not made available by the PP.
- iii. Condition no. (xv) Detail regarding monitoring reports on toxic metal content in the waste material and its composition. if any assessed by the PP, has not been made available by the PP.
- iv. General Conditions no. (V) and Condition No. (VI) of EC dated 09.09.2010- No ETP has been installed by the PP to treat wastewater. The pp has informed that waste water generated from the DM plant is neutralized and re-used for dust suppression system and green belt development, it was observed that domestic waste water is treated in septic tank by sock pit within the premises and no waste water has been reported to be is discharged outside. The PP has informed that they have initiated the

process for the settling up of an ETP within their premises for the treatment of the industrial wastewater.

8.2.6 After detailed deliberations, the Committee noted that closure report to the aforesaid non-compliances are yet to be obtained by the project proponent from the Regional Office.

8.2.7 The changes in raw material requirement for the proposed product enhancement is given as below:

Existing Production – 3,00,000 TPA			Proposed Production – 3,75,000 TPA		
Raw Material	Rate (T/T)	Raw Material Requirement (TPA)	Raw Material	Rate (T/T)	Raw Material Requirement (TPA)
Iron Ore (10%)	1.68	50,400	Iron Ore (10%)	1.68	63,000
Pallet (90%)	1.4	3,78,000	Pallet (90%)	1.4	4,72,500
Coal Indian (100%) (38% ash)	1.4	4,20,000	Coal Indian (10%)	1.4	52,500
			Imported Coal (90%); (~20% ash)	0.76	2,56,000
Limestone	0.03	9,000	Limestone	0.03	11,250
Total Raw Material Requirement	2.858	8,57,400	Total Raw Material Requirement	2.852	8,55,750
Reduction in Raw Materials Requirement – 1,650 TPA					

8.2.8 There is reduction in raw material requirement of 395,610 TPA from the Existing EC and 1,650 TPA from the production quantity under the present CTO

8.2.9 Due to use of low ash content (20%) Imported coal the total raw materials quantity requirement has been reduced. As a result, more space in kiln is left to facilitate processing of more iron ore / pellets resulting in greater productivity in the same Rotary kilns.

Pollution Load Comparison:

8.2.10 Now the company proposes to use high grade coal of low ash content (20%) instead of high ash content (42%) indigenous Coal of 'E' & 'F' grades (present practice). This will significantly reduce the ESP dust load by around 38%.

8.2.11 The gross inlet dust load to the ESP will be reduced due to decrease in raw materials requirement and low ash content in Coal. As a result, particulate emission will remain within the level as permitted in the existing EC dated 02.04.2009.

Dust Load in ESP	Dust load for the present production under CTO (300,000 TPA) in Tons	Dust load for the increased production (375,000) in Tons
Iron Ore dust	22428	28035
Fly-ash	72324	30073
Total load in Tons	94752	58108
Dust Load in ESP in	3.27	2.01

Dust Load in ESP	Dust load for the present production under CTO (300,000 TPA) in Tons	Dust load for the increased production (375,000) in Tons
kg/sec.		
Reduction in Dust Load in ESP – 1.26 kg/sec		

Reduction in Solid Waste generation

8.2.12 Reduction of solid waste generation in the form of Char, Sludge & Dust as shown in the table below is primarily due to low ash content and coal with high Fixed Carbon, to be procured from the import sources.

Raw Material	Quantity in TPA as per CTO	Quantity in TPA for proposed increased production
Dolo Char	129,040	82490
Wet Scrubber Sludge	5900	3110
Pollution Control Equipment Dust	23400	10130
Total	158,340	95,730

There will be approx. 40% reduction in solid waste generation.

Power Consumption

Power Requirement of Sponge Iron Plant for production in CTO	Power Requirement of Sponge Iron Plant for the proposed production
90 Units per ton of Sponge Iron	51 Units per ton of Sponge Iron
27,000,000 kwh	19,125,000

It may be seen that even for the higher production, power requirement will be reduced by approx. 30%

Water Requirement

8.2.13 Water requirement for M/s MSP Steel & Power Limited as per the last EC/ EIA was 6701.2 m³/day, however the present water requirement is 2739.73 m³/day.

8.2.14 Water requirement of Sponge Iron Plant as per the EIA / Existing EC, as per present operating capacity under CTO and as per the proposed production are as follows:

Water Requirement for Sponge Iron Plant as per the EC (m ³ /day)	Water Requirement for Sponge Iron Plant as per CTO (m ³ /day)	Water Requirement for Sponge Iron Plant as per proposed production (m ³ /day)
303	228	284

8.2.15 Water requirement will be less than 19 m³/day from the water requirement of Sponge Iron Plant from the EIA / EC, however it will be 56 m³/day more from the production under CTO. However, the same will be within the permitted quantity under the EC. Efficiency of existing Cooling Tower will be improved to minimise this gap.

Traffic Load Comparison

- 8.2.16 It may be noted that many units under the last EC have not been installed and the plant is operating on lesser capacity. Hence raw material requirement and finish product production is much less than the quantity of raw materials and production projected in EIA/EC. Hence, there will be lesser load on traffic due to transportation of these materials. Even for the proposed increase in production of DRI (from the present operating production), aggregate quantum of raw material requirement is less. Hence, even for the proposed DRI Production, load on traffic will be less.
- 8.2.17 Load on Traffic will be further reduced due to the proposed increased production of DRI, as Sponge Iron requirement in Steel Melting Shop from the market will be reduced proportionately, required to be transported.

Observations of the Committee

- 8.2.18 The committee noted that closure report from Regional Office on the observed non-compliances have not been furnished inter-alia including green belt development in 33% of the area. Pre-feasibility project report for the proposed capacity enhancement is not provided. Further, the material and energy balance, pollution load assessment for the proposed capacity vis-à-vis existing capacity has not been submitted.

Recommendations of the Committee

- 8.2.19 After detailed deliberations, the Committee deferred the consideration of the proposal cited above and sought following additional information for further consideration of the proposal:
- i. Closure report from Regional Office on the observed non-compliances shall be furnished inter-alia including green belt development in 33% of the area.
 - ii. Material and Energy Balance for the proposed capacity enhancement including details of coal quality, iron ore quality and water balance shall be furnished.
 - iii. Pollution load assessment for the proposed capacity vis-à-vis existing capacity and the likely emission norms to be met including the details of Air Pollution Control Devices (APCD).
 - iv. Pre-feasibility project report for the proposed capacity enhancement shall be submitted.
 - v. Undertaking from project proponent stating that air cooled condenser shall be installed in place of watercooling arrangement.
 - vi. Project proponent shall submit an Action plan for upgradation of Air Pollution Control Devices (APCD) and waste heat recovery capacity.

- 8.3 Expansion of Steel Ingots and Billets (36,000 TPA to 96,000 TPA) and manufacture of Re-rolled products (60,000 TPA) by M/s. Maruti Ferrous Pvt. Limited located at Village Sondra, Tehsil Raipur, District Raipur, Chhattisgarh [Proposal No. IA/CG/IND/105366/2019, MoEF&CC File No. J-11011/592/2007-IA.II(I)] – Environment Clearance for change in product mix with modernization and optimization of production capacity under para 7(ii) of EIA Notification, 2006 - regarding.**

- 8.3.1 **M/s. Maruti Ferrous Pvt. Limited** has made an online application vide proposal no. IA/CG/IND/105366/2019 dated 21/05/2019 along with Form – 2 seeking environmental clearance for change in product mix with modernization and optimization of production capacity under para 7(ii) of EIA Notification, 2006 in 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.

Details submitted by the project proponent

- 8.3.2 MoEF&CC vide letter no. J-11011/592/2007-IA (I) dated 10/01/2007 accorded environmental clearance to M/s. Maruti Ferrous Pvt Ltd for expansion of Steel Ingots and Billets (36,000 TPA to 96,000 TPA) and manufacture of Re-rolled products (60,000 TPA) at Village Sondra, Tehsil Raipur, District Raipur, Chhattisgarh under the provisions of EIA Notification, 2006.
- 8.3.3 M/s. Maruti Ferrous Pvt Ltd vide online proposal No. IA/CG/IND/105366/2019 dated 21/05/2019 requested the Ministry to accord environmental clearance for the following change in product mix with modernization and optimization of production capacity under para 7(ii) of EIA Notification, 2006.

Existing Scenario		Proposed product mix change scenario		Remark
Facility and product	Production capacity in TPA	Facility and product	Production capacity in TPA	
Induction Furnace to produce MS Billet	96000 TPA	Induction Furnace to produce MS Billet And/or Rerolled steel products through Hot Charging Rolling Mill	96000 TPA	No change in existing production capacity of Billets in Induction Furnace. Only Hot Billets will be fed to existing Rerolling Mill to produce Rerolled Steel Product by running the mill in 3 shifts.
Billet Reheating Furnace based Steel Rerolling mill to produce rerolled steel product	60000 TPA	Billet Reheating Furnace based Steel Rerolling mill to produce rerolled steel products.	60000 TPA	No change in existing production capacity of Rerolled Structural steel

- 8.3.4 The certified compliance report for the existing EC conditions was issued by the Regional Office of the MoEF&CC at Nagpur on 31/07/2018 wherein following non-compliances have been reported:
- i. Specific condition no (ii) General condition no.(iv) - Measures for control of secondary fugitive emissions from internal roads and open areas needs to be further upgraded or strengthened by the PP. Housekeeping practices needs to be improved to keep the open areas of the premises tidy and to keep the secondary emissions under control. Similarly, water sprinkling system at the transfer points, along the roads needs to be further strengthened as premises of the PP has been observed with substantial secondary fugitive emissions.
 - ii. Specific conditions no.(vi) - Though the PP has provided closed circuit cooling system to optimize the water requirement and a settling tank to neutralize the water and to re-use it for industrial and for sprinkling and green belt development, yet the water stored in the settling tank was observed with oil based impurities which results from the wear and tear, repairing of the machineries. No provisions were observed to be adopted by the PP to separate oil from the water. Further, treatment of domestic waste water regimes also needs to be upgraded by the PP. Provisions of setting up an oil separator or ETP needs to be explored by the PP to avoid flowing of oil based impurities/effluents into the natural water drainage.
 - iii. Conditions no. (vii) - The PP has informed that noise levels are being kept within prescribed limit through taking adequate measures. However, supporting details on the monitoring of noise levels, in various working zones, was not made available by the PP.
- 8.3.5 After detailed deliberations, the Committee noted that closure report to the aforesaid non-compliances are yet to be obtained by the project proponent from the Regional Office.
- 8.3.6 The existing and proposed scenario in the induction furnace and rolling mill after the change in product mix is given as below:

Induction furnace

Existing Scenario:

- At present **96000 TPA Cold MS Billet** Production Capacity is in operation based on Induction Furnaces with CCM through 10 heat per day X 300 days/annum basis.

Proposed Scenario:

- There is no change in capacity, the capacity will remain same as **96000 TPA**. The product mix will be changed from “**MS Billet**” to “**MS Billet and/or Rerolled Steel product through Hot charging**”.

Rolling Mill

Existing Scenario:

- At present rerolling mills is being operated with Billet reheating furnace on single shift basis for 300 days to produce 60000 TPA Rerolled Steel products.

- Fuel requirement is about 50 liter furnace oil per ton.
- Thus about 3000 KL/annum Furnace Oil is required.

Proposed Scenario:

- Rerolling mill will be run in 3 shifts in place of one shift; hot billets from CCM will be fed to the mill for Rolling.
- No change in heating capacity of Reheating furnace it will remain 60000 TPA.
- It is proposed to improve fuel efficiency to reduce furnace oil consumption to 45 litre per ton from existing 50 liter per ton.
- No additional Reheating furnace is required.
- No additional rolling mill will be required.

8.3.7 In addition to the, following process improvements in the existing induction furnace, rolling mill and reheating furnace will be carried out:

- It is proposed to utilize high grade Sponge Iron with High Metallization and Heavy Melting Scrap and Pig Iron in Induction Furnaces to reduce the Power Consumption; reduce melting time; reduce power consumption; reduce slag losses and save water and improve the productivity.
- In Rolling Mill increase the working hour to three shift and optimize the speed of existing Rolling mill drives.
- The roll pass design will be improved.
- High thermal efficiency waste heat recuperator will be installed for recuperating thermal energy from flue gases.
- Yearly Furnace Oil requirement will be reduced to 2700 KL/Annum. Thus 300 KL/Annum furnace oil will be saved.
- The reheating furnace temperature profile will be monitored and improved to restrict excess heating of Billets.
- Flue gas analyzer for control of excess Oxygen in re heating furnace will be installed.

8.3.8 The raw material requirement for the existing and proposed change in product mix scenario is given as below:

ITEM	Existing Scenario (TPA)	Proposed Scenario (TPA)	Change In quantity
[A] Induction Furnace			
Sponge Iron	93768	91535	-2233
CI/ Pig Iron/ Heavy Scrap	20784	20589	-195
Ferro Alloys	1040	1015	-25
Ramming Mass/ Refractory Lining etc.	404	394	-10

Sub-Total [A]	115996	113233	-2763
[B] Reheating Furnace			
Billet	66000	62400	- 3600
Furnace Oil (in TP based on .97 Density)	2910 (3000 KLA X .97)	2619 (2700 KLA * .97)	-291
Sub-Total [B]	68910	65019	-3891
Grand Total [A] + [B]	184906	178252	- 6654

8.3.9 The air pollution load for the existing and proposed change in product mix scenario is given as below:

ITEM	Existing Scenario	Proposed Scenario	Further improved Scenario
PM Emission Level	50 Mg/Nm ³	50 Mg/Nm ³	35 Mg/Nm ³ 5in Induction Furnace and 45 Mg/Nm ³ in BRF
Particulate emission thru operation of Induction Furnace	4.32 TPA	3.48 TPA	2.436 TPA
Particulate emission thru operation of Billet Reheating Furnace	3.30 TPA	2.97 TPA	2.67 TPA
Total Particulate Emission	7.62 TPA	6.45 TPA	5.11 TPA
SOx emission (@ 300 mg/Nm³ according to GSR 263 (E) dated 22.03.2018)	19.8 TPA	17.82 TPA	17.82 TPA
NOx emission (@ 1000 mg/Nm³ according to GSR 263 (E) dated 22.03.2018)	66 TPA	59.4 TPA	59.4 TPA

8.3.10 The waste generation for the existing and proposed change in product mix scenario is given as below:

Waste for disposal sent outside:	Qty. MT/Year			Utilization /disposal method
	Existing Scenario	Proposed Scenario	Change in Qty.	
[A] INDUCTION FURNACE with CCM				
Mill Scale	2400	2400	0	Partially reused in own Induction Furnaces and remaining will be sold to Ferro Alloys Plants
End cutting during Billet Production	2400	2000	-400	Reused in own Induction Furnaces.

Waste for disposal sent outside:	Qty. MT/Year			Utilization /disposal method
	Existing Scenario	Proposed Scenario	Change in Qty.	
Miss Cast/ Defective Billets	4800	2880	-1920	Reused in own Induction Furnaces
Refractory Wastes	192	192	0	Given to other industries for beneficial usage.
Slag	9600	9600	0	Given to metal recovery units for beneficial use.
Total Waste Generation due to operation of Induction Furnace	19392	17072	- 2320	

Waste for disposal sent outside:	Qty. MT/Year			Utilization /disposal method
	Existing Scenario	Proposed Scenario	Change in Qty.	
[B] ROLLING MILL				
Mill Scale (Now as Bye Product)	3000	1200	-1800	Partially reused in own Induction Furnaces and sold to Ferro Alloys plants and Pelletization units.
End Cutting/ Miss Roll etc. (Bye Product)	3000	1200	-1800	100% Used in house for melting in Induction Furnaces
Total Waste Generation due to operation of Rerolling Mil	6000	2400.	-3600	100% Used for beneficial purpose. No waste requires disposal.
[C] Used Oil and Grease	3	4	+1	Sold to registered recyclers
Gross Waste Generation in entire scenario [A]+[B]+[C]	25395	19476	- 5919	The waste generation will be less due to better use of raw material and lower burning losses.

