

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

SUMMARY RECORD OF THE SEVENTH (7th) MEETING OF EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF INDUSTRY-I SECTOR PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.

The seventh 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 30th May to 1st June, 2016 in the Ministry of Environment, Forest and Climate Change. Dr. Jagdish Kishwan, IFS (Retired), Member of EAC has expressed his inability to attend the meeting due to prior engagements. Dr. G.V. Subrahmanyam, Member of EAC has sought permission from Chair for not attending the meeting on 1st June, 2016 due to prior commitment, which was agreed to. The list of participants is annexed.

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

7.2 Confirmation of the minutes of the 6th Meeting

The minutes of the 6th meeting, as circulated were confirmed.

7.3 ENVIRONMENTAL CLEARANCE (EC)

7.3.1 Expansion of Integrated Cement Plant [Clinker (2 x 1.5 to 2 x 2.6 Million TPA), Cement (2 x 2.6 to 2 x 3.0 Million TPA), Waste Heat Recovery Power Plant (15 to 30 MW), Captive Thermal Power Plant (25 MW) along with Synthetic Gypsum Unit (65 TPH) and DG Sets (2000 KVA (size 1000/500/250/125)], located near Village Khapradih, Tehsil Simga, District Balodabazar - Bhatapara (Chhattisgarh) by M/s. Shree Cement Ltd. [J-11011/235/2008-IA.II(I)]

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s J.M. EnviroNet Pvt. Ltd.) gave a detailed presentation on the salient features of the project. The application for proposed expansion of integrated cement plant was initially received in the Ministry on 16th February, 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 meeting held on 27th March, 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 26th May, 2015. Based on the TORs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 7th May, 2016.

The proposal is for expansion of integrated cement plant [Clinker (2 x 1.5 to 2 x 2.6 Million TPA), Cement (2 x 2.6 to 2 x 3.0 Million TPA), Waste Heat Recovery Power Plant (15 to 30 MW), Captive Thermal Power Plant (50 to 25 MW) along with Synthetic Gypsum Unit (65 TPH) and DG Sets (2000 KVA (4 x 250 KVA, 1 x 1000 KVA or 2 x 250, 1 x 500 KVA, 1 X 1000 KVA)]. The project is located near Village Khapradih, Tehsil Simga, District Balodabazar-

Bhatapara, Chhattisgarh. The total plant area is 159.256 ha. Since, the proposed expansion will be done within the existing plant premises by internal modification; no additional land is therefore required for expansion. No forest land is involved. No River passes through the project area. The topography of the area is flat and reported to lie between 21° 35' 41.84" N to 21° 36' 29.06" N Latitude and 82° 02' 14.24" E to 82° 03' 06.17" E Longitude in Survey of India toposheet no. 64 G/14 and 64 K/2, at an elevation of 241 m to 319 m. The ground water table reported to range between 3.9 to 16 m during pre-monsoon period and 2.31 to 8.7 m during post monsoon period. Based on the Hydrogeological study, it has been reported that the radius of influence of the pumped out water will be 120m. Further the stage of ground water development is reported to be 86% and 30% in core and buffer zone respectively and thereby these are designated as safe.

S. No	Units	Existing Capacity	Total Capacity After Expansion
1	Clinker (MTPA)	2 x 1.5	2 x 2.6*
2	Cement (MTPA)	2 x 2.6	2 x 3.0
3	Captive Thermal Power Plant (MW)	50	25
4	Synthetic Gypsum (TPH)	Nil	65
5	Waste Heat Recovery Power Generation (MW)	15	30
6	D.G. Set (KVA)	Nil	2000 KVA [(4 x 250) + (1 x 1000) or (2 x 250) + (1 x 500) + (1 x 1000)]
<i>Clinker will also be sent to the sister grinding units, market sale and will also receive from outside, if clinker unit is not in operation</i>			

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- 1 Fauna. The Dhabadih Reserved Forest is reported to be located in the buffer zone at a distance of 4.0 km in ENE direction from the project site. No Schedule-I faunal species was recorded in the study area. No R&R is involved.

Limestone, gypsum, bauxite, iron ore and fly ash are the raw materials required for the cement plant. Indian and imported coal & pet coke will be used as fuel for cement plant and power generation. The targeted production capacity of the Clinker is 2 x 2.6 Million TPA, Cement is 2 x 3.0 Million TPA, Captive Power Plant is 25 MW, WHRB is 30 MW and Synthetic Gypsum Unit is 65 TPH. The raw materials required for the proposed expansion project are Limestone (8.32 MTPA), Iron ore/ Laterite (0.234 MTPA), Indian, Imported Synthetic and Chemical Gypsum(0.42 MTPA), Fly Ash (1.80 to 2.10 MTPA) and Slag (2.4 - 3.0 MTPA). The Limestone will be transported through covered conveyor belt and rest of the raw materials, fuel, clinker and cement will be transported through Road and Rail.

S. No.	Particulars	Details
	Raw Material Requirement	
	Raw Material	Total requirement after proposed expansion (MTPA)

1.	Limestone (Clinker Units and CPP)	8.32
2.	Iron ore / Laterite	0.234
3.	Indian, Imported, synthetic and chemical Gypsum	0.420
4.	Fly Ash	1.80 - 2.10
5.	Slag	2.4 - 3.0

The water requirement of the project is estimated as 3000 KLD including cement plant, CPP, WHRS, Synthetic Gypsum Plant, Colony and Mines which will be sourced from Ground Water. The power requirement of the project is estimated as 62 MW, which will be sourced from Captive Thermal Power Plant, Waste Heat Recovery Power Plant, Grid. DG Sets will be used for power backup.

Ambient air quality monitoring has been carried out at 12 stations during Summer Season (March to May, 2015) and the data submitted indicated that PM10 ranges from 54 $\mu\text{g}/\text{m}^3$ to 81.0 $\mu\text{g}/\text{m}^3$, PM2.5 from 25.2 $\mu\text{g}/\text{m}^3$ to 41.1 $\mu\text{g}/\text{m}^3$, SO2 (5.3 to 10.3 $\mu\text{g}/\text{m}^3$) and NOx (14.3 to 28.1 $\mu\text{g}/\text{m}^3$). The results of the modeling study indicates that the maximum increase of GLC for the proposed expansion project is 1.8 $\mu\text{g}/\text{m}^3$ with respect to the PM10, 2.2 $\mu\text{g}/\text{m}^3$ with respect to the SO2 and 3.4 $\mu\text{g}/\text{m}^3$ with respect to the NOx.

No solid waste will be generated from the cement manufacturing process. Dust collected from air pollution control equipments will be totally recycled back to the process. Fly ash generated from CPP will be utilized in manufacturing of cement. Solid waste in the form of sludge will be generated from the sewage treatment plant and same will be used as manure for greenbelt development/ plantation. Solid waste generated from colony will be disposed after segregating the waste into biodegradable and non-biodegradable. Out of the total plant area i.e. 159.256 ha, 52.55 ha (~ 33% of the total plant area) has been proposed to be developed under green belt.

The Public hearing of the project was held on 22nd January, 2016 for Proposed Expansion of Integrated Cement Plant under the Chairmanship of Shri. M. Kalyani, Upper Collector, District - Balodabazar - Bhatapara. The issues raised during public hearing was related to employment, Water, environment, education, Plantation, Entrepreneur Social Commitment (ESC), Land etc. The capital cost of the proposed Expansion project is Rs. 1025.24 Crores and the capital cost for environmental protection measures is proposed as Rs. 51 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 1 Crores/ annum. The proponent has mentioned that there is no court case to the project or related activity.

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 should install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.

- ii. 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, SO₂ and NO_x shall be followed.
- iii. Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet prescribed standards by installing adequate air pollution control viz Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO_x burners shall be provided to control NO_x emissions. Regular calibration of the instruments must be ensured.
- 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. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- vi. AAQ Modelling shall be carried out based on the specific mitigative measures taken in the existing project and proposed for the expansion project to keep the emissions well below prescribed standards.
- vii. Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed.
- viii. A statement on carbon budgeting including the quantum of equivalent CO₂ 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 CO₂ 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.
- ix. 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. There should also be an arrangement for sufficient drinking water at site to prevent dehydration etc
- x. Arsenic and Mercury shall be monitored in emissions, ambient air and water.
- xi. The coal yard shall be lined and covered.

- xii. The project proponent shall prepare a report on impact of project on surrounding reserve forests within six months and will get it approved from the State Forest Department. A copy of the same should be submitted to the Ministry and its Regional Office.
- xiii. The project proponent shall take all precautionary measures for conservation and protection of wild fauna found in the study area. A Wildlife Conservation Plan specific to this project site shall be prepared in consultation with the State Forest and Wildlife Department. A copy of the Conservation plan shall be submitted to the Ministry and its Regional Office.
- xiv. The project proponent will also provide the latest status of the environmental compliances in respect of its existing plant.
- xv. 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 the use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.
- xvi. 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.
- xvii. 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.
- xviii. 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 Environment (Protection) Act, 1986.
- xix. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / re-processors only.
- xx. The kiln shall be provided with a flexible fuel feeding system to enable use of hazardous wastes and other wastes including biomass, etc.
- xxi. The proponent shall examine and prepare a plan for utilisation of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc as alternate fuels based on availability and composition. For this, the proponent shall identify suitable industries with such wastes and enter into an MOU for long-term utilisation of such wastes as per the Environment (Protection) Rules, 1986 and with necessary approvals.

