

**Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)**

**SUMMARY RECORD OF THE ELEVENTH (11<sup>th</sup>) MEETING OF EXPERT APPRAISAL COMMITTEE HELD ON 26<sup>th</sup> – 27<sup>th</sup> SEPTEMBER, 2016 FOR ENVIRONMENTAL APPRAISAL OF INDUSTRY-I SECTOR PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.**

The eleventh meeting of the Expert Appraisal Committee (EAC) for Industry-I Sector in terms of the provisions of the EIA Notification, 2006 for Environmental Appraisal of Industry-I Sector Projects was held on 26<sup>th</sup> – 27<sup>th</sup> September, 2016 in the Ministry of Environment, Forest and Climate Change. Prof. Arun Pandey and Shri Santosh Gondhalekar, Members of EAC have expressed their inability to attend the meeting due to prior engagements. The list of participants is annexed.

After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim.

**Confirmation of the minutes of the 10<sup>th</sup> Meeting**

The minutes of the 10<sup>th</sup> meeting, as circulated were confirmed subject to following modifications:

**Item 10.11.2**

**Expansion of Smelter Plant from 100,000 TPA to 360000 TPA and Captive Power Plant from 267.5 MW to 967.5 MW, at Hirakud, Sambalpur, Orissa by M/s Hindalco Industries Limited- Amendment for EC-[ J-11011/400/2006-IA.II(I)].**

<b>S. No</b>	<b>For</b>	<b>Read</b>
1	The proponent shall ensure that the use of limestone (Calcium Carbonate) shall not be less than 70%.	The proponent shall ensure that the percentage of Calcium Carbonate shall not be less than 70% in the limestone

**11.3 ENVIRONMENTAL CLEARANCE (EC)**

**11.3.1 Expansion of Steel Manufacturing unit at Village Ambey Majra, Mandi Gobindgarh, District- Fatehgarh Sahib, (Punjab) by M/s Vardhman Adrash Ispat (P) Limited. [F. No. J-11011/60/2015-IA II (I)].**

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s Chandigarh Pollution Testing Laboratory, Punjab) gave a detailed presentation on the salient features of the project. The project of M/s Vardhman Adarsh Ispat (P) Limited was initially received in the Ministry on 26.03.2015 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 39<sup>th</sup> meeting held on 20.05.2015 and prescribed TORs to the project for undertaking detailed EIA study for the

purpose of obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed TORs to the project on 07.07.2015. Based on the TORs prescribed to the project, the project proponent submitted an online application for environmental clearance to the Ministry on 31.08. 2016. The unit falls in ‘Category B’ as per the schedule of EIA Notification, 2006. In view of location of the project in “Critically Polluted Areas” of Mandi Gobindgarh, as notified by the Central Pollution Control Board, the proposal is appraised at the central level as Category ‘A’ in view of General Condition of the EIA Notification, 2006.

The project of M/s Vardhman Adarsh Ispat (P) Limited located in Village Ambey Majra, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab has proposed to increase the capacity of their unit by adding two numbers of induction furnace (12TPH capacity each) and one number of Arc furnace of 15TPH capacity. The existing capacity of the unit is 1,20,000 MTPA of TMT bars, angles, round etc. The capacity of the unit after expansion will be 2,00,000 MTPA of billets, steel ingots & blooms and 1, 20,000 MTA of TMT Bars, angles, round etc

<b>Capacity(MTA)</b>	<b>Existing</b>	<b>Proposed</b>	<b>Total</b>
Billets/Ingots, Blooms (Two numbers of induction furnace (12TPH capacity each) and one number of Arc furnace of 15TPH capacity)	Nil	2, 00, 000	2, 00, 000
TMT Bars, Flats, Strip	1, 20, 000	Nil	1, 20, 000

No additional land has been acquired for the unit. The machinery will be installed on the existing land. No River passes through the project area. It has been reported that no water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed. 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. Permission has been obtained for diversion of 0.003104 hectares forest land.

The topography of the area is flat and reported to lies between 30°37’50.49’’ N Latitude and 76°19’03.50’’ E Longitude in Survey of India topo sheet No. H43K6 (53B/6) at an elevation of 264 m AMSL. Ground water level within 1 km is about 50- 60 feet below ground level. The water requirement of the project is estimated at 18.5 KLD, which will be obtained from own tube well (ground water).

The power requirement of the project is estimated as 23 MW, which will be obtained from the Punjab State Power Corporation Limited (PSPCL).

The Public Hearing was conducted at revenue estate of Village Ambey Majra, Mandi Gobindgarh, District Fatehgarh Sahib on 01.12.2015, under the Chairmanship of Additional Deputy Commissioner, Fetahgarh Sahib.

The expansion project cost is approximately Rs. 25 crores. An amount of Rs.85 lakhs proposed for various Environment protection measures and an amount of Rs.68 lakhs earmarked

for CSR schemes. The proponent has mentioned that there is no court case to the project or related activity.

The Committee observed that the data provided in the EIA and EMP report and presented through presentation before the Committee are at variance. The title of the project is also confusing, and should be appropriately rephrased. The commitment for water and power has not been provided. The air quality monitoring data provided needs to be relooked in to. The ToRs awarded have not been thoroughly addressed. Based on the presentation made and discussions held, the Committee recommended that the project proponent should revisit the EIA and EMP report and provide all relevant information in the EIA and EMP report as per the prescribed ToRs. In addition, information on the following should also be provided:

- i. Permission letter from PSPCL for supply of additional 20 MW power for the proposed expansion should be provided.
- ii. Permission letter regarding drawl of groundwater for the proposed project should be provided.

The Committee decided to reconsider the proposal based on the revised EIA and EMP report so prepared and the Consultant was also advised to make presentation ToR wise.

#### **11.4 FURTHER CONSIDERATION**

##### **11.4.1 Proposed Expansion of Coke Oven Plant (Non-recovery type) from 1.6 MTPA to 2.2 MTPA at Haldia, Dist. East Medinipur, West Bengal by M/s Tata steel Ltd [J-11011/284/2007-IA.II(I)]**

Consideration of the proposal was deferred on the request of the Project Proponent.

##### **11.4.2 Proposed Modernization & Expansion of Cement Production Capacity (0.792 MTPA to 0.990 MTPA) by installation of Pre-grinder (Roller Press/Vertical Roller Mill) with existing Cement ball mill (No increase in Clinker production) at Village Lumshnong, Tehsil Khliehriat, District East Jaintia Hills (Meghalaya) by M/s Star Cement Ltd. (formerly Cement Manufacturing Company Ltd.) - Reg. submission of application under Section 7(ii) of EIA Notification, 2006. [F. No. J-11011/225/2016-IA II (I)]**

The proposal was earlier considered during the 10<sup>th</sup> meeting of Expert Appraisal Committee (EAC) (Industry) held on 29<sup>th</sup> – 31<sup>st</sup> August, 2016. Based on the presentation made and discussions held, the Committee asked the project proponent to apply for the expansion under clause 7(ii) of EIA Notification, 2006 alongwith the supporting documents that there is no increase in pollution load.

M/s Star Cement Ltd. has proposed an expansion of Cement Production Capacity from 0.594 MTPA to 0.990 MTPA (with no increase in clinker capacity). The environmental clearance to the existing project was accorded by State Environmental Impact Assessment Authority (SEIAA), Meghalaya *vide* its letter No. SEIAA/PROJECT-6/2008/23 dated 16<sup>th</sup> March, 2010. It is proposed to install a pre-grinder for the cement mill, which would only increase the cement capacity. The proposed expansion unit is located at Village Lumshnong, Tehsil Khliehriat, District East Jaintia Hills, Meghalaya. The total plant area is 35ha, out of which 11.9 ha area has already been developed under green belt and will be further maintained.

Total Cost of the expansion project is Rs. 62 Crore. The existing project has a total requirement of 130 employees and will need additional 15 persons. The project site is outside the boundary of ESZ, as per the draft ESZ Notification. The proponent has applied to Standing Committee of the National Board of Wildlife for recommendation. Details of the products with capacities are given as :

S. No.	Product	Existing Capacity (MTPA)	Additional capacity (MTPA)	Total capacity after proposed expansion (MTPA)
1	Clinker	0.792	Nil	0.792
2	Cement	0.594	0.396	0.990

The existing power requirement is 12.5 MW and additional power requirement of 3MW will be procured from Meghalaya Power Limited (MPL). Additional raw material requirement for the expansion project is 800TPD of clinker, 384 TPD of fly ash & 12 TPD of gypsum. Therefore, the total raw material required after the proposed expansion will be 2250 TPD of Clinker (Source: Captive), 720 TPD of Fly Ash (Source: Subsidiary Power Plant adjoining the plant) & 30 TPD of Gypsum (Source: Bhutan).