8.3.11 The overall impact scenario of the existing and proposed change in product-mix is furnished as below:

Particulars	Impact	Quantum of change
Air Regime	Reduction in Air Pollution Load.	PM emission 7.62 TPA to 5.11 TPA SO _x – 19.58 TPA to 17.82 TPA Nox 66 TPA to 59.4 TPA
Water Regime	Reduction in Water consumption	Existing water requirement of 350 KLD will not increase rather there will be saving due to hot charging.
Noise	No significant impact	-
Transportation	Daily transport density will be reduced.	30 Trips/Day to 14 Trips/day for raw material and 25 trip/Day to 25 Trip/day for finished product.
Land	No change	-
Waste Generation	Reduction in total waste generation quantity	25395 TPA to 19476 TPA
Socio-Economy	Positive impact	60 Additional employment and additional revenue to Government. Plus addition CER funds to be spent.

Observations of the Committee

8.3.12 The committee noted that the Project Proponent has not acquired any permission from the competent authority for additional withdrawal of water as per the indicated requirement. Further, closure report from Regional Office on the observed non-compliances have not been furnished along with details of green belt development in 33% of the area and rainwater harvesting.

Recommendations of the Committee

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

- i. Permission from the Competent Authority for existing and additional withdrawal of water.
- ii. Closure report from Regional Office on the observed non-compliances have not been furnished inter-alia including green belt development in 33% of the area and rainwater harvesting.

8.4 Modification of Product Mix of Existing Ferroalloy Plant: 4 X 7.5 MVA and 1 X 5 MVA for production of Ferro-chrome in addition to existing product mix of Ferro-manganese, Silico-manganese and by-product Ferro-manganese Slag by M/s Sonic Thermal Private Limited located at Village- Namobandh-Sitarampur Panchayat/P.O.: Ghutgoria, PS: Barjora Zilla Parishad - Bankura District – Bankra, West Bengal [Proposal No. IA/WB/IND/97331/2017, MoEF&CC File No. J-11011/569/2017-IA-II(I)]– Environment Clearance - regarding.

8.4.1 M/s. Sonic Thermal Private Limited has made an online application vide proposal no. IA/WB/IND/97331/2017 dated 17th May, 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.

Details submitted by the project proponent

8.4.2 M/s. Sonic Thermal Private Limited has installed and is operating a Ferro Alloy plant at Village: Namabandh-Sitarampur, PO:Ghutgoria, Dist.: Bankura, West Bengal. The details existing furnaces and its production capacity is furnished as below. The existing project was set up prior to EIA Notification 2006 and is operating based on the CTO issued by the West Bengal Pollution Control Board CTO Ref. No. CO107863 dated 26.03.2018.

Sl. No.	Description of Products	Existing Capacity of 4 X 7.5 MVA furnace in Tons	Existing Capacity of 1 X 5 MVA furnace in Tons	Total Capacity in Tons
1.	Ferro Manganese (Fe-Mn) *	73,920	11,880	85,800
2.	Silico Manganese (Si-Mn) *	52,800	7,920	60,720
3.	Manganese Slag (by-product)	39,600	7,920	47,520

8.4.3 M/s. Sonic Thermal Private Limited has now proposed to manufacture Fe-Cr in the aforesaid furnaces along with the following supporting facilities:

Sl. No.	Description of Products	Existing Capacity of 4 X 7.5 MVA furnace in Tons	Existing Capacity of 1 X 5 MVA furnace in Tons	Total Capacity in Tons
1.	Ferro Chrome (Fe-Cr) *	--	--	89,580
* Ferrochrome is the proposed product to be manufactured in the existing furnaces				
SUPPORTING FACILITIES				
Product/ Process throughput		Briquetting Plant		Zigging Plant
Mn Ore Briquette		15,000 TPA		--
Cr Ore Briquette		15,000 TPA		--
Zigging throughput		--		100 T/Hour

- 8.4.4 The application of **M/s Sonic Thermal Pvt. Ltd.**, located in Village- Namobandh-Sitarampur Tehsil- Barjora, District- Bankura, State- West Bengal, was initially received in the Ministry on 25.09.2017 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 27th meeting held on 04.01.2017 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 18.01.2018 vide letter no. F.No. J-11011/569/2017-IA-II(I).

Observations of the Committee

- 8.4.5 The committee noted that project proponent does not have permission for withdrawal of 506 KLD water from Damodar river. Further, the calculation of the GLC based on the worstcase scenario, scheme for rain water harvesting and ground water quality monitoring have not been adequately addressed in the EIA report. Further, CER table given in the EIA report needs to be revised.

Recommendations of the Committee

- 8.4.6 In view of the above and after detailed deliberations, the Committee recommended to return the proposal in present form.

- 8.5 Environmental clearance for expansion of Ferro Alloys unit with 5x9 MVA submerged electric arc furnaces (Si-Mn- 84,474 TPA, Fe-Mn - 1,03,958 TPA) and Captive Power Plant of 62 MW (including existing 12 MW power plant) by M/s. MSP Sponge Iron Ltd. at Village Manuapalli, Tehsil & district - Raigarh, Chhattisgarh. [Proposal No. IA/CG/IND/89345/2018, MoEFCC File No. J-11011/178/2010-IA.II(I)] – Reconsideration for grant of Environmental Clearance under para 7(ii) of EIA Notification, 2006 - regarding.**

- 8.5.1 **M/s. MSP Sponge Iron Limited** has made an online application vide proposal no. IA/CG/IND/89345/2018 dated 22/12/2018 along with Form – 2 seeking environmental clearance under the provisions of para 7(ii) of the EIA Notification, 2006 for change in product mix in the 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.

- 8.5.2 The aforesaid proposal was considered in the during the 3rd meeting of Reconstituted Expert Appraisal Committee [REAC] (Industry-I) held on 9-11th January, 2019. The minutes of the meeting of this EAC is reproduced as below:

- 8.5.2.1 “M/s. MSP Sponge Iron Limited has established a Ferro-Alloy unit having 2 x 7.5 MVA and 1 x 9 MVA Submerged Electric Arc Furnace (SEAF) in its factory situated at Manuapalli Village, in Raigarh District, Chhattisgarh in phased manner to produce Silico Manganese (29,034 TPA) and Ferro Manganese 29,978 TPA). Following are the chronology of permissions / clearances obtained from Chhattisgarh Environment Conservation Board (CECB), Raipur and Ministry of Environment, Forest and Climate Change New Delhi pertaining to the project:

- 8.5.2.2 Consent to Establish (CTE) obtained from Chhattisgarh Environment Conservation Board (CECB) for establishment of 2x7.5 MVA Submerged Electric Arc Furnaces and Coal and Char based captive power plant of 12 MW vide order No. 1492/TS/CECB/2005 dated 01/04/2005.
- 8.5.2.3 1st Consent to Operate (CTO) obtained from Chhattisgarh Environment Conservation Board (CECB) for 2x7.5 MVA Submerged Electric Arc Furnaces vide order No. 1859/TS/CECB/2007, dated 13.04.2007.
- 8.5.2.4 Consent to Operate (CTO) obtained from Chhattisgarh Environment Conservation Board (CECB) for 12 MW Coal and Char based captive power plant vide order No. 5609/TS/CECB/2007, dated 09.10.2007.
- 8.5.2.5 Environmental clearance was issued by the Ministry of Environment, Forest and Climate Change New Delhi vide No J-11011/178/2010-IA II (I) dated 23rd August 2012 for expansion of Ferro Alloys unit with 5 x 9 MVA Submerged Electric Arc Furnaces (Si-Mn- 84,474 TPA, Fe-Mn – 1,03,958 TPA) and Captive Power Plant of 62 MW (including existing 12 MW power plant).
- 8.5.2.6 Public Hearing has been conducted by CECB for the expansion proposal on 16-12-2011 as per the provisions of EIA notification, 2006 and its subsequent amendments.
- 8.5.2.7 Consent to Establish (CTE) has been obtained from CECB for expansion of existing 5 x 9 MVA Submerged Electric Arc Furnaces for production of (Si-Mn- 84,474 TPA, Fe-Mn – 1,03,958 TPA) and Captive Power Plant of 62 MW (including existing 12 MW power plant).
- 8.5.2.8 1st Consent to Operate (CTO) has been obtained from CECB vide No. 3000/TS/CECB/2014 Naya Raipur dated 21-08-2014 for expansion of existing 1 x 9 MVA Submerged Electric Arc Furnace for production of Silico Manganese (Si Mn) 13,860 TPA and Ferro Manganese (Fe Mn) 18,495 TPA. The same has been renewed vide No. 1493/TS/CECB/2017 Naya Raipur dated 29-06-2017, which is valid up to 21-08-2018.
- 8.5.2.9 Latest Consent to Operate (CTO) obtained from Chhattisgarh Environment Conservation Board (CECB) for 2x7.5 MVA Submerged Electric Arc Furnaces and 12 MW Power plant vide order No. 199/TS/CECB/2018, dated 03/04/2018, which is valid up to 31/03/2019.
- 8.5.2.10 Compliance Status of EC compliance: Regional Office of MOEF&CC, Nagpur has issued Certified compliance report on earlier EC conditions vide dated 23rd August 2012. There were certain observations/partial compliances in the certified compliance report and accordingly PP has submitted a letter to the Regional office of MOEF&CC, requesting for issue of closure report on Non-compliances/partial compliances as per report dated 02nd June, 2018. Closure report has been issued by the Regional office of MOEF&CC vide F. NO. 5-51/2012(ENV)/4371 dated 26th September, 2018.

8.5.2.11 Request for Change of product mix: As a synergistic measure, without adding to any pollution load, now it is proposed to manufacture Ferro Chrome (Fe-Cr) product also in the existing 2x7.5 MVA & 1 x 9 MVA Submerged Electric Arc Furnace along with Si-Mn & Fe-Mn products, as product mix, permissible under the provision of clause 7(ii)(c) of the MoEF&CC Notification vide S.O. 3518(E) dt. 23.11.2016.

- The existing 2x7.5 MVA and 1 x 9 MVA Furnace are capable of producing Fe-Mn & Si-Mn or High Carbon Ferro Chrome.
- Capacity utilization is similar.
- No design changes are required to the Submerged Electric Arc Furnaces to manufacture High Carbon Ferro Chrome.
- Power consumption to manufacture one ton of Silico Manganese (Si-Mn) is around 4000 units whereas the power consumption for production of one ton of High Carbon Ferro Chrome will also be around 4000 units.
- The following is existing and proposed change of product mix

S.N	Unit/Plant	Products	Existing Capacity based on CECB CTE dated 01/04/2005	Existing capacity based on EC dated 23/08/2012	Total units implemented (CTO obtained from CECB)		Proposed amendment		Final
					2x7.5 MVA	1x9 MVA	2x7.5 MVA	1x9 MVA	
1	Submerged Electric Arc Furnace		2x7.5 MVA	5x9 MVA	2x7.5 MVA	1x9 MVA	2x7.5 MVA	1x9 MVA	2x7.5 & 1x9 MVA
		Silico Manganese (Si Mn)	15,174 TPA	69,300 TPA	15,174 TPA	13,860 TPA	--	--	29,034 TPA
		Ferro Manganese (Fe Mn)	11,483 TPA	92,475 TPA	11,483 TPA	18,495 TPA	--	--	29,978 TPA
		(OR)							
		Ferro Chrome (FeCr)	--	--	--	--	40,027 TPA	24,016TPA	64,043TPA

Comparison of Environmental Parameters

8.5.2.12 The following is the comparison of environmental parameters with production of Fe-Mn & Si-Mn or Fe-Cr production.

Environmental Parameter	Due to Fe-Mn & Si-Mn (2 x 7.5 MVA & 1 x 9 MVA)	Due to Fe-Cr production (2 x 7.5 MVA & 1 x 9 MVA)	Remarks
Water requirement	80 KLD	80 KLD	No increase in water consumption
Waste water	Closed circuit cooling system is adopted. Hence no wastewater discharge.	Closed circuit cooling system will be adopted. Hence no wastewater discharge.	ZLD will be followed even after the present proposal.
Solid waste disposal	Slag produced from Ferro Manganese production is utilizing in Silico Manganese production. Slag produced from Silico Manganese production is utilized in road construction/landfill.	Ferro chrome slag of 27,500TPA will be generated & will be further processed in Zigging plant for Chrome recovery. TCLP test will be conducted for the remaining material. If chrome content is within the permissible level it will be utilized as landfill/ as base material in road laying or else it will be sent to the nearest TSDF facility. Disposal of slag will be in accordance with the permissible norms.	No solid waste disposal issue w.r.t solid waste disposal.
Particulate Emission load	5.04 Kg/hr	5.04 Kg/hr	No increase in particulate emission
Any additional Land acquisition	Not Applicable	No additional land acquisition is envisaged as it is only a change of product mix.	No increase in land due to the present proposal

8.5.2.13 Public hearing has been carried out for the expansion proposal as per the provisions of EIA Notification, 2006 and its subsequent amendments on 16-12-2011.

8.5.2.14 It was submitted that in the instant proposal no additional land; additional water; increase in air emissions load; effluent discharge outside the plant. Zero liquid effluent discharge is maintained due to manufacture of Ferro Chrome.

8.5.2.15 Request to consider under 7 (ii) due to the following:

- i. Present proposal is only change of product mix by using the existing Submerged Arc Furnaces.

- ii. Public Hearing has been carried out on 16-12-2011 as per the provisions of EIA Notification 2006 and its subsequent amendments.
- iii. No additional land envisaged.
- iv. No additional water envisaged.
- v. No additional wastewater. ZLD will be continued after expansion also.
- vi. No increase in air emission load

Observations and recommendations of the Committee: -

8.5.2.16 After detailed deliberations, the committee recommended for environmental clearance for change in product-mix for manufacture Ferro Chrome (Fe-Cr) in the existing 2x7.5 MVA & 1 x 9 MVA Submerged Electric Arc Furnaces along with Si-Mn & Fe-Mn products of the plant without any modifications to the Existing Submerged Arc Furnaces under para 7(ii) of the EIA Notification, 2006 subject to following additional conditions:

- i. ZLD would be maintained.
- ii. Particulate emission from the stacks shall be less than 30 mg/Nm³.
- iii. All bag filters shall be fitted with fiber glass filters to maintain above emission norms.
- iv. Water sprinkler shall be provided around the slag storage yard of jigging plant to contain fugitive emissions.
- v. No ground water shall be abstracted.
- vi. Industrial vacuum cleaners shall be used to control the road dust within the plant and its vicinity.
- vii. All other terms and conditions mentioned in the earlier environmental clearance accorded vide letter no. J-11011/178/2010-IA.II(I) dated 23/08/2012 shall remain unchanged”.

8.5.3 Consequent upon the aforesaid EAC recommendations, the file was processed in the Ministry. It has been decided in the Ministry to refer the proposal back to the EAC seeking clarification regarding the quantum of each or cumulative sum of all product which may be produced in the plant. Accordingly, the proposal was referred back to the EAC.

8.5.4 The proect proponent along with their consultant: M/s. Pioneer Enviro Laboratories & Consultants Pvt. Ltd, Hyderabad has made a presentation before the Committee regarding the product slate which is given as below:

S.No.	Unit/Products	EC approved capacity by MoEF&CC dt. 23/08/2012	Units in operation (CTO obtained from CECB)	Proposed Change in Product mix	Unimplemented portion of EC	Ultimate Production Capacity
		[1]	[2]	[3]	[4]	[5]
1	Submerged Electric Arc Furnaces (7 no.s)	2 x 7.5 MVA & 5 x 9 MVA	2 x 7.5 MVA & 1 x 9 MVA	2 x 7.5 MVA & 1 x 9 MVA	4 x 9 MVA	2 x 7.5 MVA & 5 x 9 MVA
	Silico Manganese (SiMn)	84,474 TPA	29,034 TPA	--	55,440 TPA	84,474 TPA
	Ferro Manganese (FeMn)	1,03,958 TPA	29,978 TPA	--	73,980 TPA	1,03,958 TPA
	OR					
	Ferro Chrome (FeCr)	---	---	64,043 TPA	---	64,043 TPA *
	Total Production Capacity	1,88,432 TPA	59,012 TPA	64,043 TPA	1,29,420 TPA	

* Fe-Cr will only be manufactured (from 3 nos. of Furnaces i.e. 2 x 7.5 MVA & 1 x 9 MVA only)

8.5.5 It is inferred from the above table that following are the maximum quantum of each product can be produced in the plant. Total production of Fe-Cr as given below can be produced in lieu of 'Si-Mn and Fe-Mn'. Hence, no question of cumulative sum of all products arises.

