

**Minutes of the 36<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 24<sup>th</sup> & 25<sup>th</sup> May, 2012 at IOCL Conference Room, 5<sup>th</sup> Floor, Core 6, Scope Complex, Lodhi Road, New Delhi - 110003.**

**36.0 Opening Remarks of the Chairman**

At the outset, Chairman welcomed the members of the Expert Appraisal Committee (Industry-1). Thereafter, agenda items were taken up for discussion.

**36.1 Confirmation of the Minutes of the 35<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held on 26<sup>th</sup> - 27<sup>th</sup> April, 2012.**

The Minutes of the 35<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held on 26<sup>th</sup> - 27<sup>th</sup> April, 2012 were confirmed.

**36.2.0 Consideration of the Projects**

**24<sup>th</sup> May, 2012**

**Proposals for Environmental Clearance**

**36.2.1** Proposed expansion of Integrated Steel Plant and Power Plant (Sponge Iron from 2,80,000 TPA to 10,00,000 TPA, Hot Metal/Pig Iron from 2,50,000 TPA to 10,00,000 TPA, Billets/Ingots from 5,25,000 TPA to 10,25,000 TPA, Rolled Steel Products from 5,00,000 TPA to 10,00,000 TPA, Sinter from 2,50,000 TPA to 14,80,000 TPA, Power from 49 MW to 109 MW) at Khasra. No. 202 to 479 & 417 to 496, Village Eklari & Warthi, Taluka Mohadi, District Bhandara, Maharashtra by **M/s Sunflag Iron & Steel Co. Ltd. (SISCO Ltd.) - regarding Environmental Clearance**

The project authorities along with their environmental consultant, M/s. Earthcare Labs Private Limited, Nagpur gave a detailed presentation on the salient features of the proposal & proposed environmental protection measures to be undertaken as per Terms of References (TORs) issued during 15<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 25<sup>th</sup> -27<sup>th</sup> October, 2010 for preparation of EIA/EMP. The Integrated Steel Plants are listed at S. No. 3(a) in Primary Metallurgy Industry under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Sunflag Iron & Steel Co. Ltd. (SISCO Ltd.) have proposed for expansion of Integrated Steel Plant and Power Plant at Khasra. No. 202 to 479 & 417 to 496, Village Eklari & Warthi, Taluka- Mohadi, District Bhandara, Maharashtra. Total existing project area is 216 Ha and no additional land will be required for the proposed expansion. The land is acquired by SICOM, Government of Maharashtra and handed over to company. Green belt will be developed over 77 Ha. Wainganga River flows at a distance of 5.3 km in East direction. No National Park/Wildlife Sanctuary/Elephant corridors/Tiger Reserves are located within 10 km radius. Nearest forest, Matora is at a distance of 9.3 km from plant. The cost of proposed expansion project is Rs. 1,625 Crores.

Sr. No.	Products	Existing Capacity	Capacity Under Construction as per EC granted	Proposed Expansion Capacity	Total Production Capacity After Expansion Project
1.	Sponge Iron	2,80,000 TPA	--	7,20,000TPA	10,00,000 TPA
2.	Hot Metal / Pig Iron	2,50,000 TPA	--	7,50,000TPA	10,00,000 TPA
3.	Ingots/ Billets	5,25,000 TPA	--	5,00,000TPA	10,25,000 TPA

4.	Rolled Steel Products	5,00,000 TPA	--	5,00,000 TPA	10,00,000 TPA
5.	Sinter	2,50,000 TPA	--	12,30,000 TPA	14,80,000 TPA
6.	Power	30 MW	19 MW from WHRBs	60 MW	109 MW
7.	Coke	--	2,50,000 TPA	--	2,50,000 TPA
8.	Oxygen /Argon Plant	45,000 TPA	--	--	45,000 TPA
9.	Coinage Plant	9,600 TPA	--	--	9,600 TPA
10.	Centralized Pickling Plant	66,000 TPA	--	--	66,000 TPA
11.	Facilities	Coiler, AOD, VD Plant, Coal Washery, Coal injection in MBF etc	--	--	Coiler, AOD, VD Plant, Coal Washery, Coal injection in MBF etc

The major raw materials viz Iron ore required after the proposed expansion project will be sourced from NMDC Kironpur (Bailidila, C.G.), Hospet (Dharwar), Barbil (Orissa), Katni (Jabalpur) & own mines and transported by rail as rake. Coal will be sourced from Sunflag Belgaon Mine, Dist. Chandrapur, SECL, Bilaspur & own mines and transported by rail as rake, Limestone /dolomite will be sourced from Nagpur, Mandla, Tiroda and Madhya Pradesh Mines & own mines and transported by tarpuline covered trucks. Manganese Ore will be sourced from Sunflag Navegaon Mine, Dist- Bhandara and transported by tarpuline covered trucks. Coal linkage documents from SECL and Captive mines are submitted. Compliance to the conditions stipulated in the EC dated 21.2.2006 for existing plant is submitted and found to be satisfactory.

Sponge iron will be manufactured in coal based Direct Reduction (DR) Kilns. Pig Iron/Hot Metal will be manufactured in coke based Mini blast furnace. Ingot/Billets will be manufactured by melting in Electric arc furnaces & Induction furnaces and casting in continuous casting machine. Rolled steel products will be manufactured in Oil/gas fired reheating furnaces and rolling mills. Sinter will be manufactured using Iron ore fines, Coke breeze and steel plant dust in sinter plant. Electricity will be generated in coal/waste gas based power plant.

The baseline data was monitored and analyzed during the period from September 2011 to December 2011 within 10 Km radius study area. The ambient air quality at nine AAQM stations indicated that PM<sub>10</sub> concentration ranged between 36.6-95.0 µg/m<sup>3</sup>, PM<sub>2.5</sub> concentration ranged between 16.1-43.2 µg/m<sup>3</sup>, SO<sub>2</sub> concentration ranged between 10.0-26.0 µg/m<sup>3</sup> and NO<sub>2</sub> concentration ranged between 9.3-37.4 µg/m<sup>3</sup>. Prediction of Ground Level Concentrations (GLCs) has been carried out by ISCST3 model which indicated that after proposed expansion, an maximum incremental GLCs for PM<sub>10</sub> & SO<sub>2</sub> will be 7.27 µg/m<sup>3</sup> & 27.2 µg/m<sup>3</sup> at a distance of 9.85 km in SSE direction respectively Predicted GLCs of pollutants after implementation of the proposed expansion project will be within NAAQS.

For Air Pollution Control, at DRI Plant for Rotary Kilns system comprising DSC, ABC, WHR Boilers and ESP will be provided. At MBF Plant, for furnaces there will be two-stage venturi system (first stage for precleaning of the gas and second stage for final cleaning of the gas), ID fan and chimney. At Steel Melting Shop for Electric Arc Furnaces, Ladle Heating Furnaces and Induction Furnaces, systems comprising of canopy, suction ducting, combustion chamber, double walled water/air cooled ducts, forced draft coolers, bag filters, ID fan and chimney will be provided. At Sinter Plant, systems comprising Head ESP, Tail ESP & Bag Filters will be provided. At Boilers (Power Plant) economizer, air preheater, electrostatic precipitator and adequate height of Chimney will be provided.

Total water requirement after proposed expansion project will be 17,602 m<sup>3</sup>/day, which will be sourced from Wainganga River. Fly ash will be disposed to cement plants, brick manufacturing and other end users, bed ash will be disposed to brick manufacturing & concrete products makers, ESP Dust & DRI Ash will be used as fuel in FBC Boiler and for sale to local parties and Dust of Bag Filters (DRI & SMS) will be used for sinter & sponge iron manufacture. EAF & IF Slag will be disposed to cement manufacturers, roads construction & other end users, Steel Scrap will be recycled to SMS, Grinder Waste will be recycled to SMS, Coal Rejects/ Fines will be used as fuel in power plant and Granulated MBF Slag will be disposed to cement plants. Mill Scale, Residue from MBF Gas Cleaning Plant, Coke Fines & Nuts, Iron Ore Fines, Hot Returned Ore and Removed dust will be used in sinter manufacture. Used/Spent Oil will be disposed to authorized reproprocessors /recyclers, Acid Residue, Spent Bath Sludge and ETP Chemical Sludge will be used for sinter manufacture or disposed to CHWTSDf, Butibori.

Public hearing is not required as per Para 7 (i) III (b) of EIA Notification, 2006 as the project is located in notified industrial area.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

- i. Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), gas cleaning plant, venturi scrubber, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm<sup>3</sup> by installing energy efficient technology.
- ii. As proposed, Electrostatic precipitator (ESP) shall be provided to WHRB, CFBC and DRI plants to control SPM levels within 50 mg/Nm<sup>3</sup>. Fume extraction system shall be provided to induction furnaces to control the emissions within the prescribed standards.
- iii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- iv. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 should be followed.
- v. 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 and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before leaving out into the atmosphere through ID fan and stack.
- vi. Total water requirement after the expansion project shall not exceed 17,602 m<sup>3</sup>/day. 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. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit.
- vii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- viii. Regular monitoring of influent and effluent surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act 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 at Bhopal, SPCB and CPCB.

- ix. The water consumption shall not exceed as per the standard prescribed for the steel plants.
- x. All the coal fines, char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be used for briquette making or disposed off anywhere else. AFBC boiler shall be installed simultaneously along with the DRI plant to ensure full utilization of char from the beginning. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.
- xi. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003.
- xii. Vehicular pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.
- xiii. 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.
- xiv. 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 should be submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB.
- xv. A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.
- xvi. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xvii. As proposed, green belt shall be developed in 33 % of plant area as per the CPCB guidelines in consultation with the DFO.
- xviii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.
- xix. At least 5 % of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.
- xx. The company shall provide housing for 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.

**36.2.2 Expansion of Ferro Alloys manufacturing facility at Plot No. 368, Growth Centre, APIIC- Bobbili (Village & Mandal), Vizianagaram Dist. Andhra Pradesh by M/s. Berry Alloys Limited (BAL) - regarding Environmental Clearance**

The project authorities and their consultant, M/s Sri Sai Manasa Nature Tech Pvt. Ltd., Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (ToRs) awarded during the 18<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held on 24<sup>th</sup> - 25<sup>th</sup> January, 2011, for preparation of EIA/EMP. All the Ferro alloy plants are listed at S.No. 3(a) in Primary Metallurgy

Industry under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s. Berry Alloys Limited has proposed for expansion of Ferro Alloys Manufacturing Unit at Plot No: 368, Growth Center, APIIC, Bobbili (V & M), Vizianagaram (D), Andhra Pradesh. The land acquired for expansion is 3.42 acres and existing land is 10.0 Acres. Green belt will be developed in 4.43 acres. Total cost of the proposed expansion project will be Rs. 30 Crores and Rs. 2 Crores is allocated for EMP.

The following are details of existing & proposed expansion facilities and production Capacities:

S. No.	Facility	Plant configuration	Product	Production Capacity		
				Existing (TPA)	Proposed (TPA)	TOTAL (TPA)
1	Submerged Electric Arc furnaces	Existing : 2 x 9 MVA Proposed : 3 X 9 MVA	Ferro Manganese	21,600	22,275	43,875
2.			Silico Manganese	5,400	22,275	27,675
3.			Ferro Silicon	5,400	-	5,400
4.			Ferro Chrome	3,600	-	3,600

Manganese ore, coal/coke, Dolomite, quartz, Fe-Mn Slag, carbon paste, Dry Briquettes, Magnesite, MS rounds, Mill scale and casting sheets will be used as raw materials. Manufacturing process involves smelting of charge materials in submerged arc furnace. Dust extraction system with Pulse Jet bag filters will be provided to submerged arc furnace. Water sprinkling system will be provided to control fugitive dust emissions from material handling. Total fresh water requirement for proposed expansion will be 38.4 KLD, which will be sourced from APIIC. No process wastewater will be generated. Domestic wastewater will be sent to septic tank followed by dispersion trench. Zero effluent discharge will be maintained. Ferro-Manganese slag will be reused in Silico-Manganese manufacture and Silico Manganese slag will be used in constructional works. Bag filter dust will be sent to fly ash brick manufacturing units. Noise absorbing materials will be used in the construction of buildings etc. and less noise generating machinery will be installed. Total power requirement of 132 KVA will be met from the substation.

Public hearing is not required as per Para 7 (i) III (b) of EIA Notification, 2006 as the project is located in notified industrial area.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to submission of Gazette Notification of Industrial Area, OHS data of workers & Revised OHS plan, Chemical and Trace Element analysis of Mn Ore and the stipulation of following specific conditions along with other environmental conditions:

1. No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.
2. Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm<sup>3</sup>.
3. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
4. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

5. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB.
6. The total water requirement shall not exceed 38.4 m<sup>3</sup>/day. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
7. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
8. Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of Silico Manganese (Si-Mn). All the other ferro alloy slag shall be used in the preparation of building materials.
9. No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.
10. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.
11. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
12. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program shall be ensured accordingly in a time bound manner.

**36.2.3 Establishment of low carbon ferro alloy manufacturing unit at Plot No.9, Peddapuram Industrial area, Phase III, Kakinada Mandal, East Godavari District, Andhra Pradesh by M/s Veekay Smelters Pvt. Limited- regarding Environmental Clearance**

The project authorities and their consultant, M/s Pioneer Enviro Laboratories & Consultants Pvt. Ltd., Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per the Draft Terms of Reference (TORs) awarded during the 32<sup>nd</sup> EAC meeting held on 27<sup>th</sup> - 28<sup>th</sup> January, 2012 for preparation of EIA/EMP. All the Ferro alloy plants are listed at S.No. 3(a) in Primary Metallurgy Industry under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Veekay Smelters Pvt. Ltd. have proposed to set up a low carbon ferro alloy manufacturing unit at Plot No.9, Peddapuram Industrial area, Phase III, Kakinada Mandal, East Godavari District, Andhra Pradesh. The land acquired for the project is 1.01 acres and green belt will be developed in 33% area. No R & R is involved. No National Park / Sanctuary is located within 10 km radius of the proposed project site. Rameswaram Reserve Forest is at a distance of 6.5 Kms. from the project site. Total cost of the proposed project is Rs. 4.28 Crores. Rs. 0.25 Crores and Rs. 5.0 lakhs will be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.

Following are the proposed products and their production capacities:

S. No.	Item	Capacity (MTPA)
1.	Low Carbon Ferro Manganese	4800

2.	Low Carbon Ferro Chrome	1200
3.	Chrome Metal	1200
4.	Ferro Titanium	1200
5.	Ferro Molybdenum	1200
	<b>Total</b>	<b>9600</b>

Reaction Chamber will be used for manufacture of low carbon ferro alloys. The process proposed is Alumino Thermic Reduction. The Thermit Process for the production of Low Carbon Ferro Alloys involves exothermic reaction, where heat is generated. Most of the raw material such as Concentrate of Molybdenum, Chromium, Titanium, Manganese, Lime Powder, Aluminium Granules/Powder, Silico Manganese & Ferro Silicon are received duly packed in HDPE bags and stored under covered roof. The power requirement will be supplied by APIIC. The bagged material received in the trucks is unloaded manually into the storage area. The persons engaged for this purpose will be provided with personal protective equipment such as clear goggles, nose mask etc. The daily required material will be transferred to the production bay from storage bay with the help of pay loaders and lifted to overhead silos by EOT Crane. Here also the persons (max 2 nos/day) engaged to open the bags will be provided with clear goggles, nose mask etc.

Ambient air quality monitoring was carried out at 8 locations during December 2011 to February 2012 and the data indicated the average values as PM<sub>2.5</sub> (11.2 to 21.5 µg/m<sup>3</sup>), PM<sub>10</sub> (20.6 to 38.5 µg/m<sup>3</sup>), SO<sub>2</sub> (6.0 to 10.8 µg/m<sup>3</sup>) and NOx (6.2 to 11.7 µg/m<sup>3</sup>). The incremental values of PM<sub>10</sub> and NOx are 0.1 µg/m<sup>3</sup> and 0.8 µg/m<sup>3</sup> respectively. The resultant concentrations are within the permissible limit.

Fume extraction system with hoods followed by Ventury scrubber will be provided. Total water required for the proposed plant is 13 KLD and will be supplied by APIIC. No wastewater will be generated from the proposed low carbon ferro alloys plant as closed circuit cooling system will be adopted, only wastewater will be sanitary wastewater, which will be treated in septic tank followed by soak pit. Most of the slag generated will be recycled in the process by using it for lining the reaction vessels to withstand the high reaction temperature. Balance slag will be sold to refractory manufacturers, cement manufacturers and cast iron foundries. The slag will be crushed and given to brick manufacturers.

Public hearing is not required as per Para 7 (i) III (b) of EIA Notification, 2006 as the project is located in notified industrial area.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

1. No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.
2. Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm<sup>3</sup>.
3. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
4. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

5. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB.
  6. The total water requirement shall not exceed 13 m<sup>3</sup>/day. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
  7. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
  8. All the ferro chrome slag shall be used for land filling inside the plant or used as building material only after passing through Toxic Chemical Leachability Potential (TCLP) test. Otherwise, hazardous substances shall be recovered from the slag and output waste and be disposed in secured landfill as per CPCB guidelines.
  9. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.
  10. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
  11. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program shall be ensured accordingly in a time bound manner.
- 36.2.4 Expansion project consisting of enhancement of production capacity of existing writing, printing paper (140 TPD to 200 TPD), setting up of 200 TPD Duplex Board Plant with 1x8 MW Captive co-generation power plant in the existing mill premises at Falta Industries Growth Centre, Phase-II, Sector-V, Village Falta, District South 24 Parganas, West Bengal by M/s Kohinoor Paper & Newsprint (P) Limited- regarding Environmental Clearance**

The project authorities and their consultant, M/s Envirotech East Pvt. Ltd., Kolkata, gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (TORs) awarded during the 14<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1), held during 23<sup>rd</sup> - 25<sup>th</sup> September, 2010 for preparation of EIA/EMP. Pulp and paper industry excluding manufacturing of paper from waste paper and manufacture of paper from ready pulp without bleaching are listed at serial no. 5(i) under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Kohinoor Paper & Newsprint Pvt. Ltd. have proposed for enhancement of production capacity of existing writing, printing and newsprint paper from 140 TPD to 200 TPD, setting up of 200 TPD Duplex Board Plant along with 1x8 MW Captive co-generation power plant at Falta Industrial Growth Centre, Phase-II, Sector-V, Village Falta, District South 24 Parganas, West Bengal. The unit will install paper machine, pulp mill & coal fired boiler. The proposed project will be installed within the existing plant area, comprising of 30.36 acres, which is under the possession of the company. The land is leased with WBIIDC. Out of the total plant area, 33% is earmarked for the green belt development along the plant boundary. No national parks / wild life sanctuary/reserve forests are located within 10 km radius. River Hooghly flows at a distance of 740 m. from the project site. Kolkata is around 70 km from the project site. Total cost of the project is Rs. 211.19 crores.

The existing as well as proposed units along with their capacities are as follows:

Proposal	Existing Capacity	Proposed Capacity
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Writing, Printing and News Print Paper Unit	140 TPD	60 TPD
Duplex Board Unit	-	200 TPD
Captive Power Plant	6 MW	8 MW

Compliance to the conditions stipulated in the EC dated 26.3.2008 for existing plant is submitted and found to be satisfactory. Coal linkage documents for Indian Coal and MoU for imported coal are submitted. The basic raw materials to be used for manufacturing paper are various types of waste papers viz. newspaper and magazine, sorted books and records, coated book stock (CBS), sorted office papers (SOP), note books, white cuttings, envelope cuttings, etc. (Total 21,480 TPA). The basic raw materials to be used for manufacturing coated duplex board are hardwood pulp, mixed waste, local white cuttings, waste craft etc. (Total 81,511 TPA). The power requirement for the proposed project is around 10 MW, which will be sourced mostly from the proposed 8 MW Captive Co-generation Power Plant and the balance from West Bengal State Electricity Distribution Company Limited (WBSEDCL).