- xxii. Efforts shall be made to use the high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly. The PP shall enter into an MOU with units with potential for generating hazardous waste and in accordance with Hazardous Waste Regulations and prior approval of the MPPCB.
- xxiii. Green belt over 33% of the total project area shall be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of the project area and along road sides etc. by planting native and broad leaved species in consultation with local DFO, local community and as per the CPCB guidelines.
- xxiv. 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.
- xxv. The project proponent shall provide for LED lights in their offices and residential areas.
- xxvi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.
- xxvii. At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, 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.
- xxviii. In addition to the above provision of ESC, the proponent shall prepare a detailed CSR Plan for the next 5 years including annual physical and financial targets for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Skill Development and infrastructure 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.
- xxix. A Risk Assessment Study and Disaster Preparedness and Management Plan along with the mitigation measures shall be prepared with a focus of Disaster Prevention and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xxx. To educate the workers, all the work places where dust may cause a hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.

- xxxi. 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.

7.3.2 Expansion of Steel Manufacturing Unit (from 29000 MTA to 84,000 MTA) by M/s Jyoti Industries (Unit-II) at B-57A, Phase-VII, Focal Point, Ludhiana, Punjab [F. No. J-11011/408/2012-IA.II(I)]

The Committee decided to defer the proposal due to the absence of any technical person at senior level who could satisfactorily reply to technical queries by the committee.

7.4 FURTHER CONSIDERATION

7.4.1 Greenfield Integrated Cement Project Consisting of Clinker (2.4 MTPA), Cement (4 MTPA), Captive Power Plant (25MW) and Waste Heat Recovery Power Generation (15 MW) of M/s Shree Cement Limited, located near village Pedagarlapedu, Mandal Dachepalli, District Guntur, Andhra Pradesh (EC) - [F. No. J-11011/165/2014-IA-II (I)].

The proposal was earlier considered by the Expert Appraisal Committee (Industry) during its 5th meeting held on 30th – 31st March, 2016 and desired that the project proponent should provide the documents relating to acquisition of the land for further consideration of the project.

The proponent vide letter dated SCL/Andra/EC/2016-17 dated 13th April, 2016 submitted the documents related to purchase of the land, however, the Committee noted that part of land is still to be acquired. It is also noted that consent of all the landowners, as per the OM No 22-76/2014-IA-III dated 7th October, 2014 are not available with the proponent. Therefore the Committee decided that the matter will be further considered as and when the consent letters from all the landowners are submitted to the Ministry.

7.4.2 Proposed Expansion of Clinkerization Capacity from 1.98 MTPA to 3.2 MTPA of Cement Plant of M/s Emami Cement Limited at Villages – Risda & Dhandhani, Tehsil-Baloda Bazar, District Baloda Bazar- Bhatapara, Chhattisgarh (EC) -[F. No. J-11011/309/2013-IA-II (I)].

The above proposal was considered by the Expert Appraisal Committee (Industry) during its 5th meeting held on 30th – 31st March, 2016 for grant of Environmental Clearance. Based on the presentation made and discussions held, the Committee desired additional information on the following for further consideration of the proposal:

- i. The project proponent should undertake a study to assess the impact of particulate matter on the reserve forest in the study area and submit a report to the Ministry and Regional Office.
- ii. A test on trace element content in the fly ash should be conducted through a recognized laboratory and submitted.
- iii. Details (quantitative) of air pollution control equipments should be provided.
- iv. A note on handling of NO_x and SO₂ should be provided.

- v. Water balance calculations should be revised and submitted.
- vi. Details regarding utilization of hazardous waste in the kiln should be submitted.
- vii. A compliance report from the Regional Office of the Ministry for the existing EC conditions should be submitted.
- viii. Details regarding ToR No. 49, 50 and 58 should be revised and submitted.

The project proponent vide letter No. BB/EC/MoEF/F01/029 dated 30th April, 2016 submitted the requisite information.

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 should install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.
- ii. 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, SO₂ and NO_x shall be followed.
- iii. All utilization of hazardous waste in the cement/clinker kiln for the purpose of burning be subject to permission from CPCB.
- iv. The details of item wise and year wise implementation of ESC activities as described in the EIA shall be implemented by the project proponent and report submitted to the Ministry's regional office along with 6 monthly compliance report.
- v. The details regarding trace elements of fly ash should be conducted and submitted periodically by the project proponent.
- vi. Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet prescribed standards by installing adequate air pollution control viz Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO_x burners shall be provided to control NO_x emissions. Regular calibration of the instruments must be ensured.
- vii. 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.
- viii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- ix. AAQ Modelling shall be carried out based on the specific mitigative measures taken in the existing project and proposed for the expansion project to keep the emissions well below prescribed standards.

- x. Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed.
- xi. A statement on carbon budgeting including the quantum of equivalent CO₂ 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 CO₂ 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.
- xii. 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. There should also be an arrangement for sufficient drinking water at site to prevent dehydration etc
- xiii. Arsenic and Mercury shall be monitored in emissions, ambient air and water.
- xiv. The coal yard shall be lined and covered.
- xv. The project proponent shall prepare a report on impact of project on surrounding reserve forests within six months and will get it approved from the State Forest Department. A copy of the same should be submitted to the Ministry and its Regional Office.
- xvi. The project proponent shall take all precautionary measures for conservation and protection of wild fauna spotted in the study area. A Wildlife Conservation Plan specific to this project site shall be prepared in consultation with the State Forest and Wildlife Department. A copy of the Conservation plan shall be submitted to the Ministry and its Regional Office.
- xvii. The project proponent will also provide the latest status of the environmental compliances in respect of its existing plant.
- xviii. 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 the use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.
- xix. 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.

- xx. 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.
- xxi. 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 Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office, SPCB and CPCB.
- xxii. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / re-processors only.
- xxiii. The kiln shall be provided with a flexible fuel feeding system to enable use of hazardous wastes and other wastes including biomass, etc.
- xxiv. The proponent shall examine and prepare a plan for utilisation of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc as alternate fuels based on availability and composition. For this, the proponent shall identify suitable industries with such wastes and enter into an MOU for long-term utilisation of such wastes as per the Environment (Protection) Rules, 1986 and with necessary approvals.
- xxv. Efforts shall be made to use the high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly. The PP shall enter into an MOU with units with potential for generating hazardous waste and in accordance with Hazardous Waste Regulations and prior approval of the MPPCB.
- xxvi. Green belt over 33% of the total project area shall be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of the project area and along road sides etc. by planting native and broad leaved species in consultation with local DFO, local community and as per the CPCB guidelines.
- xxvii. 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.
- xxviii. The project proponent shall provide for LED lights in their offices and residential areas.
- xxix. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.
- xxx. At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, 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.

- xxxi. In addition to the above provision of ESC, the proponent shall prepare a detailed CSR Plan for the next 5 years including annual physical and financial targets for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Skill Development and infrastructure 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.
- xxxii. A Risk Assessment Study and Disaster Preparedness and Management Plan along with the mitigation measures shall be prepared with a focus of Disaster Prevention and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xxxiii. To educate the workers, all the work places where dust may cause a hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.
- xxxiv. 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.

7.5 ANY OTHER ITEM

7.5.1 **Expansion of Integrated Steel Plant, Coal Washery (1.5 MTPA) and Captive Power Plant (200 MW) at Rengeli, Sambalpur Forest Division, Sambalpur, Odisha by M/s Shyam DRI Power Ltd – Extension of validity of EC [J-11011/495/2006-IA.II(I)]**

The Environmental Clearance for the project was granted on 10th December, 2008 by the Ministry. The proponent made an application for extension of validity of environmental clearance on 7th April, 2016, i.e. after lapse of 7 years 3 month and 28 days. After detailed discussion and the reasons as explained by the proponent for the delay i.e. due to recession in the steel market, the Committee recommended the validity of the EC for a period upto 9th December, 2018.

7.5.2 Proposed expansion to Steel Melting Shop (SMS) of 60,000 mtpa and ROLLING MILL of 1.5 mtpa at Kudithini Village, Bellary Taluk & District, Karnataka State by **M/s Agarwal Sponge and Energy Pvt Ltd** - Expansion under clause 7(ii) [J-11011/908/2007- 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.

7.5.3 Amendment in Environmental Clearance to use “pet coke” in addition to coal in our existing Cement Plant kiln located at Yanakandla Village, Banaganapalle Mandal, Kurnool District, Andhra Pradesh by **M/s Jayajothi Cement Ltd [J-11011/21/2014-IA-II(I)]**

The Ministry of Environment, Forest and Climate Change has accorded environmental clearance for the Cement plant located at Yanakandla Village Banaganapalle Mandal, Kurnool District, Andhra Pradesh vide letter J-11011/450/2007-IA.II(I) dated 24th March 2008. Further, Ministry has accorded environmental clearance for expansion of clinker production by optimization & modernization vide letter No. J-11011/21/2014-IA.II(I) dated 28th April 2015. Coal was admitted as main fuel for cement kilns.

Project proponent has requested for Amendment in Environmental Clearances for use of pet coke as additional fuel in cement kilns in the proportionate, or 100% maximum, depending upon the availability. The average coal consumption for the plant with the existing capacity is 0.28 MMTPA and the proposed average pet coke consumption will be 0.25 MMTPA.