The existing water consumption is 440 KLD (plant + colony) and an additional 10 KLD of water is required for the proposed expansion (only for domestic use). No wastewater will be generated from the cement manufacturing process. About 240 KLD of domestic waste water will be treated in STP and reused in greenbelt development/plantation.

It was mentioned that a modern compact and energy efficient semi-finish grinding system (Roller press/Vertical Roller Mill) shall be installed, which will receive the fresh feed from the existing feed hoppers, process it and supply semi finished material to the existing ball mill. The High Pressure Grinding Roller Mill/VRM (pre-grinder) based on hydraulic pressure system and existing ball mill will operate in closed circuit with two separators. The advantages of the pre grinder system are reduction in specific power consumption/tonne of cement. In the cement grinding section, the power consumption will reduce from 39KWh/tonne to 30KWh/tonne for OPC and from 34KWh/Tonne to 27KWh/Tonne for PPC, reduction in noise level, no requirement of process water, lower foot print for similar production through ball mill, dust free circuit with reduced belt conveyors in the grinding and separation group.

The proponent mentioned that there will be no increase in pollution load. Stack emissions will be maintained below prescribed standards of 30mg/Nm<sup>3</sup> for existing plant and below 20 mg/Nm<sup>3</sup> for cement grinding section including packing plant after expansion. There are 36 bag filters have been installed in the existing plant and it is proposed to add 8 new bag filters during the expansion.

Based on the presentation made and discussions held the Committee recommended the project for environment clearance under clause 7(ii) of EIA Notification, 2006 subject to stipulation of the following additional specific conditions and any other mitigative measures, as prescribed by the Ministry for environmental protection:

- i. All the conditions stipulated by the State Environmental Impact Assessment Authority (SEIAA), Meghalaya *vide* letter No. SEIAA/PROJECT-6/2008/23 dated 16<sup>th</sup> March, 2010 should be strictly followed.

- ii. The project proponent should install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.
- iii. A permanent Ambient Air Quality Monitoring Station has to be installed near the boundary of ESZ. A copy of the report generated from the monitoring station should be submitted to the office of the Chief Wildlife Warden of the area, periodically.
- iv. The project proponent shall provide for LED lights in their offices and residential areas.
- v. The PP shall install eight additional bag filters in addition to 36 existing bag filters. The bags of the existing bag filters should be replaced with better quality bags with finer mesh.
- vi. An amount of Rs. 113 lakhs will be set aside by the Project Proponent as its Enterprise Social Commitment (ESC) to be expended over a period of 5 years, including Rs. 15 lakh on implementing a wildlife conservation plan.
- vii. The project proponent shall install bio gas plant for kitchen waste utilization generated in their plant canteen and township (If any). The generated gas shall be utilised in their canteen and manure shall be used in their garden.

**11.4.3 Setting up of a Rotary Kiln unit (500 TPD clinker) and Cement Grinding (closed circuit) unit (500 TPD) by M/s K. R. Associates, located at Village-Ambher, Mouza- Sonapur, District- Kamrup, Assam. [F. No. J-11011/139/2015-IA II (I)].**

The proposal was earlier considered during the 9<sup>th</sup> meeting of Expert Appraisal Committee (EAC) (Industry) held on 27<sup>th</sup> – 29<sup>th</sup> July, 2016, when the Committee desired additional information on the following issues for further consideration of the proposal:

- i. Agreement/NOC with the State Electricity Department/Electricity Board for the required load has to be obtained and submitted.
- ii. Permission from the Ground Water Department for drawl of ground water for the required volume should be obtained and submitted.
- iii. A letter from the revenue department for conversion of land should be submitted. A note on, whether the new legislation has any conflict with the conversion of land based on the old legislation has to be submitted.
- iv. Monitoring to be done in NW direction near the city for a period of 1 month (non-monsoon) and data from the pollution control board for that area.
- v. Detailed EMP and pollution control system proposed for the plant should be revised and submitted.
- vi. Authenticate the data submitted in the EIA report regarding the list of flora and fauna from the local forest department and submitted.
- vii. The air pollution data analysis has to be revisited and submitted.
- viii. The green belt plan has to be revised and superimposed on the layout plan including parking plan should be submitted.
- ix. Domestic waste water treatment and disposal plan has to be submitted.

- x. A detailed green belt development plan along with the list of plant species to be planted should be submitted. More green belt should be developed towards north east direction where the city is located as also near the sanctuary.
- xi. Commitment by the PP for the point raised by the local public during the PH should be inserted in the presentation.

Based on the information furnished by the project proponent, the proposal was reconsidered by the Committee. The Committee observed that the proponent has not completely replied to the questions and the Committee is disappointed with the responses. The proponent was asked to undertake AAQ monitoring in NW direction near the city for a period of 1 month (non-monsoon) and data from the pollution control board for that area should be provided; however, the proponent has not carried out the AAQ monitoring. Further, information on authenticated list of flora and fauna and permission from the Ground Water Department for drawl of ground water have also not been provided. The committee; therefore, deferred further consideration of proposal and desired that the proponent should once again go through the queries, as was raised earlier and submit point-wise information for further consideration of the proposal. In addition, the proponent was also asked to provide information on post process control system for SOx emissions.

**11.4.4 Increase of Clinker Production (1.0 MTPA to 1.20 MTPA) by modification in Cement Plant and increase in power generation(15MW to 18 MW) by M/s Deccan Cements Ltd. located at Village Mahankaligudem, Mandal Nereducherla, District Nalgonda, Telangana (under Clause 7 (ii) of EIA Notification, 2006) [J-11011/572/2010-IA-II(I)].**

The proposal was earlier considered during the 5<sup>th</sup> meeting of Expert Appraisal Committee (EAC) (Industry) held on 30<sup>th</sup> – 31<sup>st</sup> March, 2016 when the Committee desired that since the existing plant is in operation and the EC was accorded to the project on 27<sup>th</sup> December 2007, compliance report of the Regional Office should be submitted to the Ministry. In addition, the Committee felt that since there are several patches of forests available in the surrounding areas, a study should be conducted by the project proponent to assess the impact of the existing plant on the surrounding forest areas.

Based on the information submitted by the project proponent *vide* letter No. DCL/MoEF&CC/EDS/2016 dated 24<sup>th</sup> August, 2016, the proposal was considered further.

The Regional Office has submitted the report *vide* letter No. 'Nil' dated 25<sup>th</sup> May, 2016. The PP has complied will all the conditions stipulated in the EC letter No. J-11011/572/2007-IA.II(I) dated 27<sup>th</sup> December, 2007 except plantation of green belt. It has been mentioned in the report that out of 18 Ha the PP has brought 16.4 Ha under green belt development by planting different types of trees in and around the colony, cement plant areas. The plantation work and survival rate is good. The PP committed that the remaining area will be planted during the next monsoon.

The PP has conducted a study on impact of clinker production and power generation on the surrounding forest areas. The report mentioned that there is no visible adverse impact on the reserve forest.

Based on the presentation made and discussions held the Committee recommended the project for environment clearance subject to stipulation of the following specific conditions and any other mitigative measures, as prescribed by the Ministry for environmental protection:

- i. All the conditions stipulated *vide* environmental clearance letter No. J-11011/572/2007-IA.II(I) dated 27<sup>th</sup> December, 2007 should be complied with.
- ii. The project proponent shall install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.
- iii. The Standards issued by the Ministry vide G.S.R. No. 612 (E) dated 25th August, 2014 and subsequent amendment dated 9th May, 2016 and 10th May, 2016 regarding cement plants with respect to particulate matter, SO<sub>2</sub> and NO<sub>x</sub> shall be followed.
- iv. Efforts shall be made to achieve power consumption of 70 units/tonne for Portland Pozzolona Cement (PPC) and 95 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.
- v. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.
- vi. Efforts shall be made to further reduce water consumption by using air cooled condensers. All the treated wastewater shall be recycled and reused in the process and/or for dust suppression and green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.
- vii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- viii. Green belt shall be developed in 33% of the project area within plant premises with at least 10 meters wide green belt on all sides along the periphery of the project area, along road sides etc. by planting native and broad leaved species in consultation with local DFO and local communities as per the CPCB guidelines.
- ix. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.
- x. At least 2.5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured accordingly in a time bound manner.
- xi. The proponent shall prepare a detailed CSR Plan for every next 5 years for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2%

retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.