To control the air pollution, ESP will be provided to FBC boiler of the captive power plant to control gaseous emissions. Dust suppression and dust extraction system like bag filters will be provided in coal handling plant, screen, conveyer, transfer points etc. The water requirement for the proposed project will be 300 m<sup>3</sup>/hr, which will be sourced from the existing tidal drainage canal, which is connected to River Hooghly. Demineralization plant will be installed to meet the requirement of boiler water. Around 230.5 m<sup>3</sup>/hr of effluent will be generated (combining both the existing & the proposed projects), which shall be properly treated in the existing as well as the proposed Effluent Treatment Plants. Treated effluent (from the ETPs) meeting relevant effluent discharge standards will be let out into the River.

About 29,792 TPA of fly ash is expected to be generated from the coal-fired boiler. The company proposes to set up its own manufacturing plant of fly ash bricks and utilize those bricks for its own future construction work like construction of buildings, godowns etc. Fly ash will also be used for plant roads and its embankments. The company will also try to dispose fly ash through competitive bids to local brickfields & others.

The Committee deliberated upon the issues raised during the Public Hearing /Public Consultation meeting conducted by the West Bengal Pollution Control Board on 10<sup>th</sup> February, 2012 at the project site. The main issues raised in the public hearing meeting were developing of local area, provision of employment, pollution control etc. which were addressed in the EIA Report.

After detailed deliberations, the Committee recommended the project for environmental clearance subject to the following specific conditions along with other environmental conditions:

- (i) Compliance to all the specific and general conditions stipulated for the existing plant by the Central/State Government shall be ensured and regular reports submitted to the Ministry and its Regional Office at Bhubaneswar.
- (ii) The project authority shall install multi cyclones, wet scrubbers with the boilers to achieve the particulate emission below 50 mg/Nm<sup>3</sup>. The emissions from chemical recovery section shall be controlled through primary and secondary ventury scrubbers.
- (iii) Data on ambient air, stack and fugitive emissions shall be regularly submitted online to Ministry's Regional office at Bhubaneswar, SPCB and CPCB as well as hard copy once in six months and display data on RSPM, SO<sub>2</sub> and NO<sub>x</sub> outside the premises at the appropriate place for the general public.
- (iv) In case of treatment process disturbances/failure of pollution control equipment adopted by the unit, the respective unit shall be shut down and shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- (v) The water requirement shall not exceed 300 m<sup>3</sup>/hr. The industry shall ensure the compliance of the standards for discharge of the treated effluent from the unit as stipulated under the EPA rules

or SPCB whichever is more stringent. The company shall make efforts to limit the water consumption upto 75 m<sup>3</sup>/tonne of product. Adequate steps including use of modern RO/UF based technologies should be used to increase recycling and reduce water consumption. Mill should comply with the State Government Policy w.r.t discharge of treated wastewater directly or indirectly to River Ganga.

- (vi) Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the State Pollution Control Board and regular monitoring shall be carried out for all relevant parameters to maintain the effluent treatment efficiency. The report shall be submitted to Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
- (vii) The company shall install Oxygen Delignification (ODL) Plant and shall maintain AOX below 1 kg/tonne of paper production.
- (viii) ECF technology shall be used and lime kiln shall be installed to manage lime sludge
- (ix) The company shall submit the comprehensive water management plan along with monitoring plan for the ground water quality and the level, within three months from date of issue of this letter.
- (x) The ash generated from the plant shall be disposed of in accordance with the provisions of the Fly Ash Notification, 2003.
- (xi) The deinking sludge shall be incinerated as per the prescribed norms
- (xii) The project authority shall dispose of hazardous waste as per the provision of Hazardous Wastes (Management and Handling) Rules, 2003.
- (xiii) The company shall develop green belt in 33% of the total land as per the CPCB guidelines to mitigate the effect of fugitive emissions.
- (xiv) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xv) The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.
- (xvi) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the pulp and paper sector shall be strictly implemented.
- (xvii) All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 10<sup>th</sup> February, 2012 shall be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.
- (xviii) At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.
- (xix) 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.

**36.2.5** Proposed 2x9 MVA Submerged Arc Furnace (Fe-Mn: 13,365 TPA, Si-Mn: 10,395 TPA, Fe- Si: 2,970 TPA) at Plot No. 205 & 206, APIIC Growth Center, Village & Mandal Bobbili, District

Vizianagram in Andhra Pradesh by **M/s Young India Alloys Private Limited- regarding Environmental Clearance**

The project authorities and their consultant, M/s Sri Sai Manasa Nature Tech Pvt. Ltd., Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (ToRs) awarded during the 28<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held on 26<sup>th</sup> - 27<sup>th</sup> September, 2011, for preparation of EIA/EMP. All the Ferro alloy plants are listed at S.No. 3(a) in Primary Metallurgy Industry under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s. Young India Alloys Limited has proposed for Ferro Alloys Manufacturing Unit (2 x 9 MVA Submerged Electric Arc Furnaces) to manufacture 13,365 TPA of Ferro Manganese, 10,395 TPA of Silico Manganese and 2,970 TPA of Ferro Silicon at Plot No: 205 & 206, Growth Center, APIIC, Bobbili (V & M), Vizianagaram (D), Andhra Pradesh. The land acquired for the project is 7.91 acres of which green belt will be developed in 2.61 acres. Total cost of the proposed project will be Rs. 17 Crores and Rs. 2 Crores is allocated for EMP.

The following are details of proposed facilities and production capacities:

S. No.	CAPACITY	PRODUCTS	PRODUCTION QUANTITIES	
			(TPA)	(TPD)
1	2 x 9 MVA Capacity Submerged Electric Arc Furnace	Silico Manganese	10395	31.5
2		Ferro Manganese	13365	40.5
3		Ferro Silicon	2970	9
		<b>Total</b>	<b>26730</b>	<b>81</b>

Manganese ore, coal/coke, Dolomite, quartz, Fe. Mn Slag, carbon paste, Dry Briquettes, Magnesite, MS rounds, Mill scale and casting sheets will be used as raw materials. Manufacturing process involves smelting of charge materials in submerged arc furnace.

Dust extraction system with Pulse Jet bag filters will be provided to submerged arc furnace. Water sprinkling system will be provided to control fugitive dust emissions from material handling. Total fresh water requirement will be 25.7 KLD, which will be sourced from APIIC. No process wastewater will be generated. Domestic wastewater will be sent to septic tank followed by dispersion trench. Zero effluent discharge will be maintained. Ferro-Manganese slag will be reused in Silico-Manganese manufacture and Silico Manganese slag will be used in constructional works. Bag filter dust will be sent to fly ash brick manufacturing units. Noise absorbing materials will be used in the construction of buildings etc. and less noise generating machinery will be installed. Total power requirement of 132 KVA will be met from the substation.

Public hearing is not required as per Para 7 (i) III (b) of EIA Notification, 2006 as the project is located in notified industrial area.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to submission of Gazette Notification of Industrial Area, Chemical & Trace Element analysis of Mn Ore, Revised OHS plan, Budgetary break up of 5% Enterprise Social Commitment and the stipulation of following specific conditions along with other environmental conditions:

1. No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.
2. Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm<sup>3</sup>.

3. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
4. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
5. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB.
6. The total water requirement shall not exceed 38.4 m<sup>3</sup>/day. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
7. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
8. Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of Silico Manganese (Si-Mn). All the other ferro alloy slag shall be used in the preparation of building materials.
9. No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.
10. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.
11. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
12. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program shall be ensured accordingly in a time bound manner.

**36.2.6 Proposed 300 TPD Cement Plant at Village Khrew, Tehsil Pampore, District Pulwama in Jammu and Kashmir by M/s HK Cement Industries Pvt. Limited -regarding Environmental Clearance**

The project authorities and their consultant, M/s. Ace Engineers and Consultants, Patiala gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per the Terms of Reference (TORs) awarded during the 28<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held on 26<sup>th</sup> - 27<sup>th</sup> September, 2011, for preparation of EIA/EMP. Although the proposed project is a Category B project, since the plant site falls within 10 km of eco sensitive area (Dachigam National Park), as per the General Condition of EIA Notification, 2006, the project has been appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s H K Cement Industries Pvt. Ltd. have proposed to set up a 300 TPD Cement Plant with an installed capacity of 99,000 tons of cement per annum for the manufacture of Portland Cement produced by rotary kiln based technology. The industrial unit is to be located at Village Khrew, Tehsil Pampore, District Pulwama, J&K. At the said location, the company has already acquired 70 kanals of land for setting up the 300 TPD cement plant. Green belt will be developed in more than 33 % of the total land area. Dachigam National Park is located at a distance of 4 km from the site. Total cost of the project is

Rs. 25 Crores. Capital cost for Environmental Protection Measures is Rs. 3 crores and Recurring Cost is Rs. 1.55 Crores/annum.

Raw materials required for the proposed cement plant are limestone, gypsum, clay and coal. Power requirement of 2 MW will be met from state power supply. Ambient air quality monitoring was carried out within the study area for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. Values of these parameters range from 31 to 72 µg/m<sup>3</sup>, 22 to 52 µg/m<sup>3</sup>, 3.1 to 10.7 µg/m<sup>3</sup> and 6.1 to 24.6 µg/m<sup>3</sup> respectively. The predicted incremental Ground Level Concentrations (GLCs) due to the proposed project for SPM, SO<sub>2</sub> and NO<sub>x</sub> is 8.0 µg/m<sup>3</sup>, 9.0 µg/m<sup>3</sup> and 3.5 µg/m<sup>3</sup> respectively. The resultant concentrations are within the prescribed standards.

ESP, Bag houses and Bag filters will be installed to control the dust concentration below 50 mg/Nm<sup>3</sup>. All material transfer points will be provided with bag filters to entrap the emissions at the source itself. Clinker would be stored in silos and gypsum in covered yard. Total water requirement will be 100 m<sup>3</sup>/day and will be sourced from ground water. No industrial wastewater will be generated from the Cement Plant. Domestic wastewater generated from Cement Plant/Colony will be treated in the STP. The treated water will be utilized for greenbelt development. No solid waste will be generated in cement manufacturing process. Dust collected from the various pollution control equipments will be recycled back to the process. Chimney of adequate height would be provided for DG sets as per CPCB norms.

The Committee deliberated on the issues raised during the Public Hearing / Public consultation meeting conducted by the Jammu and Kashmir State Pollution Control Board on 26<sup>th</sup> December, 2011. The issues raised in the public hearing were regarding pollution control, local development, providing employment etc.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to submission of a map showing the location of the plant and Dachigam National Park to be authenticated by the Chief Wildlife Warden along with his recommendations/ comments, Compliance to the Public Hearing issues and the stipulation of following specific conditions along with other environmental conditions:

- i. The company shall obtain the clearance from the National Board of Wild life regarding location of the plant within 10 km radius of the Dachgam National Park.
- ii. Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided. After expansion, limit of SPM shall be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system. Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO<sub>x</sub> burners should be provided to control NO<sub>x</sub> emissions.
- iii. Possibilities shall be explored for the proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be prepared and submitted to the Ministry and its Regional Office at Chandigarh within 3 months from the date of issue of the letter.
- iv. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- v. 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 should be followed.
- vi. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash should be transported in the closed containers only and shall not be overloaded. The company shall have separate truck parking area. Vehicular emissions should be regularly monitored.

- vii. Total water requirement shall not exceed 100 m<sup>3</sup>/day. 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 should be adopted.
- viii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- ix. Regular monitoring of influent and effluent surface, sub-surface and ground water should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Chandigarh, SPCB and CPCB.
- x. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices should be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / reprocessors only.
- xi. Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.
- xii. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision should be made accordingly.
- xiii. As proposed, green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.
- xiv. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.
- xv. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 26<sup>th</sup> December, 2011 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Chandigarh.
- xvi. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Chandigarh. Implementation of such program shall be ensured accordingly in a time bound manner.

**36.2.7 Proposed Cement Grinding Unit (200 TPD/73,000 TPA) at Plot No. E-18, RIICO Industrial Area, Village Sota Nala, Tehsil Behror, District Alwar, Rajasthan by M/s Aditya Cement- regarding Environmental Clearance**

The project authorities along with their environmental consultant, M/s. TEAM Institute of Science & Technology Pvt. Ltd., Jaipur gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per the Terms of Reference (TORs) accorded during the 24<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 19<sup>th</sup> -20<sup>th</sup> May, 2011 for the preparation of EIA/ EMP. The stand alone cement grinding units are covered under Category 'B' as per para 3(b) of the Schedule of the EIA notification 2006, but due to Interstate Boundary of Haryana within 10 km radius of the project site, the proposal was considered as a Category "A" Project and appraised at the Centre.

M/s Aditya Cement have proposed for Cement Grinding Unit (200 TPD/ 73,000TPA) at Plot No. E-18, RIICO Industrial Area, Village Sota Nala, Tehsil Behror, District Alwar, Rajasthan. The total plot area for the proposed plant is about 4,018.40 sq. mtrs., out of which, about 1,420 sq. m. (35% of the

total area) will be developed as green belt/ plantation. No national park, wild life sanctuary, biosphere reserve & ecologically sensitive area are located within 10 Km of project site. Total cost of the project is Rs. 86.66 lakhs and Rs. 5 Lakhs & Rs. 4.6 lakhs will be earmarked towards capital cost & recurring cost/ annum for environmental pollution control measures.

Clinker and Gypsum are the raw materials that would be used in varying ratio for the manufacturing of OPC. The manufacturing process involves raw material unloading and storage, grinding of material in a ball mill and packaging of finished product. The raw materials will be stored in covered sheds and water sprinkling would be regularly done to minimize the dust generation. Bucket elevators will be closed type and Conveyor Belts will be provided with covering hoods. The power requirement of 350 KW will be met from grid power supply of RSEB and a D.G Set of 100 KVA capacity will be provided for power back up.

Ambient air quality monitoring carried during winter season reveals that the concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> for all the 5 AQQM stations were found between 74 to 91 µg/m<sup>3</sup> and 50 to 68 µg/m<sup>3</sup> respectively. The concentrations of SO<sub>2</sub> and NO<sub>2</sub> were found to be in the range of 10.2 to 16.7 µg/m<sup>3</sup> and 24.32 to 26.75 µg/m<sup>3</sup> respectively. All major sources of air pollution will be provided with Bag Houses/ Bag Filters & ESP to maintain the PM emissions level below 50 mg/ Nm<sup>3</sup> to control particulate emissions. All materials transfer points will be provided with bag filters to entrap the emissions at the source itself. The DG sets will be housed in inbuilt acoustic enclosures and will be provided with adequate stack height (as per the norms of CPCB) so that the emissions are well within the norms.

The water requirement of 7 m<sup>3</sup>/d will be met from RIICO. No process wastewater will be generated. The wastewater generated from various domestic activities will be 3 m<sup>3</sup>/d and will be treated in septic tank followed by soak pit. Rain water harvesting will be practiced at plant and colony area. No solid waste will be generated in cement manufacturing process. Dust collected from air pollution control equipment will be 100 % recycled in the process. Septic tank sludge would be used as manure after treatment. The spent oil will be disposed as per RSPCB guidelines to authorized agencies. D.G. set will be housed in an inbuilt acoustic enclosure. Silencers will be provided in the machineries generating high noise. Noise attenuating devices like earplugs and earmuffs will be provided to the workers exposed to high noise level.

Public hearing is exempted by categorizing the project in B-2 category due to use of energy efficient technology, no clinker manufacturing at the proposed site, no sensitive area within 10 km. radius, 'zero' effluent discharge, utilization of all the solid waste in the process itself including utilization of fly ash etc.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to submission of Copy of Gazette Notification of Industrial Area, Incremental GLCs due to the proposed plant, Budgetary break up for 5% ESC activities and the stipulation of following specific conditions along with other environmental conditions:

- i. Particulate emissions shall be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system viz. Bag filters and stacks of adequate height etc. Data on ambient air, fugitive and stack emissions shall be submitted to the Ministry's Regional Office at Lucknow, SPCB and CPCB regularly.
- ii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be followed.
- iii. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB should be followed.
- iv. The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc. All the raw material stock piles should be covered. A closed clinker stockpile system shall be provided. All conveyers should be

covered with GI sheets. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided besides coal, cement, fly ash and clinker shall be stored in silos. Pneumatic system shall be used for fly ash handling.

- v. Asphaltting/concreting of roads and water spray all around the stockyard and loading/unloading areas in the cement plant shall be carried out to control fugitive emissions. Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading and unloading points, transfer points and other vulnerable areas. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- vi. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash should be transported in the closed containers only and should not be overloaded. Vehicular emissions should be regularly monitored.
- vii. Total water requirement for the cement plant shall not exceed 7 m<sup>3</sup>/day and necessary permission for the drawl shall be obtained. All the treated wastewater should 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 should be adopted.
- viii. 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.
- ix. All the bag filter dust, raw meal dust, coal dust, clinker dust and cement dust from pollution control devices should be recycled and reused in the process used for cement manufacturing. Spent oil and batteries should be sold to authorized recyclers / reprocessors only.
- x. Green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.
- xi. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Lucknow. Implementation of such program should be ensured accordingly in a time bound manner.

#### **36.2.8 Expansion of Integrated Steel Plant from 0.067 to 0.378 MTPA at Unit-II Budhakota, Biringatoli, District Sundergarh in Orissa by M/s Scan Steels Limited- regarding Environmental Clearance**

The above proposal was accorded ToRs on 8.8.2008 and public hearing was exempted under Section 7 (ii) of EIA Notification, 2006. Accordingly, the proposal was considered for environmental clearance by the EAC (Industry-1) in its 5<sup>th</sup> Meeting held during 24<sup>th</sup>-25<sup>th</sup> November, 2009. The committee recommended the proposal for public hearing/consultation keeping the latest circulars of the MoEF for public hearing exemption under section 7 (ii) of the EIA Notification, 2006. Public Hearing was conducted on 6<sup>th</sup> May 2011 and the final EIA/EMP report was submitted to MoEF.