S.No.	Name of the product	Capacity
	Silico Manganese (Si -Mn)	84,474 TPA
	Ferro Manganese (Fe-Mn)	1,03,958 TPA
[OR]		
	Ferro Chrome (FeCr)*	64,043 TPA

*Note: Fe-Cr will only be manufactured (from 3 nos. of Furnaces i.e. 2 x 7.5 MVA & 1 x 9 MVA only)

Observations and recommendations of the Committee

8.5.6 In view of the aforesaid and after detailed deliberations, the Committee has reiterated its recommendation i.e., recommended for grant of Environmental Clearance for change in product-mix for manufacture Ferro Chrome (Fe-Cr) in the existing 2x7.5 MVA & 1 x 9 MVA Submerged Electric Arc Furnaces along with Si-Mn & Fe-Mn products of the plant without any modifications to the Existing Submerged Arc Furnaces under para 7(ii) of the EIA Notification, 2006 subject to following additional conditions:

i.ZLD would be maintained.

ii.Particulate emission from the stacks shall be less than 30 mg/Nm³.

- iii. All bag filters shall be fitted with fiber glass filters to maintain above emission norms.
 - iv. Water sprinkler shall be provided around the slag storage yard of jiggling plant to contain fugitive emissions.
 - v. No ground water shall be abstracted.
 - vi. Industrial vacuum cleaners shall be used to control the road dust within the plant and its vicinity.
 - vii. All other terms and conditions mentioned in the earlier environmental clearance accorded vide letter no. J-11011/178/2010-IA.II(I) dated 23/08/2012 shall remain unchanged”.
- 8.6 Proposed Integrated Steel Plant (3.5 MTPA; 295 MW CPP) by M/s. Aaress Iron and Steel Limited** located at Village Halavarathi, tehsil-Koppal, State: **Karnataka** [Proposal No. IA/KA/IND/27952/2015, MoEF&CC File No. J-11011/161/2015-IA-II(I)]–**Environment Clearance - regarding.**
- 8.6.1 M/s. Aaress Iron and Steel Limited (AISL) made an online application vide proposal no. IA/KA/IND/27952/2015 dated 21st January 2019 in prescribed format (Form -2) along with copies of EIA/EMP report and other documents for 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.
 - 8.6.2 The proposed project of M/s AISL is located in Villages Halavarthi, Basapur, Koppal, Kidadal, Ginigera , Tehsil Koppal, District Koppal, State Karnataka is for setting up of a new Intrgrated Steel Plant for production of 3.5 MTPA along with 295 MW CPP.
 - 8.6.3 The proposed project of M/s AISL located in Village Halavarthi, Tehsil & Koppal, State Karnataka was initially received in the Ministry on 03rd June 2015 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 43rd meeting held on 2nd and 3rd July 2015 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 ToR to the project on 22nd July 2015 vide Lr. No. F.No. J-11011/161/2015-IA II(I). Extension to the TOR was granted in 32nd meeting of Expert Appraisal Committee (Industry) [EAC(I)] held on 11th – 13th June 2018. The application for EC was considered by the Ministry and placed before EAC (Industry- 1) meeting held during 20-22nd February 2015. The Committee observed shortcomings in the EIA report with respect to QCI/NABET requirements, pointwise compliance to prescribed ToRs which include conduct of baseline study for one month and status of court case details in Hon’ble Supreme Court of India.

8.6.4 The proposed capacity for different products for new site area as below:

Sl. No.	Plant Units	Phase-I	Phase-II	Final Plant Configuration
1	Coal Washery	1x3.0 MTPA	-	1x3.0 MTPA
2	Ore Beneficiation Plant	1.2 MTPA	-	1.2 MTPA
3	Pellet Plant with coal gasifier unit	1x1.2 MTPA	-	1x1.2 MTPA
4	Sinter Plant	1x144 m ² ; 1.29 MTPA	1x324 m ² ; 3.8 MTPA	(1x144) + (1x324) m ² ; 5.09 MTPA gross sinter
5	Coke Oven	1x0.68 MTPA; 2x55 Ovens ; 5.5 m tall	1x1.5MTPA; 2x65 Ovens; 7.0 m tall	2.1 MTPA Coke Oven battery; 2x55 ovens 5.5 m tall; 2x65 ovens 7.0 m tall
6	Blast Furnace	1x1681m ³ BF; 1.2 MTPA	1x3814m ³ BF; 2.6 MTPA	1x1681m ³ +1x3814 m ³ BF; 3.8 MTPA hot metal
	BF slag	343,000	788,000	1,131,000 TPA
7	SMS			
a)	EOF(EnergyOptimizing Furnace)/BOF (Basic Oxygen Furnace)	2x65 T EOF	2x180 T BOF furnaces	(2x65)T EOF + 2x180t BOF
b)	LF (Ladle Furnace)	2x65 T	1x180 T	2x65 T +1x180 T
c)	VD / RH Degasser	2x65 T VD	1x180 T RH Degasser	2x65 T VD + 1x180 T RH Degasser
f)	Billet Caster/ Bloom Caster	2x3 Billet Caster + 1x2 Bloom caster	-	2x3 Billet Caster +1x2 Bloom caster
h)	Slab Caster	-	2x1 strands slab caster	(2x1) Strand
8.	Billet & Bar Mill	0.25 MTPA	-	0.25 MTPA
9.	Bar & Rod Mill	0.60 MTPA	-	0.60 MTPA
10.	Hot Strip Mill	-	2.5 MTPA slab input	2.5 MTPA slab Input
11.	Cold Rolling Mill with continuous Pickling Line	-	1.00 MTPA hot coil input	1.00 MTPA hot coil input
12.	Hot Dip Galvanizing / Galvalume Unit	-	0.4 MTPA CR coil input	0.4 MTPA CR coil input
13.	Colour Coating Unit	-	0.2 MTPA Galvanizing Coil Input	0.2 MTPA Galvanizing Coil Input

Sl. No.	Plant Units	Phase-I	Phase-II	Final Plant Configuration
14.	Oxygen Plant	1x550 TPD	1x1100 TPD	1650 TPD
15.	Lime Plant (Out Sourced)	2x300 TPD	1x600 TPD	1200 TPD
16.	Dolo Plant (Out Sourced)	1x300 TPD	–	300 TPD
17.	Captive Power Plant(CPP)	1x70 MW from CFBC based Boiler+ 6 MW TRT from BF-1	2x100 MW conventional based on washed coal + 12 MW TRT + 7MW WHRB based	295 MW CPP from CFBC/WHRB/TRT/coal reject/middling/washed coal
18.	Material Handling Plant for both phase	Matching	Matching	Matching

- 8.6.5 The total land required for the project is 776 ha. The entire land has not acquired for the project. 373.19 ha. of land has been acquired through Karnataka Industrial Areas Development Board (KIADB) and Balance 402.81 ha. Land is already approved by State High Level Committee & is under KIADB consideration.
- 8.6.6 No River passes through the project area. It has been reported that no water body/ water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed. No forestland involved.
- 8.6.7 The topography of the area is undulating to flat and reported to lie between 15°19'34.32"N to 15°20'52.49"N Latitude and 76°12'9.78" E to 76°13'58.16"E Longitude in Survey of India topo sheet No. 57A/3 at an elevation of 515 m MSL. The ground water table reported to range between 4.5 to 16.5 m below the land surface during the post-monsoon season and 1.11 to 16.24 m below the land surface during the pre-monsoon season.
- 8.6.8 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 a corridor for Schedule-I fauna.
- 8.6.9 The targeted production capacity of the Integrated Steel Plant is 3.5 M TPA. The ore for the plant would be procured from Captive Mines (70 - 73 Km) and Open market (35 – 40 Km). The ore transportation will be done through Rail or Road (tarpaulin covered trucks).
- 8.6.10 The estimated water requirement for the project is 20.93 MGD. The permission for draw of 15 MGD from Tungabhadra Dam was obtained from State Government Karnataka vide Lr. No. 775/B1/2008 date 23.04.2008. Application for remaining 5.93 MGD has been already filed to state government.
- 8.6.11 The power requirement of the project is estimated as 366000 KVA, and will be met from Captive Power Plant.

8.6.12 Baseline environmental studies were conducted for the 3 months during 01.03.2016 to 29.05.2016. As per the recommendation of EAC in this meeting held during 20-22nd February, 2019, additional one month baseline environmental studies were also conducted during the period of February-March 2019. Ambient air quality monitoring has been carried out at 9 locations the data submitted indicated: PM₁₀ (36 µg/m³ to 63 µg/m³), PM_{2.5} (15 to 35 µg/m³), SO₂ (7 to 20 µg/m³) and NO_x (12 to 31 µg/m³). The results of the modeling study indicates that the maximum increase of GLC for the proposed project is 20.3 µg/m³ with respect to the PM₁₀, 10.7 µg/m³ with respect to the SO₂, 19.43 µg/m³ with respect to the NO_x.

8.6.13 Ground water quality has been monitored in 8 locations in the study area and analysed. pH:7.26 to 8.03 , Total Hardness: 295 to 450 mg/l, Chlorides: 23 to 570 mg/l, Fluoride: 0.8 to 1.67 mg/l. Heavy metals are within the limits. Surface water samples were analysed from 6 locations. pH: 7.26 to 7.5; DO: 5.2 to 5.7 mg/l and BOD: 1.2 mg/l to 2.2 mg/l

8.6.14 Noise levels are in the range of 36.4 to 57.4dBA for daytime and 34.0 to 47.5dBA for night time.

8.6.15 No R&R is involved.

8.6.16 Solid waste generated from different units and disposal is as follows:-

Solid Waste	Total generation at full capacity (tons)		Utilization and mode	Disposal as wastes
	Phase-1	Phase-2		
Coal/coke dust	11,854	12,653	100% utilized in coal blend charge in the coke oven complex	Nil
Undersize coke	26,000	59,200	100% utilized in sintering plants as a bed material for heat energy	Nil
Tar sludge	240	256	To be used along with coal charge in the coke ovens	Nil
Acid sludge from by-product units	100	100	-	To be neutralized and disposed as landfill.
Lime sludge from PCM	450		To be used as neutralizing agent	Nil
Iron bearing dusts from dust catchers/ESPs/Bag filters	232,980	556,669	To be used along with the charge mix in the sintering plants. The design has provisions to use these.	Nil

Blast Furnace granulated slag	362,208	822,298	To be sold to cement plants for making blast furnace slag cement	Nil
Steel making slag	150,000	324,000	Only iron bearing portion of the steel slag would be recovered and iron to be used in steel making. A small % of the steel slag can be used in Blast furnace as source of lime.	These would be used as landfills either inside the plant or in the neighborhood
Iron oxide from acid regeneration plant of Cold rolling mills		40,000	To be sold to users like Ferro magnet industry, iron powder industry etc.	Nil
Power plant fly ash	127,360	490,758	To be sold to fly ash brick makers and cement plants making fly ash cements	Nil
Power plant Bottom ash	31,840	122,689	Cannot be used in the processes adopted.	To be used as land fill
Arising of skull/scraps	94,197 (114,197)*	191,315	To be used in steel making for re-melting.	Nil
Rejects after Two stage WHIMS treatment in the fine ore beneficiation plant.		4,44,188 (Dry)	To be temporarily stocked at the designated site in the plant and later transported to a nearby ore mine pit for re-filling and green development.	Phase-1: Phase-2: 4,44,188 t
Refractory wastes	10,880	26,849	Un-contaminated (80%) bricks will be sold (for construction) or crushed to be used as mortar.	About 20% of the waste bricks which are contaminated with slag/skull etc. would have to be discarded and dumped in landfills.
Muck/sludge/wastes	5,050	7,750	Cannot be re-used	
Total arising	1,053,159	3,098,723	174,066 (16.53%)	870,968 (28.2%)

8.6.17 The Public hearing of the project was held on 28th May 2018 at Halavarthi Koppal Karnataka under the chairperson of the Deputy Commissioner of Koppal District Smt. Kanagavalli for proposed 3.5 MTPA Integrated Steel Plant along with 295 MW

CPP. The issues raised during public hearing are 1) Employment 2) Water Supply 3) Land Acquisition. An amount of 45 Crores (0.25 % of Project cost) has been earmarked for Corporate Environment Responsibility based on public hearing issues.

- 8.6.18 The capital cost of the project is Rs. 17,979 Crores and the capital cost for environmental protection measures is proposed as Rs. 800 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 107.5 Crores. The detailed CER plan has been provided in the EMP in its page No. 267 to 271. The employment generation from the proposed project is 3811.
- 8.6.19 Greenbelt will be developed in 256 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 1600 trees per hectare. Total no. of 409600 saplings will be planted and nurtured.
- 8.6.20 A court case has been filed for 109.03 Acres of land (Survey No. 295/2, 298, 299, 300/A, 300/B, 130/AP1, 130/AP2, 132/B, 133, 140, 140/P1, 147,150/B, 155/3, 155/B, 156/2, 170/D, 172/A, 172/B, 172/P3, 172/P4, 171/AA1, 172/H, 172/F, 172/P5 out of 922.19 Acres. The matter is under consideration. However AISL will follow the verdict of court as reported.
- 8.6.21 Consultant: Pollution and Ecology Control Services (PECS) Listed at no. 121 in QCI List

Observations of the Committee

- 8.6.22 The Committee noted that total land requirement for the project is 1917.6 acres out of which 922.1 acres is under possession of the proponent while 995.50 acres is under acquisition by KIDAB. Further, it is noted that a litigation is pending before the Hon'ble Supreme Court for 109.3 acres of land which is part of 922.1 acres land under possession of the project proponent wherein the the Hon'ble Court has directed to maintain status-quo.
- 8.6.23 The project proponent has no permission for withdrawal 4170 KLD of water, the total daily water requirement for the project, from Tungbedra reservoir.

Recommendations of the Committee

- 8.6.24 After detailed deliberations and considering the matter being sub-judice, the Committee recommended not to consider the project at this stage.
- 8.7 Enhancement in production of existing Sponge Iron capacity from 60,000 TPA to 2,70,000 TPA, Production of 135000 TPA Steel Billets, 120000 TPA TMT Bars, Production of 26 MW Power through WHRB (16MW) & AFBC (10MW) Route and Production of 30 million Fly ash Bricks per Annum by M/s. Shree Hari Sponge Private Limited located at village: Kendrikela, Tehsil: Bonai, District: Sundergarh, Odisha [Proposal No. IA/OR/IND/103521/2019, MoEF&CC File No. IA-J-11011/186/2019-IA-II(I)] – Prescribing of Terms of Reference - regarding.**
- 8.7.1 **M/s. Shree Hari Sponge Private Limited** made application vide online proposal no. IA/OR/IND/103521/2019 dated 21/05/2019 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(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

- 8.7.2 M/s. Shree Hari Sponge Private Limited proposes to expansion of existing manufacturing unit for sponge Iron. It is proposed to set up the plant for enhancement in production of sponge Iron and production of billet and TMT bars along with captive power plant based on WHRB/ AFBC technology.
- 8.7.3 The project proponent submitted an application in the prescribed format along with Form-1 and other reports to the Ministry online on 21.05.2019 vide Online Application No. IA/OR/IND/103521/2019.
- 8.7.4 The existing project was operating since 2005 and obtained Consent to establish vide letter no. 25558/IND-II-NOC-3286 dated 22.08.2005 from Odisha State pollution Control Board for 2 x 100 TPD DRI Kiln and Consent to Operate was accorded by Odisha State Pollution Control Board vide Ir. no. 3492/IND-I-CON-5279 dt 26.03.2018 validity of CTO is up to 31.03.2023
- 8.7.5 The proposed unit will be located at Village: Kendrikala Taluka: Banei District: Sundergarh, State: Odisha.
- 8.7.6 The land area acquired for the proposed plant is 22.26 ha out of which there is no agricultural or grazing land and 22.26 ha is others (10.1 ha Government Land). Out of the total land, 12.16 ha of land has been already procured and for 10.1 ha of land is in the process of procurement from IDCO. (Land allotment letter has been issued by IDCO) No/forestland involved. The entire land has been not acquired for the project. Of the total area 6.37 ha (33%) land will be used for green belt development.
- 8.7.7 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.
- 8.7.8 Total project cost is approx INR 284 Crore rupees. Proposed employment generation from proposed project will be 430 direct employment and 1000 indirect employment.
- 8.7.9 The targeted production (a) Sponge Iron capacity enhancement from 60000TPA to 270000TPA, (b) Production of 135000 TPA Steel Billets, (c) 120000 TPA TMT Bars, (d) Production of 26 MW Power through WHRB (16MW) & AFBC (10MW) Route and (e) Production of 30 million Fly ash Bricks per Annum. The ore for the plant would be procured from State owned Odisha Mining Corporation and other private mine owners. The ore transportation will be done through Rail/Road.
- 8.7.10 The proposed capacity for different products for new site area as below:

Sl. No	Name of the Unit	Existing	Proposed in Phase I Expansion	Proposed in Phase II Expansion	Total Production Capacity (After expansion)
1	Sponge Iron (DRI) Kilns	2 x 100 TPD / 60000 TPA	1 x 350 TPD / 1,05,000 TPA	1 x 350 TPD / 1,05,000 TPA	2,70,000 TPA
2	Induction Furnace (Steel Melting)	Nil	1 x 15 Ton / 45000 TPA	2 x 15 Ton / 90000 TPA	3 x 15 Ton / 1,35,000 TPA
3	Continuous Caster (for Billet making)	Nil	4m x 7m CCM in Phase I	Remark: To make billet from molten steel as above	
4	Total Power	Nil	8 MW	18.01 MW	26.01 MW
5	(steam from WHRB)		10 + 10 = 20 Ton	30 + 30 = 60 Ton	16 MW
6	(steam from AFBC)		20 Ton	30 Ton	10 MW
7	(including Solar Power)		Nil	10 kW	10kW
8	Fly Ash Brick Making	Nil	30 million bricks/annum	Nil	30 million bricks/annum
9	Rolling Mill (for TMT Bar Production)	Nil	Nil	400 TPD/ 1,20,000TPA	1,20,000 TPA

- 8.7.11 The electricity load of 6088 MWh will be procured from WESCO Company has also proposed to install 2 MVA DG Set. Proposal for installation of Solar power unit as per State guidelines.
- 8.7.12 Proposed raw material and fuel requirement for project are Iron ore – 432000 TPA, Coal-270000 TPA, Dolomite-16200 TPA, MS Scrap & Pig Iron - 37125 TPA, Ferro Manganese – 675 TPA, limestone – 4500 TPA, Pet Coke-2362.5 TPA. The requirement would be fulfilled by near by Iron and Manganese mines of Sundergarh and Keonjhar, Talcher Coal field. Fuel consumption will be mainly coal, pet coke and electricity.
- 8.7.13 Water Consumption for the proposed project will be 395670 KLD which will be sourced from River Brahmani. The proposed expansion project will operate with zero liquid discharge. Domestic wastewater will be treated through soak pit via septic tank and industrial waste water generated will be treated by settling and reused in the process.
- 8.7.14 There is no court case or violation under EIA Notification to the project or related activity.
- 8.7.15 EIA Consultant engaged for the EIA-EMP Report is M/s. Kalyani Laboratories Private Limited [S.No. 96, List of Accredited Consultant Organizations (Alphabetically) Rev. 77, June 10, 2019].

Observations and recommendations of the Committee:

- 8.7.16 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2**
- i. No use of pet coke as fuel is permitted.
 - ii. Green belt development on 33% of the total area shall be completed in a time frame of two years.
 - iii. Project proponent shall install CFBC based boiler and the details shall be furnished in the EIA report.
 - iv. Action plan for transportation of materials by rail shall be furnished.
- 8.8 Capacity expansion of M.S. Ingot / Billets (through Induction Furnaces) and/or Wire Rod (through Hot Charging of MS Billet in Rolling Mill)-157500 TPA Rerolled Steel” product through Billet Reheating Furnace- 100000 tpa Galvanizing of Steel (and Fabrication of Steel) 75000 TPA Low Carbon Ferro Alloys (Si Mn / FeMn) 600 TPA by M/s. Nandan Steels and Power Limited located at village: Sondra. Bloc - Dharsiu Tehsil-Raipur, Distt.- Raipur, Chhattisgarh [Proposal No. IA/CG/IND/106131/2019, MoEF&CC File No. J-11011/328/2007-IA.II(I)]– Prescribing of Terms of Reference - regarding.**
- 8.8.1 **M/s. Nandan Steels and Power Limited** made application vide online proposal no. IA/CG/IND/106131/2019 dated 22/05/2019 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(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

- 8.8.2 M/s.Nandan Steels and Power Limited has proposed for capacity expansion of M.S. Ingot / Billets (through Induction Furnaces) and/or WireRod (through Hot Charging of MS Billet in Rolling Mill)-157500 TPA Rerolled Steel”product through Billet Reheating Furnace- 100000 TPA, Galvanizing of Steel (andFabrication of Steel) 75000 TPA, Low Carbon Ferro Alloys (Si-Mn / Fe-Mn) 600 TPA.The project proponent submitted an application in the prescribed format along with Form – I and other reports to the ministry online on 22 May 2019 vide Online Application No. IA/CG/IND/106131/2019.
- 8.8.3 The existing project was accorded environmental clearance vide letter no. J-11011/328/2007-IA.II(I) dated 30/10/2007 whereas Modernization of existing project and change in product mix was granted under clause 7(ii) of EIA Notification, 2006 vide letter no. J-11011/328/2007-IA.II(I) dated 22/03/2018. State pollution Control Board had accorded Consent for existing facilities according to amended EC vide their letter No 5754/TS/CECB/2018 dated 16.10.2018, which is renewed up to 31.03.2022 through CECB renewal letter dated 30.03.2019. A separate consent for galvanizing unit was also accorded by State Pollution Control Board vide Ir. no. 1285 &1287/TS/CECB/2012 Raipur, dtd. 08/06/2012. The validity of CTO is up to 31/05/2020 and expansion in

capacity of Galvanizing capacity is accorded through SPCB consent to establish letter No 32/TS/CECB/2019 dated 02.04.2019.

- 8.8.4 The proposed unit will be located at Village: Sondra, Block –Dharsiwa, Taluka: Raipur, District: Raipur, State: Chhattisgarh.
- 8.8.5 The land area required for the proposed plant is 10.62 ha out of which 8.761 ha. Industrial land and 1.859 ha. Agriculture land which will be diverted to industrial use. No forestland is involved. An area of 3.5 ha (33%) land will be used for green belt development.
- 8.8.6 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.
- 8.8.7 Total project cost is approx. INR. 136.83 Crores rupees out of which Rs. 16.50 is proposed expansion cost. Existing direct employments is 715 and generation of employment from proposed expansion will be 242 (additional employment) and 150 indirect employment.
- 8.8.8 The targeted production capacity of the MS Billets is 157500 TPA and/or MS Wire Rod 150000 TPA, Re-rolled Steel Products 100000 TPA, Galvanizing of Steel 75000 TPA and Low Carbon Ferro Alloys 600 TPA. The raw materials like Sponge Iron, Heavy Scrap, Ferro alloys, Aluminum and Coal transportation will be done through covered Truck.
- 8.8.9 The existing and proposed capacity for different products envisaged under the expansion project is given as below:

Product	Facility	Existing Capacity (in TPA)	Proposed Addition (in TPA)	Total capacity after expansion (in TPA)	Remark
M.S. Billets And/ Or MS Wire Rod	Induction Furnaces	70000	87500	157500	From this facility hot billet is being directly converted to wire rod
	Through Online Hot Charging Rolling Mill	70000	80000	150000	The rolling mill stands will be optimized to increase the production
“Rerolled Steel” product i.e. Structural Steel etc.	Rerolling Mill based on Billet Reheating Furnaces.	70000	30000	100000	No change in this existing facility only the operating hours and number of shifts will be increased to two shift by which about 50% increase in production will be possible.

Product	Facility	Existing Capacity (in TPA)	Proposed Addition (in TPA)	Total capacity after expansion (in TPA)	Remark
Galvanizing of Steel (and Fabrication of Steel)	Hot Did Galvanizing process	75000	Nil	75000	No change in the process only it is being integrated as one unit with main plant under the new EC.
Low Carbon Ferro Alloys (Si Mn / FeMn)	Aluminum Thermit process-based unit will be set up	0	Nil	600	This will be the new facility being created to meet the inhouse demand of Ferro Alloys.

8.8.10 The existing and proposed configuration of the units as envisaged under the expansion project is given as below:

Sl. No.	Process Plant	Existing Capacity of plant	Proposed addition in Capacity of plant	Product name	Final Annual Capacity after expansion
1.	Induction Furnaces to produce M.S. Billet with CCM and Wire Rod Mills	10 MT X 3* Nos.	12.5 MT X 2** Nos.	Mild Steel Billet/ Wire Rod	157500 TPA/ 150000 TPA
2.	Billet Heating based Rerolling	Billet Reheating based Rerolling	Through optimization of process, and taking energy efficiency steps the capacity will be increased by 115 TPD in existing Reheating furnace thus ultimate capacity of Billet Reheating based Rerolling Mill will be 330 TPD	Re Rolled Steel Products like; Structural Steel	100000 TPA

Sl. No.	Process Plant	Existing Capacity of plant	Proposed addition in Capacity of plant	Product name	Final Annual Capacity after expansion
3.	Galvanizing unit (and Fabrication of Steel)	75000 TPA	Nil	Galvanized steel	75000 TPA
4.	Ferro Alloys (Thermit Process)	Nil	600 TPA	Low Carbon Ferro Alloys	600 TPA

* One no of this is Standby

**The existing two nos. of 10 tons each furnace will be increased to 12.5 tonnes each

8.8.11 The electricity load of 16 MW will be procured from Chhattisgarh State Power Distribution Company Limited(CSPDCL) Grid has also proposed to install 1130 kVA DG Set.

8.8.12 Proposed raw material and fuel requirement for project are Sponge Iron (149625 TPA), CI / Pig Iron/ Heavy Scrap (31500 TPA), Carbon Source (Calcined Metallurgical Coke) (237 TPA), Ferro Alloys (1890 TPA), Aluminum (16 TPA in Induction Furnace +300 TPA in Ferro Alloys Plant =316 TPA), Zinc (3750 TPA), Acid etc (1875 TPA), Lime (47 TPA), Manganese Ore Fines Powder (900 TPA), Mill Scale (120 TPA), Fluoroshpar Flux (69 TPA), Metallurgical Cal Coke (120 TPA), Calcined Lime (90 TPA) . The requirement would be fulfilled by nearby industries within 100 km radius as well as Furnace Oil (146 TPA in Induction Furnace +1819 TPA in Galvanizing Unit=1965 KLD) and Coal (10000 TPA in Reheating Furnace) Fuel consumption will be mainly source from local sources.

8.8.13 Water Consumption for the proposed project will be 401 KLD. The required water is and will be drawn from Chhattisgarh IspatBhumi Ltd. (Industrial water supply network). There will be no trade effluent from Induction furnace and Rolling mill process. However, wastewater generation (about 30 KLD) from Galvanization unit will be treated in ETP (capacity 60 KLD) and reused in Galvanization plant. Domestic wastewater will be treated in STP.

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

8.8.15 EIA Consultant engaged for the EIA-EMP Report is M/s. Anacon Laboratories Private Limited [S.No. 10, List of Accredited Consultant Organizations (Alphabetically) Rev. 77, June 10, 2019].

Observations and recommendations of the Committee:

8.8.16 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2**

- i. Action plan to explore the possibility of hot charging in Rolling mill shall be furnished.
- ii. Unit shall install bag house for control of emissions below 30 mg/Nm³.
- iii. Action plan for green belt development on 33% of the total area shall be furnished.
- iv. Permission for water drawl shall be furnished.

8.9 Proposed expansion of existing steel plant to Integrated Steel Plant through installation of 1800 TPD (3x600 TPD) DRI kilns along with Beneficiation Plant for Iron ore (1X0.6 MTPA), Pellet Plant (1x0.6 MTPA), Steel Melting Shop (2x25 T + 4x15 T Induction Furnaces) with matching LRF & CCM, Rolling Mill (0.35 MTPA), Ferro alloy Plant (4x16.5 MVA), Oxygen plant (100 TPD) and 75 MW (50 MW WHRB based + 25 MW AFBC based) capacity Captive Power Plant by **M/s. Nilachal Iron and Power Limited** located at Ratanpur-Kandra Village, Gamharia Block, District Saraikela-Kharsawan, **Jharkhand** [Proposal No. IA/JH/IND/106246/2019, MoEF&CC File No. J-11011/662/2008-IA.II(I)]– **Prescribing of Terms of Reference - regarding.**

8.9.1 **M/s. Nilachal Iron and Power Limited** made application vide online proposal no. IA/JH/IND/106246/2019 dated 23/05/2019 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(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

8.9.2 M/s. Nilachal Iron & Power Limited proposes an expansion of existing steel plant to Integrated Steel Plant through installation of 1800 TPD (3x600 TPD) DRI kilns along with Beneficiation Plant for Iron ore (1X0.6 MTPA), Pellet Plant (1x0.6 MTPA), Steel Melting Shop (2x25 T + 4x15 T Induction Furnaces) with matching LRF & CCM, Rolling Mill (0.35 MTPA), Ferro alloy Plant (4x16.5 MVA), Oxygen plant (100 TPD) and 75 MW (50 MW WHRB based + 25 MW AFBC based) capacity Captive Power Plant within the existing plant premises and some additional land adjacent to the plant premises.

8.9.3 The details of the existing and proposed unit details are given as below:

Unit	Existing Unit under Operation	Proposed Units Capacity	Total Units Capacity
Beneficiation Plant	-	1X6,00,000 TPA Concentrated Iron Ore	1X6,00,000 TPA Concentrated Iron Ore
Pelletization Plant	-	1X6,00,000 TPA Pellet	1X6,00,000 TPA Pellet

Unit	Existing Unit under Operation	Proposed Units Capacity	Total Units Capacity
Sponge Iron Plant	550 TPD (2x100 TPD, 1x350 TPD)	1800 TPD (3x600 TPD)	2350 TPD Sponge Iron on (2x100 TPD, 1x350 TPD, 3x600 TPD)
Steel Melting Shop (SMS) with matching LRF & CCM	-	Induction Furnaces (2x25 T + 4x15 T) 3,63,000 TPA Liquid Steel (3,59,000 TPA Billets)	Induction Furnaces (2x25 T + 4x15 T) 3,63,000 TPA Liquid Steel (3,59,000 TPA Billets)
Rolling Mill	-	3,50,000 TPA Rods, Bars, Light Structural	3,50,000 TPA Rods, Bars, Light Structural
Ferro Alloys Plant	-	4 x 16.5 MVA Submerged Arc Furnaces 1,25,000 TPA Ferro Alloys (35,160 TPA Ferro-Chrome +14,367 TPA Ferro-Silicon +43,633 TPA Ferro-Manganese +31,840 TPA Silico-Manganese)	4 x 16.5 MVA Submerged Arc Furnaces 1,25,000 TPA Ferro Alloys (35,160 TPA Ferro-Chrome +14,367 TPA Ferro-Silicon +43,633 TPA Ferro-Manganese +31,840 TPA Silico-Manganese)
Oxygen Plant	-	100 TPD Oxygen	100 TPD Oxygen
Captive Power Plant	-	75 MW (50 MW WHRB based + 25 MW AFBC based)	75 MW Power

- 8.9.4 The project proponent along with their EIA consultant M/s. Envirotech East Pvt. Ltd. [S.No. 56, List of Accredited Consultant Organizations (Alphabetically) Rev. 77, June 10, 2019].

Observations of the Committee

- 8.9.5 The Committee noted that implementation status of the existing environmental clearance has not been furnished. Further, engineering drawing layout is not to the scale and the issues of rejects washing, tailing pond requirement, storage capacity and installation of briquetting and jigging plant for Fe-Cr slag and fines have not been adequately addressed in the Form I and pre-feasibility report.

Recommenations of the Committee

- 8.9.6 In view of the aforesaid, the Committee recommended to return the proposal in present form.