As explained by the PP the Pet coke is having very high calorific value in the range of 8150 – 8300 kcal/kg, which is higher when compared to natural coal and have low ash content. Hence, less fuel consumption to produce the same amount of energy. Pet coke is a waste product of petroleum refinery, thereby helps conserving natural resources.

After detailed deliberation the Committee recommended the proposal for amendment in the Environmental Clearance for use of pet coke as additional fuel in cement kilns, depending upon the availability subject to compliance of SO_x and NO_x norms as prescribed under the EPA act.

7.5.4 Cement Plant of 3500 TPD at Village khrew, District Pulwama Srinagar, J&K by **M/s Trumboo Cements Pvt. Ltd. – Extension of validity of ToR [J-11011/5/2013-IA.II(I)]**

Ministry of Environment, Forest and Climate Change has accorded ToR for the project of Cement Plant for production capacity of 3500 Tonnes Per Day (TPD) at Khrew village, District., Pulwama, Jammu and Kashmir to M/s Trumboo Cement Pvt. Ltd. (TIPL) vide letter No. J-11011/5/2013-IA.II(I) dated 25.04.2013.

The project proponent mentioned that the EIA Study were carried out and report was submitted to SPCB and public Hearing was scheduled on 15.01.2015. However, the local fringe elements interrupted the proceedings of Public Hearing and did not allowed to start the public Hearing. Further public hearing could not be conducted due to heavy Floods and law & order problem in the State. Dachigam National Park is at a distance of 5.2 km, for which PP has to obtain NBWL clearance.

In view of the above, proponent has requested for extension of validity of ToRs for further period of 1 year i.e upto 24th April, 2017.

The Committee after detailed deliberation recommended the proposal for grant of extension of validity of ToR for further period of 1 year i.e. upto 24th April, 2017.

7.6 CASE FOR TERMS OF REFERENCE (TOR)

7.6.1 Proposed expansion of Cement plant from 1000 TPD to 2000 TPD capacity by **M/s Trumboo Industries Pvt. Ltd. (TIPL)**, village-Khrew, Tehsil-Pampore, district Pulwama, State J & K Pvt Ltd. [F.No-J-11011/204/2016-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 Trumboo Industries Pvt. Ltd. (TIPL), has proposed for expansion of Cement plant from 1000 TPD to 2000 TPD capacity based on rotator kiln technology. The proposed unit will be located at village Khrew, taluka Pampore., District Pulwama, Jammu and Kashmir. The land area acquired for the integrated cement plant is 40 Ha out of which 13.5Ha land will be used for green belt development. The Khasra No. for the site are 189, 190, 196-208, 238-246, and lat/long for the site are 34⁰03'13" to 34⁰03'19.55"N, 75⁰00'50" to 75⁰00'57". Total project cost is approx 200 Crore rupees. Proposed employment generation from proposed project will be 100 direct employment and 500 indirect employment. The proposed capacity for different products for new site area as below:

Name of Unit	Capacity of Existing Unit	Capacity of Proposed unit	Total Production Capacity
M/s Trumboo Industries Pvt. Ltd. (TIPL)	1000 TPD	1000 TPD	2000 TPD

The electricity load of 15 MW will be procured from State Government. Proposed raw material and fuel requirement for project are Lime Stone, Gypsum & Iron and the requirement would be fulfilled by captive mine as well as from other sources. Fuel consumption will be mainly coal & diesel. Water consumption for the proposed project will be 120 KLD and domestic waste water generation will be around 15 KLD. Domestic waste water will be treated by STP and no industrial waste will generate.

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 J&K 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. The project proponent shall obtain NBWL clearance as the project is located near the dachigam national park.
- v. Submit the Latitude/Longitude of the proposed site and the survey numbers of the site.
- vi. Risk assessment with regard to seismic activity of the proposed site should be submitted as it is located in high risk seismic zone.

7.6.2 Expansion of Sponge Iron Plant located at village Budhakhap, P.O - Karma, Dist.- Ramgrah, Jharkhand by **M/s Alope Steels Industries Private Limited [F.No-J-11011/205/2016-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.

M/s. Alope Steels Industries Private Limited proposes to install a new manufacturing unit for M. S. billets, rolled products and captive power within premises of existing sponge iron unit (400 TPD). The proposed unit will be located at Village Budhakhap, Taluka Ramgarh, District Ramgarh, State Jharkhand. The land area acquired for the integrated steel plant is 54.35 acres out of which 18.05 acres land will be used for green belt development. Total project cost is approx Rs. 207.67 Crores. Proposed employment generation from proposed project will be 615 direct employment and 1537 indirect employment. Following table presents the existing and the proposed capacities:

Unit	Existing Capacity TPD	Proposed Capacity TPD	Working Days	Final Capacity TPA
EXISTING				
Sponge Iron Plant 4 x 100 TPD	400 TPD	--	300	120000 TPA (used in-house)
PROPOSED – EXPANSION (ADDITION)				
CPP (WHRB 8 + AFBC 10)	--	18 MW	300	18 MW (Captive use)
SMS ~ Induction Furnace & Billet Caster 3 x 12 T	--	360 TPD	300	108000 TPA (used in-house – mostly)

TMT Rolling Mill – 15 Stand Mill	--	300 TPD	300	90000 TPA (Sold)
Iron Ore Crushing & Beneficiation Plant – 80-100 TPH Single Stream	--	920 TPD	300	276000 TPA (used in-house)
Slag Crushing Plant for SMS Slag 8 TPH	--	55 TPD	As per requirement (approx. 300)	16200 TPA

The electricity load of 18.5 MW will be procured from existing 1.5 MW DVC and after expansion 18 MW will be sourced from CPP. Company has also installed 1x750 KVA 1x 500 KVA DG Sets.

Proposed raw material and fuel requirement for project are Iron ore 920 TPD, Coal 806 TPD, Dolomite 10 TPD, Scrap 61 TPD. Requirement would be fulfilled by existing operating mines, e-auction, linkage as well as in-house sources. Fuel consumption will be mainly Coal.

Water consumption for the existing project is 330 m³/day and for the proposed project is 2593 m³/day. Therefore, the total water requirement is 2923 m³/day, source from River Damodar and waste water generation will be recycled/reused within premises for dust suppression, horticulture etc. Domestic waste water will be routed to septic tank, soak pit combination.

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 and Annexure – 11.**

- i. Public hearing to be conducted by the Jharkhand 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. Details of proper disposal of iron ore rejects after beneficiation shall be provided.

7.6.3 Rolling mill of capacity 18,000 TPA for production of MS strips/ round/ square bar etc., a coal gasifier of capacity 1,750 M³/hr located at Village Duldula, Tehsil Simga, District Baloda Bazaar, (Chhattisgarh) by **M/s Earth Stahl & Alloys Pvt Ltd. [F.No-J-11011/202/2016-IA.II(I)].**

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

31st May, 2016 /Tuesday

7.7 ENVIRONMENTAL CLEARANCE (EC)

7.7.1 Proposed Leather Processing Unit, 15.5 TPD, (Raw hides & skins to finished Leather) for manufacturing of finished chrome tanned leather at Rania (U.P.) by M/s Leayan Global Pvt. Ltd – [F.No.- J-11011/59/2015-IA.II(I)]

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s Prefect Enviro Solutions Pvt. Ltd.) gave a detailed presentation on the salient features of the project. The proposed project of Leather Processing Unit (Raw hide to Finished Leather) located at Village Sherpur Taroda, Tehsil Akbarpur, District Kanpur Dehat, U.P. of M/s Leayan Global Pvt. Ltd. was initially received in the Ministry on 31st March, 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 meeting held on 20th May, 2015 and prescribed TORs to the project for undertaking detailed EIA study for the purpose of obtaining environmental clearance. Accordingly, the Ministry of Environment and Forests had prescribed TORs to the project on 07th July, 2015. Based on the TORs prescribed to the project, final EIA Report for environmental clearance to the Ministry online on 16th May, 2016.

The project of M/s Leayan Global Pvt. Ltd. located Village Sherpur Taroda, Tehsil Akbarpur, District Kanpur Dehat, U.P. is for setting up of a new Leather Processing Unit of capacity 15.5 TPD. The total land required for the project is 3.47 ha. No forestland involved. The Rind River lies at 4.8 Km E from the project area. Ghatampur Distributary lies at 3.3 KM E, Lower Ganga canal at 6.5 km ENE, Kansua Distributary at 7.6 Km NE exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed. The area falls in catchment of river Yamuna. The geographical location of the site is 26°24'27.63"N and 80° 5'27.38"E. The elevation of the site is about 129 m with respect to mean sea level. The ground water table reported to approx. 10 m.

No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project. In schedule I, Species found in buffer zone are *Pavo cristatus* (Peafowl), *Crocodylus palustris* (Crocodile), *Gravialis gangeticus* (Gharial), *Antelope cervicapra* (Black buck).

The targeted capacity of the unit is 15.5 TPD of raw hides & skins. The Product for proposed unit will be finished Leather of capacity 6 TPD.

The water requirement of the project is estimated to be 613 KLD. Total waste water generated is 445 KLD. Out of total water requirement 196 KLD of fresh water requirement will be obtained from the ground water after taking prior permission from CGWA and the remaining requirement of 417 KLD will be met from the permeate obtained from ETP followed by R.O. & MEE condensate. The power requirement of the project is estimated as 1500 KVA which will be obtained from the Uttar Pradesh State Electricity Board.