The project proponent and their environmental consultant, M/s Sun Consultancy and Services, Bhubaneswar gave a detailed presentation on the salient features of the project and proposed environmental protection and mitigation measures to be undertaken as per the prescribed Terms of Reference. The Integrated Steel Plants are listed at S. No. 3(a) in Primary Metallurgy Industry under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Scan Steels Limited have proposed for expansion of Integrated Steel Plant from 0.067 to 0.378 MTPA at Unit-II, Budhakata, Biringatoli, District Sundergarh in Orissa. The total land requirement

of the project is 233 acres which is acquired. There is no national Park/wild life sanctuary within 10 km radius of the project site. The cost of the project is about Rs. 765.74 Crores. Rs. 7.5 Crores is earmarked towards capital cost for environmental pollution control measures and Rs. 0.75 Crores per annum is earmarked towards recurring cost of pollution control measures. Compliance to the conditions stipulated in the Consent to Operate by OSPCB for the existing plant is submitted and found to be satisfactory

The following are the existing and proposed expansion facilities & products:

Sl. No	Unit	Product	Existing		Proposed		After Expansion
			Rated Capacity	Annual Production In MT	Rated Capacity	Annual Production In MT	Annual Production in MT
1	DRI Kiln	Sponge Iron	4 x 100 TPD	1,32,000	2 x 500 TPD	3,00,000	4,32,000
2	Blast Furnace (175 M <sup>3</sup> )	HM/Pig Iron	-	-	350 TPD	122,500/36,750	122,500/36,750
3	Iron Ore Crusher	Sized Iron Ore	-	-	50 TPH/1000 TPD	3,00,000	3,00,000
4	Captive Power Plant	Power	8 MW (4 MW WHRB + 4 MW AFBC)	-	30 MW (20 MW WHRB + 4 MW BF Gas based + 6 MW AFBC)	-	38 MW (28 MW WHRB + 10 MW AFBC)
5	Coal Washery	Washed Coal (65%) Middlings (30%) Rejects (5%)	-	-	40 TPH/800 TPD	2,40,000 (Coal Input)	2,40,000 (Coal Input)
6	SMS • Induction Furnace • Elec.Arc Furnace • Ladle Refining Furnace • Continues Casting M/c.	Billets	3 x 12 T - - -	67,000	- 2x30 T  1x30 T 1x4 Strand	3,11,040	3,78,040
7	Pellet Plant	Iron Ore Pellet	-	-	4,000 TPD	12,00,000	12,00,000
8	Submerged Arc Furnace	Silico Manganese	-	-	2x 7.5 MVA	10,200	10,200
9	Rolling Mill-1	TMT Rods/ Bars	-	-	1 x 38 TPH	2,00,000	2,00,000
10	Rolling Mill-2	Strl. Steel	-	-	1 x 38 TPH	2,00,000	2,00,000
11	Galvanizing Plant	Galvanized Product	-	-	20 TPH	1,08,000	1,08,000

12	Fly Ash Bricks Unit	Fly Ash Bricks	-	-	4x42 TPD	50,400	50,400
13	Oxygen Plant	Oxygen	-	-	4800 Nm <sup>3</sup> /hr	622 Mn. Nm <sup>3</sup> /year	622 Mn. Nm <sup>3</sup> /year

Precautionary measures will be adopted for storage of raw materials on concrete floors with bund under cover shed so as to avoid any leaching during rainy season. Transportation of raw materials and products will be done in covered manner so as to avoid any fugitive emission. There will be emissions during handling of raw materials and products, which will be controlled by dust suppression system. Regular monitoring of fugitive emissions will be carried out in different plant areas. The emissions from the production process will be passed through Scrubber and Bag filters/ESP to retain flue dust particles and then it will be released through high stack. The PM level will be maintained below 100 mg/Nm<sup>3</sup>.

Total water requirement will be 682 m<sup>3</sup>/hr which will be sourced from surface water. The rain water will be harvested and stored in a reservoir to cater the need of lean season. There will be no effluent generation from the plant. The domestic wastewater generated from the plant, after treatment, shall be recycled & utilized in the plant, dust suppression & gardening. As such the plant will work on zero discharge basis. The solid waste will be mostly in the form of dust from various APC devices, SMS Slag, Scraps etc. Solid waste generated from the plant in the form of granulated slag will be sold to cement manufacturers where as dust generated in the plant will be used in sinter plant and scrap recycled to SMS.

The Committee deliberated upon the issues raised during the Public Hearing /Public Consultation meeting conducted by the Odisha State Pollution Control Board on 6<sup>th</sup> May, 2011. The main issues raised in the public hearing meeting were provision of pollution control measures developing of local area, provision of employment etc. which were addressed in the EIA Report.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to stipulation of the following specific conditions along with other environmental conditions:

- i. Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), gas cleaning plant, venturi scrubber, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm<sup>3</sup> by installing energy efficient technology.
- ii. As proposed, Electrostatic precipitator (ESP) shall be provided to WHRB, CFBC and DRI plants to control SPM levels within 50 mg/Nm<sup>3</sup>. Fume extraction system shall be provided to induction furnaces to control the emissions within the prescribed standards.
- iii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- iv. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 should be followed.
- v. 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 and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before leaving out into the atmosphere through ID fan and stack.
- vi. Total water requirement after the expansion project shall not exceed 682 m<sup>3</sup>/hr. 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. No effluent shall be

discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit.

- vii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- viii. Regular monitoring of influent and effluent surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act 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 at Bhubaneswar, SPCB and CPCB.
- ix. The water consumption shall not exceed as per the standard prescribed for the steel plants.
- x. All the coal fines, char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be used for briquette making or disposed off anywhere else. AFBC boiler shall be installed simultaneously along with the DRI plant to ensure full utilization of char from the beginning. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.
- xi. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003.
- xii. Vehicular pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.
- xiii. 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.
- xiv. 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 should be submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
- xv. A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.
- xvi. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xvii. As proposed, green belt shall be developed in 33 % of plant area as per the CPCB guidelines in consultation with the DFO.
- xviii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.
- xix. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 6<sup>th</sup> May, 2011 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.
- xx. At least 5 % of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and

submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.

- xxi. The company shall provide housing for 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.

**Proposals for TORs**

**36.2.9 Proposed Iron Ore Beneficiation Plant (4.6 MTPA Through put) and Pelletization Plant (2.4 MTPA) at Sy. Nos. 106/1,2, 3 & 4 and others, Village Warava Naglavi, Tehsil and District Dharwad in Karnataka by M/s Man Natural Resource Limited - regarding TORs**

The project authorities and their consultant, M/s Bhagavathi Ana Labs Ltd., Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Terms of Reference for the preparation of EIA/EMP. All the Pelletization plants are listed at S.No. 3(a) in primary metallurgical industry under Category-A of the Schedule of EIA notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) in the MoEF.

M/s Man Natural Resource Limited have proposed to setup Iron Ore Beneficiation Plant (4.6 MTPA Through put) and Pelletization Plant (2.4 MTPA) at Village Warava Naglavi, Tehsil Dharwad, Dharwad District in Karnataka. No national park/wild life sanctuary is located within 10 km radius of the project site. Reserve forests are at a distance of 750 m, 1.0 km, 3.3 km, 4.6 km, 4.8 km, 5.2 km, 5.5 km, 5.7 km and 6.9 km from the proposed project site. Total cost of the project is Rs.950.52 Crores. Rs. 3.0 Crores and Rs.0.33 Crore are earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.

The details of the facilities and production capacities are given below:

S. No.	Facility	Proposed Capacity
1	Iron Ore Beneficiation Plant and	4.6 MTPA Through put
2.	Pelletization Plant	2.4 MTPA

Bag filters and closed conveyors will be provided to iron ore beneficiation plant to control the particulate emissions. ESP and multi-cyclone de-duster will be provided to pelletization plant. Silencers & sound proof cubicles /covers will be provided to control noise at generating sources. All the conveyers are covered. Internal roads are asphalted / concreted to prevent the fugitive dust emission due to vehicular movement.

The total water requirement is 250 m<sup>3</sup>/day, which will be met from River Malprabha at 35 Km through pipeline. There will be no wastewater generation in pelletization plant and from Iron ore beneficiation plant, water will be recycled in the process through thickener. The treated wastewater will be recycled within the plant premises for dust suppression, green belt development and implement zero discharge concept. The tailings from Iron ore beneficiation plant will be sent to tailing pond.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project
2. Photographs of the plant area.
3. Coal linkage documents
4. An undertaking that there would be no export of pellets and all the pellets would be used within the Country.
5. A line diagram/flow sheet for the process and EMP

6. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. A photograph of the site should also be included.
7. Present land use should 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 should be used for land used/land-cover mapping of the area.
8. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
9. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
10. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
11. Details and classification of total land (identified and acquired) should be included. A copy of the mutual agreement for land acquisition signed with land oustees.
12. Break up of small, medium and large farmers from whom the land is being acquired. If small farmers are involved, a detailed R&R plan.
13. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
14. Permission from the tribals, if tribal land has also to be acquired along with details of the compensation plan.
15. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department. .
16. A list of industries containing name and type in 25 km radius should be incorporated.
17. Residential colony should be located in upwind direction.
18. List of raw materials, Chemical and Trace Element analysis of all the raw materials and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
19. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the amount present in it and hence future risk involved while using it and management plan.
20. Action plan for excavation and muck disposal during construction phase.
21. Studies for fly ash, muck, slurry, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.
22. Manufacturing process details for all the plants should be included.
23. Mass balance for the raw material and products should be included.
24. Energy balance data for all the components of steel plant including proposed power plant should be incorporated.
25. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
26. Data generated in the last three years i.e. air, water, raw material properties and analysis (major, trace and heavy metals), ground water table, seismic history, flood hazard history etc.
27. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
28. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
29. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.

30. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
31. Air quality modeling for steel plant for specific pollutants needs to be done. APCS for the control of emissions from the kiln and WHRB should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
32. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
33. Ambient air quality monitoring modeling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
  - i) Emissions (g/second) with and without the air pollution control measures
  - ii) Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height) on hourly basis
  - iii) Model input options for terrain, plume rise, deposition etc.
  - iv) Print-out of model input and output on hourly and daily average basis
  - v) A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
  - vi) Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
  - vii) Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
  - viii) No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
  - ix) Graphs of monthly average daily concentration with down-wind distance
  - x) Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
  - xi) Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
34. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
35. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided. The alternate method of raw material and end product transportation should also be studied and details included.
36. One season data for gaseous emissions other than monsoon season is necessary.
37. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
38. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
39. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included. Information regarding surface hydrology and water regime should be included.
40. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
41. Ground water modeling showing the pathways of the pollutants should be included
42. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
43. Commitment for bottom lining of tailing pond
44. Action plan for rainwater harvesting measures at plant site should 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. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
45. Permission for the drawl of water from the State Irrigation Department or concerned authority and water balance data including quantity of effluent generated, recycled and reused and

discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.

46. A note on the impact of drawl of water on the nearby River during lean season.
47. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
48. If the site is within 10 km radius of any major River, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
49. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
50. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
51. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
52. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
53. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, lakes), sub-surface and ground water with a monitoring and management plans.
54. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
55. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources, char and fly ash. Copies of MOU regarding utilization of ash should also be included.
56. Details of evacuation of ash, details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. needs to be addressed.
57. A note on the treatment, storage and disposal of all type of slag should be included. Identification and details of land to be used for SMS slag disposal should be included. Details of secured land fill as per CPCB guidelines should also be included.
58. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
59. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
60. 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. should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
61. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
62. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
63. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.

64. 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.
65. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure needs to be constructed and the agency responsible for the same with time frame.
66. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures should be included.
67. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
68. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
69. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines must be prepared.
70. A note on identification and implementation of Carbon Credit project should be included.
71. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof should also be included.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee (Industry-1) should be considered for preparation of EIA / EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to Karnataka State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP reports along with public hearing proceedings.

**36.2.10 Backward Integration of existing 1.75 MTPA Integrated Steel Plant situated at Village: Naharpali, Tehsil: Kharsia, District Raigarh in Chhattisgarh by M/s Monnet Ispat & Energy Limited - regarding TORs**

The project authorities and their consultant, M/s Min Mec Consultancy Pvt. Ltd., New Delhi gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft TORs for preparation of EIA/EMP report. All the steel plants are listed at S.No. 3(a) in primary metallurgical industry under Category-A of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) in the MoEF.

M/s Monnet Ispat & Energy Limited have proposed for Backward Integration of existing 1.75 MTPA Integrated Steel Plant situated at Village: Naharpali, Tehsil: Kharsia, District Raigarh in Chhattisgarh. The Total Project area is 259.16 ha (including 31.32 ha additional land for expansion and 227.84 ha of existing unit). No forest land is involved. No national park/ sanctuary is located within 15 Km. No displacement is involved. Mand River (1.2 km, WSW), Kurket River (7.2 km, N) and various nalas such as Chini nala (9.4 km, NNW), Bhengari nala (9.6 km, NNW), Barade nala (3.0 km, NNE), Doliya nala (4.8 km, ESE), Ramjharan nala (within), Pathari nala (7.6 km, SW), Dantar nala (3.2 km, W) are present within the study area (10 km radius). Forests present in the study area are Rabo RF (0.92 km, NE), Basnajhar RF (6.07 km), Burha Pahar (6.64 km, W), Kenmura PF (2.64 km, W), PF near Bendojhariya (5.11 km, SW), Bargarh RF (8.8 km, WNW), Taraimal RF (7.4 km, NE), Urdana RF (6.0 km, E) and PF near Gadgaon village (8.2 km, NE). Nearest city is Kharsia at a distance of 11.4 km, W and District headquarter is Raigarh at a distance of 15.4 km, SE. The site falls in Seismic zone-II. Total cost of the proposed project will be Rs. 2,496.40 Crores.

The existing plant was granted clearance vide J-11011/196/2007-IA.II(I) dated 26.12.2007. Part of the existing plant is commissioned and part is under execution. Units already commissioned are (i) 4 X 350 TPD DRI kilns, (ii) 2 X 100 TPD DRI kilns and (iii) 170 MW power plant. The units under execution are (i) 1 MTPA Coal beneficiation plant, (ii) 2 X 350 TPD DRI Kiln, (iii) SMS comprising of Electric arc furnace: 2 X 100 T, Ladle furnace: 3 X 100 T, Vacuum Degassing Unit: 1 X 100 T, Slab caster: 1 X 1 strand, Bloom caster: 1 X 6 strand, (iv) 2 X 550 cum Blast Furnaces, (v) 0.8 MTPA Plate cum Steckel mill, (vi) 0.4 MTPA Bar Mill, (vii) 2 X 75 m<sup>2</sup> Sinter Plants, (viii) 1.2 MTPA Pelletizing Plant, (ix) 1 X 400 TPD Oxygen Plant and (x) 70 MW power plant.

The proposed additional facilities are (i) Pellet plant: 1.2 MTPA, (ii) Coal beneficiation plant: 4 MTPA, (iii) Coke oven (recovery): 1 MTPA, (iv) Lime & Dolomite plant : 2X250 TPD & 1X250 TPD, (v) SMS slag atomization unit, (vi) SMS slag crushing plant, (vii) Power plant (WHRB and CFBC based): 100 MW, (viii) Producer gas plant – 1 X 50,750 Nm<sup>3</sup>/h & 2 X 75,000 N m<sup>3</sup>/h, (ix) Cement plant grinding unit: 3 MTPA and (x) Oxygen plant 1X 300 TPD and change in technology for 1.2 MTPA pelletizing plant from dry grinding to wet grinding. The raw materials required for various units of the project will be 0.526 MTPA hard coking coal, 0.526 MTPA soft coking coal, 0.287 MTPA non coking coal, 4 MTPA raw coal, 0.215 MTPA imported coal, 1.296 MTPA iron ore concentrate, 0.12 MTPA bentonite, 0.4651 MTPA of various grades of limestone & dolomite, 2 MTPA clinker, 0.15 MTPA Gypsum, 0.205 MTPA slag, 0.637 MTPA fly ash and 0.657 MTPA washery reject. Various coals will be imported from Australia, South Africa, Indonesia, SECL & e-auction. Limestone will be imported from Middle East while other raw materials will be from various states of India such as Rajasthan, Orissa, Madhya Pradesh etc. Dry quenching will be used in coke oven plant

Total estimated water requirement for the proposed facilities will be 1,194 cum/hr. The water will be continued to be sourced from intake well at Mahanadi River near the Raigarh project site and brought through connecting pipelines upto the project site. The power demand for the proposed plant will be 73 MW. Air pollution control equipment such as ESPs, bag filters, scrubbers will be provided and the emission of pollutants will be restricted within standards. Used oil and oil from oil traps will be sold to the authorized recycling vendors.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project
2. Photographs of the existing and proposed plant area.
3. Compliance to the conditions stipulated in the environmental clearance for the existing plant.
4. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
5. 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, compliance to the notice(s)
6. A line diagram/flow sheet for the process and EMP
7. Coal linkage documents
8. A copy of the mutual agreement for land acquisition signed with land oustees.
9. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. A photograph of the site should also be included.
10. Present land use should 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 should be used for land used/land-cover mapping of the area.
11. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
12. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.

13. Revised plant layout in AutoCAD by increasing the rain water harvesting for minimum 2 months and uniform green belt of minimum 15 m width
14. Project site layout plan showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
15. Coordinates of the plant site as well as ash pond with topo sheet co-ordinates of the plant site as well as ash pond with topo sheet should also be included.
16. Management plan for non mixing of the leachate from fly ash with the reservoir
17. Details and classification of total land (identified and acquired) should be included.
18. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
19. Permission from the tribals, if tribal land has also to be acquired along with details of the compensation plan.
20. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department. .
21. A list of industries containing name and type in 25 km radius should be incorporated.
22. Residential colony should be located in upwind direction.
23. List of raw material required, analysis of all the raw materials and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
24. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. ores, minerals, rock, soil, coal, iron, dolomite quartz etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per I30-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.), if applicable, should also be included.
25. Petrography, grain size analysis and Major element analysis of raw material and soil from project site and raw material should be done on the same parameters along with analysis for SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, MgO, MnO, K<sub>2</sub>O, CaO, FeO, Fe<sub>2</sub>O<sub>3</sub>, P<sub>2</sub>O<sub>5</sub>, H<sub>2</sub>O, CO<sub>2</sub>.
26. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the amount present in it and hence future risk involved while using it and management plan.
27. Chemical and Trace Element analysis of Fly ash
28. Action plan for excavation and muck disposal during construction phase.
29. Studies for fly ash, muck, slurry, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.
30. Manufacturing process details for all the plants should be included.
31. Mass balance for the raw material and products should be included.
32. Energy balance data for all the components of steel plant including proposed power plant should be incorporated.
33. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
34. Data generated in the last three years i.e. air, water, raw material properties and analysis (major, trace and heavy metals), ground water table, seismic history, flood hazard history etc.
35. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
36. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
37. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
38. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.

39. Air quality modeling for steel plant for specific pollutants needs to be done. APCS for the control of emissions from the kiln and WHRB should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
40. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
41. Ambient air quality monitoring modeling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
  - i) Emissions (g/second) with and without the air pollution control measures
  - ii) Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height using SODAR) on hourly basis
  - iii) Model input options for terrain, plume rise, deposition etc.
  - iv) Print-out of model input and output on hourly and daily average basis
  - v) A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
  - vi) Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
  - vii) Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
  - viii) No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
  - ix) Graphs of monthly average daily concentration with down-wind distance
  - x) Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
  - xi) Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
42. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
43. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided. The alternate method of raw material and end product transportation should also be studied and details included.
44. One season data for gaseous emissions other than monsoon season is necessary.
45. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
46. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
47. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included. Information regarding surface hydrology and water regime should be included.
48. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
49. Ground water modeling showing the pathways of the pollutants should be included
50. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
51. Action plan for rainwater harvesting measures at plant site should 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. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
52. Permission for the drawl of water from the State Irrigation Department or concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.

53. A note on the impact of drawl of water on the nearby River during lean season.
54. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
55. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
56. Detailed dam break and flood hazard management plan
57. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
58. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
59. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
60. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
61. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, lakes), sub-surface and ground water with a monitoring and management plans.
62. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
63. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources, char and fly ash. Copies of MOU regarding utilization of ash should also be included.
64. Details of evacuation of ash, details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. needs to be addressed.
65. A note on the treatment, storage and disposal of all type of slag should be included. Identification and details of land to be used for SMS slag disposal should be included. Details of secured land fill as per CPCB guidelines should also be included.
66. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
67. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
68. 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. should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
69. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
70. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
71. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Action plan for the implementation of OHS standards as per OSHAS/USEPA.
  - e) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.