- 8.10** Expansion of Integrated Steel Plant; Mini Blast Furnace (1,80,000 TPA to 5,00,000 TPA), Sinter Plant (10,90,000 TPA to 14,40,000 TPA) & Pellet Plant (9,00,000 TPA to 12,00,000 TPA) by revamping, augmentation & up gradation of existing technologies & facilities and increasing annual working days along with Expansion in Pig Casting Machine (600 TPD to 1500 TPD) & Oxygen Plant (60 TPD to 260 TPD) by **M/s. Rashmi Metaliks Limited** at Village Gokulpur, P.O. Shyamraipur, P.S. Kharagpur (Local) District West Medinipur, **West Bengal** [Proposal No. IA/WB/IND/106306/2019, MoEF&CC File No. J-11011/237/2016-IA-II(I)]– **Prescribing of Terms of Reference - regarding.**

- 8.10.1 **M/s. Rashmi Metaliks Limited** made application vide online proposal no. IA/WB/IND/106306/2019 dated 24/05/2019 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(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

- 8.10.2 M/s. Rashmi Metaliks Limited proposes for an expansion of Integrated Steel Plant - (MBF, Sinter & PelletPlant) along with expansion of Pig Casting Machine & Oxygen Plant at Village: Gokulpur, P.O: Shyamraipur, P.S: Kharagpur (Local), District: West Medinipur (West Bengal). It is proposed to expand up the plant for increased production of steelbased on revamping, augmentation and up gradation of existing technology.
- 8.10.3 The project proponent submitted an application in the prescribed format along withForm-1 and other reports to the Ministry online on 24.05.2019 vide Online Application No.IA/WB/IND/106306/2019.
- 8.10.4 The details of environment clearance for the existing project are mentioned below: -

Name of the Unit	Existing Facility & Production Capacity	Environmental Clearance for Existing Capacity	Consent for Existing Capacity
Mini Blast Furnace	1,80,000 TPA	From MoEFCC, New Delhi vide File No. J-11011 /227 /2007-IA-II (I) dated 12.06.2008 validity extended on 12.02.2015 & transfer of EC on 06.01.2017 and latest consolidated EC vide File No. J-11011 /237/2016-IA.II (I) dated 17.05.2019.	From West Bengal State Pollution Control Board vide consent letter no. C0102836 dated 16.03.2017 and Co112728 dated 12.11.2018 and validity up to 31/03/2022.
Sinter Plant*	10,90,000 TPA (2 x 25 m ² + 1 x 70 m ²)		
Pig Casting Machine	600 TPD		
SMS*	5,00,000 TPA (7 x 20 T I.F /AOD)		
Oxygen Plant	60 TPD		
Lime Calcination Plant	1200 TPD		From West Bengal State Pollution Control Board vide consent letter no. C0106590 dated 11.06.2018 and validity up to 31/03/2022.
Pellet Plant	9,00,000 TPA	J-11011 /372 /2014-IA-II (I), from MoEFCC, New Delhi dated 06.12.2016 and latest consolidated EC vide File No. J-11011 /237/2016-IA.II (I) dated 17.05.2019	From West Bengal State Pollution Control Board vide consent letter no. C0102836 validity up to 31/03/2022.
Ductile Iron Pipe Plant	5,50,000 TPA	J-11011 /237/2016-IA.II (I), from MoEFCC, New Delhi dated 17.05.2019	CTO for 2,00,000 TPA from West Bengal State Pollution Control Board vide consent letter no. C0102836 validity up to 31/03/2022. <i>(CTE for balance capacity 3,50,000 TPA has been obtained)</i>
Rolling Mill	3,65,200 TPA		From West Bengal State Pollution Control Board vide consent letter no. C0102836 dated 16.03.2017 and Co106572 dated 12.03.2018 and validity up to 31/03/2022.

Name of the Unit	Existing Facility & Production Capacity	Environmental Clearance for Existing Capacity	Consent for Existing Capacity
Coal Gasifier (Stand By)	6000 Nm ³ /hr		From West Bengal State Pollution Control Board vide consent letter no. C0102836 validity up to 31/03/2022.
Railway Siding	88,50,000 TPA	-	

* Under implementation (Applied to WBPCB for getting consent for balance approved production)

8.10.5 The expansion is proposed at existing unit at Village Gokulpur, P.O Shyamraipur, P.S Kharagpur (Local), District West Medinipur (West Bengal).

8.10.6 The land area acquired for the plant is 58.27 hawhich is industrial land. No forest land is involved. Out of total area,18.42 ha (i.e. 33% of the total area) is being/will be developed under greenbelt& plantation.

8.10.7 The proposed capacity for different products for the area is as below:

Name of the Units	Existing Production Capacity with configuration	Proposed Additional Production Capacity	Total Production Capacity after proposed expansion
Mini Blast Furnace	1,80,000 TPA (1x215 m ³)	3,20,000 TPA	5,00,000 TPA (1X450 m ³)
Sinter Plant	10,90,000 TPA (2 x 25 m ² + 1 x 70 m ²)	3,50,000	14,40,000 TPA
Pig Casting Machine	600 TPD	900 TPD	1500 TPD
Pellet Plant	9,00,000 TPA	3,00,000 TPA	12,00,000 TPA
Oxygen Plant	60 TPD	200 TPD	260 TPD
SMS	5,00,000 TPA (7 x 20 T I.F /AOD)	0	5,00,000 TPA
Ductile Iron Pipe Plant	5,50,000 TPA	0	5,50,000 TPA
Lime Calcination Plant	1200 TPD	0	1200 TPD
Rolling Mill	3,65,200 TPA	0	3,65,200 TPA
Coal Gasifier (Stand By)	6000 Nm ³ /hr	0	6000 Nm ³ /hr
Railway Siding	88,50,000 TPA	0	88,50,000 TPA

- 8.10.8 No National Park / Wildlife Sanctuary / Biosphere Reserve/ Tiger Reserve/ Elephant Reserve 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.
- 8.10.9 Total project cost is approx. 90 Croorerupees. The existing manpower for the plant is 4907 persons (1647 regular +3260 contractual). Proposed additional employment generation from proposed project will be 100 direct and about 200 indirect employees during operational phase.
- 8.10.10 The Iron ore, Coal, Limestone and other raw materials are being/will be transported through rail and/or through road. The electricity load of 115.8MW (Existing 106.4 MW + proposed 9.4 MW) will be sourced from State Grid (WBSEDCL) & Group Company.
- 8.10.11 Proposed Raw material and fuel requirement for the project are given in table below:-

S. No.	Raw Materials	Estimated Quantity (in TPA)			Source of Raw Materials	Mode of Transportation	Distance from Project Site (Km)
		Existing	Proposed	Final			
1	I/o Lumps & Fines	23,10,731	(+) 7,75,269	30,86,000	Barbil-Joda, Orissa	Rail/ Road	201
2	Coal and Coal Dust	56,900	(+) 35,500	92,400	E-Auction, Purchased from BCCL, Dhanbad or Imported,	Rail/ Road	177
3	Ferro Alloys	8,650	**	8,650	Rashmi Cement Limited, Jhargram	Road	40
4	Coke & Coke fines	1,57,400	(+) 83,400	2,40,800	Existing source (Jindal, VISA, Bengal Energy etc.)/ Imported	Rail/ Road	100
5	Dolomite	87,200	(+) 28,000	1,15,200	From Birmitrapur, Orissa / Bilaspur, CG	Rail/ Road	264/541
6	Limestone	1,41,894	(+) 36,106	1,78,000	From	Rail/ Road	264/54

S. No.	Raw Materials	Estimated Quantity (in TPA)			Source of Raw Materials	Mode of Transportation	Distance from Project Site (Km)
		Existing	Proposed	Final			
					Birmitrapur, Orissa / Bilaspur, Raipur CG / Katni MP		1
7	Quartzite	73,800	(+) 1,31,200	2,05,000	From Belpahar Orissa / Bilaspur, Raipur CG	Rail/ Road	264/541
8	Pyroxenite	5,400	(+) 9,600	15,000	From Jharkhand, Orissa	Rail/Road	264/541
9	Inoculants	528	**	528	Local Market	Road	<150
10	Magnesium	935	**	935	Local Market	Road	<150
11	Runner Coat	2811	**	2811	Local Market	Road	<150
12	Slag Coagulant	762	**	762	Local Market	Road	<150
13	Zinc	1040	**	1040	Local Market	Road	<150
14	Bitumen Solution/ Epoxy Paint	2314 KL/Year	**	2314 KL/Year	WRAS* Approved Vendor	Rail/ Road	<150
15	Bentonite	9,000	(+) 3,000	12,000	From Kutch, Gujarat	Rail/ Road	--
16	Mould Powder	1,491	**	1,491	Local Market	Road	<150
17	Sponge Iron	4,90,000	**	4,90,000	Rashmi Cement Limited, Jhargram, Orissa Metaliks	Road	5/40

S. No.	Raw Materials	Estimated Quantity (in TPA)			Source of Raw Materials	Mode of Transportation	Distance from Project Site (Km)
		Existing	Proposed	Final			
					Private Limited, Kharagpur		
18	Molten Hot Metal	3,00,000	(-) 2,00,000	1,00,000	Orissa Metaliks Private Limited Unit-II, Kharagpur	Rail	--

8.10.12 Water Consumption after the proposed expansion will be 1955 KLD which will be sourced from Bore Well and waste water generation will be 33KLD which will be used for dust separation & greenbelt development. Domestic waste water generated from plant will be treated in STP and treated water will be used for greenbelt development & plantation.

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

8.10.14 Name of the consultant: M/s. J.M. EnviroNet Pvt. Ltd. [S.No. 93, List of Accredited Consultant Organizations (Alphabetically) Rev. 77, June 10, 2019].

Observations and recommendations of the Committee:

8.10.15 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**

- i. Consolidated certified report from Regional Office for all the existing Environmental Clearances of M/s. Rashmi Metaliks Limited.
- ii. Engineering drawing lay out to the scale shall be furnished.
- iii. Action plan for waste heat recovery from Blast Furnace stoves and sinter cooler.
- iv. Top Recovery Turbine shall be provided.
- v. Action plan for 100% waste utilization.
- vi. Scheme for rain water harvesting shall be submitted.
- vii. All the conditions of ground water drawl shall be complied.
- viii. Unit will ensure compliance to zero liquid discharge norms.

- 8.11** Expansion of Steel Billets/Ingots from 2,16,000 TPA to 3,08,000 TPA; TMT Bars, Rounds, Angles, Channels from 2,42,000 TPA to 2,82,000 TPA by **M/s Prime Steel Industries (P) Ltd.** located at Village- Bated, Barotiwala, Tehsil- Baddi, District- Solan, **Himachal Pradesh** [Proposal No. IA/HP/IND/107048/2019, MoEF&CC File No. IA-J-11011/208/2019-IA-II(I)]– **Prescribing of Terms of Reference - regarding.**
- 8.11.1 M/s Prime Steel industries Pvt. Ltd., made an online application vide proposal No. IA/HP/IND/107048/2019 dated 3rd June, 2019 in the prescribed format, copies of Form-1, Pre-Feasibility Report and other documents for prescribing ToRs to conduct detailed EIA study for expansion of existing steel plant mentioned as above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 8.11.2 The existing project did not require EC as unit is operational since 2004. Consent to operate was accorded by Himachal Pradesh State Pollution Control Board, Shimla vide consent no.:- HPSPCB No.-313 dated 14/05/2019. Validity of CTO is upto 31/03/2020.
- 8.11.3 The proposed expansion will be undertaken in the existing plant located at Village Bated, Barotiwala, Tehsil- Baddi, District: Solan, State: Himachal Pradesh.
- 8.11.4 The expansion will be done in the existing land having 49,210m² (4.9ha) of land having land use ‘Industrial’. No forest land is involved. The entire land is already under the possession of industry. Of the total area, a minimum of 33% will be used for Green belt development which includes the existing Green belt.
- 8.11.5 No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.
- 8.11.6 Total project cost is approx 65 Crore including the existing cost of Rs. 40.70 Cr. Proposed employment after expansion will be 248 including existing manpower of 208.
- 8.11.7 The targeted production capacity of the Steel Ingots/Billets after expansion will be 3, 08,000 TPA which includes the existing quantity of 92,000TPA and proposed capacity of 2, 16,000TPA. The raw material mostly steel scrap and additives will be sourced from local and international market and the transportation will be primarily through road. The proposed capacity for different products for new site area as below:
- 8.11.8 The electricity load of 22,991 KW for the proposed expansion will be sourced from H.P.S.E.B. and a D.G. set of 500KVA is already installed as power back up.
- 8.11.9 Proposed raw material and fuel requirement of the project are MS Scrap, additives & electricity. The requirement would be fulfilled by Local as well as International markets. Fuel consumption will be mainly electricity.
- 8.11.10 Water consumption for the proposed project will be Nil and no waste water will be generated from the process. The water requirement for cooling purpose will be 18.0 KLD as make up water. Domestic waste water will be treated through STP. No industrial waste water will be generated. The cooling tower blow down will be treated in STP & reused as make up water and used in plantation.

- 8.11.11 It is mentioned that there is no court case or violation under EIA Notification to the project or related activity.
- 8.11.12 The name of consultant is M/s Chandigarh Pollution Testing Laboratory- EIA Division (CPTL-EIA) listed at Sr. no. 25 in the QCI list.

Recommendations of the Committee

- 8.11.13 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**
- i. Action plan for 100% waste utilization.
 - ii. Scheme for rain water harvesting shall be submitted.
 - iii. Unit shall install bag house for control of emissions below 30 mg/Nm³.
- 8.12 **Expansion of Asbestos & Non Asbestos Cement Sheets and Pressure Pipes** from 1,60,000 MTPA to 2,40,000 MTPA by **M/s ARL Infratech Ltd.** (earlier, Ankit Roofing Ltd.) located at Khasra Nos. 718, 719, 720, 721, 885/722 & 717(part), Village Dahami Khurd, Tehsil - Sanganer, District - Jaipur, **Rajasthan** [Proposal No. IA/RJ/IND/93693/2019, MoEF&CC File No. J-11011/343/2007-IA.II(I)]– **Prescribing of Terms of Reference - regarding.**
- 8.12.1 M/s ARL Infratech Ltd. (formely, Ankit Roofing Ltd.), made online application vide proposal No. IA/RJ/IND/93693/2019 dated 06.06.2019 in the prescribed format, copies of Form-1, Prefeasibility Report and other documents to the Ministry. The proposed project activity is listed at Sl. No. 4 (c) Asbestos milling and asbestos based products under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 8.12.2 The existing project was accorded environmental clearance vide Ir. no.: J-11011/ 343/ 2007 -IA.II (I) dated 27.08.2007, Consent to Operate has been accorded by Rajasthan State pollution Control Board vide Ir. no. F(MUID)/JAIPUR(Sanganer)/144(1)/2018-2019/7337-7339 validity of CTO is up to 31.01.2023
- 8.12.3 The project is located at Khasra Nos. 718, 719, 720, 721, 885/722 & 717(part) Village: Dahami Khurd, Taluka: Sanganer, District: Jaipur, State: Rajasthan.
- 8.12.4 The total land area acquired for the proposed expansion project is 72,263 m² (existing: 35,100 m² & proposed: 37,163 m²). The acquired land for existing project comprising of Khasra Nos. 719, 720, and 721 has been duly converted for industrial use. The acquired land for proposed expansion project comprising of Khasra no. 718 admeasuring 6400 m² & Khasra no. 717(part) admeasuring 10,818 m² are duly converted for industrial use. Khasra no. 885/722 admeasuring 19,945 m² is agricultural land.
- 8.12.5 No/forestland involved. The entire land has been acquired for the project. Of the total area 23,847 m² (33.0 %) land will be used for green belt development.

- 8.12.6 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.
- 8.12.7 Total project cost is approx 58 Crore rupees. Proposed employment generation from proposed expansion project will be 100 persons for direct employment and 200 indirect employment.
- 8.12.8 The targeted production capacity of the expansion project is 2,40,000 TPA of asbestos and non-asbestos cement sheets and pressure pipes. The various raw materials viz. naturally mined (imported) asbestos chrysotile fibre required for the project is being imported from Brazil, Russia, Zimbabwe & Kazakhstan. The raw material transportation is done through ships (to port) & roads/ rails. The proposed capacity for different products for new site area as below:

S. No.	Particulars	Existing	Proposed	Total
1.	Plot area (sq. m.)	35,100	37,163	72,263
2.	Product	Asbestos and non-asbestos cement sheets and pressure pipes		
3.	Production capacity (MTPA)	160,000	80,000	240,000

- 8.12.9 The existing electricity load of 1500 kVA is being procured from JVVNL GSS. Company has also proposed to install 330 kVA (1 no) additional DG Set apart from existing 3 nos. (660 kVA each) DG set.
- 8.12.10 Proposed raw material and fuel requirement & their source for project are as below:

S. No.	Particular	Source	Mode of Transport
A.	Raw Material		
1	Asbestos Fibre	Asbestos Fibre is mostly imported directly from Countries like Russia, Brazil and Kazakhstan, etc.	By ship to the port and by Road from Port.
2	Cement	Cement is purchased directly from manufacturers majorly from Rajasthan only like Wonder, Lafarge & Ultra-tech cement.	By Road
3	Fly Ash	Fly Ash is obtained from Thermal Power Plants in Kota, Suratgarh and Dadri.	By Road
4	PVA Fiber	Imported from China	By ship to the port and by Road from Port.