Ambient air quality monitoring has been carried out at 8 locations during March 2015 to May 2015 and the data submitted indicated mean value: PM10 (113.7µg/m³ to 147.8 µg/m³), PM2.5 (33.3 µg/m³ to 43.3 µg/m³), SO₂ (4.7 to 6.1 µg/m³) and NO_x (23.6 to 30.7 µg/m³). The results

of the modeling study indicates that the maximum GLC of PM without installing control measures will be 5.06 ($\mu\text{g}/\text{m}^3$). After installing control measures it will be 1.85 ($\mu\text{g}/\text{m}^3$). For mitigation of impacts of air pollution from Boilers, common stack height minimum of 30 m above ground Level shall be provided for the boilers. Multi cyclone dust collector will be provided to control particulate emissions from Boilers. For mitigation of impacts of air pollution from DG sets, stack height of 30 m above roof level for 1 x 1000 KVA, 4.5 m above roof level for 1 x 600 KVA, 3.2 m above roof level for 1 x 100 KVA & 2 m above roof level for 1 x 250 KVA D.G. sets shall be provided. As the proposed project site is vacant land, hence, no R&R is involved.

Total 27 kg/day Municipal solid waste will be generating. Bio-Degradable waste will be disposed off at Composting Site within the project site premises, Recyclable Waste shall be given to Authorized Recycler & inert waste shall be disposed off at Nearby Landfill Site. 150 kg/day of buffing dust shall be disposed off at TSDF site of the area. The fly ash generated shall be given to brick manufacturer for reuse. Among hazardous waste approx. 1000 lt/year of used oil generated from machineries/D.G. Set will be sold to vendors authorized by CPCB for the treatment of the same. Approx. 2500 kg/day of Salts from the MEE shall be generated & disposed of at Secured land fill at TSDF (UPWM) at Ranian, U.P. or shall be given to recycler or shall be reused. ETP Sludge i.e. approx. 1200 kg/day of Sludge from the ETP will be disposed at TSDF site at Ranian, U.P.

It has been envisaged that an area of 1.14 Ha i.e. 33 % the plot area will be developed as green belt around the project site to attenuate the noise levels and trap the dust generated due to the project development activities.

The capital cost of the project is Rs 48 Crores and the capital cost for environmental protection measures is proposed as Rs 725 Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs. 88.74 Lacs/Year.

While going through the public hearing proceedings and also by viewing the video of the public hearing, the committee observed that the people have expressed many apprehensions regarding the environmental impacts due to the proposed project.

After having detailed deliberations and taking into consideration the apprehensions raised by the public during the public hearing and the high pollution potential of the proposed green field, the consideration of the proposal was deferred on the request of the Project Proponent till a revised proposal addressing all the issues is received from the project proponent.

7.8 FURTHER CONSIDERATION

7.8.1 Integrated Steel Plant of capacity 0.5 MTPA with captive power plant of 65 MW from AFBC and 34 MW from WHRB, totalling to 99 MW of **M/s Shakambhari Ispat and Power Ltd.**, located at Village Pavatpur, Radhamadhabpur, Madand, PO–Bortoria, District Purulia, West Bengal. (EC) - **[F.No-J-11011/201/2013-IA.II(I)]**.

The proposal was considered in the 4th meeting of the Expert Appraisal Committee (EAC) for Industry-I Sector on 25th – 26th February, 2016. Based on the presentation made and discussions held, the Committee desired additional information on the following for further consideration of the proposal:

- i. The project consultant M/s Mecons should be invited for providing details on the technical aspects of the project during the consideration of the project.
- ii. The subject of project to be changed as this is an integrated project.
- iii. Details regarding Electric load list and power consumption reduction per unit production should be submitted.
- iv. A note on Secretariat for Industrial Assistance (SIA) registration.
- v. Capacity calculations for settling tanks / pond should be furnished.
- vi. Material balance diagram should be resubmitted.
- vii. Details regarding proposed pollution control measures for the project should be submitted along with details on the number of pollution control equipments provided for each unit proposed.
- viii. Disposal of the solid waste plan should be submitted.
- ix. Status of permission for fire and safety.
- x. Details of the area under possession for the existing and the proposed plant should be submitted. Break up for the existing land use and the proposed usage should be submitted.
- xi. Acquisition of land long with consent from the land owners should be submitted.
- xii. Biodiversity data should be presented.
- xiii. Revised cost of EMP should be submitted, based on quantitative evaluation of the project.
- xiv. Plan for occupational health and budget should be submitted.
- xv. The proforma enclosed herewith at Annexure-XI regarding your project should be duly filled in and submitted.
- xvi. Information on 'disaster preparedness and management plan' for hazards like fire, accident and other unforeseen situations should be submitted

The project proponent has submitted the requisite information.

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 install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.
- ii. The committee did not agree for dumping iron ore tailing in the coal mine pits unless it has been clearly approved in the mine closure plan of the said mining pits. In case this dumping in mining pits is not permitted in the mine closure plan, the project proponent will have to make separate arrangement for dumping the iron ore tailings in an approved and allocated site which will have to be managed by the project proponent. In support of this, the project proponent will have to submit to MOEFCC the relevant documents, for further consideration, either pertaining to the mining closure plan or the location details of the allocated site as the case may be.
- iii. In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Dust extraction and suppression system shall be provided at all the transfer points, coal handling plant etc. Bag filters shall be provided to hoods and dust collectors to coal and coke handling

to control dust emissions. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading, handling and storage of raw materials etc.

- iv. The ETP for Mini Blast Furnace effluent should be designed to meet Cyanide standard as notified by the MoEFCC.
- v. No effluent shall be discharged outside the plant premises and 'zero' discharge shall be adopted.
- vi. 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/Nm³ and installing energy efficient technology.
- vii. Hot gases from DRI kiln shall be passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely. The gas then shall be cleaned in ESP before leaving out into the atmosphere through ID fan and stack.
- 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. ETP sludge should be disposed off scientifically.
- ix. All the coal fines, char from DRI plant shall be utilized and no char shall be used for briquette making or disposed off anywhere else. 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 31st 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 16th 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 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

- xiv. 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 Environment (Protection) Act, 1986 whichever are more stringent.
- xv. 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.
- xvi. A time bound action plan shall be submitted to reduce solid waste generated due to the project related activity, its proper utilization and disposal.
- xvii. 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.
- xviii. 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.
- xix. 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.
- xx. All the commitments made to the public during Public Hearing/public consultation meeting shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- xxi. At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, 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.
- xxii. 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.

- xxiii. 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.
 - xxiv. 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.
 - xxv. The project proponent shall provide for LED lights in their offices and residential areas.
 - xxvi. 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.
- 7.8.2 Setting up of a new production line of 1MTPA clinker and 1.13 MTPA cement production of **M/s Tamil Nadu Cements Corporation Limited (A Tamil Nadu Government Enterprise)**, at Kairulabad village, Dist. Ariyalur, Tamil Nadu (EC) - [J-11011/83/2014-IA-II(I)]

The proposal was considered in the 5th meeting of the Expert Appraisal Committee (EAC) for Industry-I Sector on 30th – 31st March, 2016. Based on the presentation made and discussions held, the Committee desired additional information on the following for further consideration of the proposal:

- i. Compliance report for CTO for the existing plant from the Pollution Control Board should be submitted.
- ii. The CSR component for the project should be revisited and the revised CSR along with budget should be submitted.
- iii. It may kindly be clarified whether the District Revenue Officer under whose chairmanship the public hearing is conducted is equivalent to the Additional District Magistrate, as mandated under the EIA Notification, 2006.

The project proponent vide letter Lr. No./TANCEM/Ari.Cement.Expansion/EC/MoEF/2014-2016-3 dated 6th May, 2016 submitted the requisite information.

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:

- i. 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.

- ii. 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, SO₂ and NO_x shall be followed.
- iii. Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet prescribed standards by installing adequate air pollution control viz Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO_x burners shall be provided to control NO_x emissions. Regular calibration of the instruments must be ensured.
- 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. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- vi. AAQ Modelling shall be carried out based on the specific mitigative measures taken in the existing project and proposed for the expansion project to keep the emissions well below prescribed standards.
- vii. Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed.
- viii. A statement on carbon budgeting including the quantum of equivalent CO₂ 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 CO₂ 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.
- ix. 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. There should also be an arrangement for sufficient drinking water at site to prevent dehydration etc
- x. Arsenic and Mercury shall be monitored in emissions, ambient air and water.
- xi. The coal yard shall be lined and covered.

- xii. The project proponent shall prepare a report on impact of project on surrounding reserve forests within six months and will get it approved from the State Forest Department. A copy of the same should be submitted to the Ministry and its Regional Office.
- xiii. The project proponent shall take all precautionary measures for conservation and protection of wild fauna spotted in the study area. A Wildlife Conservation Plan specific to this project site shall be prepared in consultation with the State Forest and Wildlife Department. A copy of the Conservation plan shall be submitted to the Ministry and its Regional Office.
- xiv. The project proponent will also provide the latest status of the environmental compliances in respect of its existing plant.
- xv. 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 the use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.
- xvi. 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.
- xvii. 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.
- xviii. 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 Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office, SPCB and CPCB.
- xix. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / re-processors only.
- xx. The kiln shall be provided with a flexible fuel feeding system to enable use of hazardous wastes and other wastes including biomass, etc.
- xxi. The proponent shall examine and prepare a plan for utilisation of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc as alternate fuels based on availability and composition. For this, the proponent shall identify suitable industries with such wastes and enter into an MOU for long-term utilisation of such wastes as per the Environment (Protection) Rules, 1986 and with necessary approvals.