- xii. The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.
- xiii. The project proponent shall provide for LED lights in their offices and residential areas.
- xiv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

## **11.5 ANY OTHER ITEM**

### **11.5.1 Proposed expansion of cement plant by addition of Clinker: 2.50 MTPA, Cement: 3.00 MTPA and Captive Power Plant: 35 MW of M/s Durga Cement Works (a unit of Andhra Cements Ltd.) at Village Durgapuram, Mandal Dachepalli, District Guntur, Andhra Pradesh. [J-11011/719/2007-IA.II (I)]**

The ToRs for the project was prescribed by MOEFCC for carrying out EIA and EMP studies for the project *vide* letter No. J-11011/719/2007-IA, II(I) dated 3<sup>rd</sup> December, 2014. The validity period of the ToRs mentioned in the letter as 2 years.

Further, Ministry *vide* OM No. J-11013/41/2006-IA-II(A)(Pt) dated 8<sup>th</sup> October, 2014, increased the validity period of ToRs from 2 years to 3 years. Therefore the ToR letter dated 3<sup>rd</sup> December, 2014 as mentioned above stands valid upto 2<sup>nd</sup> December, 2017.

## **11.6 CASE FOR TERMS OF REFERENCE (TOR)**

### **11.6.1 Proposed Integrated Cement Project - Clinker (3.20 MTPA), Cement (4.25 MTPA), Captive Power Plant (30 MW) and WHRS (15 MW), Synthetic Gypsum Unit (100 TPH) & DG Sets (2325 KVA) near Village Tangeda, Tehsil Dachepalli, District Guntur (Andhra Pradesh) by M/s. Emami Cement Limited. [F. No. J-11011/226/2016-IA II (I)].**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 3(b), under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s. Emami Cement Limited is proposing Integrated Cement Project- Clinker (3.20 MTPA), Cement (4.25 MTPA), Captive Power Plant (30 MW), WHRS (15 MW), Synthetic Gypsum Unit



(100 TPH) & DG Sets (2325 KVA) at Village - Tangeda, Mandal -Dachepalli, District - Guntur (Andhra Pradesh). The total project area is 254.34 ha; out of which approx. 84 ha (i.e. 33 % of the total project area) will be developed under greenbelt/ plantation. Total cost of the project is Rs. 1950 Crores. Proposed employment generation from Proposed Integrated Cement Project is 538 persons. Project Description is given in the table below:

S. No	Units	Proposed Capacity
1	Clinker (MTPA)	3.2
2	Cement (MTPA)	4.25
3	CPP (MW)	30
4	WHRS (MW)	15
5	Synthetic Gypsum Unit (TPH)	100
6	DG Sets (KVA)	2325

Total power required for proposed project will be 45 MW, which will be procured from proposed CPP, WHRS, State Grid & DG Sets (in case of emergency).

The raw material required *inter alia* includes, limestone which will be sourced from captive mine/outsourced; bauxite from East Godavari & Vishakhapatnam (Andhra Pradesh)/ nearby area; Iron Ore from Cuddaph District, Andhra Pradesh / nearby area; gypsum from captive Synthetic Gypsum Unit/ Fertilizer Plants in Andhra Pradesh; flyash from CPP/ nearby Power Plants of Andhra Pradesh and slag from Vishakhapatnam and Steel Plants in Southern part of country/ nearby area. Total water requirement for the proposed Integrated Cement Project will be 3500 KLD, which will be sourced from Ground Water & Krishna River. the capital cost of the project is Rs. 97.5 Crores.

After detailed deliberations, the Committee recommended the issue of TOR and prescribed following specific TORs, in addition to the standard TOR, for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2:**

- i. Public Hearing to be conducted by the Andhra Pradesh Pollution Control Board.
- ii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- iii. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.I dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.
- iv. If the land is not purchased for the project, the requisite documents according to the OM dated 07.10.2013 should be submitted to the Ministry in support of land acquisition.
- v. Post process control system for SOx emissions.

**11.6.2 Proposed cement plant with production capacity 2.00 MTPA at Villages Kotda & Bhatakda, Taluka Mahuva, District Bhavnagar, Gujarat by M/s Ultra Tech Cement Limited (Mahua Cement Project).[F. No. J-11011/227/2016-IA II (I).**

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.

**11.6.3 Expansion of Clinker Production (3.5 MTPA to 5.1 Mtpa) and Cement production(1.0MTPA To 3.0 MTPA) (by installation of Unit – III) For Clinker Production of 1.6 MTPA and Cement 2.0 MTPA and Installation of 90 Mw Coal Based Thermal Power Plant by M/S Lafarge India Ltd (Sonadih Cement Plant) located at Village Sonadih, P.O.Raseda, Dist.-Baloda Bazar-Bhatapara, Chhattisgarh. [F. No. J-11011/386/2005-IA II (I)].**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 3(b), under category ‘A’ of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s Lafarge India Limited (LIL), is operating Sonadih Cement Plant at Raseda, near Sonadih village, Balodabazar Tehsil of Raipur District in Chhattisgarh. Earlier environmental clearance was granted on 5<sup>th</sup> May 2006 for expansion of Cement plant from 1.50 to 3.50 MTPA (Phase 2) *vide* letter No. J-11011/386/2005-IA-II (I) dated 16.03.2006 & an amendment was issued to the EC *vide* letter dated 05.05.2006.

M/s LIL proposes to increase the clinker production capacity of the cement plant from 3.5 Million Tonnes Per Annum (MTPA) to 5.1 MTPA by installing a third line (Unit – III) of 1.6 MTPA clinker production capacity. Cement production after expansion will be increased from 1.0 to 3.0 MTPA. Additionally, it is proposed to set up a 75 MW Coal based Thermal Power Plant to meet the power requirement of the cement plant The land area acquired for the Cement plant is 91.886 Ha out of which 24.70 Ha land will be used for green belt development. Total project cost is approx. Rs. 1645 Crores. Additional employment generation from expansion will be 50 persons. The existing and the proposed capacity is given below:

Cement Plant	Present approved Capacity as per MoEF EC (MTPA)		Proposed enhancement (MTPA)		Capacity after proposed expansion (MTPA)	
	Clinker	Cement	Clinker	Cement	Clinker	Cement
Unit - I	3.5	1.0	-	-	3.5	1.0
Unit – II						
Unit - III (new unit)	-	-	1.6	2.0	1.6	2.0
<b>Total</b>	<b>3.5</b>	<b>1.0</b>	<b>1.6</b>	<b>2.0</b>	<b>5.1</b>	<b>3.0</b>

**Additionally, it is proposed to set up a 75 MW Coal based Thermal Power Plant to meet the power requirement of the cement plant.**

The present power requirement of 35 MW is met from CSEB grid. The proposed thermal power plant of 75 MW will meet the total power requirement for 5.1 MTPA clinker production i.e., & 3.0 MTPA Cement i.e., 60 MW. PP originally submitted proposal for 90 MW. After detailed

discussions, the committee opined that 75 MW is adequate for the proposal and accordingly advised the PP to revise the proposal. The revised documents were submitted by PP. LIL has installed DG sets of 16 MW capacities as standby units for supply of power during contingency.

### RAW MATERIAL REQUIREMENT – UNIT – III

Raw material		Quantity (MTPA)	
		Unit – III	Source
Limestone		2.4	Own Limestone Captive mines
Coal/Pe t coke	Cement Plant	0.24	SECL Coal Mines/ Refineries
	Power Plant- 75 MW coal based power plant	0.33	
Sand		0.10	Private Party
Iron ore/		0.02	Private Party
Alternative raw material		0.04	Private Party
Gypsum		0.10	Private Party

Present water consumption is 3700 m<sup>3</sup>/day and additional requirement is about 1000 m<sup>3</sup>/day making the total water requirement of the plant to 4700 m<sup>3</sup>/day. This requirement will be met from Seonath River. Wastewater generated from the power plant will be treated and used in the cement plant.

After detailed deliberations, the Committee recommended the proposal for issuance of TOR and prescribed following specific TORs, in addition to the standard TORs, for undertaking detailed EIA and EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2:**

- i. Public Hearing to be conducted by the Chhattisgarh Environment Conservation Board.
- ii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- iii. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.I dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.

#### **11.6.4 Expansion of cement production capacity from 7,87,000 TPA to 9,00,000 TPA by M/s. Tata Chemicals Ltd. located at Village(s) Mithapur & Surajkaradi, Taluka Dwarka, District Dwarka, Gujarat [J-11011/66/99-IA-II (I)].**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 3(b), under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s. Tata Chemicals Ltd. is proposing for expansion of cement production capacity from 7,87,000 TPA to 9,00,000 TPA. The proposed expansion will take place within the existing chemical complex located at Villages Mithapur & Surjekaradi, Taluka Dwarka, District Devbhumi Dwarka, Gujarat. Total Plant area is 231 ha. Since, the proposed expansion and new installation will be done within existing plant premises; therefore, no additional land is to be acquired. Total project cost is Rs. 133.40 Crores. Due to the proposed expansion, direct employment will be provided to 129 people and around 291 people will be provided with indirect employment.