- 8.12.11 Fuel consumption will be mainly HSD for DG sets

- 8.12.12 Fresh Water Consumption for the proposed Expansion project will be 75 KLD and waste water generation will be 16 KLD. Waste water is treated in STP and the treated effluent is reused (15 KLD)
- 8.12.13 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

Recommendations of the Committee

- 8.12.14 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**
- i. Project proponent shall prepare and furnish an action plan for six-monthly health survey of workers as part of its occupational health programme.
 - ii. Project proponent shall conduct six-monthly community health survey covering all habitations within 2.0 km radius around the plant site. Data emerging from the first such survey will serve as the baseline data. Project proponent shall bear entire cost of treatment of a local resident detected with an ailment solely attributable to the activities of the plant.
 - iii. Monitoring plan of the asbestos fibre in work zone and community exposure shall be prepared and furnished as per the judgement of the Hon'ble Supreme Court in Kalyaneswari case.
 - iv. Dust emission level shall be less than 30mg/Nm³.
 - v. Unit will ensure compliance to zero liquid discharge norms.
 - vi. Project proponent shall also provide PPEs to the workers as mandated.
- 8.13 Expansion steel plant (1000 TPD Sponge Iron; 1000 TPD Billets; 50 MW captive Power; 1000 TPD TMT to 1000 TPD Sponge Iron; 3000 TPD Billets; 3000 TPD TMT; 50 MW captive Power) located at Plot no 1,2,3,8,9,10 Add.MIDC,Phase-II and Gut No 46 & 63 at Village Daregaon, Dist Jalna, **Maharashtra** by **M/s Om Sairam Steels and Alloys** [Proposal No. IA/MH/IND/103361/2019, MoEF&CC File No. J-11011/57/2015-IA.II(I)]–**Prescribing of Terms of Reference - regarding.**
- 8.13.1 M/s. Om Sairam Steels & Alloys Pvt. Ltd. made an online application to the Ministry vide proposal No. IA/MH/IND/103361/2019 dated 24.04.2019 in the prescribed format, Form-1 alongwith copies of Prefeasibility Report and other reports. The proposed project activity is listed at Sl. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 8.13.2 The proposed unit is located at Plot no. F-1, 2, 3, 8, 9, 10, Addl. MIDC, Phase II, and Gut no. 46 & 63, Village: Daregaon, Taluka: Jalna, District: Jalna, State: Maharashtra.

- 8.13.3 The existing project was accorded environmental clearance vide Ir.no. J-11011/57/2015-IA-II(I) dated 22. 01.2018. The Consent to Operate was accorded by Maharashtra State pollution Control Board and is valid up to 31-05-20121 vide CTO order no. BO/JD (APC)/EIC/ No. AD-18272-16/R/CC – 10758 Dt. 02-12-2016.
- 8.13.4 The land area acquired for the proposed plant is 6.86Ha out of which 0 ha is an agricultural land, 0 ha is grazing land and 6.86 ha is Government Land. No forestland is involved. The entire land has been acquired for the project. Of the total area 6.86 ha (33%) land will be used for green belt development.
- 8.13.5 No National Park/WL etc are located at a distance of 15 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.
- 8.13.6 Total project cost is approx 103.85 Crore rupees. Proposed employment generation from proposed project will be 400 direct employments and 210 indirect employments.
- 8.13.7 The targeted production capacity of the unit is 1000 TPD Sponge Iron, 3000 TPD Billets, 3000 TPD TMT Rods and 50 MW Captive Power from WHRB and FBC. The ore for the plant would be procured from local sources. The ore transportation will be done through Road. The proposed capacity for different products for the unit is as below:

Name of unit	No. of units	Capacity of each Unit	Production Capacity
M/s Om Sairam Steels And Alloys Pvt.Ltd. Plot no. F-1,2,3,8,9,10, Addl. MIDC, Phase – II, and Gut no. 46 & 63, Village Daregaon, Tehsil: Jalna, Dist: Jalna, Maharashtra	Sponge Iron (1000 TPD) 2 x 40 T and 3 x 60 T IF (replacement of 25 T IF to 40 T IF; upgrading 1x 30 T to 1x 40 T, which will be 2 x 40 T IF)	Sponge Iron (DRI 1000 TPD) Induction Furnace (3 x 60 T & 2 x 40 T) with 12H to produce 3020 TPD Hot Metal for Billet. Billet Caster and Rolling Mill to produce 3000T of TMT Bars.	1000 TPD Sponge Iron 3000 TPD Billet for 3000TPD TMT Bars 50 MW CPP

- 8.13.8 The electricity load of 58MW will be met with 50 MW CPP & 8 MW will be from MSEDCL. Company has also proposed to install 2 DG Set as standby of 750 KVA capacity.

- 8.13.9 Proposed raw material and fuel requirement for project are Iron Ore Pellets, Indian Coal, DRI Grade Coal (B Gr), Iron Scrap, Pig Iron & Dolomite. The requirement would be fulfilled by local procurement as well as various Iron Ore mines in Odisha. The fuel consumption will be mainly Coal & LDO.
- 8.13.10 Water Consumption for the proposed project will be 832 m³/day and the wastewater generation will be 25m³/day. Domestic wastewater will be treated in STP of capacity 25 m³/d and industrial wastewater generated will be treated in ETP of Capacity 80 m³/day. Rest of the water is recycled and the loss is the makeup water.
- 8.13.11 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

Recommendations of the Committee

- 8.13.12 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**
- i. Engineering drawing lay out to the scale.
 - ii. Proponenet shall ensure there is no change in green belt (or) green belt area due to the capacity enhancement.
 - iii. Install Electric Arc Furnace inplace of Induction furnace.
- 8.14 Proposed MS Billets/Alloys Billets – 5,50,000 TPA TMT Bars/MS Structural Steel/Gutter/Angles/Channels/Pipes – 5,50,000 TPA Ferro alloys unit with 1 x 5 MVA Submerged Electric Arc Furnace – Ferro Manganese – 12,800 TPA or Silico Manganese – 9,500 TPA by **M/s. Shree Om Rolling Mills Pvt. Ltd** located at Gat no. 56 and 57 , village Daregaon, Adjacent to MIDC Phase II, Taluka-Jalna, District – Jalna, **Maharashtra** [Proposal No. IA/MH/IND/108058/2019, MoEF&CC File No. IA-J-11011/207/2019-IA-II(I)]– **Prescribing of Terms of Reference - regarding.**
- 8.14.1 **M/s. Shree Om Rolling Mills Pvt. Ltd.,** made online application to the Ministry vide Online Proposal No.IA/MH/IND/108058/2019 14th June2019 in the prescribed format, Form-1, Prefeasibility Report and other reports for proposing ToRs to conduct detailed EIA study for the proposed expansion of existing steel plant mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 8.14.2 The proposed unit will be located at Gat no. 56 and 57 Village Daregaon, Adjacent to MIDC Phase II, Taluka-Jalna, District – Jalna, Maharashtra.

8.14.3 The land area acquired for the proposed plant is 11.97ha. 100% land is Un-irrigated Land. No forestland involved. The entire land has been acquired for the project. Of the total area 3.95ha (33%) land will be used for green belt development.

Sr. No.	Particulars	Area (m ²)	Area (%)
1	Plant Area	13237.71	11.1
2	Green Belt Area	39573.73	33.03
3	Parking Area	14341.85	11.9
4	Open Area	26203.17	21.8
5	Road Area	16278.83	13.7
6	Others	10160.61	8.47
	Total	119795.9	100

8.14.4 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.

8.14.5 Total project cost is approx. 200 Crore rupees. Proposed employment generation from proposed project will be 600 direct employment and 300 indirect employment.

8.14.6 The targeted production capacity of the MS Billets/Alloys Billets – 5,50,000 TPA, TMT Bars/MS Structural Steel/Gutter/Angles/Channels/Pipes – 5,50,000 TPA, Ferro alloys unit with 1 x 5 MVA Submerged Electric Arc Furnace – Ferro Manganese – 12,800 TPA or Silico Manganese – 9,500 TPA. The ore for the plant will be procured from open market. transportation will be done through road The proposed capacity for different products for new site area as below:

Production Capacity	
IMS Billets/Alloys Billets	5,50,000 TPA
TMT Bars/MS Structural Steel/Gutter/Angles/Channels/Pipes	5,50,000 TPA
Ferro Alloys	Ferro Manganese – 12,800 TPA or Silica Manganese – 9,500 TPA

8.14.7 The electricity load of 25 MW will be procured from Maharashtra State Electricity Board.

8.14.8 Proposed raw material requirement for project are Sponge Iron (40%) Scrap (57%) and Other Minerals (3%) for Billets, Billets for TMT bar and Manganese Ore, Dolomite and Quartz for Ferro Alloys. The requirement would be fulfilled by open market.

8.14.9 Water Consumption for the proposed project will be 250 KLD and waste water generation will be zero. Domestic waste water will be treated STP and Treated wastewater will be used for Greenbelt Development.

Item	Total Water Requirement (KLD)
Cooling Purpose	205
Domestic Purpose	30
Dust Suppression	15
Total	250

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

8.14.11 Environmental Consultant Name: **Sri Sai Manasa Nature Tech. Pvt. Ltd., Hyderabad** (in Association with Eco Chem Sales and Services, Surat) Certificate no.: NABET/EIA/1720/RA0111 valid till 05.08.2020

Recommendations of the Committee

8.14.12 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**

- i. No Ferro – Chrome shall be manufactured.
- ii. No reheating furnace shall be installed.

8.15 Proposed expansion in manufacturing of Sponge Iron, Billets, TMT Bars, Coal based Captive Power Plant and WHRB by **M/s. Yazdani Steel and Power Limited** located at Mantira, Kalinga Nagar Growth Centre, District Jajpur, **Odisha** [Proposal No. IA/OR/IND/96910/2019, MoEF&CC File No. J-11011/1028/2007-IA.II(I)]– **Prescribing of Terms of Reference - regarding.**

Consideration of the proposal was deferred by the Committee as there was no senior person empowered to take decision was present during the EAC meeting. Hence, the Committee recommended to consider the proposal in the next meeting.

8.16 Proposed **Expansion of existing Sponge Iron Plant** (0.18 MTPA DRI plant ; 22 MW CPP) to **Integrated Steel Plant** (0.554 MTPA steel capacity with 132 MW CPP) in Karakolha Sponge Iron Division of **M/s Rungta Mines Limited** located at village Karakolha and Karakhendra, District Keonjhar, **Odisha** [Proposal No. IA/OR/IND/107909/2019, MoEF&CC File No. J-11011/229/2016-IA.II(I)]– **Prescribing of Terms of Reference - regarding.**

8.16.1 M/s. Rungta Mines Limited made application vide online proposal no. IA/OR/IND/107909/2019 dated 18/06/2019 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(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

8.16.2 M/s. Rungta Mines Limited proposes Expansion of existing 0.18 MTPA DRI plant & 22 MW CPP to Integrated Steel Plant of 0.554 MTPA steel capacity with 132 MW CPP in Karakolha Sponge Iron Division at village Karakolha and Karakhendra, District Keonjhar, Odisha. The project proponent submitted an online application in the prescribed format along with Form-1 and other reports to the Ministry vide Online Application No. IA/OR/IND/107909/2019 dated 12.06.2019.

8.16.3 The project was granted Environment Clearance vide Letter No. J-11011/229/2016-IA.II(I) dated 15.01.2018. The CTE has been obtained from OSPCB vide letter No. 3783 /IND-II-NOC-6138 dated 29.3.2018 for the existing plant. 5X100 TPD kilns of DRI plant had been constructed and become operational by 2006. Latest Consent to Operate was granted by OSPCB vide letter No. 13768/IND-I-CON-2836 dated 20.11.2018 and is valid till 31.03.2023. Production of 0.18 MTPA has been achieved by 2018-19. A 10 MW WHRB & 12 MW CFBC power plants are under construction.

8.16.4 The proposed unit will be located at villages Karakolha and Karakhendra, Taluk Barbil, District Keonjhar, Odisha. The project will be established in two parcels of land of 41.14 ha for plant & its facilities and 23.74 ha land earmarked for solid waste storage, processing & water storage. Out of this 10.18 ha is already in company’s possession while balance land of 54.7 ha shall be acquired through IDCO. Total land for project shall be 64.88 ha or 160.319 acres. The co-ordinates of the site are given as below:

		Latitude, N	Longitude, E
Plant & Facilities	North most	22°08'21.87"	85°25'11.93"
	East most	22°07'58.21"	85°25'18.93"
	South most	22°07'47.36"	85°25'15.76"
	West most	22°07'53.31"	85°24'55.88"
Waste disposal area	North most	22°09'08.52"	85°24'57.26"
	East most	22°08'53.44"	85°25'16.45"
	South most	22°08'48.01"	85°25'11.12"
	West most	22°08'59.13"	85°24'48.50"

8.16.5 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 entire Singhbhum district has been declared as the habitat of Elephant/ Elephant reserve.

8.16.6 The targeted production capacity of the Integrated Steel Plant shall be 0.554 million TPA. The iron ore for the plant would be procured from company’s own mine/OMC/other private mines and coal shall be sourced from imported & indigenous sources. The raw material transportation will be done through rail/ road. The existing & proposed capacity for different products is given below:

Sl. No.	Plant Facilities	Annual production, MTPA except power in CPP		
		Existing	Expansion/ Additional facility	Total
(a)	(b)	(c)	(d)	(c)+(d)
1	Sponge Iron Plant			
	(i) 5X100 TPD DRI Kilns	0.18	0.0475	0.2275
	(ii) 2X600 TPD DRI Kilns	-	0.546	0.546
2	Pelletisation Plant	-	1.47	1.47
3	Steel Melting Shop	-	0.554	0.554
3.1	Steel Melting Via IF-Route			
	(i) Induction Furnace (4 nos. X30 T)	-	0.554	0.554
	(ii) Ladle Furnace (2 nos. X 35 T)	-	0.554	0.554
3.2	Continuous Casting Machine (1 no. X 4 strands)- billets/ bloom/ slab	-	0.543	0.543
4	Rolling Mill (2 nos.)	-	0.532	0.532
5	Silicon Manganese Alloy Plant (2 nos. X 9 MVA)	-	0.032	0.032
6	Captive Power Plant (CPP)	22	110	132
6.1	WHRB Based CPP	10	24	34
6.2	AFBC/ CFBC based CPP	12	86	98

8.16.7 The Electricity load of 113 MW will be procured from Company's own Power Plant. Company has also proposed to install 2x1500 KVA DG Set.

8.16.8 Proposed raw material and fuel requirement for project are Iron Ore (1.62 MTPA from own mines/OMC/other private mines), Bentonite (0.625 MTPA) from open market, Coal (1.135 MTPA from South Africa & indigenous), Coke breeze (0.25 MTPA) from open market, pig iron (0.90 MTPA) from Kamanda steel plant.

8.16.9 The water required for the plant is being/ shall be sourced from bore well as per sanctioned capacity and rainwater harvesting. Existing water requirement is 760 KLD and the proposed requirement shall be 13935 KLD. Total water consumption shall be 14694 KLD after implementation expansion plant. The application for the withdrawal of water from Karo river has already been initiated on 20.05.2019 vide RMLs letter no. RML/SID/572/50/19-20 and submitted to Chairman, IPICOL, Bhubaneswar who in turn

will forward to Department of Water Resources, Odisha for further processing. Domestic wastewater and industrial wastewater generated will be treated and reused completely.

- 8.16.10 Total proposed project cost for expansion is approx Rs. 1678 Crores. Total employment generation from existing and proposed expansion project will be 1444.
- 8.16.11 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.
- 8.16.12 Name of the Consultant: M/s Min Mec Consultancy Pvt. Ltd., New Delhi with permission from High Court of Delhi vide in LPA 110/2014 and CM No.2175/2014 (stay) and W.P.(C) 3665/2016.