- xxii. Efforts shall be made to use the high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly. The PP shall enter into an MOU with units with potential for generating hazardous waste and in accordance with Hazardous Waste Regulations and prior approval of the MPPCB.
- xxiii. Green belt over 33% of the total project area shall be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of the project area and along road sides etc. by planting native and broad leaved species in consultation with local DFO, local community and as per the CPCB guidelines.
- xxiv. 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.
- xxv. The project proponent shall provide for LED lights in their offices and residential areas.
- xxvi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.
- xxvii. At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, 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.
- xxviii. In addition to the above provision of ESC, the proponent shall prepare a detailed CSR Plan for the next 5 years including annual physical and financial targets for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Skill Development and infrastructure 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.
- xxix. A Risk Assessment Study and Disaster Preparedness and Management Plan along with the mitigation measures shall be prepared with a focus of Disaster Prevention and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xxx. To educate the workers, all the work places where dust may cause a hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.

xxxi. 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.

7.9 ANY OTHER ITEM

7.9.1 Integrated Steel Plant (0.6 MTPA) along with Captive Power Plant (15 MW) at Bhorandiha, P.O Udanabad, District Giridh, Jharkhand by **M/s Atibir Industries Co. Ltd** -Extension of validity of EC [**F.No.-J-11011/14/2008-IA-II(I)**].

The Environmental Clearance was accorded by this Ministry vide letter No. J-11011/14/2008-IA-II(I) dated 13th May, 2009 for the proposal for setting up of Hot metal (Pig Iron) 600,000 TPA, Sinter – 680,000 TPA, Pellet – 300000 TPA, Steel Making (Converter) – 600,000 TPA, Oxygen Plant 2400 m³/Hr, Rolling Mill – 600,000 TPA, Hard Coke – 240,000 TPA and Captive Power Plant – 15 MW at Bhorandiha.P.O. Udanabad, District Giridh, Jharkhand.

It was mentioned by the proponent that in the first Phase a Blast furnace - 300,000 TPA, Sinter Plant - 340,000 TPA, Pellets Plant - 300000 TPA and Oxygen Plant - 2400 m³/hr has been established. However, due to some unavoidable circumstances and hardship the remaining portion of the project could not be completed within the EC period. It has been mentioned that an Expenditure of approx. Rs. 340.89 Crores has already been incurred as against the total proposed project cost of 1,435.98 Crores.

The matter was earlier considered by the Expert Appraisal Committee in its 35th meeting held on 26th – 27th March, 2015. The Committee noted that the EC for the project was granted on 13th May, 2009, however, the PP has applied for extension of validity on 15.12.2014 i.e. after the expiry of EC which was valid only upto 12th May, 2014. The Committee deliberated on the issue and it was decided that, although the request for extension has come a few months after the expiry of 5 years from the time of the earlier EC, Committee requested Ministry to take a sympathetic view.

In the meantime an amendment to the EIA Notification, 2006 was issued by the Ministry vide Notification No. S.O. 1141(E) dated 29th April, 2015, extending the period of validity of Environment Clearance from 5 years to 7 years. Therefore, the EC accorded to the Project vide letter of even No. 13.05.2009 stands valid upto 12.05.2016. A communication was sent to the PP in this regard on 30th September, 2015 to apply for extension of validity EC for further period of 3 years if required.

PP mentioned that the completion of installation and commissioning of the remaining Units will spill beyond 12th May, 2016. Accordingly PP submitted their online application on 28th April,2016 for extension of validity of EC for further period of 3 years upto 12th May, 2019.

The Committee recommended the proposal for extension of validity of EC for further period of 3 years (i.e. upto 12th May, 2019)

7.9.2 Cement Plant (Phase - I, Clinker 3.0 MTPA; Cement 3.8 MTPA) at Village Sanghigram, P.O.: Kari Talai, Tehsil Vijayraghvargarh, District Katni in Madhya Pradesh along with Captive Limestone Mine (1244.85 ha, 5.64 MTPA) near Jamuani Khurd, Chari,

Durjanpur and Padrehi Villages in Katni District in Madhya Pradesh by M/s Sanghi Infrastructure M.P. Limited - Extension of validity of EC [F.No.-J-11011/252/2009-IA-II(I)].

The Committee noted that the environmental clearance for the project was granted by the Ministry vide letter No. J-11011/252/2009-IA.II(I) dated 3rd May, 2011. As per amendment Notification issued by the Ministry on 29th April, 2015, the validity of environmental clearance has been extended from 5 years to 7 years. Therefore the present environmental clearance stands valid for a period upto 2nd May, 2018. The Committee recommends, therefore, that the Project proponent may apply for further extension of validity period for 3 years, if required by the proponent, 3 months before the due date of expiry.

7.9.3 Amendment in Environmental Clearances to use “pet coke” in addition to coal in our existing Cement Plant Unit-I&II & Unit-III kiln and 15 MW Captive Power Plant located at Mellacheruvu Village and Mandal, Nalgonda District, Telangana State by M/s My Home Industries [J-11011/76/2006-IA-II(I)]

The Ministry of Environment, Forest and Climate Change has accorded environmental clearance for Cement plant **Unit- I&II** at Mellacheruvu Village & Mandal, Nalgonda District, Andhra Pradesh (Now Telangana State), vide letter J-11011/19/2001-IA.II(I) dated 13th September 2001. Further, MoEF has accorded environmental clearance for expansion of Cement Plant **Unit-II** by optimization & modernization vide letter No. No. J-11011/172/2012-IA.II(I) dated 15th December, 2014.

MoEF has accorded environmental clearance for Cement plant **Unit-III** and 15 MW Captive power plant vide letter J-11011/76/2006-IA.II(I) dated 25th May 2006. Further, MoEF has accorded environmental clearance for expansion of Cement Plant **Unit-III** by optimization & modernization vide letter No. No. J-11011/1014/2008-IA.II(I) dated 11th June 2008.

Coal was admitted as main fuel for cement kilns & 15 MW captive power plant

The capacities of cement and clinker for the Unit I, II and III are presented in the following table

Particulars	Unit-I	Unit-II	Unit –III	Total
Clinker	0.660	1.183	1.20	3.043
Cement	0.792	1.108	2.00	3.900
CPP	--	--	15 MW	--

Project proponent has requested for amendment in environmental clearances for use of pet coke as additional fuel in cement kilns & 15 MW captive power plant in the proportionate as below and 100% maximum depending upon the availability.

- i. Cement Plant Kiln – 35% pet coke and 65% imported coal
- ii. Captive Power Plant – 50% pet coke and 50% imported coal

As explained by the PP the Pet coke is having very high calorific value in the range of 8150 – 8300 kcal/kg, which is higher when compared to natural coal and have low ash content. Hence, less fuel consumption to produce the same amount of energy. Pet coke is a waste product of petroleum refinery, thereby helps conserving natural resources.

After detailed deliberations, the Committee recommended the proposal for amendment in the Environmental Clearance for use of pet coke as additional fuel in cement kilns, depending upon the availability, subject to compliance of SOx and NOx norms, as prescribed under the E(P) Act. The Committee has not recommended the proposal for use of pet coke in the thermal power plant.

7.10 CASE FOR TERMS OF REFERENCE (TOR)

7.10.1 Proposed Enhancement in Clinker Production Capacity (8.4 MTPA to 8.9 MTPA) by Process Optimization Located at Village: Sawa-Shambupura, Tehsil & District: Chittorgarh (Rajasthan) by **M/s. UltraTech Cement Ltd.** (Unit: Aditya Cement Works) **[F.No- J-11011/405/2011-IA-II(I)]**

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

7.10.2 Expansion of Integrated Steel Plant from 0.60 MTPA to 0.70 MTPA Steel at village Kamanda in Sundargarh District of Odisha by **M/s Rungta Mines Ltd.** **[F.No-J-11011/434/2009-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.

The project proponent submitted online application no. IA/OR/IND/53279/2016 dated 29.04.2016 to MOEF&CC for Expansion of Steel Plant from 0.60 MTPA to 0.70 MTPA at village Kamanda of District Sundergarh, Odisha of M/s Rungta Mines Ltd. along with Form-I and Feasibility Report. The total project area of plant is 154.489 ha. No additional area will be required for expansion. No forest land is involved. No national park/ sanctuary is located within 15 km. No displacement is involved. Nearest city is Raurkela at a distance of 52 km by road. The site falls in Seismic zone-II.