S. No.	Name of Activity	Unit	Existing Capacity	Proposed (Additional) Capacity	Proposed Total Capacity
1.	Cement	Tons / year	787,000	113,000	900,000
2.	Clinker	Tons / year	825,000	Nil	825,000

The existing specific power requirement is 142 Kwh/T of cement production. After proposed expansion project, the specific power requirement will come down to 139 Kwh/T of cement production. Total power requirement will increase from 12.76 MW to 14.28 MW. Source of power will be captive co-generation power plant within existing chemical complex.

The raw materials required for the cement production are clinker, fly ash and gypsum whose existing quantities are 8,25,000 TPA, 24,000 TPA and 39,350 TPA respectively. There will be no additional requirement of clinker, whereas additional 3,500 TPA of fly ash and 5,650 TPA of gypsum will be required for the proposed expansion of cement production capacity. There will be no additional fuel requirement as Clinker capacity will remain same.

The existing raw water requirement is 562 m<sup>3</sup>/ day. For the proposed expansion project, additional requirement is 260 m<sup>3</sup>/ day and total requirement will be 822 m<sup>3</sup>/ day which will be sourced from internal generations through existing sea water desalination units in chemical complex. However, the existing sea water requirement is 897 m<sup>3</sup>/day, additional requirement for the proposed expansion project is 223 m<sup>3</sup>/day and total requirement after proposed expansion will be 1,120 m<sup>3</sup>/ day, which will be sourced from Arabian Sea.

The industrial waste water (spent cooling sea water) generation after the proposed expansion project will be 1,094 m<sup>3</sup>/ day. Spent cooling sea water is utilized for dilution of treated waste water from soda ash unit of chemical complex and the final treated waste water is discharged into sea through a single outlet. Domestic waste water generation is 2,400 m<sup>3</sup>/ day which is being treated in Sewage Treatment Plant (3MLD) and treated domestic waste water is used within the company township for toilet flushing and horticulture activities.

After detailed deliberations, the Committee recommended the issue of TOR and prescribed following specific TORs, in addition to the standard TOR, for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2:**

- i. Public Hearing to be conducted by the Gujarat Pollution Control Board.

- ii. Combined EIA and EMP can be prepared for Industry-I and Industry-II project and combined PH can be conducted
- iii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- iv. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.I dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.

**27<sup>th</sup> September, 2016 /Tuesday (Narmda/Indus)**

## **11.7 ENVIRONMENTAL CLEARANCE (EC)**

### **11.7.1 Expansion of integrated steel plant of M/s Sunflag Iron & Steel Co. Ltd. located at Village Eklari, Taluka Mohdi, District Bhandara, Maharashtra.[F.No-J-11011/355/2004-IA.II(I)].**

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA and EMP consultant (M/s Min Mec Consultancy Pvt. Ltd.) gave a detailed presentation on the salient features of the project. The proposal for expansion of integrated steel plant from 0.5 MTPA to 1.0 MTPA of M/s Sunflag Iron and Steel Company Limited (SISCL) was initially received in the Ministry *vide* letter dated 20.03.2014 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 meeting held on 30<sup>th</sup> July-1<sup>st</sup> August 2014 and prescribed TORs to the project for undertaking detailed EIA study for the purpose of obtaining environmental clearance. Accordingly, the Ministry had prescribed TORs to the project on 29<sup>th</sup> October 2014. Based on the TORs prescribed to the project, the project proponent submitted an online application for environmental clearance to the Ministry on 26.08.2016.

The project of M/s Sunflag Iron and Steel Company Limited (SISCL) located in Village Eklari, Warthi and Sirsi, Tahsil Mohadi, District Bhandara, Maharashtra is for enhancement of production of steel from 0.5 million TPA to 1.0 million TPA. The total land required for the expansion project is 26.34 ha, which is already available within the 200 ha of existing plant. The entire 200 ha is already under possession of company. No forest land is involved. No river passes through the project area. It has been reported that a canal is passing through the property. In addition a first order naala is also passing through the property; however, diversion in the existing natural drainage pattern at any stage has not been proposed.

The topography of the area is flat and reported to lie between 21°13'30'' to 21°14'16'' N Latitude and 79°37'11'' to 79°38'32'' E Longitude in Survey of India topo sheet No. 55 O/11, at an elevation of 273 m AMSL. The ground water table at plant site is reported to range between 1.5 m below the land surface during the post-monsoon season and 3 m below the land surface during the pre-monsoon season. There will be no pumping of ground water for the project. Further, the stage of groundwater development is reported to be 26.2% in study area and the area is designated as safe area.

The Koka Wildlife Sanctuary is located at a distance of 8.7 km from the site and the project site lies outside the Eco sensitive Zone of Koka wild life sanctuary. The proponent has mentioned

that they have submitted an application to NBWL; however, as per MoEFCC's Notification S.O.612(E) dated 25.02.2016, project area does not fall in Eco Sensitive Zone (ESZ) of the Koka Wildlife Sanctuary. Hence, NBWL clearance is not required.

The various processes in the steel plant will be as per following table:

<b>Products</b>	<b>Existing Capacity</b>	<b>Proposed Capacity</b>	<b>Total Production after Expansion</b>
Direct Reduced Iron	0.28 Million TPA (1x350 TPD and 1x500 TPD Kilns)	0.72 Million TPA (3x350 TPD & 3x500 TPD Kilns)	1.0 Million TPA
Pig Iron / Hot Metal	0.25 Million TPA (0.3 Million TPA MBF)	0.35 Million TPA (0.30 Million TPA MBF + 0.05 Million TPA Existing Capacity Utilization)	0.60 Million TPA
Ingots / Billets	0.525 Million TPA (1x50/60 TPH EAF & 75 TPH AOD)	0.5 Million TPA (2x25 TPH IF & 1x50 TPH EAF)	1.025 Million TPA
Rolled Steel Products	0.5 Million TPA (1x70 TPH, 1x60 TPH, 1x14 TPH)	0.5 Million TPA (1x70 TPH, 1x60 TPH, 1x14 TPH)	1.0 Million TPA
Sinter	0.25 Million TPA (0.48 Million TPA Sinter Plant)	0.60 Million TPA (0.40 Million TPA Sinter Plant + 0.20 Million TPA existing capacity utilization)	0.85 Million TPA
Electricity	30 MW CPP	60 MW CPP	90 MW
Coke	--	0.25 Million TPA (Coke Oven Plant)	0.25 Million TPA
Oxygen Plant	15000 TPA	--	15000 TPA
Oxygen / Nitrogen / Argon Plant	45000 TPA	--	45000 TPA
Washery	750 TPD	--	750 TPD

The detail of the raw materials required is as follows:

<b>Unit</b>	<b>Raw materials</b>	<b>Existing</b>	<b>Proposed Additional</b>	<b>Total</b>
DRI	Iron Ore	475000	1440000	1915000
	Coal	405600	1440000	1845600
	Dolomite	8580	216000	224580
MBF	Iron Ore	250000	350000	600000
	Lam Coke	178000	250000	428000
	Limestone	10000	14000	24000
	Dolomite	10000	21000	31000

Unit	Raw materials	Existing	Proposed Additional	Total
	Quartzite	12000	16800	28800
	Mn Ore	7250	10000	17250
	Inhouse Sinter	250000	600000	850000
CPP	Coal Fines / DRI Ash (in house)	135000	500000	635000
	Dolomite	1095	7500	8595
SMS	DRI in house	280000	300000	580000
	Hot metal from blast furnace	250000	320000	570000
	Steel scrap+skull+ferro alloys (purchase from outside)	195000	100000	295000
	Coke / lime / dolomite	37200	35500	72700
Sinter Plant	Hematite ore	235000	564000	799000
	EAF GCP dust	7750	18600	26350
	Mill scale	3000	65000	68000
	Dolomite	35000	84000	119000
	Limestone	35000	84000	119000
	Quicklime	5000	46000	51000
	Coke breeze	30000	73170	103170
	Sinter return fines	85000	150000	235000
Coke Oven	Coking coal	0	500000	500000

The detail of solid waste generation and its management is as under:

Unit	Solid waste	Existing, TPA	Proposed Additional, TPA	Total, TPA	Disposal & Management Measures
DRI	ESP Dust	78400	216000	290000	Used as fuel in FBC Boiler / Sinter plant & also disposed by sale to local parties
	DRI Ash	70000	230400	310000	Used as fuel in FBC Boiler / Sinter plant & also disposed by sale to local parties
	Bag filter Dust	21000	61200	80000	Partly reused in sponge iron manufacturing and balance in sinter plant
	Iron ore fines	27900	262800	371000	Sinter plant
	DRI sludge from scrubber	Variable	Variable	variable	Used as fuel in Sinter plant
	Sludge from closed loop of CCM, BSM & ASM	Variable	Variable	variable	In Sinter plant

Unit	Solid waste	Existing, TPA	Proposed Additional, TPA	Total, TPA	Disposal & Management Measures
	Coal Fines & Reject	84000	489600	490000	Used in FBC boiler/sinter plant while shale & other rejects used for land fill / disposal as per Govt. policy.
<b>MBF</b>	MBF Slag	112500	157500	270000	Making roads within factory premises & disposed by sale to cement plants
	Coke fines + Nut coke	17500	24500	42000	Sinter plant
	Iron ore fines + Sinter Fines	105000	209000	314000	Sinter plant
	Residue GCP	20000	28000	48000	Sinter plant
<b>SMS</b>	EAF & Convertor Slag	100200	95429	195629	Slag - disposed by landfill, road construction, Bricks / Paver block manufacturing & other end users including sale to outside parties.
	Dust (Bag Filter)	15750	15000	30750	Sinter plant
	Mill Scale	10500	10000	20500	Sinter plant
<b>Rolling Mill</b>	Scraps/Rejects	19225	19225	38450	Recycled by melting in the steel manufacturing or sold to outside parties.
	Mill scale	5775	5775	11550	Recycled in sinter plant
	refractory waste from reheating furnace	variable	variable	variable	Given for mortar manufacturing
<b>CPP</b>	Fly Ash	26784	136000	162784	Cement manufacturers, brick / paver blocks manufacturing plant and other end users.
	Bed Ash	22320	31500	53820	Used for internal road, brick manufacturing & filling low lying areas in



Unit	Solid waste	Existing, TPA	Proposed Additional, TPA	Total, TPA	Disposal & Management Measures
					plant premises. Sale to concrete products makers etc.
<b>Sinter</b>	Sinter Return Fines	85000	150000	235000	Recycled in sinter plant
<b>Hazardous waste</b>	Used oils	5.63	6.47	12.1	Will be used in our furnace/boiler and if balance will be used in-house for anti-rust coating of rolled steel products and also sold to authorized re-processors/recyclers.
	Acid Residue, Spent Bath Sludge and ETP Chemical Sludge	288	0	288	Will be used in our sinter plant.
<b>Coke Oven</b>	Bag filter dust	-	10000	10000	Will be used in sinter plant

The targeted production capacity of steel plant is 1.0 million TPA. The ore for the plant would be procured from NMDC Kironpur (Bailadila, C.G.), Hospet (Dist. Ballari, Karnataka), Barbil (Odisha) and Katni, Jabalpur (Madhya Pradesh). The transportation of ore will be done through rail / roads.

The fresh water requirement of the existing and expansion project is estimated as 15,098 m<sup>3</sup>/day, which will be obtained from Wainganga river and rain water harvesting. About 1496 m<sup>3</sup>/day water requirement will be met from the recycled water. Permission for drawal of water has reported been obtained from the Government of Maharashtra.

The power requirement of the expansion project is estimated as 64.37 MW, which will be partly met from CPP (existing 30 MW + additional 60 MW) and balance obtained from the MSEB or open excess.

Ambient air quality monitoring has been carried out at 8 locations during December, 2014 to February, 2015 and the data submitted indicated that PM<sub>10</sub> ranges from 48.3 µg/m<sup>3</sup> to 94.7 µg/m<sup>3</sup>, PM<sub>2.5</sub> ranges from 26.6 µg/m<sup>3</sup> to 52.8 µg/m<sup>3</sup>, SO<sub>2</sub> ranges from 7.1 µg/m<sup>3</sup> to 23.3 µg/m<sup>3</sup> and NO<sub>x</sub> ranges from 8.0 µg/m<sup>3</sup> to 27.8 µg/m<sup>3</sup>. The results of the modelling study of stack emissions indicates that the maximum increase of GLC for the proposed project is 2.88 µg/m<sup>3</sup> with respect to the PM<sub>10</sub>, 13.79 µg/m<sup>3</sup> with respect to the SO<sub>2</sub> and 29.54 µg/m<sup>3</sup> with respect to the NO<sub>x</sub>. It has been reported that no R&R is involved.

It has been reported that an additional 2.1 million tonnes per annum of waste will be generated due to the expansion of the project, out of which nearly 90% will be re-used in various sub-units, such as FBC, sinter plant, road making, sale to cement plants, brick manufacturers and local parties nearly 10% will be dumped in the earmarked dump yard. An area of 72 ha has been

developed as green belt around the project site to attenuate the noise levels and trap the dust generated due to the project development activities.

Since it is an existing plant, it has been reported that the plant has valid Consent to Operate for present capacity from Maharashtra State Pollution Control Board.

The Public hearing of the project was held on 05.05.2016 for expansion to 1.0 million TPA of steel under the Chairmanship of Shri Dheeraj Kumar, District Magistrate, Bhandara. The issues raised during public hearing *inter alia* include demands regarding employment opportunity, training, skill development, education, provision of health care, water supply facility, pollution control measures, avenue plantation, etc.

It is estimated that the capital cost of the expansion project is Rs. 1510 Crores and the capital cost for environmental protection measures is Rs. 33.9 crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 10.6 crores.

The compliance of earlier environmental clearance was discussed by the Committee

Based on the presentation made and discussions held, the Committee recommended the project for environment clearance subject to stipulation of the following specific conditions and any other mitigative measures, as prescribed by the Ministry for environmental protection:

- i. The project proponent shall obtain NBWL clearance as the project is located near the Koka Wildlife Sanctuary.
- ii. The project proponent shall install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.
- iii. The canal passing through the project site should be fenced on both the sides, leaving a passage for maintenance related activities by the concerned department. No effluent should be discharged into the canal. No water from the canal should be abstracted without permission.
- iv. The natural drainage passing through the site should not be disturbed or diverted and no solid waste or liquid effluent should be discharged into the drain.
- v. A statement on carbon budgeting including the quantum of equivalent CO<sub>2</sub> being emitted by the existing plant operations, the amount of carbon sequestered annually by the existing green belt and the proposed green belt and the quantum of equivalent CO<sub>2</sub> that will be emitted due to the proposed expansion shall be prepared by the project proponent and submitted to the Ministry and the Regional Office of the Ministry. This shall be prepared every year by the project proponent. The first such budget shall be prepared within a period of 6 months and subsequently it should be prepared every year.
- vi. For the employees working in high temperature zones falling in the plant operation areas, the total shift duration would be 4 hrs or less per day where the temperature is more than 50°C. Moreover, the jobs of these employees will be alternated in such a way that no employee is subjected to working in high temperature area for more than 1 hr continuously. Such employees would be invariably provided with proper protective equipments, garments and gears such as head gear, clothing, gloves, eye protection etc.

- vii. Continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm<sup>3</sup> and installing energy efficient technology.
- viii. Efforts shall further be made to use maximum water from the rain water harvesting sources. Use of air cooled condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluent should be treated and used for ash handling, dust suppression and green belt development. A revised water balance statement should be submitted by the Project Proponent with the 6 monthly compliance report.
- ix. All the coal fines and char shall be utilized within the plant and no char shall be used for briquette making or disposed off anywhere else. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.
- x. All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.
- xi. The Standards issued by the Ministry vide G.S.R. No. 277(E) dated 31<sup>st</sup> March, 2012 regarding integrated iron and steel plant shall be followed.
- xii. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- xiii. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
- xiv. Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.
- xv. 'Zero' effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises. The calculations to this effect shall be submitted.
- xvi. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent.
- xvii. Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its

composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office, SPCB and CPCB.

- xviii. A time bound action plan shall be submitted to reduce solid waste generated due to the project related activities, its proper utilization and disposal.
- xix. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Chennai.
- xx. A Risk and Disaster Management Plan shall be prepared and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xxi. Green belt shall be developed in at least 33% of the project area by planting native and broad leaved species in consultation with local DFO and local communities as per the CPCB guidelines.
- xxii. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Panchayat and District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office.
- xxiii. The proponent shall prepare a detailed CSR Plan for every year for the next 5 years for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.
- xxiv. The Company shall submit within three months their policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process/procedure to bring into focus any infringement/deviation/ violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.