72. 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.
73. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure needs to be constructed and the agency responsible for the same with time frame.
74. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures should be included.
75. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines must be prepared.
76. Corporate Environment Policy
  - i. Does the company has 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 has 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 should be detailed in the EIA report.
77. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
78. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
79. A note on identification and implementation of Carbon Credit project should be included.
80. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof should also be included.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA / EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to the Chhattisgarh Environment Conservation Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP reports along with Public Hearing Proceedings.

**36.2.11 Expansion of Cement Grinding Unit from 2.5 to 3.4 MTPA by Process Optimization at Village Daburji, P.O. Lodhimajra, Tehsil & District Ropar in Punjab by M/s Ambuja Cements Limited - regarding TORs**

The project authorities and their consultant, M/s. J.M. EnviroNet Pvt. Ltd., Gurgaon gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the proposed Terms of References for preparation of EIA/EMP report. The stand alone cement grinding units are covered under Category 'B' as per para 3(b) of the Schedule of the EIA notification 2006, but due to Interstate Boundary of Haryana within 10 km radius of the project site, the proposal was considered as a Category "A" Project and appraised at the Centre.

M/s. Ambuja Cements Limited has proposed for expansion of Cement Grinding Unit (2.5 to 3.4 MTPA) by process optimization at Village Daburji, P.O. Lodhimajra, Tehsil & District Ropar in Punjab.

Total Plant area is 20.70 ha. Since, the proposed expansion will be within the existing plant premises, no additional land is required for the proposed project. Out of the total plant area, Green belt has already been developed on 5.59 ha area (27 %). Additional 2.02 ha (9.75%) area will also be developed under green belt/plantation. Total area under green belt/plantation will be ~ 36.75 %. Total cost of the project is Rs. 1.05 Crores. Capital cost for Environmental Protection Measures is Rs. 5.25 Lacs and Recurring Cost is Rs.0.52 Lacs/Annum.

All major sources of air pollution have been provided with ESPs and Bag filters to maintain the PM emission level below 50 mg/Nm<sup>3</sup>. All material transfer points and silo tops have been provided with around 60 bag filters to entrap the emissions. Clinker & fly ash are being stored in closed silos and gypsum in covered shed and the same will be followed in the future also. Existing Power requirement is 18 MW. Power required for the proposed expansion project will be 5 MW, which will be sourced from Captive Power Plant 15x2 MW. Total water requirement for the project will be 3,101 m<sup>3</sup>/day (Existing 3,076 m<sup>3</sup>/day & Additional 25 m<sup>3</sup>/day). Water requirement will be met from ground water for which permission has been already obtained from CGWA. No industrial wastewater is generated in the Plant. Domestic wastewater generated from Colony is being treated in the STP. The treated water is being utilized for Greenbelt Development/Plantation and dust suppression. No solid waste is generated in the cement manufacturing process. Dust collected from various pollution control equipments is being recycled back to the process. STP Sludge is being utilized as manure for green belt/plantation development within the plant premises.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project.
2. Photographs of the existing and proposed plant area.
3. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB.
4. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
5. 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, compliance to the notice(s)
6. A line diagram/flow sheet for the process and EMP
7. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
8. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
9. Present land use should 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 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
10. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
11. A list of industries within 10 km radius of the plant area.
12. Details and classification of total land (identified and acquired) should be included.
13. Project site layout plan showing raw materials and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
14. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
15. Quantification & Characterization of solid /hazardous waste & its action plan for management should be included.
16. Mass balance for the raw material and products should be included.
17. Energy balance data for all the components of plant should be incorporated.

18. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
19. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
20. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
21. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
22. Air quality modeling for specific pollutants needs to be done. APCS for the control of emissions should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
23. Ambient air quality as per National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
24. Air Quality Impact Prediction Modeling based on ISCST-3 or the latest models.
25. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
26. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
27. Presence of aquifer/aquifers within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
28. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
29. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
30. 'Permission' for the drawl of water should be obtained. Water balance data must be provided.
31. A note on the impact of drawl of water on the nearby River during lean season.
32. Action plan for rainwater harvesting measures.
33. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
34. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
35. Pretreatment of raw water, treatment plant for waste water should be described in detail. Design specifications may be included.
36. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
37. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources should also be included.
38. Action plan for the green belt development plan in 33 % area should be included.
39. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
40. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
41. Occupational health:
  - a) 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,
  - b) 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.

- c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
42. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
  43. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
  44. Total capital cost and recurring cost/annum for environmental pollution control measures should also be included.
  45. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA / EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to the Punjab Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP reports along with Public Hearing Proceedings.

**36.2.12 Enhancement of Clinker production from 1.09 MTPA to 1.3 MTPA at Village Babupur, District Satna in Madhya Pradesh by M/s Bhilai Jaypee Cement Limited - regarding TORs**

The proponent informed that they will not be able to attend the meeting. The Committee decided to consider the project as and when requested by the proponent.

**36.2.13 Expansion in Clinker Production from 2.78 MTPA to 3.043 MTPA at Village and Mandal Mellacheruvu, District Nalgonda in Andhra Pradesh by M/s My Home Industries Limited - regarding TORs**

The project authorities and their consultant, M/s. B S Envi-Tech (P) limited, Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Terms of Reference for preparation of EIA/EMP report. The Cement Plants with production capacity more than 1.0 MTPA are listed at S. No. 3 (b) under Category A of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s My Home Industries Limited have proposed to enhance the clinker production of one of their lines i.e. Unit-II through modernization and debottlenecking for increasing the Clinker production from 2.78 MTPA to 3.043 MTPA at Village and Mandal Mellacheruvu, District Nalgonda in Andhra Pradesh. Total existing project area is 160 ha and there will not be any increase in the project area. Yepalmadhavaram Reserved Forest exists at approx. 1.7 km in South direction from the plant site. Total cost of the project is Rs. 50 Crores.

The cement plant will be based on the dry process technology for cement manufacturing with pre-heater and pre-calciner technology. The modernization and debottlenecking would involve modification of pre-heater cyclones, modification of Calciner, up-gradation of pre-heater and RABH & fan, up-gradation of TAD, replacement of cooler, fans & hammers and increase in kiln speed. The major raw material is limestone and transported from the captive limestone mine through dumpers. The power requirement will be about 30 MW, which is sourced from Captive Power plant.

Raw Mill & Kiln, Clinker Cooler, Coal Mill, Cement Mill & Boiler were provided with bag house, bag filters & ESP to maintain stack emissions below 50 mg/Nm<sup>3</sup>. Bag filters were provided at all loading /unloading & transfer points. All the material conveyor belts were covered. Clinker is stored in closed clinker silo and gypsum is stored in covered shed. Fly ash is stored in silos. The existing water requirement is 1,260 m<sup>3</sup>/day, which is sourced from mine pit and ground water and no additional water is required. The permission for drawl of 1,500 m<sup>3</sup>/day water was obtained. Sewage treatment was provided for the treatment of domestic effluent and treated wastewater will be used for horticulture purpose. Rain water harvesting is practiced at plant and colony area. No solid waste is generated from the cement manufacturing process. Dust collected from air pollution control equipment is totally recycled in process. Sludge from STP is being used as manure for green belt development. Personal Protective Equipments like earplugs and earmuffs are being provided to the workers exposed to high noise level.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project
2. Photographs of the existing and proposed plant area.
3. Compliance to the conditions stipulated for existing capacity in the environmental clearance or NOC obtained from the SPCB.
4. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
5. 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, compliance to the notice(s)
6. A line diagram/flow sheet for the process and EMP
7. Coal linkage documents
8. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP.
9. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
10. Present land use should 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 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
11. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use / land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc. in 10 km of the project site.
12. Project site layout plan showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
13. Details and classification of total land (identified and acquired) should be included.
14. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
15. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
16. Permission and approval for the use of forest land and recommendations of the State Forest Department regarding impact of proposed expansion on the surrounding reserve forests, if applicable, should be included.
17. A list of industries containing name and type in 10 km radius shall be incorporated.
18. Residential colony should be located in upwind direction.
19. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
20. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. ores, minerals, rock, soil, coal, iron, dolomite quartz etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per I30-10500 and WHO norms. These

- analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.).
21. Petrography, grain size analysis and Major element analysis of raw material and soil from project site and raw material should be done on the same parameters along with analysis for SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, MgO, MnO, K<sub>2</sub>O, CaO, FeO, Fe<sub>2</sub>O<sub>3</sub>, P<sub>2</sub>O<sub>5</sub>, H<sub>2</sub>O, CO<sub>2</sub>.
  22. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the amount present in it and hence future risk involved while using it and management plan.
  23. Studies for fly ash, muck disposal, slurry, sludge material and solid waste generated should also be included, if the raw materials used has trace elements and a management plan.
  24. Manufacturing process details for all the cement plant, captive power plant and mine should be included.
  25. Possibility of installation of WHRB will be explored and details included
  26. Mass balance for the raw material and products should be included.
  27. Energy balance data for all the components including proposed power plant should be incorporated.
  28. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
  29. Sources of secondary emissions, its control and monitoring as per the CPCB guidelines should be included. A full chapter on fugitive emissions and control technologies should be provided.
  30. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
  31. Vehicular pollution control and its management plan should be submitted.
  32. A write up on use of high calorific hazardous wastes from all the sources in kiln and commitment regarding use of hazardous waste should be included.
  33. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
  34. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
  35. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
  36. Air quality modeling for all the plants proposed including mine for specific pollutants needs to be done. APCS for the control of emissions within 50 mg/Nm<sup>3</sup> should be included. Cumulative impacts of cement plant, Captive Power Plant and mines located at a distance of 2.0 km on the ambient air quality shall be assessed.
  37. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
  38. Ambient air quality monitoring modeling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
    - i) Emissions (g/second) with and without the air pollution control measures
    - ii) Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height) on hourly basis
    - iii) Model input options for terrain, plume rise, deposition etc.
    - iv) Print-out of model input and output on hourly and daily average basis
    - v) A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
    - vi) Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
    - vii) Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
    - viii) No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry

- ix) Graphs of monthly average daily concentration with down-wind distance
  - x) Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
  - xi) Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
39. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
  40. One season data for gaseous emissions other than monsoon season is necessary.
  41. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
  42. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
  43. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
  44. Flouride management plan
  45. Ground water modeling showing the pathways of the pollutants should be included
  46. Column leachate study for all types of stockpiles or waste disposal sites, at 20 °C-50 °C should be conducted and included.
  47. Action plan for rainwater harvesting measures at plant site should 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. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
  48. Permission for the drawl of water from the concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
  49. A note on the impact of drawl of water on the nearby River during lean season.
  50. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
  51. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
  52. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
  53. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
  54. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
  55. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, lakes), sub-surface and ground water with a monitoring and management plans.
  56. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
  57. Action plan for solid/hazardous waste generation, storage, utilization and disposal. A note on the treatment, storage and disposal of all type of solid waste should be included. End use of solid waste viz. fly ash etc. and its composition should be covered.
  58. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
  59. Action plan for the green belt development plan in 33 % area should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.

60. A scheme for rainwater harvesting has to be put in place. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well. Efforts should be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
61. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
62. Action plan for the green belt development plan in 33 % area should be included. The green belt should be around the project boundary and a scheme for greening of the traveling roads should also be incorporated. All rooftops/terraces should have some green cover.
63. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
64. Disaster Management Plan including risk assessment & damage control needs to be addressed and included. Landslide hazard map and mitigation plan, Earthquake history and management plan should be submitted.
65. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
66. Plan for the implementation of the recommendations made for the cement plant in the CREP guidelines must be prepared.
67. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and incorporated.
68. A note on identification and implementation of Carbon Credit project should be included.
69. Total capital cost and recurring cost/annum for environmental pollution control measures.
70. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
71. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA/EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to the Andhra Pradesh Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP report including public hearing proceedings.

**36.2.14** Expansion of Integrated Steel Plant by installing 9 MVA SAF for manufacture of Ferro Manganese, Silico Manganese & Pig Iron and 10 MW Captive power plant (AFBC) at Village

Naikin Bahal, Tehsil Birmiritrapur, District Sundergarh in Orissa by **M/s Swastik Ispat Pvt. Limited- regarding TORs**

The project authorities and their consultant, M/s Pioneer Enviro Laboratories & Consultants Pvt. Ltd. gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft TORs for preparation of EIA/EMP report. All the ferro alloy plants are listed at S.No. 3(a) in primary metallurgical industry under Category-A of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) in the MoEF.

M/s Swastik Ispat Pvt. Limited have proposed for expansion of Integrated Steel Plant by installing 9 MVA SAF for manufacture of Ferro Manganese, Silico Manganese & Pig Iron and 10 MW Captive power plant (AFBC) at Village Naikin Bahal, Tehsil Birmiritrapur, District Sundergarh in Orissa. Total project area is 32 acres and Green belt will be developed in 33% area. The expansion will be done in the existing plant premises only and no additional land is envisaged for the proposed expansion project. No national park/wildlife sanctuary is located within 10 km. River Sankha flows at distance of 3.4 Kms. from the plant site. Chandri Reserve Forest, Kaurmunda Reserved Forest are present within 10 Km. radius of the plant site. NH-23 is at distance of 0.5 Kms. from the plant site. Naikinbahal is the nearest habitation at a distance of 0.25 Kms. from the plant site. The cost of expansion project is Rs. 45 Crores.

Following is the plant configuration:

S.NO.	PRODUCT	PRODUCTION CAPACITY		
		EXISTING PERMITTED CAPACITIES	PROPOSED	TOTAL
1	Sponge Iron	1,05,000 TPA*	--	1,05,000 TPA
2	Mild Steel Billets	60,000 TPA	--	60,000 TPA
3	TMT bars	60,000 TPA	--	60,000 TPA
4	Iron Ore crusher	1 x 100 TPH	--	1 x 100 TPH
5	Power (WHRB) (AFBC)	2 MW	--	2 MW
		10 MW	10 MW	20 MW
6	Ferro Alloys Ferro Silicon Silico Manganese Ferro Manganese Pig Iron	--	5792 TPA 11,725 TPA 17,587 TPA 3,000 TPA	5792 TPA 11,725 TPA 17,587 TPA 3,000 TPA

\*30,000 TPA of Sponge iron is in operation

Manganese ore, quartz, slag electrode paste and pet coke will be used as raw materials in ferro alloy plant. Indian coal – 48,000 TPA from Basundhara Collieries or Imported Coal 28,500 TPA from Indonesia/South Africa will be used in power plant. Power requirement will be met from captive power plant. Manganese ore along with coke and other additives will be melted in submerged arc furnace (SAF) to produce ferro alloys. Raw materials will be mixed in a proper proportion before being charged into the furnace. As the charge enters the smelting zone, the alloy formed by chemical reactions between oxides and the reductants being heavy, gradually will settle at the bottom. At regular intervals, the furnace will be tapped. Liquid metal will be collected in a ladle followed by CI pans and slag will be overflowed to sand beds. After solidification, the cakes will be broken manually to required lump size. Coal will be used as fuel in FBC boiler to generate Power.

Fume extraction system with Bag filter will be provided to SEAF to bring down the emission. Electrostatic precipitator (ESP) will be provided to AFBC boiler to control particulate emissions within 50 mg/Nm<sup>3</sup>. Bag filters will be provided to material handling areas, coal handling areas, crusher, stock house, cooler discharge area, screening area etc. Total water required for the proposed expansion project will be 70 m<sup>3</sup>/day and the same will be sourced from Ground Water. Closed loop system will be adopted in Ferro alloys unit so that no effluent is discharged. Only make up water will be fed into the plant. Acidic and alkaline effluent from cation and anion units of DM Plant will be neutralized in neutralization tank. Boiler blow down will be neutralized in the neutralization tank before mixing with other effluent streams. After neutralization, these two effluents will be mixed with cooling tower blow down in a guard pond. The treated effluent will be used for ash conditioning, dust suppression and green belt development. Service water will be passed through oil separator to remove oil content in the effluent. Domestic effluent will be treated in septic tank followed by soak pit. No effluent will be discharged outside the premises and Zero discharge will be adopted. Rain water harvesting will be done.

Ash from FBC boiler will be given to given to cement plants/brick manufacturers. Ferro-Manganese slag will be used in the manufacture of Silico Manganese. Ferro-Silicon slag will be given to cast iron foundries. Silico-Manganese slag will be crushed and given to brick manufacturers/used in road construction. Slag from pig iron process will be given slag based cement manufacturers. Ear plugs will be provided to workers working in noise prone areas. Acoustic enclosures will be provided to noise generating equipment. Low noise generating equipment will be installed in the proposed plant.

The committee noted that environmental clearance was accorded for the existing unit on 23.3.2011 and Public Hearing was held on 30.9.2010. The Ferro Alloys produced will be utilized in SMS for which Environmental Clearance has already been obtained. The inclusion of Ferro Alloys plant and power plant in the expansion program would make the project more viable. Additional 10 MW power plant will be required for complete utilization of dolochar. The power generated in expansion will be used captively. No additional land is required. Utilization of ash in cement plants/Brick manufacture. Zero effluent discharge will be maintained in the expansion project and air cooled condensers are proposed in the expansion. Ground water drawl permission is already obtained from Central Ground Water Authority. Based on above, the committee exempted the proposal from Public Hearing under 7 (ii) of the EIA Notification, 2006.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project.
2. Photographs of the existing and proposed plant area.
3. Compliance to the conditions stipulated in the Environmental Clearance granted for the existing plant.
4. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
5. 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, compliance to the notice(s)
6. A line diagram/flow sheet for the process and EMP
7. Coal linkage documents
8. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
9. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
10. Present land use should 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 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.

11. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
12. A list of industries within 10 km radius of the plant area.
13. Details and classification of total land (identified and acquired) should be included.
14. Project site layout plan showing raw materials and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
15. List of raw material required, Chemical analysis of all the raw materials including Trace Elements and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
16. Quantification & Characterization of solid /hazardous waste & its action plan for management should be included.
17. Mass balance for the raw material and products should be included.
18. Energy balance data for all the components of ferro alloy plant should be incorporated.
19. Design details of Ferro Alloy Plant and manufacturing process details should be included.
20. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
21. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out including cumulative Impact of the surrounding industries.
22. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
23. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
24. Air quality modeling for ferro alloy plant for specific pollutants needs to be done. APCS for the control of emissions should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
25. Ambient air quality as per National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
26. Air Quality Impact Prediction Modeling based on ISCST-3 or the latest models.
27. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
28. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
29. Presence of aquifer/aquifers within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
30. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
31. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
32. 'Permission' for the drawl of water should be obtained. Water balance data must be provided.
33. A note on the impact of drawl of water on the nearby River during lean season.
34. Action plan for rainwater harvesting measures.
35. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
36. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
37. Pretreatment of raw water, treatment plant for waste water should be described in detail. Design specifications may be included.
38. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.

39. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources should also be included. Land filling is not allowed.
40. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
41. Provision of Toxic Chemical Leachability Potential (TCLP) test for the slag and its end use should be included.
42. Commitment that no Ferro chrome will be manufactured without prior approval of the Ministry.
43. Action plan for the green belt development plan in 33 % area should be included.
44. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
45. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
46. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
47. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and incorporated.
48. Total capital cost and recurring cost/annum for environmental pollution control measures should also be included.
49. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA / EMP report for the above mentioned 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 should be provided. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance. Public Hearing is exempted under 7 (ii) of the EIA Notification, 2006.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP Report.