The Ministry of Environment, Forest and Climate Change has accorded environmental clearance to the project of 0.2 MTPA steel capacity vide letter no. J-11011/304/2007-IA.II (I) dated 12.12.2008. Environmental clearance for the expansion project from a capacity of 0.2 MTPA to 0.6 MTPA was granted vide letter no. J-11011/434/2009-IA.II (I) dated 02.02.2015. The company now envisages to enhance production from 0.6 to 0.7 MTPA by enhancement of capacities as given below:

Sl.	Facilities	Present capacity (TPA)	Additional proposed Capacity (TPA)	Total capacity (TPA)
1	Beneficiation Plant	1,100,000	1,00,000	1,200,000
2	Pellet Plant	600,000	0	600,000
3	Coal Washery	924,000	0	924,000
4	DRI Plant			
	6X100 TPD	180,000	77,400	257,400
	1X300 TPD	90,000	38,700	128,700
	3X350 TPD	315,000	100,800	415,800
	2X500TPD	330,000	66,000	396,000
	Sub total	915,000	282,900	1,197,900
5	Sinter Plant	240,000 (24 sq.m.)	175,800	415,800 (42 sq.m.)
6	Mini Blast Furnace			
	2X262 CUM	382,520	49,780	432,300
	1X260 CUM	227,500	0	227,500
	Sub-total	610,020	49,780	659,800
7	Coke Oven plant (2 batteriesX70,000 TPA)	140,000	0	140,000
8	SMS			
	4X15 Ton IF,	200,000	17,800	217,800
	2X15T LRF			
	9 X15 Ton IF	430,000	60,050	490,050
	5X 15 T LRF			
	Sub total	630,000	77,850	707,850
9	Billet/Slab /Bloom Caster			
	0.20 MTPA	200,000	15,000	215,000
	0.42 MTPA	420,000	63,000	483,000
	Sub total	620,000	78,000	698,000
10	Flat/Round/Wire Rod/ Structural Mill	410,000	0	410,000
11	Ferro Alloy Plant 9MVA+ 18 MVA (27 MVA)	0		
	Ferro Manganese (9 MVA+18 MVA) OR	-	9 MVA=18,000 TPA 18 MVA= 36,000 TPA	54,000
	Silico Manganese (9 MVA+18 MVA) OR	-	9 MVA = 14,400 TPA 18 MVA= 28,800TPA	43,200
	Ferro Chrome OR (9 MVA+18 MVA)	-	9 MVA = 14,400 TPA 18 MVA= 28,800TPA	43,200

Sl.	Facilities	Present capacity (TPA)	Additional proposed Capacity (TPA)	Total capacity (TPA)
	Ferro Silicon (9 MVA+18 MVA)	-	9 MVA = 6,400 TPA 18 MVA= 12,800 TPA	19,200
	Briquette Plant for ferro chrome	-	88,320	88,320
	Briquette Plant for ferro manganese	-	111,360	111,360
12	Captive Power Plant	142 MW	14MW	156 MW
	WHRB	66 MW	14MW	80 MW
	AFBC	76 MW	0	76 MW

After detailed deliberations, the Committee prescribed following specific TORs for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2 and Annexure – 11.**

- i. The Public Hearing for the project should be conducted by Odisha 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.

7.10.3 Expansion of mini integrated steel plant at Taraimal Village, Gharghoda Tehsil, Raigarh District, Chhattisgarh by M/s **Singhal Enterprises Pvt Ltd** [J-11011/195/2007-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.

Ministry of Environment, Forest and Climate Change has accorded environmental clearance for the Expansion project on 19th February, 2008. The project proponent mentioned that some of the units for which EC has been accorded have been implemented and the remaining could not be implemented due to sluggish market conditions and non availability of funds. Further, the environmental clearance validity of 7 years has been expired on 19th February, 2015 and the proponent could not submit the request letter to Ministry for extension of validity of EC before the expiry of validity period.

Therefore, a fresh proposal has been submitted to MOEF&CC for permission to implement the unimplemented units as per the earlier EC accorded.

Following table presents the Implementation status of units for which E.C. has been accorded

S.No	Details	Existing production Capacities Prior to issue of EC in 2008 [1]	Expansion for which EC Obtained on 19 th Feb. 2008, and amended on 21 st Dec. 2010 & 22 nd March 2011 [2]	Total Capacity after EC expansion after EC dated Feb 2008 and its amendments [3] [1] + [2]	Status of Implementation of Expansion Project for which EC accorded in Feb 2008 & amendments thereof [4]	Total Capacity in operation / under implementation as on Current Date [5] [1] + [4]	Units to be Implemented for EC sought [6] [3] - [5]
1.	DRI Kiln for Production of Sponge Iron	1,93,500 TPA	90,000 TPA	2,83,500 TPA	60,000 TPA	2,53,500 TPA in Operation	30,000 TPA
2.	Induction furnace with CCM & LRF	48,000 TPA	1,68,000 TPA	2,16,000 TPA	48,000 TPA	96,000 TPA in operation	1,20,000 TPA
3.	Rolling Mill	-----	90,000 TPA	90,000 TPA	---	Not implemented	-----
4.	Ferro Alloy plant for production of Si-Mn	-----	10,800 TPA	10,800 TPA	10,800 TPA	10,800 TPA	-----
5.	Sinter Plant	-----	2,59,200 TPA (1 x 50 M ²)	2,59,200 TPA (1 x 50 M ²)	----	Not implemented	2,59,200 TPA (1 x 50 M ²)
6.	Blast Furnace for production of Pig	-----	87,500 TPA (1 x 125 M ³)	87,500 TPA (1 x 125 M ³)	----	Not implemented	87,500 TPA (1 x 125 M ³)

	Iron						
7.	Coal Washery	-----	1,50,000 TPA	1,50,000 TPA	----	1,50,000 TPA Applied for CTO	1,50,000 TPA
8.	Power Plant through WHRB	8 MW	8 MW	16 MW	---	8 MW in Operation	8 MW
	Power Plant through FBC Boiler	---	48 MW	48 MW	8 MW	8 MW under Operation & Installation of 1 x 18 MW is under construction	1 x 22 MW

After detailed deliberations, the Committee prescribed following specific TORs for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2 and Annexure – 11.**

- i. Public hearing is exempted for the project as there is no change in the overall capacity of the plant.
- ii. The baseline data presented in the earlier EIA/EMP report should be compared with the new data and a comparative statement for the changes in the environmental scenario should be submitted.

1st June, 2016 /Wednesday

7.11 ENVIRONMENTAL CLEARANCE

7.11.1 Expansion of manufacturing of Ingots/Billets (from 26000 TPA to 60000 TPA) by **M/s Sri Balaji Forging Pvt. Ltd**, located at RIICO Industrial Area, Bhiwadi, Alwar, Rajasthan,. [F. No. J-11011/138/2015-IA II (I)]

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s Enkay Enviro Services Pvt. Ltd.) gave a detailed presentation on the salient features of the project.

The project of M/s Sri Balaji Forgings Pvt Ltd was initially received in the Ministry on 25.6.2015 for obtaining Terms of Reference (TOR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry-I) during its meeting held on 18/08/2015, 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 26.09.2015. Based on the TORs prescribed to the project, the project proponent submitted an application for environmental clearance to the Ministry online on 15.04.2016.

The project of M/s Sri Balaji Forgings Pvt Ltd located at # E 908, RIICO Industrial Area, Phase-III Bhiwadi- 301019, Alwar, Rajasthan is for Expansion of Manufacturing of Ingots/Billets from 26,000 TPA to 60,000 TPA. Total land/plant area is 3724 sq.m. The proposed expansion will be done within the existing plant premises, thus no additional land will be acquired for the proposed expansion project. The entire land has been acquired for the project. The Indauri nala passes through the project area(buffer zone) which is about at a distance of 5.47 km NE,. 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

Corner 1	Corner-2	Corner -3	Corner-4
28°12'01.1" N	28°12'00.77" N	28°11'58.40" N	28°11'58.6" N
76°51'54.1" E	76°51'55.89" E	76°51'55.15" E	76°51'53.3" E

The Rangla reserve forest is located at a distance of 2.83 km, Chaupanki PF , Khori Kalan PF and Godhan PF are located at a distance of 7.55 km (SSE) , 8.53 km (S)& 2.06 km (SW) respectively from the site. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project.

The water requirement of the proposed expansion project is estimated to be 20 KLD. Water for industrial process and domestic purpose will be met by RIICO/Tanker supply. No Industrial waste water will be generated. Domestic waste water will be treated septic tank followed by soak pit. The power requirement of the project is estimated as 6618 kW which will be obtained from Jaipur Vidyut Vitran Nigam Limited (JVVNL).

Ambient air quality monitoring has been carried out at 8 locations during October 2015 to December 2015 and the data submitted indicated PM₁₀ (58.67 µg/m³ to 90.95 µg/m³), PM_{2.5} (27.91 µg/m³ to 49.47 µg/m³), SO₂ (5.68 to 23.50 µg/m³) and NO₂ (20.62 to 35.67 µg/m³). The results of the modeling study indicate that the maximum increase of GLC for the proposed project with respect to the PM₁₀, PM_{2.5} NO_x, CO for the study period were 1.4 µg/m³, 0.9 µg/m³, 0.5 µg/m³ and 0.8 µg/m³ respectively.

No/ R&R is involved. It has been envisaged that there is no need of Families to be rehabilitated as the project is coming in existing land only.

It has been reported that a total of 6,000 TPA of waste (slag) will be generated due to the project, which will be used in road making/cement manufacturing after removal of iron content. It has been envisaged that an area of 1228.92 sq. m will be developed as green belt around the project site. An area of 824.22 sq.m has already been developed as green belt, remaining 404.7 sq.m will be developed as green belt around the project site to attenuate the noise levels and trap the dust generated due to the project development activities.

As project is coming up in the Notified Industrial Area, (RIICO Industrial Area, Bhiwadi, Phase-III, Rajasthan), the same was exempted from public hearing as per the per EIA Notification 2006

The estimated cost of the proposed expansion project will be 1212.19 lacs (Existing cost 382.19 lacs + Proposed cost for expansion is Rs.830 lacs). The capital cost for

environmental protection measures is proposed as Rs 65.5 lacs. The annual recurring cost towards the environmental protection measures is proposed as Rs 7.80Lakh. The proponent has mentioned that there is no court case to the project or related activity.