- xxv. The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.
- xxvi. The project proponent shall provide for LED lights in their offices and residential areas.
- xxvii. The project proponent shall install bio gas plant for kitchen waste utilization generated in their plant canteen and township (If any). The generated gas shall be utilised in their canteen and manure shall be used in their garden.
- xxviii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- xxix. Public health centre of the factory should be strengthened and also extend medical facilities to the villagers inhabiting surrounding areas. A report in this regard to be submitted along with the 6 monthly compliance report.

## **11.8 FURTHER CONSIDERATION**

### **11.8.1 Expansion of existing Sponge Iron plant to Sponge Iron based Integrated Steel Plant by M/s Sundaram Steel Pvt. Ltd., located at Village Balidih, District Bokaro, Jharkhand [J-11011/109/2016-IA.II(I)].**

The proposal was earlier considered during the 5<sup>th</sup> meeting of Expert Appraisal Committee(Industry-I) held on 30<sup>th</sup> – 31<sup>st</sup> March, 2016, when the Committee desired additional information on the following issues for further consideration of the proposal:

- i. Status of the forest land should be clarified and a certificate should be obtained from the state forest department.
- ii. The ToR point no 1,2,3,6,10,16 should be explained in detail additionally with respect to TOR 19, the project proponent will produce evidence of having an agreement with the authorised recycler (S) of hazardous waste.
- iii. Ambient Air Quality Monitoring for a period of one month should be conducted and the result so obtained should be compared with the existing data. The incremental increase calculations and modelling should be rechecked for the existing data and submitted.

The project proponent *vide* letter dated 20<sup>th</sup> September, 2016 submitted the response, which was considered by the Committee. Based on the presentation made and discussions held, the Committee desired additional information on the following for further consideration of the proposal:

- i. The status of the forest land has not been provided by the PP. Therefore, a clarification from the forest department is required.
- ii. The air pollution data collected by the PP shows pollution on the higher side, therefore the Committee suggested that a proposal has to be submitted by the PP providing detailed Environment Management Plan to reduce the existing pollution emission from the

existing unit in such a way that it will compensate the pollution level for the existing as well as the proposed unit.

- iii. From the consultant's side, a senior level consultant should be present during the meeting.

**11.8.2 Establishment of Industrial unit consisting of sponge iron (1000 TPD), MS Ingots/Billets (1000 TPD), structural TMT bar (1000 TPD) along with power generation (50 MW) by M/s Kapila Metals Pvt. Ltd. located at MIDC Area, Phase III, Jalna, District Jalna, Maharashtra [F. No. J-11011/144/2014-IA.II(I)].**

The proposal was earlier considered in the eighth (8<sup>th</sup>) meeting of the Expert Appraisal Committee(Industry-I) held on 27<sup>th</sup> –28<sup>th</sup> June, 2016, when the Committee after detailed deliberation advised the proponent and the consultant to revisit the EIA and EMP report for its correctness in terms of data analysis, predictions and the final conclusion. The proponent submitted the revised EIA and EMP report, however, the consultant has only presented the limited slides on layout plan, parking, green belt, internal circulation roads etc.

The Committee after detailed deliberation deferred consideration of the proposal on the ground that the information called have not been addressed. The Committee took a serious note on the casual approach of the Consultant. When it was decided in the earlier meeting to revisit the complete EIA and EMP report, then the Consultant should have made complete presentation before the Committee. The Committee provided the PP with a last chance to reassess the complete EIA and EMP report and present the case again before the EAC.

**11.8.3 Integrated Steel Plant (Sinter plant: 18,50,000 TPA, blast furnace: 10,05,000 TPA, DRI plant: 6,50,000, SMS:10,00,000 TPA, Rolling Mill:7,25,000 TPA, CPP:75 MW, Supporting utilities like RMH yard, Oxygen Plant, DM Plant, Lab, HVAC, Air compressor, DG sets, etc of M/s Jindal Saw Ltd., located near Village Pur, Tehsil and district Bhilwara, Rajasthan [J-11011/293/2014-IA II (I)].**

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.

**11.9 ANY OTHER ITEM**

**11.9.1 Technology up gradation (Soderberg process to prebake process) without change in augmented capacity of 65000 TPA under clause 7(ii) of EIA Notification, 2006 in the Aluminium Plant at Mettur Dam, Salem, Tamil Nadu by M/s Vedanta Ltd. [J-11011/481/2006-IA.II(I)]**

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.

**11.10 CASE FOR TERMS OF REFERENCE (TOR)**

**11.10.1 Proposed installation of 10 Nos Coal Gasifier Plant (Fuel Replacement for Operational Pellet Plant) and Expansion & modernization of existing 0.7 MTPA Iron Ore Grinding Unit to 1.0 MTPA Iron Ore Grinding & Beneficiation Plant at**

**Phase – I of Siltara Industrial Growth Center, Village Mandhar, Tehsil & District Raipur, Chhattisgarh” of M/s. Sarda Energy & Minerals Limited. [J-11011/999/2007-IA-II (I)] & J-11011/221/2016-IA.II(I).**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 3(a), under category ‘A’ of the Schedule of EIA Notification, 2006 and appraised at the Central level.

It was noted by the Committee that the proposal was earlier considered by the Expert Appraisal Committee (EAC) for Industry-I during its 9<sup>th</sup> meeting held on 27<sup>th</sup> to 29<sup>th</sup> July, 2016. The proposal was for regularization of existing 6,00,000 TPA Iron Ore Pelletization Plant and expansion by adding 10 Nos Coal Gasifier Plant (Fuel Replacement for Pellet Plant) – 27,46 Nm<sup>3</sup>/Hr. and Expansion of Iron Ore Grinding Unit to Iron Ore Grinding & Beneficiation Plant – 10,00,000 TPA. However, the Committee in the 9<sup>th</sup> meeting decided that as per NGT order, the court has directed the existing pelletization units to apply for regularization of their units and proposal submitted by the PP is for regularization of the existing pellet plant as well as for expansion. The Committee advised the PP that a separate application should be made for expansion proposal and the Committee only recommended the proposal for regularization of existing 6,00,000 TPA Iron Ore Pelletization Plant.

Now the PP has proposed for installation of 10 numbers Coal Gasifier to produce 27,046 Nm<sup>3</sup>/Hr of producer gas (Fuel replacement for pellet plant) and expansion of 7,00,000 TPA Iron Ore Grinding to 10,00,000 TPA Iron Ore Grinding & Beneficiation Plant. The existing and expansion project is located on 24.024 ha land, out of the total 204.452 ha which is in industrial area. No forestland involved. It has been reported that no water body exist around the project. The topography of the area is flat and fall between 21<sup>o</sup>20’42.57” N to 21<sup>o</sup>20’36.22” N Latitude and 81<sup>o</sup>41’10.57” E to 81<sup>o</sup>41’48.24” E Longitude in Survey of India topo sheet No. 64 G/11, at an elevation of 282m MSL. The pre-monsoon ground water level in the district varies from 1.69 to 13.97 meters below ground level with an average value around 5 to 8 meters below ground level and the post-monsoon water level varies from 0.87 to 7.05 meters below ground level with an average around 2 to 5 meters below ground level. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located within the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.

The water requirement of the proposed project is estimated at 1367 m<sup>3</sup>/day which will be obtained from Kharoon River (2 MGD + 1.25 MGD water has been allocated by Water Resources Dept, GoCG). The power requirement of the project is estimated as 6448 KW, which will be obtained from the CSPDCL & Captive Source.

After detailed deliberation the Committee decided that the EIA/EMP report earlier submitted by the PP for the existing as well as the expansion proposal is accepted for the present proposal. Therefore no fresh EIA and EMP report needs to be prepared for the project. However, as per Ministry’s OM dated 4<sup>th</sup> April, 2016, the PP has to conduct fresh public hearing for the expansion project. The PP shall submit the existing EIA and EMP report to the Chhattisgarh Environment Conservation Board for conduct of public hearing. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan

to implement the commitment and financial allocation thereto should be worked out and appended to the EIA and EMP report and submitted to the Ministry for consideration.