### **Any Other Item**

#### **36.2.15 Expansion of Steel Plant (2.2 MTPA to 2.8 MTPA) at P.O. Lapanga, Village Thelkoloji, Tehsil Rengali, District Sambalpur in Orissa by M/s Bhushan Power & Steel Limited - regarding amendment in environmental clearance**

Environmental clearance to the above proposal was accorded by MoEF vide letter no. J-11011/40/2009-IA II (I), dated 2<sup>nd</sup> April, 2010. The PP has requested for amendment in the above EC for Change in configuration of few facilities resulting in increase in production capacity from 2.8 MTPA to 3.0 MTPA. The PP and their consultant, M/s MECON, Ranchi have also made a presentation before the committee.

The reconfiguration proposed is that of BF from 550 m<sup>3</sup> to 2015 m<sup>3</sup>, Coke Oven from 0.7 MTPA to 1.0 MTPA, Sinter plant from 60 m<sup>2</sup> to 204 m<sup>2</sup>, addition of new VD/AOD and lime plant of 600 TPD capacity. The justification for above is that, scarcity in availability of quality raw material for DRI production resulting in lower production i.e. 1.8 MTPA in place of designed capacity of 2.4 MTPA. To compensate the shortage of DRI, additional hot metal (about 1.4 MTPA) is required. Hence, the higher capacity of BF. Accordingly, other facilities also need to be reconfigured. There is no additional land requirement, no additional raw water to be drawn from the source and the additional power requirement will be met through the existing CPP.

The discussion and deliberations on the subject matter could not be completed and it was decided that the matter shall be taken up in the next meeting. The committee has also sought a detailed comparative pollution load of various parameters due to the proposed reconfiguration.

**36.2.16 Ferro Alloy Plant with installation of 2 x 6.5 MVA Submerged Arc Furnace and manufacture 28,000 TPA of Fe-Mn and 19,000 TPA of Si-Mn and 9300 TPA of Fe-Si or 19,000 TPA of Ferro-Chrome at Sy. No: 15/E, Fouzpur Village, Taroda (B) Grampanchayat, Jainath Mandal, Adilabad District of Andhra Pradesh by M/s Balaji Electro Smelters Limited – regarding amendment in Environmental Clearance**

The proponent informed that they will not be able to attend the meeting. The Committee decided to consider the project as and when requested by the proponent.

**36.2.17 Expansion of Steel Plant (Unit-IV) by installation of Coke Oven Plant (Non-recovery type, 1,65,000 TPA) along with Producer Gas Plant (9,000 Nm<sup>3</sup>/hr) and Captive Power Plant (WHRB, 9 MW & CFBC, 36 MW) at Village Banskopa, P.O. Rajbandh, District Burdwan, West Bengal by M/s Jaibalaji Industries Limited- regarding Amendment in Environmental Clearance**

M/s Jaibalaji Industries Limited had obtained environmental clearance for Coke Oven Plant (Non-recovery type, 2,25,000 TPA) from SEIAA, West Bengal vide letter No. EN/82/T-II-I/077/2008, dated 20<sup>th</sup> March, 2009 and for Coke Oven Plant (Non-recovery type, 1,65,000 TPA) from MoEF vide letter No. F.No. J-11011/496/2009-IA II(I), dated 29<sup>th</sup> November, 2010. The PP has requested for amendment in the above ECs for the following:

1. Revision of Coke Oven Plant Configuration i.e. installation of Coke Oven Plant (Non-recovery type, 3,50,000 TPA) in place of Coke Oven Plant (Non-recovery type, 2,25,000 TPA) and Coke Oven Plant (Non-recovery type, 1,65,000 TPA).
2. Deletion of installation of ESP and GCT in EC condition since it is not required in the new technology

The PP and their consultant, M/s. Envirotech East Pvt. Ltd., Kolkata have also made a presentation before the committee. It was submitted that, as per the technology available from M/s. China Shougang International Trade & Engineering Corporation (CSITEC) / Shanxi Provincial Chemical Design Institute (SPCDI), the following revision in the project configuration is required:

Sl. No.	Features	Proposal obtained Environmental Clearance		Revised Proposal
		Coke oven Plant (2,25,000 TPA capacity)	Coke oven Plant (1,65,000 TPA capacity)	Coke oven Plant (3,50,000 TPA capacity)
1.	No. of ovens	55	33	80
2.	Type of ovens	Non-recovery type.	Non-recovery type.	Non-recovery type.
3.	WHRBs connected to ovens	4 X 12 TPH	3 X 12 TPH	2 X 42 TPH
4.	Stacks	<u>WHRBs</u> 2 No. each of 70 Mtrs.	<u>WHRBs</u> 1 No. of 50 Mtrs.	<u>WHRBs</u> 2 No. of 70 Mtrs.

The revised coke oven plant capacity is lower than the total capacity of earlier two proposals of coke oven plants. The PP also stated that due to negligible dust load contribution by the State of Art Technology provided by CSITC/SPCDI, the revised proposal of Coke oven plant of 3,50,000 TPA capacity doesn't require any ESPs/GCTs and the prescribed norms will be met.

After detailed deliberations, the Committee recommended for the above amendment in the said environmental clearances subject to the environmental safeguards.

**36.2.18 Alumina Refinery (1.5 MTPA), Smelter Plant (2,50,000 TPA) along with Captive Power Plant (90 MW) at Mandal Makavarapallem, District Visakhapatnam, Andhra Pradesh by M/s Anrak Aluminum Ltd –regarding amendment in Environmental Clearance**

Environmental clearance to the above proposal was accorded by MoEF vide letter no. J-11011/813/2007-IA II (I), dated 16<sup>th</sup> October, 2008. The PP has requested for amendment in the above EC for usage of Aluminous Laterite also as raw material for blending with Bauxite. The PP and their consultant, M/s. B S Envi-Tech (P) Limited, Hyderabad have also made a presentation before the committee.

It was submitted that, the project was originally based on Bauxite Feed from Jerrela Bauxite Mines of Andhra Pradesh through APMDC. APMDC has entered into MOU with the proponent. EC was obtained for the Mines. Stage – I Forest Clearance was obtained and Stage – II is delayed. The Refinery is ready for Commercial Production from August, 2012. MOEF vide letter F/No. J-11011/813/2007-IA.II(I) dated 16.10.2008 had indicated that the Refinery should import or avail Bauxite from other sources in case the clearance for the mines are delayed. To meet the immediate requirement of Bauxite, the proponent had initiated steps to import Bauxite from Australia, South Africa and Guinea. Similarly, it will source some quantity from Gujarat Mineral Development Corporation (GMDC). To maintain the feed quality especially the mineralogy of the Bauxite similar to Jerrila Mines, it is proposed to obtain and blend laterite with high Alumina content from the Laterite mines in Visakhapatnam, East and West Godavari Districts of Andhra Pradesh.

The proponent explained with the help of chemical analysis, how this Aluminous laterite is required to be used to blend with purchased bauxite from various sources (both indigenous & imported) so as to obtain the mineralogical composition similar to that of the designed. It was also explained that by doing so there will not be any increase in solid waste generation, or increased water utilization and wastewater generation. The chemical reactions were also explained. Also even the Indian Bureau of Mines (IBM) in its report of 2009-10 on Minerals at Chapter 51 on Laterite (circulated to all the committee members), have classified laterite also as "For use in Alumina extraction" and in the section on "Future Outlook" has mentioned that "In future laterite could be used as a source of metallic minerals like Aluminium". The proponent also explained how the new filter system being installed and to be used for Redmud Filtration would enable the company to reduce the moisture content in the Red Mud to less than 25%, thus enabling easy transportation and usage in the Cement industry. The proponent also stated that all efforts are being made to use the Red mud in their own cement plant initially for consumption in the cement grinding for manufacturing of Pozzolona cement.

After detailed deliberations, the Committee recommended for the usage of Aluminous Laterite also as a raw material for blending with the procured bauxite in the production of Alumina till their base mines comes into operation. The committee has also sought the trace element analysis of Laterite.

**36.2.19 Expansion of Steel Plant [Sponge Iron Plant- 99,000 TPA; Ingot/billets 75,000 TPA; MS Structures/Bars 49,500 and Captive Power Plant- 10 MW] at Plot no. 1364, Ramgarh Industrial Area, Village Marar, District Hazaribagh, Jharkhand by M/s Bihar Foundry and Casting Limited- regarding Amendment in Environmental Clearance**

Environmental clearance to the above proposal was accorded by MoEF vide letter no. J-11011/310/2009-IA II (I), dated 28.1.2010 and amendment to the EC for increase in CPP capacity from

10 MW to 15 MW was accorded on 7.2.2012. The PP has requested for amendment in the above EC for amendment in the Specific Condition no. XIII of the EC i.e. permission to give the char from the DRI plant to an external power plant instead of utilizing in the captive AFBC boiler.

It was submitted that out of the 3 DRI Kilns, 2 were installed and the 3<sup>rd</sup> is under construction. The installation of CPP of 15 MW is delayed due to the delay in supply. Till the CPP is commissioned, all the char will be given to M/s Inland Power Ltd., Ramgarh for re-utilization in its CFBC Boiler. MoU with M/s Inland Power Ltd., Ramgarh in this regard has been signed.

After detailed deliberations, the Committee recommended for the above amendment with a condition that the CPP shall be commissioned within 3 years or along with the 3<sup>rd</sup> Kiln which ever is earlier.

**36.2.20 Proposed Cement Plant (Clinker- 2.25 MTPA, Cement - 3.5 MTPA) along with 35 MW CPP (Coal based PP- 25 MW, WHRB- 10 MW) at Village Nirgunda, Taluk Chincholi, District Gulbarga, Karnataka by M/s Shaasta Cement Corporation India Pvt. Limited - regarding amendment in TORs**

The proponent informed that they will not be able to attend the meeting. The Committee decided to consider the project as and when requested by the proponent.

**36.2.21 Expansion of Cement Plant (2.0 MTPA to 5.0 MTPA) and captive Power plant (15 MW to 50 MW) at Gadchandur Korpara, District Chandrapur in Maharashtra by M/s Manikgarh Cement - regarding Amendment in Environmental Clearance**

Environmental clearance to the above proposal was accorded by MoEF vide letter no. J-11011/458/2006-IA II (I), dated 7.1.2008. The PP has requested for revision of CPP configuration and accordingly increase in CPP capacity from 50 MW to 60 MW. The PP has also made a presentation before the committee.

It was submitted that, the construction of 3 MTPA cement plant is at the final stage. The existing CPP of 15 MW (5 MW + 10 MW) is operational and the 35 MW CPP is yet to be installed. The 35 MW unit based on AFBC boiler is not available and a new unit of 60 MW with technologically advance turbine has come into being with proven performance. The CFBC technology is an efficient technology when compared to the AFBC. After installation and commissioning of the 60 MW CPP, the existing 5 MW and 10 MW units will be phased out.

After detailed deliberations, the Committee recommended for the above amendment in the environmental clearance subject to the environmental safeguards.

**36.2.22 Expansion of Cement Grinding Unit (2.50 MTPA to 3.5 MTPA) at Village Muddapur, Taluka Mudhol, District Bagalkot in Karnataka by M/s Jaykaycem Limited (Unit: JK Cement Limited) - reg. Amendment in Environmental clearance**

Environmental clearance to the above proposal was accorded by MoEF vide letter no. J-11011/263/2009-IA II (I), dated 21.6.2010. The PP has requested for change in product mix without increasing the production capacity.

The proponent proposes to produce cement based adhesive for tile flooring by blending the existing plant products. No outside material will be purchased except a little quantity of solid polymer to improve performance of the product. The production capacity will not exceed 3.5 MTPA. The CO<sub>2</sub> per ton of product shall be 40-60% of normal cement. There will be no use of water and no effluent generation. No impact on air quality is also envisaged since the blending would be done in an enclosed godown.

After detailed deliberations, the Committee recommended for the above amendment in the environmental clearance subject to the environmental safeguards.

**Proposals for Environmental Clearance**

**36.3.1 Expansion of Induction Furnace (54 TPD to 294 TPD) and Rolling Mill (100 TPD to 200 TPD) to manufacture 294 MT/day of MS Ingots/Billets/Castings and 200 MT/day (60,000 MT/annum) of Rolled Products at Village Khumna, Tehsil Amluh, District Fatehgarh Sahib in Punjab by **M/s Neelkanth Concast Steels Pvt. Limited - regarding Environmental Clearance****

The project authorities and their consultant, M/s Ace Engineers and Consultants, Patiala gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (TORs) accorded by the Expert Appraisal Committee (Industry-1) in its 24<sup>th</sup> Meeting held during 19<sup>th</sup> & 20<sup>th</sup> May, 2011 for preparation of EIA/EMP report. Although the proposed project is a Category B project, since the plant site falls within 10 km of Mandi Gobindgarh, a critically polluted area, as per the General Condition of EIA Notification, 2006, the project has been appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Neelkanth Concast Steels (P) Ltd. have proposed for expansion of Induction Furnace (54 TPD to 294 TPD) and Rolling Mill (100 TPD to 200 TPD) to manufacture 294 MT/day of MS Ingots/Billets/Castings and 200 MT/day (60,000 MT/annum) of Rolled Products at Village Khumna, Tehsil Amluh, District Fatehgarh Sahib in Punjab. Presently, the industry is having an existing induction furnace of capacity 4.5 MT/heat and rolling mill of 100 TPD. It is proposed to install an induction furnace of 20 MT/heat and rolling mill of 100 TPD. The total project area is 5.06 Acres (20,475 sq m) and green belt will be developed in more than 33 % of the total area. There are no Wild Life Sanctuaries, Reserved /Protected Forests or Defence Installations, Rivers and Hill Ranges within 10 km radius of the project. Total Cost of the Project is Rs. 15 Crores and Rs. 83 lacs have been earmarked for pollution control Measures. About Rs. 78 lacs will be spent on annual operation and maintenance of pollution control equipment.

The raw materials used are MS Scrap, Sponge Iron and Ferro Alloys. The total water requirement is 61 m<sup>3</sup>/day of which 30 m<sup>3</sup>/day will be for cooling purpose, 25 m<sup>3</sup>/day for APCD, 1 m<sup>3</sup>/day for the operation of DM plant and 5 m<sup>3</sup>/day will be for domestic purposes. Rain water harvesting would be provided in the unit with a potential to harvest 5,000 m<sup>3</sup>/annum. The total power requirement of about 12,000 KW will be met from the Punjab State Power Corporation Limited from the nearby Sub-station.

Ambient air quality monitoring was carried out within the study area for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. Values of these parameters range from 41 to 204 µg/m<sup>3</sup>, 32 to 87 µg/m<sup>3</sup>, 6.2 to 38.1 µg/m<sup>3</sup> and 12.0 to 59.7 µg/m<sup>3</sup> respectively. The predicted incremental Ground Level Concentration (GLC) due to the proposed project for SPM is 8.293 µg/m<sup>3</sup> and for SO<sub>2</sub> is 3.98 µg/m<sup>3</sup>. The resultant concentration is within the prescribed standard. For air pollution control, multicyclone followed by wet scrubber would be installed in the rolling mill section and wet scrubber shall be provided to induction furnaces. Chimney of adequate height would be provided for DG sets as per CPCB norms. There is no generation of process wastewater and the cooling tower blow down will be recirculated for APCD. Domestic wastewater shall be treated through STP and will be used within the premises for plantation. The solid waste in the form of slag from the furnace, (about 2.5 TPD), shall be given to cement plant for further use. The waste from the APCD shall be stored in impervious pit and sent to TSDF site.

Public hearing/Public consultation was conducted by the Punjab Pollution Control Board on 14.2.2012. The issues raised in the public hearing were regarding provision of disposal of wastewater by the rolling mills outside their industries, discharge of black smoke from the chimney by the industries, pollution control measures, employment to local people, CSR activities etc. which have been addressed in the final EIA/EMP report.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to submission of OHS data of workers & Revised OHS plan, Budgetary break up of Enterprise Social Commitment activities and the stipulation of following specific conditions along with other environmental conditions:

- i. The company shall install bag filters etc. to control the particulate emissions below 50 mg/Nm<sup>3</sup>.
- ii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be followed.
- iii. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.
- iv. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- v. The total water requirement shall not exceed 61 KLD. No effluent shall be discharged and 'zero' discharge shall be adopted.
- vi. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Chandigarh, SPCB and CPCB within 3 months of issue of environment clearance letter.
- vii. As proposed, green belt shall be developed in 33 % of the plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
- viii. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 14<sup>th</sup> February, 2012 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Chandigarh.
- ix. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Chandigarh. Implementation of such program should be ensured accordingly in a time bound manner.

**36.3.2 Proposed 6,000 TPA Low & Medium Carbon Ferro Alloys Project [Ferro Manganese: 4,800 TPA, Ferro Molybdenum: 600 TPA, Ferro Titanium: 600 TPA] at B – 29 (P) VI<sup>th</sup> Phase, Adityapur Industrial Area, Gamaria, Jamshedpur, District: Saraikela Kharsawan, Jharkhand by **M/s Jamshedpur Minerals & Chemicals regarding Environmental Clearance****

The project authorities and their consultant, M/s Environ India, Kolkata gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (TORs) awarded during the 22<sup>nd</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 18<sup>th</sup> - 19<sup>th</sup> April, 2011 for preparation of EIA/EMP. All the Ferro Alloy Plants are listed at S. No. 3(a) under Primary Metallurgy Industries under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Jamshedpur Minerals & Chemicals has proposed for 6,000 TPA Low & Medium Carbon Ferro Alloys Project at B – 29 (P) VI<sup>th</sup> Phase, Adityapur Industrial Area [notified], Gamaria, Jamshedpur, District : Saraikela Kharsawan, Jharkhand. Total land acquired for the proposed project is 0.46 acres and green belt will be developed in 0.16 acres. No R & R is involved. No national Park/wild life sanctuary/reserve forest is located within 10 km radius of the project site. Total cost of the proposed project is Rs. 98.40 Lakhs. Rs. 29.50 Lakhs and Rs. 2.50 Lakhs / annum will be earmarked towards total capital cost and recurring cost for environmental pollution control measures.

Following are the details of facilities to be installed:

<b>Main Plant</b>	<b>Number of Furnace</b>
Non Electric Smelting Furnace	6
<b>Product</b>	<b>Capacity (TPA)</b>
Ferro Manganese	4,800
Ferro Molybdenum	600
Ferro Titanium	600

Manganese ore, Aluminium Powder, High Carbon Si-Mn, High Carbon Fe-Mn, Low Carbon Si-Mn, M.S. Scrap, Lime, Molybdic Oxide, Ferro Silicon, Mill Scale, Iron Nails and Ilemenite will be used as raw materials. Power requirement [75 HP] will be supplied by Jharkhand State Electricity Board. The manufacturing of these ferro alloys will be carried out in Non Electric Smelting Furnace and is based on Alumino Silico Thermite reaction. The manufacturing process for these ferro-alloys involves Reactor preparation, Raw-material preparation, Charging, Triggering and Separation. Salient features of the thermite process include production of ferro-alloys with low-carbon (0.1%), high recovery of the primary metal, rapid completion of the reduction, essentially a non-furnace process and does not require external heating in most cases and low capital investment.

Ambient air quality monitoring has been carried out at 8 locations during the period October 2011 to November 2011 and the average data submitted indicate PM<sub>10</sub> (46 - 81 µg/m<sup>3</sup>), PM<sub>2.5</sub> (29-52 µg/m<sup>3</sup>), SO<sub>2</sub> (8 - 21 µg/m<sup>3</sup>) and NO<sub>x</sub> (17 -31 µg/m<sup>3</sup>) are within the permissible limits. Ground Level Concentrations (GLC's) due to proposed project has been predicted by using Industrial Source Complex, Short Term (ISCST3) as per CPCB guidelines and the average data indicate an incremental concentration of PM<sub>10</sub> of 1.2 µg/m<sup>3</sup> and PM<sub>2.5</sub> of 1.1 µg/m<sup>3</sup>. The smoke and fumes collected from Non Electric Smelting Furnace by the hood will be passed through Multi Cyclone before discharging through a stack of adequate height and Bag Filter system will be installed for grinder.