Observations and recommendations of the Committee:

- 8.16.13 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**
- i. Explore the possibility of use of surface water in place of ground water and an appropriate action plan based on this exercise will be incorporated in the EIA report.
- 8.17 Proposed expansion the existing plant premises by **M/s Sakthi Ferro Alloys India Pvt. Limited** located at Village Vasanadu, Nadumuru village Panchayath, Kuppam, District Chittoor, **Andhra Pradesh**. - [Proposal No. IA/AP/IND/101553/2019; MoEF&CC File No. IA-J-11011/166/2019-IAII(I) – **Prescribing of Terms of Reference - regarding.**
- 8.17.1 M/s Sakthi Ferro Alloys India Private Limited made an application in the prescribed format along with Form-1 and other reports to the Ministry vide Proposal No. IA/AP/IND/101553/2019 dated 10.04.2019 for proposing ToRs to undertake detailed EIA study for proposed expansion of existing steel plant as mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 8.17.2 Proposes to install a expansion of existing manufacturing unit for M S Billets & TMT Bars. It is proposed to set up the plant for Expansion based on installing an additional 1 x 15 TPH Electric Induction Furnace and additional strands for Rolling Mill.
- 8.17.3 The existing capacity 28080 TPA of MS Billets does not attract EIA Notification. Consent to Operate was accorded by Andhra Pradesh State Pollution Control Board vide Ir. no. Order No CTR: 278/APPCB/ZO-KNL/CFO/2016-911 dated 19.11.2016 for Billets & Order No CTR: 278/APPCB/ZO-KNL/CFO/2018 dated 25.07.2018 for TMT Bars validity of CtO is up to 31.03.2021.
- 8.17.4 The proposed unit will be located at Survey Nos. 15/1, 15/3, 16, 17/1, 17/2, 17/3, 17/5, 17/6, 17/7, 17/8 A, 17/9 and 152/32, Vasanadu Village, Nadumuru Gram Panchayat, Kuppam, Chittoor Dist, Andhra Pradesh PIN : 517 425.
- 8.17.5 The land area acquired for the proposed plant is 6.92 Ha out of which 4.50 ha is dry land

& fully owned and 2.42 ha is Government Land (Dry Land) under alteration for Market Value.

- 8.17.6 No forestland involved. The entire land has been acquired for the project. Of the total area 2.28 ha (33%) land will be used for green belt development.
- 8.17.7 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.
- 8.17.8 Total project cost is approx Rs. 14.00 Crores for Expansion. Proposed employment generation from proposed project will be 250 for Expansion direct employment and many will get indirect employment.
- 8.17.9 The targeted production capacity of the 1,56,000 TPA of Billets and 1,44,000 TPA of TMT Bars. The Scrap and Other Raw materials for the plant would be procured from imported/indigenous. The raw materials transportation will be done through Rail / Road. The production capacity of Existing and Upon Expansion is given below.

Products	Production Details (TPA)	
	Existing	After Expansion
M.S. Billets	28080 TPA (1x 15 TPH, Electric Induction Furnace)	1,56,000 TPA (2 x 15 TPH, Electric Induction Furnace)
Rolled Products (Rolling mill)	29000 TPA	1,44,000 TPA

- 8.17.10 The electricity load of 13.82 MW will be procured from APSPDCL. Company has also been installed 380 KVA DG Set.
- 8.17.11 Raw materials requirement for project are MS Scrap & Sponge Iron. The requirement would be fulfilled by imported / indigenous.
- 8.17.12 Water Consumption for the project upon expansion will be 60 KLD and waste water generation will be 30 KLD. Domestic waste water of 12 KLD will be treated by Septic Tank and industrial waste water generated of 18 KLD will be treated and reused for Greenbelt Development.
- 8.17.13 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.
- 8.17.14 **EIA Consultant Details:** CHENNAI TESTING LABORATORY PRIVATE LIMITED A-Super-19, TVK Industrial Estate, Guindy, Chennai – 600 032. Certificate No. NABET/EIA/1922/IA0045 dated 13.03.2019, Valid till February 12, 2022.
- 8.17.15 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 ToRs enclosed at **Annexure-1 read with additional ToRs at Annexure-2.**

- i. Permission for ground water drawl shall be submitted.
- 8.18 Integrated Cement Plant (cement 3.0 Million TPA; Clinker 2.0 Million TPA), Captive Power Plant 36 MW, WHRS 20 MW, Limestone mine (3.2 Million TPA, 624 ha, ML No. 47/07) by **M/s. Shree Cement Limited** located at Village Gothra, Tehsil Nawal, Bewar District, **Rajasthan** [Proposal No. IA/RJ/IND/106722/2019, MoEF&CC File No. J-11011/1173/2007-IA.II(I)]– **Validity extension of Environmental Clearance - regarding.**
- 8.18.1 M/s **Shree Cement Limited** made an application in the prescribed format along with Form-6 and other reports to the Ministry vide Proposal No. IA/RJ/IND/106722/2019 dated 29.05.2019 for seeking extension of validity of Environmental Clearance 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.
- 8.18.1 Environment Clearance for integrated Cement Plant with CPP, WHRS and Captive Limestone Mines was granted on 15th July.2009 vide Letter No. J-11011/1173/2007-IA II (I) with validity upto 14th July, 2016. EC validity was further extended on 29th September, 2016 for 3 years i.e. up to 14th July, 2019.
- 8.18.2 Physical work for the establishment of cement plant has not been started so far and delayed by 3 years due to mine lease was under Subjudice for a period of approx. 3 years (from 22nd August, 2016 to 09th May 2019) for grant of ML order and execution of mine lease by the State Govt.. Therefore it is requested to kindly extend the validity of Environment Clearance for a period of 3 years i.e. up to 21st August 2022 for putting up Cement Plant, CPP & WHRS and to mention the EC validity of mining lease for the period of 30 years i.e. up to 14th July 2039 as per MOEFCC notification dt.14th September 2016 and MOEFCC letter no. Z-11013/55/2016-IA.II(M) dt. 20th April 2017 as the mining activities has been started within the validity period of EC. Details are given as below:
- 8.18.3 LOI has been granted for ML on 23rd August, 2007 by the Govt. of Rajasthan. Mining Plan has been approved by the IBM on 22nd August, 2016. The grant order for Mining Lease has been issued on 12th April 2019 by the Govt. of Rajasthan. Mining Lease Deed has been executed on 18th April 2019 and accordingly the mining lease has been registered on 08th May 2019 for the lease period of 50 Years i.e. up to 08th May 2069.
- 8.18.4 Consent to establish and operate has been granted for limestone mining of 3.2 Million TPA on 20th June, 2019 by the Rajasthan State Pollution Control Board and now mine has been started. As per the MOEF&CC notification dt.14th September, 2016 and MOEF&CC letter no. Z-013/55/2016-IA.II(M) dt. 20th April, 2017, EC validity of mining lease is for the period of 30 years i.e. up to 14th July 2039 in the favor of Shree Cement Ltd for Major Mineral Mine near Village Gothra Choudhani Devgaun and Kheswa Ki Dhani, Tehsil Nawalgarh Dist Jhunjhunu (ML No. 47/07).

- 8.18.5 Consent to establish has been issued by the Rajasthan State Pollution Control Board for the establishment of integrated cement plant on 28th February, 2019 and CPP + WHRS on 26th March, 2019. The industrial land has been allotted by RIICO for the establishment of integrated cement plant, CPP and WHRS in an area of 142.16 ha.
- 8.18.6 At present mining activities has been started but construction work of plant activities has not been started due to delay by State Govt for grant of order for mine lease on 12th April 2019, lease deed execution on 18th April 2019 and lease registration on 08th May, 2019.

Following is the reason of delay in mine lease registration:

- i. Issuance of Mining Lease was Subjudice two times before the Hon'ble High Court of Rajasthan. First time from 12th November, 2009 to 19th August, 2010 for relaxation u/s 6(1)(b) of MMDR Act, 1957 for grant of mining lease more than 10 sq KM in Raj state. The MMDR Amendment Act came on 12th January, 2015 and the maximum mining lease area was relaxed up to 50 Sq Km by Central Government on 12th May, 2016.
 - ii. Second time matter remain Subjudice from 4th January 2017 to 22nd January 2019. Compliance of LOI submitted to the State Govt. on 24th September, 2016 to execute the ML before 11th January, 2017 as per the cutoff date fixed under the MMDR amendment act of 2015, but no response received from the State Govt. Mine lease executed after the direction of Hon'ble High Court of Rajasthan at Jaipur to the State Govt. vide order dated 26th September, 2018 in respect of writ petition filed by Shree Cement Ltd.
 - iii. Considering the above two legal cases before Rajasthan High Court, approx. 3 years has lapsed and we could not start physical work at the site.
 - iv. Now the Mining Lease Deed has been executed on 18th April 2019 and registered on 09th May 2019, valid for 50 years i.e. up to 08th May 2069 and started the mining activities on ground.
- 8.18.7 Geographical coordinates for the plant site are from Latitude 27°47'14" N to 27°48'06" N & from Longitude 75°19'40" E to 75°20'36" E and of mines from Latitude 27°47'14" to 27°47'56" N & from Longitude 75°20'49" to 75°22'52" E.
- 8.18.8 Nearest Town is Nawalgarh Town, which is approx. 7 km in NW direction from the plant site. Plant site is well connected with National Highway is NH-11 (26 km, W), SH-8 (8 km, W) and SH-37 (13 km, E). The nearest railway station is the Nawalgarh, approximately 9.5 km from the site in west direction and Nearest Airport is Jaipur Airport which is approx. 130 km in SSE direction from the plant site.
- 8.18.9 No National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve, Wildlife Corridor, Protected Forests etc. falls within 10 km radius of the plant site. Nearest water bodies which falls within 10 km radius is Udaipurwati Lohagarh Ki Nadi (Seasonal) is 4 km from the plant boundary and 150 m from ML boundary in E direction.
- 8.18.10 Total cost of the project is Rs. 1606 Crores including Rs. 1276 Crores for cement, Rs. 330 Crores for power and Capital cost for Environmental Protection Measures is Rs. 50 Crores. Cost of limestone mining and crusher (1200 TPH) is Rs. 132.04 Crores and

Capital cost for Environmental Protection Measures in lease area is Rs. 4.5 Crores.

- 8.18.11 Method of mining will be opencast and fully mechanized involving wet drilling, controlled blasting, excavation, transportation by dumpers to crusher (1200 TPH), stacking and reclaiming within lease area.
- 8.18.12 The cement plant is based on pre-calcination with cyclone pre-heater dry process Clinkerization production. Clinker along with flyash & gypsum will be ground to manufacturing cement.
- 8.18.13 Power plant boiler is based on CFBC technology for generation of low NO_x and SO₂ emission and better heat efficiency which generate steam to produce thermal power. Waste heat from kiln pre-heater and clinker cooler will be utilized for generation of power. Air cooled condensers will be used for both CPP and WHRS.
- 8.18.14 For CPP, Indian and imported coal will be used as fuel and high efficient ESP will be installed with boiler to maintain PM levels less than 30 mg/Nm³. Limestone will be fed along with limestone in boiler to maintain the SO₂ level less than 100 mg/Nm³. Provision of FGD has been considered for future requirement to meet the SO₂ emission if the sulphur content in coal is on higher side. Low NO_x burner and CFBC technology will maintain NO_x levels less than 100 mg/Nm³.
- 8.18.15 In cement plant, Indian and imported coal will be used as fuel and Indian and imported petcoke will be used as feedstock. Fly ash generated from CPP as well as flyash / pond ash from other thermal power plants will be used in cement manufacturing. Limestone required for the proposed cement plant will be sourced from Captive Mine. Indian, imported mineral Gypsum, Synthetic and Chemical gypsum will be used in cement manufacturing. Laterite & Iron ore will be used as raw material in Clinkerization. Total water requirement will be 1200 m³/day including 750 m³/day for cement and power generation, 250 m³/day for colony and 200 m³/day for mining and crusher, required water will be Sourced from Ground Water. Mine will not intersect the ground water table. The estimated power requirement for the plant is about 30 MW and 125 kW power required for mining operations and 1.5 MW required for crusher. For which a captive thermal power plant of 36 MW and waste heat recovery power plant of 20 MW capacities are proposed to be set up. Till installation of the proposed captive thermal power plant, the required power will be received from grid. The total man-power requirement for the proposed project will be 376 persons. In addition, 500 no of outsourcing daily wage labour will be required.
- 8.18.16 Industrial waste/hazardous waste will be used as AFR as a source of iron, calcium & energy etc. for raw material and fuel replacement. STP Sludge will be utilized as manure for green belt development / plantation. Used oil (Hazardous Waste) will be sold to the CPCB authorized recycler.
- 8.18.17 High efficient ESP to maintain PM level less than 30 mg/Nm³ emission levels at clinker cooler and high efficient bag house to maintain PM levels less than 30 mg/Nm³ at stack of kiln & raw mill, coal mill and cement mill will be installed.
- 8.18.18 For control of fugitive emissions, bag filters will be installed at all material transfer points, all roads will be cemented, vacuum sweeping will be done, all transfer belts will be covered, all unloading hopper will be covered with water sprinkling

arrangement/bag filter, PUC certified vehicles will be used.

- 8.18.19 Rain water harvesting pond and recharge structures will be implemented. STP will be installed for treatment of sewage water and treated water will be used for plantation. RO reject water from power generation, cement plant and colony will be used to spray in grinding mills. Zero Liquid Discharge will be maintained.
- 8.18.20 The industrial land allotted by RIICO is 142.16 ha. The total lease area is 624 ha. Common area of lease and plant area is 44.27 ha. Cement plant will be established in the RIICO land (97.89 ha) which falls outside the lease area and the limestone crusher (1200 TPH), limestone stacker, reclaimers and raw material storage will be establishment in common area of lease and RIICO land (44.27 ha) which falls in the lease area.
- 8.18.21 Total RIICO industrial area is 142.16 ha, out of which plant area of 97.89 ha is outside the lease area and 44.27 ha is within lease area. Planation and green belt will be done in 50 ha (34.25 ha in plant area outside lease and 15.75 ha in lease area). Density of plantation would be 1000 sapling / ha. Local native species like Neem, Casiasamia, Sisham&Gulmohar etc. will be planted.
- 8.18.22 Total excavation area of lease will be 243 ha out of which 74 ha will be used as water reservoir, 169 ha will be reclaimed with OB and 119 ha will be OB external dumps. At conceptual stage of mining. Out of which 332.82 ha (53 % of ML area) is proposed for green belt and plantation which includes green belt of 8 ha on 7.5 meter barrier zone along lease boundary, plantation of 58 ha on virgin land, 119 ha on waste dump, 23 ha on back filled area and 124.8 ha on un-disturbed land including common area of cement plant and lease. Density of plantation would be 1000 sapling/ha.

Observations and Recommendations of the Committee:

- 8.18.23 After detailed deliberations, the Committee observed that EC validity for the cement plant is expiring on July, 2019. As per the EIA Notication, 2006, there is no provision exists to extend the validity period of the EC beyond ten years i.e, July, 2019. Hence, the Committee did not recommend extending the EC period as requested by the Project Proponent.
- 8.19 **Expansion of Integrated Steel Plant (3.1 MTPA to 5.6 MTPA) by M/s. TATA Steel BSL Limited located at Meramandali, District Dhenkanal, Odisha [Proposal No. IA/OR/IND/107665/2019, MoEF&CC File No. J-11011/829/2008-IA.II(I)]– Amendment in Environmental Clearance with respect to CDQ in Coke Oven Plant - regarding.**
- 8.19.1 M/s. TATA Steel BSL Limited (Formely M/s. Bhushan Steel Limited) has made online application vide proposal no. IA/OR/IND/107665/2019 dated 10/6/2019 sought for amendment in the Environmental Clearance accorded by the Ministry vide letter no. F.No. J-11011/829/2008- IA-II(I) dated 20/07/2012.