**11.10.2 Expansion of Iron Ore Beneficiation plant from the existing capacity of 10.7 MTPA (throughput) to 16.0 MTPA (throughput), Relocation of tailing Dam at Malda, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam & Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani- Sagasahi Iron Ore Block by M/s Essar Steel India Ltd. at Dabuna, Tehsil Barbil, District Kendujhar Odisha. [ J-11015/876/2007-IA.II (M)] & J-11011/222/2016].**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 3(a), under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s Essar Steel India Ltd. proposes to expand the existing capacity of Beneficiation Plant from 10.7MTPA (throughput) to 16MTPA (throughput) at Village- Dabuna, Keonjhar, Odisha & establishment of supporting infrastructure of Truck Unloading Station, Relocation of tailing Dam at Malda, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam & Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani- Sagasahi Iron Ore Block. The existing Beneficiation Plant of 10.7 MTPA (throughput) capacity is situated over an area of 34.40Ha. Additional land of 164.467Ha at Dhanurjaypur, Malda & Kaliapal has been identified for establishing Tailing Dam. Out of 164.467Ha of total land at Dhanurjaypur, Malda & Kaliapal an area of 159.248Ha is forest land, for which, FDP has been submitted and is now with DFO, Keonjhar for further consideration. The Truck Unloading Station of 3000 TPH will be set up over an adjacent area (1.92 Ha) to the Beneficiation Plant, Dabuna.

Sl. No.	Description	As per EC Obtained	Present Status	Proposed Expansion
1	Beneficiation Plant (throughput Capacity)	10.7 MTPA; (Tailings max. 2.7 MTPA)	Installed	16 MTPA; (Tailings max. 4.0 MTPA)
2	Location of Tailing Pond	Basantpur (Keonjhar)	Land could not be acquired.	Malda (Keonjhar)



3	Water & Slurry Pipelines from Dabuna Beneficiation Plant to Ghoraburhani- Sagasahi Iron Ore Block (captive) , Koira, Distt. Sundargarh allotted to Essar Steel India Ltd. during March, 2016.	NA	NA	Water & Slurry Pipelines from Ghoraburhani- Sagasahi Iron Ore Block to Beneficiation plant
4	Tailing & Return Water Pipelines from Beneficiation Plant to Tailing Pond	Pipeline from Beneficiation plant to Basantpur (Keonjhar) - 9 Kms .	Not Installed	Tailing & Return Water Pipelines from Beneficiation plant to Malda (Keonjhar)
5	Truck Unloading Station	--	--	3000 TPH
6	Total land involved	79 acres - Plant Area ( 31.9713 Ha)	Acquired	85 (79+6) + 4.75 = 89.75 Acres (36.32Ha)
		215 acres - Tailing Dam (87.0105 Ha)	Not Acquired	406.408 Acre (164.467 Ha)

The proposed Project cost is Rs.357.62 Crores. The proposed direct and indirect employment due to the expansion project will be 450.

The electrical power requirement of 29.5 MW will be sourced from Odisha Power Transmission Corporation Ltd. Proposed raw material requirement is 16 MTPA of Iron ore fines, which will be sourced from various iron ore mines in the vicinity as well as from the captive block called “Ghoraburhani – Sagasahi Iron Ore Block” of Essar Steel India limited. Water consumption will be 28800 KLD. It will be sourced from Baitarani River.

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

- i. Revised form-1 for the 4 components of Beneficiation Plant, Tailing Pond, Water & Slurry Pipelines from Dabuna Beneficiation Plant to Ghoraburhani- Sagasahi Iron Ore Block (captive), Tailing & Return Water Pipelines from Beneficiation Plant to Tailing Pond
- ii. Explore the alternate sites for both the tailing pond and slurry pipelines to avoid deforestation. Minimum 3 sites, along with the site selection criteria should be submitted along with three dimensional views.

- iii. Letter from the PWD/concerned department should be submitted for handover of ROW for laying of the pipeline from Dabuna Beneficiation Plant to Ghoraburhani- Sagasahi Iron Ore Block (captive) and from Beneficiation Plant to Tailing Pond.

**11.10.3 Production Capacity Enhancement of Writing and Printing Grades of Paper (140 TPD to 170 TPD) and installation of Co-generation Power Plant (10 MW) of M/s Naini Group of Industries at 7th K.M. Stone, Moradabad Road, Kashipur, District Udham Singh Nagar, Uttarakhand – Reg submission of Application under Section 7(ii) of EIA Notification, 2006 for exemption of PH. [J-11011/58/2013-IA-II(I)].**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 5(i), under category ‘A’ of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s. Naini Tissues Ltd. is proposing an enhancement in the paper production capacity from 140 TPD to 170 TPD and installation of 10MW Co-generation Power Plant (Biomass Based), within the existing plant premises. The proposed enhancement will be done by efficiency improvement in the existing plant machineries and after installation of the 10MW co-gen power plant, the plant would get continuous supply of electricity which will automatically increase the production capacity.

The unit is located at 7th K.M. Stone, Moradabad Road, Tehsil: Kashipur, District: Udham Singh Nagar, Uttarakhand. The total plant area is 51.7 acres (20.92ha), no additional land is required for the proposed expansion; out of the total plant area 17.06 acres (6.9 ha) have already been used for greenbelt development. The total project cost is Rs. 60 Crore. Proposed employment generation from the proposed enhancement project is 20 persons (direct & indirect).

<b>S.</b>	<b>Particulars</b>	<b>Existing Capacity</b>	<b>Proposed Additional Capacity</b>	<b>Total Capacity after Enhancement</b>
1.	Writing & Printing Grades of Paper	140 TPD	30 TPD	170 TPD
2.	Pulp Production	117.63 TPD	20.87 TPD	138.5 TPD
3.	Co-gen Power Plant (Biomass based)	Nil	10 MW (Boiler of capacity 60Ton)	10 MW
4.	Chemical Recovery Unit**	2*110 TPD	1*110 TPD (By installation of FBR type CRP)	330TPD
5.	ETP Capacity	10 MLD	NIL	10 MLD
** The existing (2 Units) & proposed (1 Unit) of CRP are installed in the plant premises of Naini Papers Ltd. which will be used to recover Soda Ash from both the units i.e. Naini Tissues Ltd. & Naini Papers Ltd.				

The existing power requirement is 127400 KVA; however, for the proposed enhancement 25600 KVA additional power will be required. Thus, the total power requirement is 153000 KVA which will be sourced from UPCL & Co-gen Power Plant. D.G. Sets of 3x625 KVA and 2 x 750 KVA will be used for emergency purpose.

Following are the existing & proposed raw materials requirement for the proposed enhancement project:

S. No.	Particulars	Units	Existing Production (140 TPD)	Additional Production (30 TPD)	Total Production (170 TPD)	Source	Mode of transport	Storage facility
(A)	Raw material consumption							
i.	Bagasse & Wheat Straw	MT	254	25	279	Supplier	By Road	Open Yard
ii.	Imp. Wood pulp	MT	4.7	5.0	9.7	Import	By Sea /Road	Shed
(B)	Chemical Consumption							
i.	Caustic Soda	MT	36.6	0.92	37.52	Vendor	By Road	Tanks
ii.	Oxygen Gas	MT	3.0	0.4	3.4	Self generation	-	Vessel
iii.	Hydrogen Peroxide	MT	0.903	0.127	1.03	Vendor	By Road	Tank
iii.	Lime	MT	0.846	0.137	0.983	Vendor	By Road	Godown
iv.	AKD	MT	1.54	0.33	1.87	Vendor	By Road	Tank
v.	Soap Stone	MT	20	9.0	29	Vendor	By Road	Godown
(C)	Other Chemicals Required							
i.	OBA	MT	0.21	0.045	0.255	Vendor	By Road	Godown
ii.	Starch	MT	0.70	0.15	0.85	Vendor	By Road	Godown
iii.	DSR	MT	0.49	0.11	0.60	Vendor	By Road	Godown
iv.	PAC	MT	0.49	0.11	0.60	Vendor	By Road	Tank
v.	U.F. Rosin	MT	0.42	0.09	0.51	Vendor	By Road	Godown

The existing water requirement for the plant is 7595 KLD; the proposed enhancement will only be done by efficiency improvement, hence, no additional water will be required. The domestic wastewater is being/ will be treated in septic tank & soak pit system. The wastewater generated from the process is being/will be treated in ETP. The water from the ETP is being/will be treated

as per the standards of UEPPCB and charter, 2015. Approx. 40-50% of treated water will be recycled in the process itself and the remaining will be discharged in the drain. Black liquor that is generated due to pulping process is being/will be sent to Chemical Recovery Plant for the recovery of soda ash.

PP requested the EAC to exempt the Public Hearing for the project considering the same under section 7(ii) of the EIA Notification, 2006 as the capacity enhancement is  $\leq$  25% and also, the Public Hearing for the existing project has been conducted on 10<sup>th</sup> July, 2014. Also, the PP requested for permission for collection of only one month (October, 2016) baseline data.