Total water requirement will be 1.5 KLD which will be sourced from Drinking Water & Sanitation Department, Adityapur (permission obtained). No water will be required for manufacturing process. Domestic wastewater from the service units of plant premises will be collected in an individual soak pit. Fines collected at Multi Cyclone (150 TPA) and Bag Filter (50 TPA) will be recycled in the process. Slag produced in Fe-Mn will be reused to produce Si-Mn, slag from Fe-Ti production will be used as lining in the reactor and slag from Fe-Mo production will be used as lining in the reactor and manufacturing of concrete blocks. All pumps and motors will be selected from less noise generating types. Ear plugs will be provided to employees working in high noise prone areas.

Public Hearing is not required as per 7(i) III (b) of EIA Notification, 2006 as it is located in Notified Industrial Area developed by Adityapur Industrial Area Development Authority and Gazette Notification is submitted.

After detailed deliberations, the Committee has recommended the proposal for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

1. No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.
2. Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm<sup>3</sup>.
3. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.

4. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
  5. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
  6. The total water requirement shall not exceed 1.5 m<sup>3</sup>/day. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
  7. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
  8. Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of Silico Manganese (Si-Mn). All the other ferro alloy slag shall be used in the preparation of building materials.
  9. No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.
  10. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.
  11. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
  12. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.
- 36.3.3 Expansion of Cement Plant from 4.5 MTPA to 7.0 MTPA along with Captive Power Plant from 48 MW to 78 MW by addition of Cement Line-III of 2.5 MTPA and CPP of 1x30 MW at Villages Karikkali and Dholipatti, Taluk Vendasandur, District Dindigul in Tamil Nadu by M/s Chettinad Cement Corporation Limited - regarding Environmental Clearance**

The project authorities and their consultant, M/s Pioneer Enviro Laboratories & Consultants Pvt. Ltd., Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (ToRs) awarded during the 21<sup>st</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 25<sup>th</sup> – 26<sup>th</sup> March 2011 for preparation of EIA/EMP. All the cement plants (more than 1.0 MTPA) are listed at S.No. 3(b) under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Chettinad Cement Corporation Ltd. have proposed for expansion of Cement Plant from 4.5 MTPA to 7.0 MTPA along with Captive Power Plant from 48 MW to 78 MW by addition of Cement Line-III of 2.5 MTPA and CPP of 1x30 MW along with 6 MW WHRB at Villages Karikkali and Dholipatti, Taluk Vendasandur, District Dindigul in Tamil Nadu. Total land envisaged for the proposed expansion project is 132.76 hectares and 33% of the total plant area will be developed with greenbelt including existing plant area. No National parks/Wildlife sanctuaries are situated within the 10 Kms. radius of the site. Thoppasamymalai Reserve Forest exist at a distance of 7.0 Kms. Kodaganar River is situated at distance of 9.5 Kms. from the proposed site. No forest land is involved in the proposed project site.

Nearest habitation, Vasavanayakkanpatti is at a distance of 1.5 Km. from the site. The cost of the project is Rs 565.0 crores. Rs. 60 Crores and Rs. 2 crores/annum will be earmarked towards capital cost and recurring cost for environmental pollution control measures.

Following is the plant configuration:

S.No.	Plant configuration	Capacity		
		Existing	Proposed Expansion	After proposed expansion
1.	<b>Cement plant</b>			
	Cement Plant (Ordinary Portland Cement, Portland Pozzolona Cement & Portland Slag Cement)	4.5 MTPA	2.5 MTPA	7.0 MTPA
	Waste Heat Recovery based power plant	--	6 MW	6 MW
2.	<b>Power plant</b>			
	Coal based power plant (though FBC boiler)	48 MW	30 MW	78 MW

Compliance to the conditions stipulated in the EC dated 2.8.2010 for existing plant is submitted and found to be satisfactory. A video of the existing unit including mines and rain water harvesting in mine pits was shown to the Committee. Limestone, Iron ore, Bauxite, Gypsum, Slag, Fly ash and Coal will be the raw materials used in the manufacturing of cement and in power plant. Limestone will be sourced from captive mines. Iron ore will be sourced from the Kadapa / Kurnool. Coal will be sourced from SECL. Power requirement will be met from captive power plant. DG sets will be installed.

Ambient air quality monitoring was carried out at 8 locations during March 2011 to May 2011 and the data indicate the values as PM<sub>2.5</sub> (24.1 ug/m<sup>3</sup> to 37.1 ug/m<sup>3</sup>), PM<sub>10</sub> (36.0 ug/m<sup>3</sup> to 54.6 ug/m<sup>3</sup>), SO<sub>2</sub> (7.0 ug/m<sup>3</sup> to 28.4 ug/m<sup>3</sup>) and NOx (8.7 ug/m<sup>3</sup> to 33.8 ug/m<sup>3</sup>). The incremental values of GLCs due to the proposed expansion are PM<sub>10</sub> (0.4 ug/m<sup>3</sup>), SO<sub>2</sub> (3.8 ug/m<sup>3</sup>) & NOx (1.8 ug/m<sup>3</sup>). The resultant concentrations are within the permissible limit. The major pollutants expected from the power plant will be PM, SO<sub>2</sub> and NOx. ESPs to cooler and CPP, bag house to kiln/raw mill and coal mill and bag filters to cement mill and packing plants will be provided to control the SPM emissions below 50 mg/m<sup>3</sup>. Efficient bag house for Kiln/Raw mill & Coal mill, ESPs for Cooler Vent and Bag filters for Cement mill, packing plants will be provided to control SPM emissions < 50 mg/m<sup>3</sup>. Fugitive emissions from Limestone handling, coal handling, clinker hopper, storage silos, weight feeders, grinding mills and packing machines will be controlled by providing covered sheds for storage of raw materials, fully covered conveyors for transportation of materials, etc.

The proposed expansion project requires about 800 KLD of water. The total water consumption after proposed expansion will be 3,000 KLD. Water required for proposed plant will be sourced from rain water harvested in mine pits. No industrial wastewater will be generated from the cement plant. Wastewater will be generated from captive power plant will be treated in ETP. All the treated wastewater will be used for ash conditioning, dust suppression and green belt development. Oil & grease will be removed and treated in a neutralization pit. The dust collected from the various air pollution control measures like bag houses/filters, ESPs etc. will be totally recycled in the process for cement manufacturing. Fly ash will be pneumatically transported to the cement plant to be used in the cement manufacturing.

Public hearing/Public consultation was conducted by the Tamilnadu Pollution Control Board on 21.3.2012. Most of the public have welcomed the proposed expansion and appreciated the pollution control measures and CSR activities being done by the company. The public have requested the

company to provide employment opportunities, CSR activities etc. which have been addressed in the final EIA/EMP report.

After detailed deliberations, the Committee has recommended the proposal for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

- i. Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided. After expansion, limit of SPM shall be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system. Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO<sub>x</sub> burners should be provided to control NO<sub>x</sub> emissions.
- ii. Possibilities shall be explored for the proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be prepared and submitted to the Ministry and its Regional Office at Bangalore within 3 months from the date of issue of the letter.
- iii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- iv. 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 should be followed.
- v. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash should be transported in the closed containers only and shall not be overloaded. The company shall have separate truck parking area. Vehicular emissions should be regularly monitored.
- vi. Total water requirement for proposed expansion shall not exceed 800 m<sup>3</sup>/day. 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 should be adopted.
- vii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- viii. Regular monitoring of influent and effluent surface, sub-surface and ground water should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB.
- ix. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices should be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / reprocessors only.
- x. All the fly ash shall be utilized as per Fly ash Notification, 1999 subsequently amended in 2003. Efforts should be made to use fly ash maximum in making Pozollona Portland Cement (PPC).
- xi. Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.
- xii. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision should be made accordingly.

- xiii. As proposed, green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.
- xiv. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.
- xv. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 21<sup>st</sup> March, 2012 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bangalore.
- xvi. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program shall be ensured accordingly in a time bound manner.

**36.3.4 Expansion of Induction Furnace capacity from 25,500 TPA to 2,87,000 TPA at Plot No. A-1, Industrial Area, South of G.T. Road, Ghaziabad, Uttar Pradesh by M/s Rathi Super Steel Limited - regarding Environmental Clearance**

The committee noted that the presentation was not as per the ToRs accorded. The proposal was deferred for reconsideration in the next meeting at the request of the project proponent.

**36.3.5 Proposed 3 x 9 MVA Ferro Alloys Plant [Ferro Manganese: 61,365 TPA, Silico Manganese: 45,256 TPA, Ferro Silicon: 21,049 TPA] at Village: Radha Madhavpur, Mouza & P. O.: Chousal, District: Bankura, West Bengal by M/s Nilkanth Ferro Limited (Unit-II) regarding Environmental Clearance**

The project authorities and their consultant, M/s Environ India, Kolkata gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (TORs) awarded during the 18<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 24<sup>th</sup> - 25<sup>th</sup> January, 2011 for preparation of EIA/EMP. All the Ferro Alloy Plants are listed at S. No. 3(a) under Primary Metallurgy Industries under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Nilkanth Ferro Limited has proposed for 3 x 9 MVA Ferro Alloys Plant (Unit-II) at Village: Radha Madhavpur, Mouza & P. O.: Chousal, District: Bankura, West Bengal adjacent to Unit-I. Total land acquired for the Unit-II is 12.66 acres and green belt will be developed in 4.20 acres. No R&R is involved. No National Park / Wild Life Sanctuary / Reserve Forest is located within 10 km radius of the project site. Total cost of the proposed project is Rs. 41.07 Crores. Rs. 4.5 Crores and Rs. 50 Lakhs / annum will be earmarked towards total capital cost and recurring cost for environmental pollution control measures.

Following are the details of facilities for Unit-I and proposed for Unit-II:

<b>Main Plant</b>	<b>Unit-I</b>	<b>Unit-II</b>
Submerged Arc Furnace	1 X 7.5 MVA & 2 X 9 MVA	3 X 9 MVA
<b>Product</b>	<b>Unit-I</b>	<b>Unit-II</b>
Ferro Manganese	48,060 TPA	61,365 TPA
Silico Manganese	39,960 TPA	45,256 TPA
Ferro Silicon	-	21,049 TPA

Manganese ore, Fe Mn Slag, coke breeze, quartz, dolomite, Iron Scrap and Pet Coke will be used as raw materials. Power will be supplied by Damodar Valley Corporation (DVC). DG sets of capacity 2 X 125 kVA will be in operation during power failure only. The manufacturing of ferro alloys will be carried out in Submerged Arc Furnace and the process involves feeding the raw materials into the furnace. The oxides along with carbon will be fed to the furnace. After attaining favorable temperatures in the furnace, carbon will react with oxide and will remove it from element or metal. The metal will be tapped at regular intervals and collected in pans/moulds. After solidification of the metal, the same will be broken to required sizes and delivered to customers.

Ambient air quality monitoring has been carried out at 8 locations during the period March 2010 to May 2010 and the average data submitted indicated PM (134 - 178  $\mu\text{g}/\text{m}^3$ ), PM<sub>10</sub> (48 - 66  $\mu\text{g}/\text{m}^3$ ), SO<sub>2</sub> (<4 - 7  $\mu\text{g}/\text{m}^3$ ) and NO<sub>x</sub> (18 -36  $\mu\text{g}/\text{m}^3$ ) are within the permissible limits. Ground Level Concentrations (GLC's) due to Unit-I, Unit-II and cumulative have been predicted by using Industrial Source Complex, Short Term (ISCST3) as per CPCB guidelines and the average data indicate an incremental PM of 4  $\mu\text{g}/\text{m}^3$  and PM<sub>10</sub> of 2  $\mu\text{g}/\text{m}^3$  due to Unit-II. The smoke and fumes collected from SAF by the hood will be passed through bag filter before discharging through a stack of adequate height. The exit point of the tapping operation will be enclosed with a provision of suction hood and will be connected to the main Bag Filter with Heat Exchanger and I.D. Fan. Fugitive emissions from raw material handling section will be suppressed by dry fogging system / water sprinkling.

Total water requirement will be 30 KLD, which will be sourced from Borewell and permission is obtained for the same. Water will be used in the process mainly for cooling purposes. Wastewater will be used for fugitive dust suppression, water sprinkling etc. towards zero liquid effluent discharge. Plant sewage will be treated in septic tanks. Fines collected at Bag Filter will be recycled in the process. Slag produced in Fe-Mn will be reused to produce Si-Mn, slag from Si-Mn production will be used as land / road / area development / manufacturing of insulated bricks / coloured glass and slag produced in Fe-Si will be utilized in Cupola Furnace as raw material. DG sets will be provided with silencer. All pumps and motors will be selected from less noise generating types. Ear plugs will be provided to employees working in high noise prone areas.

Public hearing/Public consultation meeting was conducted by the West Bengal Pollution Control Board on 18.04.2012. The main issues raised in the public hearing meeting were w.r.t. local development, continuous operation of air pollution control measures, local employment, Implementation of CSR commitment, Rainwater harvesting schemes, afforestation programme etc. and have been addressed and included in the EIA/EMP.

After detailed deliberations, the Committee has recommended the proposal for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

1. No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.
2. Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm<sup>3</sup>.
3. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
4. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
5. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the

effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.

6. The total water requirement shall not exceed 30 m<sup>3</sup>/day. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
  7. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
  8. Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of Silico Manganese (Si-Mn). All the other ferro alloy slag shall be used in the preparation of building materials.
  9. No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.
  10. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.
  11. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 18<sup>th</sup> April, 2012 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar
  12. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
  13. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.
- 36.3.6 Proposed 4 MTPA Coal Beneficiation plant, 1.5 MTPA Non-recovery type Coke Oven Plant at APIIC Industrial Park, Naidupet, SPS Nellore District, Andhra Pradesh by M/s Gujarat NRE Coke Limited - regarding Environmental Clearance**

The proponent informed that they will not be able to attend the meeting. The Committee decided to consider the project as and when requested by the proponent.

- 36.3.7 Expansion and Modification of existing Integrated Steel plant by installation of 2x0.6 MTPA Iron Ore Pelletization plant and deletion of MBF & 1X25 T EAF at Village Lahandabud, P.O. H. Kantapali, Block / Tehsil / District - Jharsuguda in Odisha by M/s Thakur Prasad Sao & Sons Pvt. Limited (formerly Eastern Steels and Power Ltd.) - regarding Environmental Clearance**

The project authorities along with their environmental consultant, M/s. S. S. Environics (India) Pvt. Ltd., Bhubaneswar gave a detailed presentation on the salient features of the proposal along with proposed environmental protection measures to be undertaken as per Terms of References (TORs) issued during the 33<sup>rd</sup> meeting of Expert Appraisal Committee (Industry-1) held during 27<sup>th</sup> & 28<sup>th</sup> February, 2012 for preparation of EIA/EMP. Pelletization being a primary metallurgical process, is listed at Sl. No. 3(a) under Category (A) of the schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Thakur Prasad Sao & Sons Pvt. Limited (formerly Eastern Steels and Power Ltd.) have proposed for Expansion and Modification of existing Integrated Steel plant by installation of 2x0.6 MTPA Iron Ore Pelletization plant and deletion of MBF & 1X25 T EAF at Village Lahandabud, P.O. H.

Kantapali, Block / Tehsil / District - Jharsuguda in Odisha. The proposed expansion will be over an area of 28.5 acres within the existing plant premises of 178 acres. No additional land is required for the proposed expansion. Green belt will be developed over 59 acres in total steel plant area of 178 acres. No national park/wildlife sanctuary/biosphere reserve exists within 10 Km radius of the project site. Total project cost is Rs. 379.56 crores and capital cost of Rs. 18.5 crores is estimated for environmental protection measures. Environmental Clearance for the existing 0.5 MTPA Integrated Steel Plant was accorded by MoEF vide letter no. F.No.J-11011/525/2007-IA II (I), dated 22<sup>nd</sup> February, 2008. Public Hearing was held on 13.3.2007. Compliance to the conditions stipulated in the EC dated 22.2.2008 for existing plant is submitted and found to be satisfactory.

Iron Ore (12,80,400 TPA) will be sourced from Joda-Barbil area of Keonjhar District & Koirha area of Sundergarh District. Bentonite (13,200 TPA) and Furnace Oil (12,960 TPA) will be sourced from local market. Anthracite Coal (38,000 TPA) will be either imported or sourced from Indian Coal fields. Water requirement for the proposed expansion project will be 85 m<sup>3</sup>/hr, which will be sourced from Ib River from the existing water drawl permission. Rain water harvesting will be carried out to partly meet plant water requirement & for ground water recharge. Power Requirement of 10 MW will be met from captive power plant & partly from State Grid.

Baseline data was collected during winter season (from December 2011 to Feb 2012). Ambient air quality was monitored at eleven locations with respect to PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, O<sub>3</sub>, Ni, Pb, As, NH<sub>3</sub>, Benzene, Benzo (a) Pyrene. The AAQ analysis indicates concentration of PM<sub>10</sub> varies in the range of 50-85 µg/m<sup>3</sup>, PM<sub>2.5</sub> in the range of 24-53 µg/m<sup>3</sup>, SO<sub>2</sub> in the range of 4.0-14.30 µg/m<sup>3</sup>, NO<sub>x</sub> in the range of 9.0-18.10 µg/m<sup>3</sup>, CO in the range of 0.1-0.163 mg/m<sup>3</sup>, Ozone in the range of 5.0-7.40 µg/m<sup>3</sup>, NH<sub>3</sub> in the range of 20.0-29.56 µg/m<sup>3</sup>, Benzene in the range of 0.1-0.19 µg/m<sup>3</sup>, B(a)P in the range of 0.1-0.16 ng/m<sup>3</sup>, Ni less than 1 ng/m<sup>3</sup>, Pb less than 0.1 µg/m<sup>3</sup> and As less than 1 ng/m<sup>3</sup>. Prediction of Ground Level Concentrations (GLCs) due to proposed expansion has been made by using Industrial Source Complex, Short Term (ISCST3) model as per CPCB guidelines, which indicated an incremental concentration on 24 hourly basis are 0.59767 µg/m<sup>3</sup>, 0.59767 µg/m<sup>3</sup>, 0.12468 µg/m<sup>3</sup>, 1.49344 µg/m<sup>3</sup> and 0.89622 µg/m<sup>3</sup> for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> and CO respectively. Predicted GLCs of pollutants after implementation of the proposed expansion project are within the prescribed norms. The AAQ data from 1<sup>st</sup> March to 15<sup>th</sup> May 2012 has also been submitted.

Water sprinklers will be installed for raw material handling and material transfer to control the fugitive emissions. ESP for Indurating furnace and Pulse Jet Bag Filter for Indurating Machine Feeding end & discharging end, Kiln & Cooler to control particulate emissions will be provided for air pollution control. No wastewater will be generated from the process. Sewage (0.8 m<sup>3</sup>/hr) generated from the plant will be treated in STP for further use in plantation and dust suppression. There is no solid waste generation from the process of Pelletization as the rejects from intermediary process steps will be recycled back in process. Dust Collected from ESPs at Indurating Furnace & Bag filter at proportioning building will be recycled to pellet mixture, Broken pellets will be Recycled through grinding plant, STP Sludge (30 Kg/day) will be used as manure for plantation and Municipal Solid Waste (26 kg/day) will be vermicomposted to use as manure for plantation. Noise levels within plant & near the sources will be controlled below 85 dB (A) and near the plant boundary, it will be maintained within 75 dB (A).