The proposal was discussed at length by the committee. However, the project proponent was unable to provide information regarding a number of issues. Therefore the following additional Information was felt necessary for taking a view on the proposal.

- i. The site plan given was not to the scale. Since the area of the site is small, it was not possible to understand the degree of congestion that would be created after the larger induction furnaces and allied system would be put in place. So the project proponent was asked to provide a to-the-scale plot plan clearly indicating internal paths, green belt, parking area, raw material storage area and fire and safety plan and its area in hectare.
- ii. Revisit the ToR point No 3(ix) regarding Hazard identification and support safety system clearly indicating the specific standards, on-site and off-site emergency plan etc.
- iii. Revised ToR point No.7(xi) submitted be provided clearly indicating the pollution control equipments.
- iv. Revised land use plan.

7.12 ANY OTHER ITEM

7.12.1 Integrated Steel Plant at Motanga, Dhenkanat, Orissa by **M/s MGM Steels Ltd** - Extension of validity of EC [**F.No.-J-11011/438/2007-IA-II(I)**]

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

7.12.2 Expansion of Asbestos Cement Sheet manufacturing unit (72,000 TPA to 1,75,000 TPA) of **M/s HIL Limited**, located in Industrial Area, Jasidih, District Deoghar, Jharkhand - Amendment in Terms of Reference [(F.No. J-11011/01/2016-IA.II(I)].

The ToR for the project of expansion of Asbestos Cement Sheet manufacturing unit (72,000 TPA to 1,75,000 TPA) of M/s HIL Limited, located in Industrial Area, Jasidih, District Deoghar, Jharkhand was accorded by the Ministry on 19th May, 2016.

The project is located within the Notified Industrial area, however, as per Ministry's OM No. J-11013/36/2014-IA-I dated 4th April, 2016 the proponent was requested to conduct public hearing for the project.

The proponent vide letter No. MoEF/15-16/Exp/ToR/Amnd dated 5th May, 2016 requested for exemption of public hearing for the project.

The committee after detailed deliberation decided that no exemption for the conduct of public hearing can be granted for the project.

7.12.3 Integrated Steel Plant (Sponge Iron, 2,31,000 TPA; Ferro Alloy, 30'000 TPA) alongwith Captive Power Plant (16 MW WHRB, 270 MW FBC) at Village Taraimal, Tehsil

Tamnar, District Raigarh, Chhattisgarh by **M/s Singhal Energy Pvt. Ltd.** - Extension of validity of EC [F.No.-J-11011/785/2008-IA-II(I)].

The Environmental Clearance for the proposal of Integrated Steel Plant (Sponge Iron, 2,31,000 TPA; Ferro Alloy, 30'000 TPA) along with Captive Power Plant (16 MW WHRB, 270 MW FBC) at Village Taraimal, Tehsil Tamnar, District Raigarh, Chhattisgarh by M/s Singhal Energy Pvt. Ltd. was accorded by the Ministry vide letter No. J-11011/785/2008 – IA II (I) dated 15th September 2009 and amended for plant configuration was issued vide letter of even number dated 23rd September 2011.

The project was proposed in 2 Phases. In Phase -1, (DRI, Ferro Alloys, FBC Power plant of 70 MW and WHRB based power plant of 12 MW has been proposed in 70 acres of private land. In the Phase – 2, power plant of capacity 200 MW has been proposed in 200 acres of Forest land. However due to delay in acquisition of Forest land and due to very sluggish market conditions & Non availability of Finance from the bankers, the proponent has proposed to drop the entire Phase-2 of the project of 200 MW power plant. Following is the current implementation status for which EC has been accorded:

S.No.	Details	Plant Configuration for which EC accorded	Production Capacity for which EC accorded	Status of Implementation	Units requested for EC Extension
	Phase – I:				
1	DRI Kilns (Sponge Iron)	4 x 100 TPD	1,20,000 TPA	2 x 100 TPD (60000 TPA) is in operation and CTO obtained from CECB.	2 x 100 TPD (60,000 TPA)
2	Ferro Alloys Fe-Si Si-Mn Fe-Mn	2 x 9 mVA	12,700 TPA (or) 28,500 TPA (or) 30, 000 TPA	Both Units are in Operation	-----
3	Power Generation WHRB	4 x 2 MW	78 MW 8 MW	4 MW (Under Implementation)	4 MW
	FBC	2 x 35 MW	70 MW	It is proposed to drop 42 MW and install total of only 28 MW instead of 70 MW i.e., 8 MW (Under Implementation) & 20 MW (to be installed) (by Dropping of 7 MW & 1 x 35	1 x 8 MW (under implementation) & 1 x 20 MW (Yet to be implemented)

				MW)	
	Phase – II:				(Dropped)
4	Thermal Power Plant	2 x 100 MW	200 MW	200 MW Requested to be Dropped now	-----

PP mentioned that total land envisaged for the proposed project is 270 acres, out of which 70 acres of Private Land is in possession of management and remaining 200 acres is the Forest land. In view of the above, proponent has requested the Ministry to drop the 7 MW and 1 x 35 MW (42 MW) Power Plant (in Phase -1) and 200 MW power plant (in Phase- 2) along with 200 acres of forest land i.e. the entire Phase-1 project will be implemented in 70 acres of land. Accordingly, the total greenbelt will be 24 acres (more than 33%).

The proponent has requested for the following:

- 1) Extend the validity of environmental clearance for a period of 3 years till 14th September, 2019 to implement the remaining unimplemented units in Phase -1. [i.e installation of only 28 MW of FBC based power and dropping of 42 MW of FBC power plant]
- 2) Permission to consider only 70 acres of land instead of 270 acres, as entire Phase-2 project has been dropped with 200 acres of Forest land.

After detailed deliberation, the Committee recommended the proposal for extension of validity of environmental clearance for a period upto 14th September, 2019 and dropping of power plant of 42 MW capacity from Phase – I, dropping of 200 MW power plant from Phase – II and implementation of the project on only 70 acres of land by dropping 200 acres of forest land.

7.12.4 Extension of EC validity F.No- J-11011/946/2007-IA.II(I) for implementing Phase II of Blast Furnace(0.90 MTPA), Sinter Plant(2 MTPA), Coke Plant(0.6 MTPA) and Waste Heat Recovery Power Plant(60 MW) at village Navelim, Taluka Bicholim, District North Goa in Goa By **M/s Vedanta Ltd. (earlier Known as Sesa Seterlite Ltd. / Sesa Goa Ltd.) [F.No-J-11011/946/2007-IA.II(I)].**

M/s. Vedanta Limited (Formerly Sesa Sterlite Limited/Sesa Goa Limited) was granted environmental clearance for the project of Blast Furnace (0.90 MTPA), Sinter Plant (2 MTPA), Cjke Plant (0.6 MTPA) and Waste Heat Recovery Power Plant (60 MW) at Village Navelim, Taluka Bicholim, District North Goa in Goa vide letter No. J-11011/946/2007-IA-II(I) dated 3rd June, 2009. Amendment to the environmental clearance was accorded on 25/04/2012 for implementing the project in two phases of equal capacities as follows:

SN	Facility	Production Capacity	Phase-I	Phase-II
1	Mini Blast Furnace	9,00,000 TPA	4,50,000 TPA	4,50,000 TPA
2	Sinter	20,00,000 TPA	1000000 TPA	1000000 TPA
3	Coke Oven	6,00,000 TPA	3,00,000 TPA	3,00,000 TPA
4	Power Plant	60 MW	30 MW	30 MW

Proponent mentioned that Phase-I comprising of Blast Furnace (0.45 MTPA), Sinter Plant (1MTPA), Coke Plant (0.3 MTPA) and Waste Heat recovery Power Plant (30 MW) have already been installed and commissioned in 2012 and are operational since then.

Phase II, as indicated in the above table, could not be executed due to sluggish market conditions and non-availability of free cash flow. However, with improving economy the proponent want to go ahead with the implementation of phase – II of the project.

The Committee after detailed deliberation, recommended the proposal for extension of validity of environmental clearance for the period up to 2nd June, 2019.

7.13 CASE FOR TERMS OF REFERENCE (TOR)

7.13.1 Product Diversification / change in Product Mix by converting 0.3 MTPA Hot Liquid Metal, Out of 0.45 MTPA Hot Liquid Metal from Blast Furnace, to Ductile Iron Spun Pipe at Village Navelim, Taluka Bicholim, District North Goa in Goa by **M/s Vedanta Ltd. (Sesa Goa Iron Ore) [F.No-J-11011/946/2007-IA.II(I)]**.

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s Vimta Labs Limited) gave a detailed presentation on the salient features of the project. 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. Vedanta Limited proposes to install Ductile Iron Pipe manufacturing plant by product diversification of existing hot metal/pig iron into Ductile Iron Pipes based on continuous sequential process involving several sub-processes. The proposed unit will be located within the existing pig iron plant boundary at Navelim village, Bicholim taluka, North Goa district, Goa.

At present Vedanta Limited is having three Blast Furnaces BF-1, BF-2 & BF-3 altogether having Pig Iron production capacity of 832 KTPA. Battery-I and II having Met Coke Production Capacity of 620 KTPA. Two number of Waste Heat Recovery Power Plant having generation capacity of 60 MW (2 x 30MW). Sinter Plant of 1 MTPA capacity.