Details submitted by the project proponent

- 8.19.2 Environmental Clearance for expansion of Integrated Steel Plant capacity from 3.1 MTPA to 5.6 MTPA was granted by the MoEF&CC, vide letter No. J-11011/829/2008-IA II (I), dated. 20th July, 2012 in the name of M/s. Bhushan Steel Limited. It has been reported that the facilities envisaged in the EC has been implemented by the project

proponent. Subsequently, M/s. Tata Steel limited has acquired the erstwhile Bhushan Steel Limited on 18/05/2018 under the Corporate Insolvency Resolution Process of Insolvency and Bankruptcy Code 2016. In view of this, Company name has been changed from M/s. Bhushan Steel Limited to M/s. Tata Steel BSL Limited. Application for name transfer of environmental clearance has been submitted to the Ministry vide proposal no. IA/OR/IND/105666/2019.

8.19.3 One of the conditions of said EC (specific condition No- xviii) was to transfer Coke Oven plants from wet to dry quenching of coke by September 2014. However, on request of the Company, the dates for completion of dry quenching were revised twice.

- i. 1st extension was granted vide letter No. No. J-11011/829/2008-IA II (I), dated. 10th Sept, 2015 to establish Coke Dry Quenching (CDQ) – 2 by May, 2017 and CDQ – 1 by August, 2017.
- ii. 2nd extension was granted vide letter No. J-11011/829/2008-IA II (I), dated. 11th May, 2017 to establish CDQ – 2 by November, 2017 and CDQ – 1 by August, 2019.
- iii. During the time, though CDQ – 2 has been established and operational, but CDQ -1 has not been established.

8.19.4 The present proposal is only for extension of time 1 for 3 years i.e from Aug, 2019 to August, 2022 for commissioning of CDQ-1. It was informed that reason for seeking extension of time for CDQ-1 as the company has been taken over by new management on May, 2018. It was assured that CDQ-1 would be commissioned within a time frame of 36 months.

Observations of the Committee

8.19.5 The Committee noted that CDQ-1 would be commissioned within a time frame of 36 months. The Committee also noted that validity period of the aforesaid EC will expire on 19/07/2022.

Recommendations of the Committee

8.19.6 After detailed deliberations, the Committee recommended to extend the time frame for commissioning of CDQ-1 up to 19/07/2022.

8.20 Asbestos Fiber Cement Plant (1,20,000 TPA) by **M/s. Ramco Industries Limited** located at Industrial area, Bihiya, District Bhojpur, **Bihar** [Proposal No. IA/BR/IND/20372/2010, MoEF&CC File No. J-11011/17/2010-IA.II(I)] – **Amendment in Environmental Clearance – reg.**

8.20.1 **M/s. Ramco Industries Limited** made online application vide proposal No. IA/BR/IND/20372/2010 dated 25.11.2015 in the prescribed format, copies of Form-1, Prefeasibility Report and other documents to the Ministry for seeking amend to Environmental Clearance. The proposed project activity is listed at Sl. No. 4 (c) Asbestos milling and asbestos based products under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

8.20.2 M/s Ramco Industries Limited (RIL) has established and operating an Asbestos Fiber Cement Sheet Plant at Industrial Area, Bihiya, District Bhojpur, Bihar. The project was accorded Environmental Clearance by the Ministry vide letter No. J-11011/17/2010- IA II (I) dated 17.01.2011.

8.20.3 The existing Environmental Clearance prohibits the ground water abstraction after 5 years operation of the project with a specific condition No.(x) mentioning that ‘After 5 years operation of plant, no ground water shall be used and only rainwater shall be used. The Project Proponent made application to amend same for continuing the abstraction of ground water.

8.20.4 The proposal was initially considered in the EAC meeting held during 28-31st December 2015. The extracts of the Minutes are as below;

8.20.4.1 ‘The present application is for amendment in the existing environmental clearance dated 17.01.2011, regarding one of the specific condition for abstraction of ground water. The condition mentions that “After 5 years operation of plant, no ground water shall be used and only rain water shall be used.” However, the PP has requested to continue abstraction of ground water as the project area falls under safe block and it is not listed under the critical, semi critical & over-exploited blocks as identified by Central Ground Water Board. (CGWB 2014 Report: Dynamic Ground Water Resources of India).

8.20.4.2 Based on the presentation made and discussions held, the Committee desired additional information on the following for further consideration of the proposal:

- i. Photographs of the site showing construction of water harvesting structures as per the specific condition of the environment clearance letter dated 17.01.2011.
- ii. The certificate from the State/Central Ground Water Board showing increasing trend of ground water level at the site and authentic rainfall data from meteorology department.
- iii. Compliance report from the regional office of MoEFCC should be submitted.’

8.20.5 After receipt addition information from Project Proponent, the proposal was considered in the EAC meeting held during 29-31st August 2016. The extracts of the minutes are as below:

‘Based on the information submitted, the proposal was reconsidered by the EAC. It was informed that (i) RIL in the year 2011 have established rain water harvesting storage pond of capacity 800m³ and 3 nos of rain water recharge pits for storing and recharging of ground water. Apart from storing the water, the proponent is recharging ground water aquifer up to 14,802 m³ , which is around 50 %, (ii) as per clause 4.5 of CGWB groundwater report (2013), the whole of the district Bhojpur comes under safe category in view of the ground water resource development. RIL has obtained certified copy of ground water level trend in Bihiya block, Bhojpur district by Public Health and Engineering Department (PHED),Bihiya, Bhojpur district. During pre-monsoon period, the water level varies between 4-8 m and post monsoon, the water level varies between 2-

4 m. Also as per CGWB groundwater report (2013) clause 5.2, the entire area in the district of Bhojpur is highly potential with plenty of ground water available at shallow depth. Rainfall in this region varies from 650 mm to 1000 mm per year. As the rainfall in this region is highly seasonal, ie. from mid of June to mid of September every year, it is not possible to store the entire water for plant operation for full year. M/s Ramco Industries Limited has obtained certified copy of rainfall data from Public Health and Engineering Department (PHED), Bihiya, Bhojpur district. Also authentic rainfall data taken from India Meteorological department, Ministry of Earth Sciences shows rainfall varies from 650 mm to 1000 mm per year. Groundwater characteristics of our area are found well within the drinking water standards of IS 10500:2012, (iii) Regional Office, Ranchi visited Ramco Industries limited, Bihiya plant on 22.07.2016 and issued Compliance report vide letter No 105-76/11/EPE/632 dated 22.07.2016. The report has raised certain concerns regarding cement transportation, asbestos bags handling etc. The PP has presented point wise reply for the concerns raised in the compliance report. The Committee agreed to the justifications provided by the PP and advised to comply with all the EC conditions and observations of the RO, report.

The Committee after detailed deliberations, recommended the proposal for amendment in the EC for deleting the specific condition that “After 5 years operation of plant, no ground water shall be used and only rain water shall be used”. The Committee agreed to recommend the permission to M/s Ramco Industries Limited to continue abstraction of ground water as the project area falls under safe block, with the following condition:

i. Quarterly monitoring report to be submitted to the RO, Ranchi.’

8.20.6 The Project Proponent submitted certified compliance report of EC vide Regional Office letter dated 28.06.2017 and 11.01.2018. It was reported that the status of the compliance remain the same and unit do not have valid consent to operate. But, the plant was operating under supervisory and regulatory control of the State Pollution Control Board by the order of Hon’ble High Court of Judicature at Patna dated 30th March 2017.

8.20.7 M/s Ramco Industries Ltd obtained the permission from CGWA vide letter even No. dated 22.01.2019 to abstract 23620 cu.m/year of ground water through existing wells only. Besides, Consent to operate was also issued by State Pollution Control Bihar vide letter No. 2886 dated 12.07.2018.

8.20.8 After detailed deliberations, considering the permission from CGWA and consent to operate from State Pollution Control Board, the committee recommended the amendment to environmental clearance for continuing abstraction of ground water with following condition.

i. Rainwater harvesting and monitoring shall be carried out.

8.21 Manufacturing of Ingots/Billets(60,000TPA) by **M/s. Khushkhera Steel Private Limited** situated at SP-29, F20-24, RIICO Industrial Area, Bhiwadi, Alwar, **Rajasthan** [Proposal No. IA/RJ/IND/105003/2019, MoEF&CC File No. J-11011/214/2015-IA.II(I)] – **Validity extension of Terms of Reference – regarding.**

- 8.21.1 M/s. Khushkhera Steel Private Limited made an application in the prescribed format Form-5 alongwith other reports to the Ministry vide Proposal No. IA/RJ/IND/105003/2019 dated 10.05.2019 for seeking extension of validity of prescribed ToRs. The proposed project activity is listed at Sl. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.
- 8.21.2 **M/s Khushkhera Steels Pvt. Ltd.** proposed to install a new Manufacturing unit for production of Ingots/Billets (60,000 TPA) at SP-29, F20-24, RIICO Industrial Area, Bhiwadi, Alwar, Rajasthan. MoEF&CC accorded ToRs to undertake detailed EIA study vide letter No. J-11011/214/2015-IA. II (I) dated 12.01.2016.
- 8.21.3 Accordingly, EIA study was completed and draft EIA/EMP report with Executive summary (**Hindi & English**) was submitted to Rajasthan Pollution Control Board dated 17th November 2016 for conducting public hearing, but till now the date of public hearing has not finalized. The validity of the ToR validity has expired on 11.01.2019. Therefore, the Project Proponent made application to the Ministry for extension of validity of the ToR.
- 8.21.4 **Name of EIA consultant:** M/s Overseas Min-Tech Consultants, Jaipur, QCI Accredited (Sl.No.117, at QCI list dated June 10, 2019).

Observations and Recommendations of the Committee:

- 8.21.5 After detailed deliberations, the Committee did not agree for the ToR validity extension as the base line data collected for the project is more than three years old. Hence, the Committee advised the proponent to seek fresh ToR.
- 8.22 Modernization cum expansion of Induction Furnace (2,05,000 TPA to 6,00,000 TPA) and Rolling Mill (3, 69,000 TPA to 6,00,000 TPA) by **M/s Agarwal Foundries Pvt. Ltd** at Sy. No. 158 (part) 159 (part), 166, 170, village Chetlagoraram Mandal Toopran, District Medak, **Telangana**. [Online proposal No. IA/TG/IND/105440/2019; MoEFCC File No. IA-J-11011/214/2018-IA-II(I)] – **Amendment in Terms of Reference – regarding.**

Consideration of the proposal was deferred as the Project Proponent did not attend the meeting. The proposal may be considered subject to satisfactory explanation of the reasons of absence by the applicant.

- 8.23 Setting up of Ferro Alloys Manufacturing Units Phase-I (1x5 MVA) and Phase-II (2x9 MVA) by **M/s Sahara Ferro Alloys Pvt. Ltd.**, at Growth Centre Bobbili, Vizianagaram District in **Andhra Pradesh** [Online proposal No. IA/AP/IND/104312/2019; MoEFCC File No. J-11011/387/2008-IA-II(I)] – **Validity extension of environmental clearance – regarding.**
- 8.23.1 M/s. Sahara Ferro Alloys Private Limited made an application in the prescribed format Form-6 alongwith other reports to the Ministry vide Proposal No. IA/AP/IND/104312/2019 dated 03.05.2019 for seeking extension of validity of prescribed ToRs. The proposed project activity is listed at Sl. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

- 8.23.2 M/s Sahara Ferro Alloys Pvt Ltd was granted Environmental Clearance by MoEF&CC for setting up of ferro alloys manufacturing unit vide Letter J-11011/387/2008-IA.II(I) dated 30.08.2008.
- 8.23.3 Amendment to EC was accorded for configuration change of furnces in the proposed project vide letter even no. dated 23.05.2012.
- 8.23.4 The Project Proponent stated that the project could not be taken forward due to acute shortage in power supply, unfavourable market conditions, non-availability of financial assistance from bank and other financial institutions.

Observations and Recommendations of the Committee:

- 8.23.5 After detailed deliberations, the committee did not recommend the EC validity extension as the validity period of the EC had already expired on 29/08/2015. Hence, the Committee advised the proponent to seek fresh ToR.

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 (Quantative) 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 30thMay, 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

Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

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)

Co-ordinates (lat-long) of all four corners of the site.

Google map-Earth downloaded of the project site.

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.

Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.

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)

A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area

- i. Geological features and Geo-hydrological status of the study area shall be included.
- ii. 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)
- iii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- iv. 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 NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
 - iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
 - v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
 - vi. Ground water monitoring at minimum at 8 locations shall be included.
 - vii. Noise levels monitoring at 8 locations within the study area.
 - viii. Soil Characteristic as per CPCB guidelines.
 - ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
 - x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
 - xi. Socio-economic status of the study area.
- 7. Impact Assessment and Environment Management Plan**
- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
 - ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.
 - iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport

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

8. Occupational health

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

- iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
9. Corporate Environment Policy
 - i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
 - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
 - iv. Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
 10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
 11. 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 summarised 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.

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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

1. A note on pulp washing system capable of handling wood pulp shall be included.
2. 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

3. 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.
4. 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.
5. 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
INDUCTION/ARC FURNACES/CUPOLA FURNACES 5TPH OR MORE**

1. Details of proposed layout clearly demarcating various units within the plant.
2. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs and outputs (material and energy balance).
3. Details on design and manufacturing process for all the units.
4. 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.
5. Details on requirement of raw materials, its source and storage at the plant.
6. 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).
7. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
8. Details on toxic content (TCLP), composition and end use of chrome slag. Details on the recovery of the Ferro chrome from the slag and its proper disposal.

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

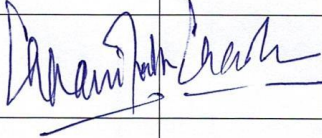
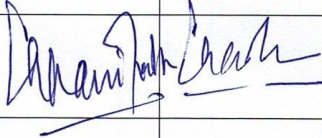
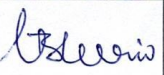
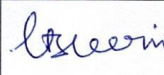
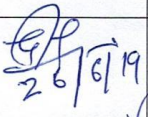
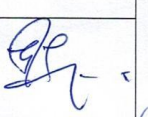
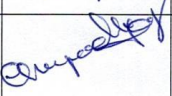
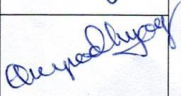
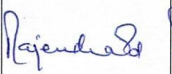
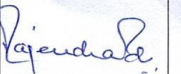
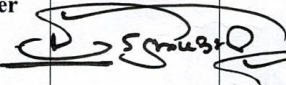
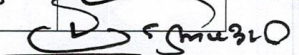
1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Emission from sulphuric acid plant and sulphur muck management.
3. Details on installation of Continuous Emission Monitoring System with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

Executive Summary



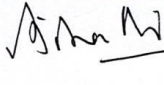
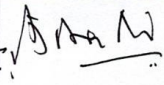

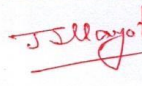
Executive summary of the report in about 8-10 pages incorporating the following:

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

**LIST OF PARTICIPANTS IN 8th MEETING OF EAC (INDUSTRY-I) HELD
ON 26th to 27th JUNE, 2019**

SL. No.	NAME AND ADDRESS	POSITION	ATTENDANCE SIGNATURE	
			26 th	27 th
1	Dr. Chhavi Nath Pandey, IFS(Retired) Email: pandeychhavinath55@gmail.com	Chairman		
Members				
2.	, Representative of Central Pulp and Paper Research Institute, Saharanpur.	Member	ABSENT	ABSENT
3.	, Representative of Indian Meteorological Department, New Delhi.	Member	ABSENT	ABSENT
4.	Dr. G. Bhaskar Raju Email: gbraju55@gmail.com	Member		
5.	Dr. Jagdish Kishwan, IFS (Retd.) Email: jkishwan@gmail.com	Member	ABSENT	ABSENT
6.	Dr. G.V. Subramanyam Email: sv.godavarthi@gmail.com	Member		
7.	Shri. Ashok Upadhyaya Email: ahupadhy@rediffmail.com	Member		
8.	Shri. R.P. Sharma Email: rpsh3@rediffmail.com	Member		
9.	Shri. Sanjay Deshmukh Email: docsvd@yahoo.com Email: sanjaydeshmukh@mu.ac.in	Member		

MoM of 8th meeting of the Re-constituted EAC (Industry-I) held during 26th June, 2019

SL. No.	NAME AND ADDRESS	POSITION	ATTENDANCE SIGNATURE	
			26 th	27 th
10.	Prof. S.K. Singh Email: sksinghdee@gmail.com singhsk@email.com	Member	ABSENT	ABSENT
11.	Dr. R. Gopichandran Email: r.gopichandran@vigyanprasar.gov.in	Member		
12.	Shri. Jagannath Rao Avasarala Email: avasaralajagan@gmil.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	