Public Hearing was exempted under Para 7(II) of EIA Notification 2006.

After detailed deliberations, the Committee recommended the proposal for environmental clearance with the following specific and general conditions:

1. Compliance to all the specific and general conditions stipulated in the environmental clearance for the existing plant should be ensured and regular reports submitted to the Ministry's Regional Office at Bhubaneswar.
2. Efforts should be made to reduce RSPM levels in the ambient air and a time bound action plan should be submitted. Continuous stack monitoring facilities for all the stacks should be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. should be provided to keep the emission levels below 50 mg/Nm<sup>3</sup> and installing energy efficient technology. No charcoal should be used as raw material.

3. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be followed.
  4. Gaseous emission levels including secondary fugitive emissions from all the sources should be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB should be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 should be followed.
  5. Vehicular pollution due to transportation of raw material and finished product should be controlled. Proper arrangements should also be made to control dust emissions during loading and unloading of the raw material and finished product.
  6. The water requirement shall not exceed 85 m<sup>3</sup>/hr. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
  7. Efforts should be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
  8. Regular monitoring of influent and effluent surface, sub-surface and ground water should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent.
  9. Proper handling, storage, utilization and disposal of all the solid waste should be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste should be submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
  10. A Disaster Management Plan should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.
  11. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
  12. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.
  13. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.
- 36.3.8 Proposed capacity enhancement of cement plant from 1.2 MTPA (3,600 TPD) cement to 2.0 MTPA clinker (6,000 TPD) and 2.7 MTPA cement from New Chittor Cement works and installation of coal based CPP 80 MW (50 MW+30 MW) at Village Chanderia, District Chittorgarh in Rajasthan by **M/s Birla Corporation Limited - regarding Environmental Clearance****

The project authorities and their consultant, M/s. Cholamandalam MS Risk Services Limited., Chennai gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per the Terms of Reference (TORs) accorded during the 16<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 22<sup>nd</sup> – 24<sup>th</sup> November 2010 for preparation of EIA/EMP report. All the cement plants (more than 1.0 MTPA) are listed at S.No. 3(b) under Category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Birla Corporation Limited have proposed for capacity enhancement of cement plant from 1.2 MTPA cement to 2.0 MTPA clinker (2.7 MTPA of cement) of New Chittor cement works and installation of captive thermal power plant of 80 MW (50 MW+30 MW) within the existing facilities at Village Chanderia, District Chittorgarh in Rajasthan. The proposed expansion will be within the existing plant premises and no additional land will be required for the proposed expansion project. Existing greenbelt in the plant and colony is 97 ha. National Park, Wildlife Sanctuary and Biosphere Reserve are not located within the study area. Degraded reserved forests are located at Chittorgarh at about 5 Km from the existing facilities. Chittorgarh Fort, a notified archeological monument, is located at 3.5 Km in the SSE direction of the facility. Total cost of the expansion of New Chittor cement works from 1.2 MTPA Cement to 2 MTPA clinker (2.7 MTPA Cement) is Rs. 202 Crores and capital cost of the proposed thermal power plant (50 MW+30 MW) is Rs. 310 Crores. Capital cost for environmental protection measures in the New Chittor cement works is Rs. 61 Crores and Recurring Cost is Rs. 0.5 Crores/annum. The existing 1.2 MTPA cement plant of New Chittor Cement works was accorded environmental clearance vide MoEF letter No. J-11011 / 33 / 95 – IA II (I) Dated 8<sup>th</sup> May 2008 and is under final stages of construction.

Details of the existing and proposed products along with their production capacity of New Chittor Cement unit are given below:

S. No.	Unit	Existing EC Granted Capacity for	Existing Operation Capacity	Proposed Additional Capacity	Total capacity after Expansion
1.	Clinker Production (MTPA)	-	Under construction	-	2.0
2.	Cement Production (MTPA)	1.2	Under construction	1.5	2.7
3.	Thermal Power Generation (MW)	-	-	80	80
4.	Waste heat recovery Power Generation (MW)	-	-	6	6

The cement plant is based on the dry process technology for cement manufacturing with pre-heater and pre-calciner technology. Major raw material required for the proposed expansion of cement plant is limestone, which will be sourced from the captive limestone mine. Other raw materials are Gypsum & Fly ash, which are sourced from Rajasthan and Kota Thermal Power Plant respectively. Both coal and pet coke will be used in the 2.0 MTPA clinker (2.7 MTPA cement) New Chittor Cement plant and proposed thermal power plant. Total coal requirement in the New Chittor Cement plant after expansion is 0.32 MTPA and coal requirement in proposed thermal power plant (50 MW+30 MW) is 0.67 MTPA. The actual coal consumption in the facility will be less than the projected values due to utilization of pet coke. Electrical power requirement in the New Chittor Cement plant after expansion is 45 MW and the auxiliary power requirement in the proposed thermal power plant of 80 MW is 8 MW.

The baseline study was conducted for the project for the summer season, 2010. As per the Ambient Air Quality Monitoring carried out, PM<sub>2.5</sub> & PM<sub>10</sub> ranges between 6 to 29 µg/m<sup>3</sup> and 42 to 120 µg/m<sup>3</sup>, respectively. SO<sub>2</sub> & NO<sub>x</sub> concentrations were found in the range of 3 to 12.7 µg/m<sup>3</sup> and 4 to 29.3 µg/m<sup>3</sup>, respectively. Max incremental GLC for Sulphur Dioxide and Oxides of Nitrogen for proposed facilities will be in the order of 33 µg/m<sup>3</sup> and 25 µg/m<sup>3</sup> respectively. The AAQ data at Chittorgarh Fort was also monitored. Pollution control equipments like ESP, Bag houses and Bag filters will be installed to maintain the dust concentration well within the prescribed CPCB Norms. All material transfer points have been provided with bag filters to control the particulate emissions at the source itself. Clinker & fly ash will be stored in silo and gypsum in covered yard.

The total water requirement is 1,240 m<sup>3</sup>/day for cement plant including domestic requirement. No industrial wastewater will be generated from the cement plant. Water requirement in the proposed thermal power plant including plant domestic needs is 1,290 m<sup>3</sup>/day. It is proposed to install air cooled condenser in the proposed thermal power plant. Treated wastewater from power plant will be used for dust suppression and gas conditioning in the existing cement plant. Domestic wastewater from proposed facilities will be treated in the existing sewage treatment facility located at the colony. The treated domestic wastewater will be utilized for greenbelt development. No solid waste will be generated in the cement manufacturing process. Dust collected from the various pollution control equipments will be recycled back to the process. STP sludge is utilized as manure for green belt development within the plant premises.

Public hearing was conducted by the Rajasthan State Pollution Control Board on 27.6.2011. The main issues raised in the public hearing meeting were regarding pollution control measures, local employment, separate truck parking area, CSR activities etc. The committee also took note of the complaints received by MoEF regarding the Public Hearing and sought clarifications from the PP.

After detailed deliberation, the Committee recommended the project for environmental clearance subject to submission of details regarding OHS plan, compliance / commitments to all the issues raised in the public hearing and the stipulation of following specific conditions along with other environmental conditions:

- i. Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided. After expansion, limit of SPM shall be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system. Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO<sub>x</sub> burners should be provided to control NO<sub>x</sub> emissions.
- ii. Possibilities shall be explored for the proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be prepared and submitted to the Ministry and its Regional Office at Lucknow within 3 months from the date of issue of the letter.
- iii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- iv. 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 should be followed.
- v. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash should be transported in the closed containers only and shall not be overloaded. Vehicular emissions should be regularly monitored.
- vi. The company shall have separate truck parking area. The details regarding same including photographs shall be submitted to the Ministry and its Regional Office at Lucknow within 3 months from the date of issue of the letter.
- vii. Total water requirement shall not exceed 2,530 m<sup>3</sup>/day. 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 should be adopted.
- viii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.

- ix. Regular monitoring of influent and effluent surface, sub-surface and ground water should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Lucknow, SPCB and CPCB.
- x. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices should be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / reprocessors only.
- xi. All the fly ash shall be utilized as per Fly ash Notification, 1999 subsequently amended in 2003. Efforts should be made to use fly ash maximum in making Pozollona Portland Cement (PPC).
- xii. Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.
- xiii. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision should be made accordingly.
- xiv. As proposed, green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.
- xv. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.
- xvi. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 27<sup>th</sup> June, 2011 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Lucknow.
- xvii. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Lucknow. Implementation of such program shall be ensured accordingly in a time bound manner.

### **Proposals for TORs**

**36.3.9** Proposed 5.0 MTPA Integrated Cement Clinkerization Plant, 8.0 MTPA Cement Grinding Unit, 100 MW captive Power Plant and 7.0 MTPA Captive Lime stone with mining lease area of 997.08 ha at Village Gollapalli, Mandal Mylavaram, District Kaddapa (Y.S.R.) in Andhra Pradesh by **M/s ACC Limited - regarding TORs**

The proponent informed that they will not be able to attend the meeting. The Committee decided to consider the project as and when requested by the proponent.

**36.3.10** Proposed Low and Medium Carbon Ferro Manganese (6,000 TPA) Plant at Plot No. B-23, Village Butibori, Tehsil Hingna, District Nagpur in Maharashtra by **M/s Vulcan Alloys - regarding TORs**

The project authorities gave a presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft TORs for preparation of EIA/EMP report. All the ferro alloy plants are listed at S.No. 3(a) in primary metallurgical industry under Category-A of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) in the MoEF.

M/s Vulcan Alloys have proposed for Low and Medium Carbon Ferro Manganese (6,000 TPA) Plant at Plot No. B-23, Village Butibori, Tehsil Hingna, District Nagpur in Maharashtra. The project area is 2,700 Sq M. and green belt will be developed in 33% of the total area. Bid Sukli RF (5.0 Km. NW) and Junapan RF (5.0 Km. SW) are located within the 10 km radius. River Vena flows at a distance of 2.6 km (E). The project cost is Rs. 40 lakhs.

Manganese ore (500 TPM), Silico Manganese (500 TPM), Aluminum Powder (75 TPM) and Lime (75 TPM) are the raw materials required. The power requirement is 100 HP and will be sourced from MSEB. Ferromanganese, a ferroalloy with high content of manganese, is made by heating a mixture of the oxides  $MnO_2$  and  $Fe_2O_3$ , in a furnace using Aluminium Powder for heating. The oxides undergo carbo-thermal reduction in the furnaces, producing the ferro- manganese. This is a self driven exothermic reaction in which aluminium powder burns to attain the temperature of around 1200-1400 °C. Ferro manganese is used as a deoxidizer for steel.

For pollution emanating from furnace, it is proposed to install Cyclone Separator & Wet Scrubber followed by stack of 21 Mtr. The crusher used for final product processing will be enclosed from all sides to contain the small particles. There is no requirement of process water. The water requirement is 50 m<sup>3</sup>/d which is only for domestic purpose. Garland drain all around the premises for collection of runoff water will be made. Rainwater harvesting is proposed. Slag (575 TPM) will be generated.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project.
2. Photographs of the proposed plant area.
3. A line diagram/flow sheet for the process and EMP
4. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
5. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
6. Present land use should 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 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
7. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
8. A list of industries within 10 km radius of the plant area.
9. Details and classification of total land (identified and acquired) should be included.
10. Project site layout plan showing raw materials and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
11. List of raw material required, Chemical analysis of all the raw materials including Trace Elements and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
12. Quantification & Characterization of solid /hazardous waste & its action plan for management should be included.
13. Mass balance for the raw material and products should be included.
14. Energy balance data for all the components of ferro alloy plant should be incorporated.
15. Design details of Ferro Alloy Plant and manufacturing process details should be included.
16. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
17. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out including cumulative Impact of the surrounding industries.

18. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
19. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
20. Air quality modeling for ferro alloy plant for specific pollutants needs to be done. APCS for the control of emissions should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
21. Ambient air quality as per National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
22. Air Quality Impact Prediction Modeling based on ISCST-3 or the latest models.
23. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
24. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
25. Presence of aquifer/aquifers within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
26. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
27. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
28. 'Permission' for the drawl of water should be obtained. Water balance data must be provided.
29. A note on the impact of drawl of water on the nearby River during lean season.
30. Action plan for rainwater harvesting measures.
31. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
32. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
33. Pretreatment of raw water, treatment plant for waste water should be described in detail. Design specifications may be included.
34. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
35. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources should also be included. Land filling is not allowed.
36. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
37. Provision of Toxic Chemical Leachability Potential (TCLP) test for the slag and its end use should be included.
38. Commitment that no Ferro chrome will be manufactured without prior approval of the Ministry.
39. Action plan for the green belt development plan in 33 % area should be included.
40. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
41. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
42. Occupational health:
  - a) 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,
  - b) 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.

- c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
43. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
44. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and incorporated.
45. Total capital cost and recurring cost/annum for environmental pollution control measures should also be included.
46. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA/EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to the Maharashtra Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP report including public hearing proceedings.

### **36.3.11 Setting up of Iron Ore pelletization Plant of 85,000 TPA capacity at Village Nimdih, Block Chandil, District Saraikela Kharsawan in Jharkhand by M/s Rajshree Steelmet Pvt. Limited - regarding TORs**

The project authorities and their consultant, M/s Shiva Test House, Patna gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with draft Terms of Reference for the preparation of EIA/EMP Report. Pelletization being a primary metallurgical process, is listed at Sl. No. 3(a) under Category (A) of the schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) of MoEF.

M/s Rajshree Steelmet Pvt. Ltd. have proposed for Iron Ore pelletization unit of 85,000 TPA capacity at Village Nimdih, Block Chandil, District Saraikela Kharsawan in Jharkhand. Total project area of 2.73 acres is in possession of project proponent and 0.91 acres of land will be utilized for the green belt development. No national parks/wild life sanctuary/reserve forests are located within 10 km radius of the project area. Total cost of the project is Rs. 4.98 crores. Rs. 31 lakhs and Rs. 3 lakhs are earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.

The major raw materials required for the proposed project are Iron ore Fines, Bentonite, Lime, Coal & Mill Scale. Total power requirement will be 1000 KVA which will be sourced from JSEB. Pelletisation essentially consists of formation of green balls by rolling a fine iron bearing material with critical amount of water and to which an external binder or any other additive may be added if required. These green balls of nearly 5 – 20 mm. size are then dried, preheated and fired, all under oxidizing conditions, to a temperature of around 1250 – 1350 °C. Bonds of good strength are developed between the particles at such high temperature. The sensible heat of the exhaust gases is recovered and is fed back in the indurations operation. The process, therefore, produces pellets in a highly oxidized state, as against the sintering process in which solid fuel is incorporated in the charge and which finally results in a 5 – 20% ferrous iron.

Gas Cleaning System will be installed in oil firing zone to control emissions from Rotary Kiln and Stack of 30 m. height will be provided to restrict the emission within the prescribed limits. Total water

requirement of the proposed project will be 30 KLD mainly for cooling, domestic & dust suppression purposes. No industrial wastewater will be generated. Domestic wastewater will be disposed off through a septic tank followed by soak pit inside the project premises. No effluent will be discharged from the project premises. No solid wastes will be generated from the proposed project. D.G. set will be equipped with accosting enclosures.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project.
2. Photographs of the proposed plant area.
3. A line diagram/flow sheet for the process and EMP
4. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
5. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
6. Present land use should 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 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
7. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing landuse/landcover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
8. A list of industries within 10 km radius of the plant area.
9. Details and classification of total land (identified and acquired) should be included.
10. Project site layout plan showing raw materials and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
11. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
12. Quantification & Characterization of solid /hazardous waste & its action plan for management should be included.
13. Mass balance for the raw material and products should be included.
14. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
15. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
16. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
17. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
18. Ambient air quality as per National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
19. Air Quality Impact Predication Modelling based on ISCST-3 or the latest models.
20. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
21. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
22. Presence of aquifer/aquifers within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
23. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.

24. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
25. 'Permission' for the drawl of water should be obtained. Water balance data must be provided.
26. A note on the impact of drawl of water on the nearby River during lean season.
27. Action plan for rainwater harvesting measures.
28. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
29. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
30. Pretreatment of raw water, treatment plant for waste water should be described in detail. Design specifications may be included.
31. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
32. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources should also be included.
33. Identification and details of land to be used for all type of slag disposal in the secured land fill as per CPCB guidelines should be included.
34. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
35. Provision of Toxic Chemical Leachability Potential (TCLP) test for the slag and its end use should be included.
36. Action plan for the green belt development plan in 33 % area should be included.
37. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
38. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
39. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
40. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on Public Hearing proceedings and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
41. Total capital cost and recurring cost/annum for environmental pollution control measures should also be included.
42. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
43. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA / EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to Jharkhand State Pollution

Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP reports, after public consultation.

**36.3.12 Inclusion of Silico manganese and Ferro manganese in existing ferro alloy unit at Sy. Nos. 166, 264-A2, 267, 268, 272 & 298, Village Thimmanagaripalem, Kadivedu Post, Mandal Chillakur, District SPSR Nellore in Andhra Pradesh by M/s Om Sri Sai Ferro Alloys Private Limited - regarding TORs**

The project authorities and their consultant, M/s Team Labs, Hyderabad gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft TORs for preparation of EIA/EMP report. All the ferro alloy plants are listed at S.No. 3(a) in primary metallurgical industry under Category-A of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) in the MoEF.

M/s. Om Sri Sai Ferro Alloys Private Limited. has obtained Consent for Operation for Ferro silicon production with 1.5 MVA and 2.5 MVA submerged electric arc furnaces from APPCB vide letter no. N- 144/ PCB/ZO-VJA/ CFO/W&A/ 2011-247 dated 11-5-2012. Now, it is proposed to include Silico Manganese and Ferro Manganese products to the existing furnaces. The unit is located at Survey No's. 166, 264-A2, 267, 268, 272 & 298 of Thimmanagaripalem village panchayat, Kadivedu revenue village & post, Chillakur Mandal, SPSR Nellore District, Andhra Pradesh. Total land available with the project is 9.81 acres in which 3.3 acres of the area will be developed as green belt. There are no national parks, wildlife sanctuaries in 10km radius of the project site. The nearest village is Kadivedu which is located at a distance of 1.0 km from the plant in South direction. NH-5 is at a distance of 2.5 km in west direction. Oduru railway station is at a distance of 6 km in west direction. Gudur town is at a distance of 10 km from the site in NW direction. Upputeru Seasonal nallah is at a distance of 4.4 km in north direction. Kadivedu reserve forest is at a distance of 1.8 km in East, Rudrayapalem RF at 3.8 km in south and Oduru RF at 3 km in SW direction. Total capital cost of the project is Rs. 4.2 Crores.

The existing and proposed manufacturing capacities and plant facilities are presented as follows:

S. No	Description	Capacity (TPD)		
		1.5 MVA	2.5 MVA	Total
<b>Existing</b>				
1	Ferro Silicon (Fe Si) * - CFO Obtained	1.6	2	3.6
<b>Proposed</b>				
3	Silico Manganese (Si Mn) *	6.7	12	18.7
4	Ferro Manganese (Fe Mn) *	9	15.3	24.3

\*It is proposed to manufacture the above alloys on campaign basis.

Ferro Alloys namely Ferro Silicon, Silico Manganese and Ferro Manganese are produced in a Submerged Electric Arc Furnace. All these products could be produced in the same furnace with minor modifications. The Ferro Alloys are used in the manufacture of steel but the grade and quantities vary depending upon the type of steel. The sources of air pollution from the plant are Submerged Electric arc furnace and stand by DG set. Wet scrubber is provided as control equipment for the furnace. Acoustic enclosure with sufficient stack height is provided to the DG set.