The proposed DI plant will have a capacity to produce 2x150 KTPA/300 KTPA of DI pipes by converting 0.3 MTPA Hot Liquid Metal, Out of 0.45 MTPA Hot Liquid Metal from Blast

Furnace, to Ductile Iron Spun Pipe having a size range of DN 80 to DN 1200 . Out of 104 ha land for existing pig iron plant, 33 ha of land has been already developed as greenbelt. The land for DI Plant will be of around 20 acres within existing plant area, which is Notified Industrial Area.

DI Pipe Plant will require about 12 MW of power to operate the Electric/induction furnaces, casting machines and other equipment. Required power will be sourced internally from our 2X30 MW heat recovery Power Plant.

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

- i. The Public Hearing for the project should be conducted by Goa 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. The Committee has allowed the proponent to use the data being collected from March, 2016, provided the data for month of June has to be collected and presented in the EIA/EMP report

7.13.2 Enhancement in production capacity of pig iron (expansion) for existing Blast furnaces form 292000 TPA to 350000 TPA by process Optimization and Efficiency improvement at Village Navelim, Taluka Bicholim, District North Goa **M/s Vedanta Ltd. (Sesa Goa Iron Ore) [old project of 1992] [new tor file].**

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s Vimta Labs Limited) gave a detailed presentation on the salient features of the project. 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. Vedanta Limited (Formerly Sesa Goa Limited) proposes for enhancing the production capacity of existing blast furnaces from 2,92,000 TPA to 3,50,000 TPA (Increase by 58000 TPA) by Process Optimization & Efficiency Improvement. Pig Iron Plant, having 2 Mini Blast Furnaces (MBFs), is located at Amona village, Bicholim taluka, North Goa district, Goa. Both the MBFs were installed and commissioned prior to 1994. The existing plant is established in 1992 and running on Consent to Established and Consent to Operate obtained from the Goa State Pollution Control Board. Capital Investment of Rs 30-35 Crs will be required for setting up of Oxygen Plant and for retrofitting energy efficient impeller for the existing blower systems.

The existing twin Blast Furnaces of 173 m³ volume each having Consent to operate capacity 2,92,000 TPA are operating. The production capacity enhancement to 3,50,000 TPA through process optimization could be done without stopping the BF. It will be completed within 6 month of getting EC.

This production increase can be achieved through increased injection of wind volume, oxygen enriched blast, charging sinter feed upto 50%, better process control in operations, etc. without any change in Blast Furnace or change of product mix.

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

- i. The Public Hearing for the project should be conducted by Goa 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. The Committee has allowed the proponent to use the data being collected from March, 2016, provided the data for month of June has to be collected and presented in the EIA/EMP report

7.13.3 Proposed installation of two Induction Furnaces having capacity 12MT each to produce 86400 billets and ingots of **M/s Aditya Industries** located at Rampur Jattan Kala Amb, Nahan Road Tehsil Nahan and Dist. Siromour Himachal Pradesh [**F.No-J-11011/201/2016-IA.II(I)**].

The proposal was considered by the Expert Appraisal Committee and the project proponent and their EIA-EMP consultant (M/s Shivalik Solid Waste Management Limited) gave a detailed presentation on the salient features of the project. 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 Aditya Industries proposes to Installation of 2 Induction Furnaces (12 MT each) along with Concast to produce 86400 MTPA Billets/Ingots. It is proposed to set up the plant for production of 86400 MTPA billets/ingots Based on Induction Furnace technology. The proposed unit will be located at Village Rampur Jattan Taluka Nahan, District Sirmour State Himachal Pradesh. The land area acquired for the integrated steel plant is 1.35 Ha out of which 0.455 Ha land will be used for green belt development. The total project cost is approx.26.71 Crore rupees. Proposed employment generation from proposed project will be 90 direct employment and approx 120 indirect employment. The proposed capacity for different products for new site area as below:

Sr. No.	Existing Unit	Existing Capacity	Production (MTPA)	Total
1	Induction Furnace	2X6	21600	21600
2	Rolling Mill	1X36000	360000	36000

Sr. No.	Proposed Unit	Proposed Capacity	Production (MTPA)	Total
1	Induction Furnace	2X12	864000	86400
2	Rolling Mill	1X108000	103680	103680

The electricity load of 9.8MW will be procured from Himachal Pradesh State Electricity Board (HPSEB) Company has also proposed to install 325 KVA DG Set.

Proposed raw material and fuel requirement for project are Scrap 95,040MT Billets/Ingots 21,600MT, Silico Manganese 950.4MT, Aluminum Shots 712.8MT Requirement would be fulfill by the local industries as well as by the adjoining states. There is no Fuel consumption. Water consumption for the proposed project will be 12 KL/day and waste water generation will be mainly from cooling will be reused within the plant premises Domestic waste water will be treated will be send to septic tank / soak pit.

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

- i. The Public Hearing for the project should be conducted by Himachal 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. The Committee has allowed the proponent to use the data being collected from March, 2016, provided the data for month of June has to be collected and presented in the EIA/EMP report

7.13.4 Expansion of Sponge Iron Plant from 2x 100 TPD DRI Plant, 8,50,000 TP A Beneficiation Plant, 6,00,000 TP A Pellet Plant and 10MW Power Plant to 2x 100 TPD DRI (Process Modification) along with 1,20,000 TPA SMS, and 1,00,000 TPA Rolling Mill at Badtumkela, PS-Lahunipara, Dist- Sundergarh, Odisha by **M/s Vikram Private Ltd. [J-11011/248/2015-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.

M/s Vikram Private Limited is manufacturing sponge iron from 2x100 TPD DRI kiln since March 2006 at Bad Tumkela, Lahunipara, Dist-Sundergarh, Odisha. The project site lies at Latitude 21° 50' 17.66" N Longitude 84° 55' 38.61" E.

As backward integration of the unit the company applied and was granted EC vide Letter No. J-11011/533/2010-IA-II (I) Dt. 26th December 2012 for 0.85 MTPA Iron Ore Beneficiation plant, 0.6 MTPA Iron ore Pellet Plant and 10 MW Captive Power Plant.

The project is in the preliminary stage of implementation. In order to convert sponge iron to finished steel product the company now proposes to install 3 X 12T IF, 1X30 T LRF, 2 strand CCM and 0.1 MTPA Rolling mill to manufacture TMT bars. The PP now proposed for expansion of the project by enhancing capacities of certain units as per following table:

Existing plant configuration:

Sl no	Facility	Configuration	Capacity	Operational status	Product	Enduse
Existing						
1	DRI kiln	2x100 TPD	66,000 TPA	In Operation	Sponge Iron	Use in IF
2	Captive Power Plant	WHRB + AFBC	10 MW	Under Construction	Power	Use in Own plant
3	Beneficiation	0.85 MPTA	8,50,000 TPA	Under Construction	Beneficiated Iron Ore	Use in Pellet plant
4	Pelletisation	0.60 MTPA	6,00,000 TPA	Under Construction	Pellet	Use in DRI

Proposed Expansion Configuration:

Sl no	Facility	Configuration	Capacity	Operational status	Product	Enduse
1	SMS (IF & LRF with CCM)	3 X 12 T IF 1X30 T LRF (2 Strands)	1,07,000 TPA	Proposed	Hot Billet & Cold Billet	Use in IF & for Sale
2	Rolling mill	20 TPH	1,00,000 TPA	Proposed	TMT Bar	For sale

The power requirement for the project will be 13 MW for Steel Making Shop and 2 MW for Rolling Mill. The water requirement will be 175 m³/day. This quantity is within the earlier permissible quantity of 2976 m³/day as per the existing EC criteria.

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

- i. The Public Hearing for the project shall be conducted by Odisha 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.

The meeting ended with a vote of thanks to the chair.

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.
- 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 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB 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. Landuse 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 NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
 - iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
 - v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
 - vi. Ground water monitoring at minimum at 8 locations shall be included.
 - vii. Noise levels monitoring at 8 locations within the study area.
 - viii. Soil Characteristic as per CPCB guidelines.
 - ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
 - x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
 - xi. Socio-economic status of the study area.

7. Impact Assessment and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modeling 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. 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.
12. 'A tabular chart with index for point wise compliance of above TORs.
13. 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 4th August, 2009, which are available on the website of this Ministry shall also be followed.
- viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.
- ix. TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public

Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and summarised in a tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

ADDITIONAL TORS FOR INTEGRATED STEEL PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
5. PM(PM₁₀ and P_{2.5}) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM₁₀ to be carried over.
6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
8. Plan for slag utilization
9. Plan for utilization of energy in off gases (coke oven, blast furnace)
10. System of coke quenching adopted with justification.
11. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
12. Trace metals in waste material especially slag.
13. Trace metals in water

ADDITIONAL TORS FOR PELLET PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
 2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
 3. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
 4. PM(PM₁₀ and P_{2.5}) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM₁₀ to be carried over.
 5. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
 6. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
 7. Plan for slag utilization
 8. Plan for utilization of energy in off gases (coke oven, blast furnace)
 9. System of coke quenching adopted with justification.
 10. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
 11. Trace metals in waste material especially slag.
 12. Trace metals in water
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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.
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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.

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

**LIST OF PARTICIPANTS OF EAC (I) IN 7th MEETING OF EAC (INDUSTRY-I) HELD
ON 30th MAY – 1st JUNE, 2016**

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