After detailed deliberations, the Committee recommended the issue of TOR and prescribed following specific TORs, in addition to the standard TOR, for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2:**

- i. Public Hearing to be conducted by the Uttarakhand Pollution Control Board.
- ii. One month data collection for preparation of EIA and EMP report. However, the data so collected should be compared with the earlier data collected (not older than 3 years) and presented in the EIA and EMP report.
- iii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- iv. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.I dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.

**11.10.4 Greenfield integrated Clinker / cement manufacturing unit and captive power plant including waste heat recovery plant and Power generation thorough WHRB and a township of M/s Jaykaycem (central)Ltd. at Village Devra, Hardua, Puraina, Sotipura & Madaiyan, tehsil- Amanganj (old Pawai), Dist. Panna, Madhya Pradesh. [J-11011/224/2016-IA-II (I.)**

The proposal was considered by the Expert Appraisal Committee to determine Terms of Reference (TORs) for undertaking detailed EIA and EMP study for the purpose of obtaining Environment Clearance in accordance with the provisions of EIA Notification, 2006, as amended. For this purpose, the project proponent submitted information in prescribed format (Form-I) along with the pre-feasibility report. The proposed project activity is listed at S.No. 3(b), under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

Jaykaycem (Central) Limited (JKCCL) has proposed to set up a Greenfield integrated Cement Project of capacity 5.28 MTPA clinker and 6 MTPA Cement plant along with 80 MW Captive Power Plant and 30 MW Waste Heat Recovery System in two phases in villages Hardua Ken, Puraina, Sotipura, Madaiyan, Taluka: Amanganj, Dist: Panna, M. P., bordered by latitude 24<sup>0</sup>19'10.76"- 24<sup>0</sup>19'56.39" N and longitude 79<sup>0</sup>57'32.81" - 79<sup>0</sup>58'51.05" E. The plant is based on dry process technology. The project is adjacent to captive lime stone mine / deposit granted under mining lease by Government of Madhya Pradesh. The northern boundary of proposed site of the plant adjoins the southern boundary of granted Limestone mining lease. Total land requirement is

199.84 ha for the proposed plant and colony. The proposed capacities of Clinker, Cement, CPP and WHRS envisaged in each phase are shown in the table below:-

Sr. No.	Details of items/products	Phase-I	Phase-II	Total
1.	Clinker (MTPA)	2.64	2.64	5.28MTPA
2.	Cement (MTPA)	3	3	6 MTPA
3.	<b>Captive Power</b>			
3-A.	Thermal Power plant (MW)	40	40	80 MW
3-B.	Waste Heat Recovery Plant (MW)	15	15	30 MW WHR Plant

Power requirement will be met by captive 80 MW coal based power plant, 30 MW Waste heat recovery power plant. Standby arrangement of DG Set of 500 KVA is proposed. Raw Material Limestone shall be sourced through captive adjacent lime stone mine of 1594.34 ha which is granted by the state Govt. Bauxite and Iron ore, shall be sourced from various locations in Satna, Katni and Jabalpur districts, while Gypsum will be obtained from Bikaner in Rajasthan state. Flyash will be purchased partly from thermal power plants of Birsingpur & Anuppur and partly sourced from captive CPP. Coal will be taken from Linkage – SECL Sohagpur. The Pet Coke will be procured from Bina Refinery and RII Jamnagar respectively.

The water requirement for first phase of Cement Plant, CPP, Colony will be about 2875 KLD for phase-I and around 5826 KLD of water for both the phases including residential colony. In the operational phase, the water requirement shall be met through Ken River as well as from ground water exploitation. At later stage the rain water accumulated in working pit in the mining area will also be utilized. Proper statutory permission will be obtained from WRD, & CGWA.

Total project cost is approximately in Phase I is Rs. 2774.34 crore & in Phase II is Rs. 2812.61 crore. About 820 nos. of employees are proposed to be employed in both phases of implementation and operation. In Implementation phases 90 nos and in operation phases 730 nos will be appointed in Cement Plant & CPP.

The proponent mentioned that the captive mine is located adjacent to the cement plant site and requested for preparation of combined EIA and EMP report and public consultation for cement plant and mining component. The Committee agreed to the request provided the mining sector also agrees for this.

After detailed deliberations, the Committee recommended the issue of TOR and prescribed following specific TORs, in addition to the standard TOR, for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2:**

- i. Public Hearing to be conducted by the Madhya Pradesh Pollution Control Board.
- ii. Combined EIA/EMP report can be prepared for cement and the mining component and combined PH can be conducted, however, proposal for environmental clearance will be appraised separately by the Ministry
- iii. A certificate should be obtained from the concerned state/central agency whether the site falls in the Tiger Corridor.

- iv. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- v. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.I dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.
- vi. Regarding purchase of land, requisite documents according to the OM dated 07.10.2013 should be submitted to the Ministry as under:
  - i. In case the land w.r.t. the project site is proposed to be acquired through Government intervention, a copy of preliminary notification issued by the concerned State Government regarding acquisition of land as per the provisions of Land Acquisition, Rehabilitation and Resettlement, Act 2013
  - ii. In case the land is being acquired through private negotiations with the land owners, credible document showing the intent of the land, owners to sell the land for the proposed project.

**Next meeting 27-28 October, 2016.**

## 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

**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. Process description along with major equipments and machineries, process flow sheet (Quantative) from raw material to products to be provided
  - ix. Hazard identification and details of proposed safety systems.
  - x. Expansion/modernization proposals:
    - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30<sup>th</sup> May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB shall be attached with the EIA-EMP report.
    - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. Site Details
  - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
  - ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
  - iii. Co-ordinates (lat-long) of all four corners of the site.



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

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

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

6. **Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations

- shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
  - iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
  - v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
  - vi. Ground water monitoring at minimum at 8 locations shall be included.
  - vii. Noise levels monitoring at 8 locations within the study area.
  - viii. Soil Characteristic as per CPCB guidelines.
  - ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
  - x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
  - xi. Socio-economic status of the study area.

## 7. Impact Assessment and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be

included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.

- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

## 8. Occupational health

- i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed 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. Enterprise Social Commitment (ESC)
  - i. Adequate funds (Atleast 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.
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 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 vide O.M. No. J-11013/41/2006-IA.II (I) dated 4<sup>th</sup> August, 2009, which are available on the website of this Ministry shall also be followed.
- viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.
- ix. TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA

Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and 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.

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**ADDITIONAL TORS FOR INTEGRATED STEEL PLANT**

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

**ADDITIONAL TORS FOR PELLET PLANT**

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

**ADDITIONAL TORs FOR CEMENT INDUSTRY**

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



**ADDITIONAL TORs FOR PULP AND PAPER INDUSTRY**

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

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**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 sulfides, 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.

**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.

**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.

**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.

**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 aluminum, 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

**Air Pollution**

Plant /Unit	Pollutants	Qty generated	Method used to Control/ and specifications/attach Separate Sheet to furnish Details	Number of units planned & Capacity	Budget	Estimated Post Control Qty of Pollutant	
						Per Unit	Per Day

**LIST OF PARTICIPANTS OF EAC (I) IN 11<sup>th</sup> MEETING OF EAC (INDUSTRY-I)**  
**HELD ON 26<sup>th</sup> – 27<sup>th</sup> September, 2016**

S.No	Name and Address	Position	Attendance		Signature
			26 <sup>th</sup> Sept, 2016	27 <sup>th</sup> Sept, 2016	
1	Dr.Chhavi Nath Pandey, IFS(Retired)	Chairman	P	P	
Members					
2.	Director, Central Pulp and Paper Research Institute	Member	A	P	
3.	Director, Central Leather Research Institute	Member	A	A	
4.	Representative of Indian Meteorological Department	Member	P	A	
5.	Representative of Central Ground Water Board	Member	A	A	
6.	Dr. G. Bhaskar Raju	Member	P	P	
7.	Prof. Naresh Chandra Pant	Member	A	A	
8.	Dr. Jagdish Kishwan, IFS(Retired)	Member	P	P	
9.	Dr.G.V.Subrahmanyam	Member	P	P	
10.	Prof. Arun Pandey	Member	A	A	
11.	Shri Santosh Raghunath Gondhalekar	Member	A	A	
12.	Shri Ashok Upadhyay	Member	P	P	
13.	Shri Vijay Prakash Saha	Member	P	P	
14.	Dr.Satish C.Garkoti, Scientist'F', MoEFCC	Member Secretary	P	P	
15.	Shri Amardeep Raju, Scientist 'D', MoEFCC	MoEFCC	P	P	

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