The total water requirement for the project is 121 KLD which shall be drawn from ground water through bore wells. The wastewater generated from the plant is scrubber effluent of 70 KLD, cooling tower blow downs 12 KLD which is reused for dust suppression and inland irrigation after treatment, the unit operations involved in the treatment are Equalization, Neutralization and Settling. Domestic effluents of 3.3 KLD shall be sent to septic tank followed by soak pit. The main solid waste generated from the unit is slag from ferro alloy production, dust from air pollution control equipment and solids from settling

tank. The solid waste generated shall be used for construction material, sold to end users in the vicinity like brick manufacturers and reused in respective operations, while solid waste from Fe-Mn manufacturing is reused as raw material for Si Mn manufacturing.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project.
2. Photographs of the existing and proposed plant area.
3. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
4. 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, compliance to the notice(s)
5. A line diagram/flow sheet for the process and EMP
6. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
7. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
8. Present land use should 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 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
9. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
10. A list of industries within 10 km radius of the plant area.
11. Details and classification of total land (identified and acquired) should be included.
12. Project site layout plan showing raw materials and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
13. List of raw material required, Chemical analysis of all the raw materials including Trace Elements and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
14. Quantification & Characterization of solid /hazardous waste & its action plan for management should be included.
15. Mass balance for the raw material and products should be included.
16. Energy balance data for all the components of ferro alloy plant should be incorporated.
17. Design details of Ferro Alloy Plant and manufacturing process details should be included.
18. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
19. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out including cumulative Impact of the surrounding industries.
20. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
21. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
22. Air quality modeling for ferro alloy plant for specific pollutants needs to be done. APCS for the control of emissions should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
23. Ambient air quality as per National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
24. Air Quality Impact Prediction Modeling based on ISCST-3 or the latest models.

25. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
26. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
27. Presence of aquifer/aquifers within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
28. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
29. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
30. 'Permission' for the drawl of water should be obtained. Water balance data must be provided.
31. A note on the impact of drawl of water on the nearby River during lean season.
32. Action plan for rainwater harvesting measures.
33. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
34. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
35. Pretreatment of raw water, treatment plant for waste water should be described in detail. Design specifications may be included.
36. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
37. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources should also be included. Land filling is not allowed.
38. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
39. Provision of Toxic Chemical Leachability Potential (TCLP) test for the slag and its end use should be included.
40. Commitment that no Ferro chrome will be manufactured without prior approval of the Ministry.
41. Action plan for the green belt development plan in 33 % area should be included.
42. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
43. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
44. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
45. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
46. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and incorporated.

47. Total capital cost and recurring cost/annum for environmental pollution control measures should also be included.
48. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA/EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to the Andhra Pradesh Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP report including public hearing proceedings.

**36.3.13 Proposed Iron Ore Beneficiation Plant (1.0 MTPA), Iron Ore Pellet Plant (0.6 MTPA), 4x100 TPD DRI Plant, 2x9 MVA Arc Furnace, CCM (1,40,000 TPA), Rolling Mill (1,30,000 TPA) along with Captive Power Plant (20 MW) at Village Kantakapally, Tehsil Kothavalasa, District Vizianagaram in Andhra Pradesh by M/s Million Steels Pvt. Limited - regarding TORs**

The project authorities and their consultant, M/s Centre for Envotech and Management Consultancy Pvt. Ltd., Bhubaneswar gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft TORs for preparation of EIA/EMP report. All the steel plants are listed at S.No. 3(a) in primary metallurgical industry under Category-A of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry-1) in the MoEF.

M/s Million steels Pvt. Ltd has proposed to set up a Steel Plant at Kantakapally, Tehsil Kothavalasa, District Vizianagaram in Andhra Pradesh. Project site is located at 17° 56'51.6" N latitude and 83° 13'8.7" E longitude. The total project area is 81 acres, which includes 29.75 acres of industrial land allotted by APIIC and remaining private land. Private land of 13.40 acres has already been acquired. No R&R is applicable. Kothavalasa is the nearest town at a distance of about 7 km. The project cost is Rs. 337 crores.

The proposed facilities and products along with their capacities are as follows:

Sl. No.	Plant Facility	Product	Plant configuration	Capacity
1.	Beneficiation plant	Iron ore concentrate	1 MTPA throughput 0.8 MTPA iron ore concentrate	1 MTPA throughput 0.8 MTPA iron ore concentrate
2.	Pellet Plant	Iron ore Pellet	1 x 0.6 MTPA	0.6 MTPA
3.	Sponge Iron (DRI)	Sponge iron	4 x 100 TPD	120000 TPA
4.	Arc Furnace	Ferro Manganese/ Silico Manganese/ Pig Iron	2 x 9 MVA	48000 TPA
5.	Induction furnace with CCM	Steel Billets	4 x 15 Ton IF with CCM	140000 TPA
6.	Rolling mill	Rolled product	40 TPH Re-heating furnace	130000 TPA
7.	Power Plant (CPP)	Power	20 MW (8 MW WHRB 4 x 10 TPH and 12 MW CFBC 1 x 50 TPH)	20 MW

Raw material handling and transfer points will be controlled by Dry Fog (DF) system whereas dust suppression (DS) by water sprinkling would be done at open stockyard. All closed zone working areas such as raw materials handling zone, conveyor transfer points, dust generation points at screen would be provided with multiple dust extraction (DE) systems/dry fogging (DF) at several emission points to control the fugitive dust emissions. Bag filters, ESP and wet scrubber will be provided for the pellet plant. PM, SO<sub>2</sub> and CO from DRI Plant will be controlled by Dust Settling Chamber-ABC-WHRB-ESP. Forced draft cooler, Spark arrester and bag filter with adequate stack height will be provided to control PM emission from SAF. Swiveling hood will be provided for fume extraction from IF. Spark arrester and bag filter with adequate stack height to control particulate matter emission. ESP, DFS and Bag filters will be provided for the CPP.

The water requirement of 165 m<sup>3</sup>/hr will be sourced from GVMC (Greater Vishakhapatnam Municipal Corporation) at a distance of 4 km from the project site. 29 m<sup>3</sup>/hr of wastewater will be generated which will be completely reused and designed for zero discharge concept. Dolo char from DRI plant will be used in the FBC power plant. Fly ash will be used in cement plants and for concrete blocks. All the other solid waste will be reused to the maximum extent, else will be used for low land filling. The power requirement is 50 MW, of which 18 MW will be sourced from CPP and balance 32 MW from APEPDCL.

After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project
2. Photographs of the proposed plant area.
3. A line diagram/flow sheet for the process and EMP
4. Coal linkage documents
5. A copy of the mutual agreement for land acquisition signed with land oustees.
6. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. A photograph of the site should also be included.
7. Present land use should 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 should be used for land used/land-cover mapping of the area.
8. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
9. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
10. Project site layout plan showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
11. Coordinates of the plant site as well as ash pond with topo sheet co-ordinates of the plant site as well as ash pond with topo sheet should also be included.
12. Details and classification of total land (identified and acquired) should be included.
13. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
14. Permission from the tribals, if tribal land has also to be acquired along with details of the compensation plan.
15. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department. .
16. A list of industries containing name and type in 25 km radius should be incorporated.
17. Residential colony should be located in upwind direction.
18. List of raw material required, analysis of all the raw materials and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".

19. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. ores, minerals, rock, soil, coal, iron, dolomite quartz etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per ISO-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.), if applicable, should also be included.
20. Petrography, grain size analysis and Major element analysis of raw material and soil from project site and raw material should be done on the same parameters along with analysis for SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, MgO, MnO, K<sub>2</sub>O, CaO, FeO, Fe<sub>2</sub>O<sub>3</sub>, P<sub>2</sub>O<sub>5</sub>, H<sub>2</sub>O, CO<sub>2</sub>.
21. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the amount present in it and hence future risk involved while using it and management plan.
23. Action plan for excavation and muck disposal during construction phase.
24. Studies for fly ash, muck, slurry, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.
25. Manufacturing process details for all the plants should be included.
26. Mass balance for the raw material and products should be included.
27. Energy balance data for all the components of steel plant including proposed power plant should be incorporated.
28. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
29. Data generated in the last three years i.e. air, water, raw material properties and analysis (major, trace and heavy metals), ground water table, seismic history, flood hazard history etc.
30. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
31. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
32. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
33. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
34. Air quality modeling for steel plant for specific pollutants needs to be done. APCS for the control of emissions from the kiln and WHRB should also be included to control emissions within 50 mg/Nm<sup>3</sup>.
35. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be included.
36. Ambient air quality monitoring modeling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
  - i) Emissions (g/second) with and without the air pollution control measures
  - ii) Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height using SODAR) on hourly basis
  - iii) Model input options for terrain, plume rise, deposition etc.
  - iv) Print-out of model input and output on hourly and daily average basis
  - v) A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
  - vi) Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
  - vii) Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
  - viii) No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry

- ix) Graphs of monthly average daily concentration with down-wind distance
  - x) Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
  - xi) Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
37. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
  38. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided. The alternate method of raw material and end product transportation should also be studied and details included.
  39. One season data for gaseous emissions other than monsoon season is necessary.
  40. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008.
  41. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
  42. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included. Information regarding surface hydrology and water regime should be included.
  43. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
  44. Ground water modeling showing the pathways of the pollutants should be included
  45. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
  46. Action plan for rainwater harvesting measures at plant site should 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. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
  47. Permission for the drawl of water from the State Irrigation Department or concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
  48. A note on the impact of drawl of water on the nearby River during lean season.
  49. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
  50. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
  51. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
  52. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
  53. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
  54. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
  55. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, lakes), sub-surface and ground water with a monitoring and management plans.
  56. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.

57. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources, char and fly ash. Copies of MOU regarding utilization of ash should also be included.
58. Details of evacuation of ash, details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. needs to be addressed.
59. A note on the treatment, storage and disposal of all type of slag should be included. Identification and details of land to be used for SMS slag disposal should be included. Details of secured land fill as per CPCB guidelines should also be included.
60. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
61. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
62. 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. should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
63. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
64. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
65. Occupational health:
  - a) 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,
  - b) 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.
  - c) Annual report of health status of workers with special reference to Occupational Health and Safety.
  - d) Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
66. 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.
67. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure needs to be constructed and the agency responsible for the same with time frame.
68. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures should be included.
69. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines must be prepared.
70. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
71. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
72. A note on identification and implementation of Carbon Credit project should be included.
73. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof should also be included.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee-1 (Industry) should be considered for preparation of EIA / EMP report for the above mentioned 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 should be provided. The draft EIA/EMP report shall be submitted to the Andhra Pradesh Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

The TORs prescribed shall be valid for a period of two years for submission of the EIA/EMP reports along with Public Hearing Proceedings.

### **Any Other Item**

#### **36.3.14 Sponge Iron Plant (1x100 TPD) along with Pellet Plant (1.0 Lakh TPA) and Captive Power Plant (5 MW) at Sy. No. 278, Village Halkundi, Taluk and District Bellary in Karnataka by M/s Mastek Steels Pvt. Limited - regarding reconsideration of Environmental Clearance**

The above proposal was considered and discussed in the 34<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 29<sup>th</sup> & 30<sup>th</sup> March, 2012. The Committee after detailed deliberations sought the following information for reconsideration:

- Coal linkage documents along with chemical & trace element analysis of coal
- Impact of the proposed project on Rf's by predicting the impact distance etc.
- Detailed CSR plan and Public Hearing issues compliance.

The above information was submitted by the PP. The project proponent and their consultant, M/s KRS Enterprises, Bangalore also made a presentation before EAC. After detailed deliberation, the Committee recommended the project for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

1. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks should be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), and bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm<sup>3</sup> by installing energy efficient technology.
2. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be followed.
3. Gaseous emission levels including secondary fugitive emissions from all the sources should be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.
4. Dust suppression system and bag filters shall be installed to control the fugitive dust emissions at conveyor and transfer points, product handling, loading and unloading points.
5. Hot gases from the DRI kiln shall be passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before dispersion out into the atmosphere through ID fan and stack. ESP shall be installed to control the particulate emissions from the WHRB.
6. Total water requirement shall not exceed 179 m<sup>3</sup>/ day. The water consumption shall not exceed as per the standard prescribed for the sponge iron plants.

7. 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. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit.
  8. All the char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else. AFBC boiler shall be installed simultaneously along with the DRI plant to ensure full utilization of char from the beginning.
  9. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2010. All the fly ash should be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding should be submitted to the Ministry's Regional Office at Bangalore.
  10. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.
  11. As proposed, green belt shall be developed in 33 % of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
  12. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Sponge Iron Plants should be implemented.
  13. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 29<sup>th</sup> December, 2010 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bangalore.
  14. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.
- 36.3.15 Expansion of Sponge Iron Plant (50 TPD to 150 TPD) along with installation of Captive Power Plant (5 MW) at Sy. No. 458/461-B, Village Halkundi, Taluk and District Bellary in Karnataka by M/s Shirdi Sai Steels Pvt. Limited - regarding reconsideration of Environmental Clearance**

The above proposal was considered and discussed in the 34<sup>th</sup> Meeting of the Expert Appraisal Committee (Industry-1) held during 29<sup>th</sup> & 30<sup>th</sup> March, 2012. The Committee after detailed deliberations sought the following information for reconsideration:

- Compliance to the conditions stipulated in the Environmental Clearance/NOC from SPCB of existing plant. Recent monitoring report from the SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
- Coal linkage documents along with chemical & trace element analysis of coal
- Impact of the proposed project on RFs by predicting the impact distance etc.

The above information was submitted by the PP. The project proponent and their consultant, M/s KRS Enterprises, Bangalore also made a presentation before EAC. After detailed deliberation, the Committee recommended the project for environmental clearance subject to stipulation of following specific conditions along with other environmental conditions:

1. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks should be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), and bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm<sup>3</sup> by installing energy efficient technology.
2. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 should be followed.
3. Gaseous emission levels including secondary fugitive emissions from all the sources should be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30<sup>th</sup> May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.
4. Dust suppression system and bag filters shall be installed to control the fugitive dust emissions at conveyor and transfer points, product handling, loading and unloading points.
5. Hot gases from the DRI kiln shall be passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before dispersion out into the atmosphere through ID fan and stack. ESP shall be installed to control the particulate emissions from the WHRB.
6. Total water requirement shall not exceed 180 m<sup>3</sup>/ day. The water consumption shall not exceed as per the standard prescribed for the sponge iron plants.
7. 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. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit.
8. All the char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else. AFBC boiler shall be installed simultaneously along with the DRI plant to ensure full utilization of char from the beginning.
9. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2010. All the fly ash should be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding should be submitted to the Ministry's Regional Office at Bangalore.
10. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.
11. As proposed, green belt shall be developed in 33 % of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
12. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Sponge Iron Plants should be implemented.
13. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 31<sup>st</sup> December, 2010 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bangalore.

14. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.

**36.3.16 Phase-II Expansion / Diversification project of Steel Plant at Village Taraimal, District Raigarh in Chhattisgarh by M/s Nalwa Steel and Power Limited - regarding Amendment in Environmental Clearance**

Environmental clearance to the above proposal was accorded vide letter No. 11011/398/2006-IA-II (I) dated 24-1-2007 and amended on 30<sup>th</sup> September 2010. The PP has requested for amendment in the above EC so as to permit to replace existing one module of 2x12 MT (Megatherm make) Induction Furnace with high efficient, environment friendly 1x30 MT (ABP make) induction furnace resulting in total steel production from 1,40,000 TPA to 1,60,000 TPA. The PP and their consultant, M/s EMTRC Consultants, Delhi have also made a presentation before the committee.

M/s Nalwa Steel & Power Limited (NSPL) is operating an Integrated Steel Plant at Taraimal, Raigarh, Chhattisgarh having sponge iron plant, induction furnace based SMS, rolling mill with PGP, oxygen plant, coal washery and captive power plant. At present 4 nos of 12 tons capacity Induction Furnaces are operating. The steel production of each furnace is approximately 35,000 tons per annum, with a total steel production being 1,40,000 tons per annum. These Induction Furnaces were commissioned in 2003 and have outlived and need replacement. The productivity of the 30 tons Induction Furnace will be 90,000 tons per annum. The total steel production from the SMS will increase from 1,40,000 to 1,60,000 TPA, without increase in overall requirement of raw material inputs for the entire project. This will be on account of utilization of sponge iron in the proposed Induction Furnace, which otherwise is presently being sold in the market

The project proponent stated that the high capacity Induction furnace (30 T) has distinct advantages in environmental protection and improved energy efficiency such as Energy efficiency, lower atmospheric Emissions i.e. 10 mg/Nm<sup>3</sup> as against 50 mg/Nm<sup>3</sup>, air pollution control devices could be operated and maintained efficiently in single large furnace compared to two small furnaces, small size furnace (like 12 tons) is techno-economically unviable, the technology of small sized furnace has become obsolete, ease of Operation and Maintenance. It was also submitted that, there is no increase in the land & water requirement, net decrease in Atmospheric Emissions (Emissions reduced from 50 mg/Nm<sup>3</sup> to 10 mg/Nm<sup>3</sup>), no increase in predicted incremental SO<sub>2</sub>, NOX & SPM levels, automatic handling of material there by reducing associated emissions and marginal decrease (2%) in slag generation.

After detailed deliberations, the committee has recommended for the above amendment subject to the environmental safeguards.

**36.3.17 Categorization of projects into B1 and B2 - Preparation of Sector-wise guidelines**

As per the EIA Notification, 2006, MoEF shall issue appropriate guidelines for categorization of projects into B1 or B2 from time to time. Accordingly, the matter was considered by EAC and after detailed deliberation, the committee made the following recommendations w.r.t projects of Industry-1 Sector:

1. The stand alone cement grinding units (< 1 MTPA) shall be treated as B-2.
2. The stand alone cement grinding units ( $\geq$  1 MTPA) shall be treated as B-1.
3. The cement grinding units along with power plant irrespective of capacity shall be treated as B-1.
4. Manmade fibres manufacturing (other than Rayon) which does not involve polymerization in the manufacturing process even with gas based CPP shall be treated as B-2.
5. The manmade fibres manufacturing (other than Rayon) which involve polymerization shall be treated as B-1.
6. All other B category projects of Industry-1 Sector would be considered as B1.

The meeting ended with a vote of thanks to the Chair. It was decided that the 37<sup>th</sup> EAC (I-1) will be held on 14<sup>th</sup> – 15<sup>th</sup> June 2012

**LIST OF PARTICIPANTS IN 36<sup>th</sup> EAC (INDUSTRY-1) MEETING (24<sup>th</sup> -25<sup>th</sup> May, 2012)**

<b>Expert Appraisal Committee (Industry-1) :</b>			
1.	Dr. T. S. Vijayaraghavan	Chairman	P
2.	Shri. Shiban Raina	Vice-Chairman	P
3.	Prof. Manju Mohan	Member	P
4.	Prof. Jayanta Bhattacharya	Member	A
5.	Prof. R.C. Gupta	Member	A
6.	Dr. R.M. Mathur	Member	P
7.	Dr. S. K. Dave	Member	P
8.	Prof. C. S. Dubey	Member	P
9.	Prof. Pradeep Kumar Garg	Member	P
10.	Dr. K. Sankar	Member	P
<b>MOEF Officials :</b>			
11.	Dr. P.L. Ahujarai	Scientist 'F' & Member Secretary	
12.	Shri Ramesh Motipalli	Scientist 'C'	
13.	Shri P.R. Sakhare	Research Officer	

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