MINUTES OF THE MEETING OF 35th RECONSTITUTED EXPERT APPRAISAL COMMITTEE (INDUSTRY - 1) HELD ON 26th – 27th March 2015

VENUE: INDUS, Ground Floor, Jal Wing, Indira Paryavaran Bhawan, Jor Bagh, Lodi Road, New Delhi-110003.

TIME: 1st Day (26.03.2015), 10.30 A.M
2nd Day (27.03.2015) 10.00 AM

35.1 Opening Remarks of the Chairman

At the outset Chairman and the Committee members welcomed the new Member Secretary of the Committee.

35.2 Confirmation of the Minutes of the 33rd Reconstituted Expert Appraisal Committee (Industry) held during **10th – 11th February, 2015**

The minutes of the 33rd meeting of the Expert Appraisal Committee (Industry) held during 10th – 11th February, 2015 were confirmed. The member Secretary requested all the participating members to sign the minutes of the meeting from this meeting onwards as the minutes of the meeting are vital document and referred by various bodies from time to time. In order to avoid future ambiguity, it was decided that all the members would also sign the minutes of the meeting. The members agreed for the same. The Committee thereafter,taken up the agenda items for consideration at seriatim.

THURSDAY, 26th March 2015

TIME: 1st Day (26.03.2015), 10.30 A.M

35.3 Environmental Clearance

35.3.1 **Expansion of Fe-Mn Plant from 50,400 TPA to 76,000 TPA with addition of 10 MVA submerged arc furnace by M/s Tata Steel Limited at Joda, Keonjhar District, Odisha [File No.J-11011/3/2012-IA.II(I)]**

M/s Tata Steel Limited[Project Proponent (PP)] and their EIA-EMP consultant (M/s Vimta Labs, Hyderabad) made 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 32nd meeting of Expert Appraisal Committee (Industry) held on 27th – 28th January, 2012 for the preparation of EIA-EMP report. The ToR was awarded by MoEFCC vide File. No. J-11011/3/2012-IA –II (I) dated 14th February, 2012 for the preparation of EIA-EMP report. EAC has recommended the validity of ToR for a period of 1 year in its meeting held on 11th -12th December, 2014. The proposed project activity is 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) of MoEF.

2. The salient features of proposed project as per the final EIA – EMP report submitted by project authority vide letter referred in above para 1 are as under:

Tata Steel Limited (TSL) intends to enhance High Carbon Ferro Manganese (HC Fe-Mn) production capacity from 0.0504 MTPA to 0.06 MTPA by design modifications in the existing 1x9 MVA furnace and with addition of 0.06 MTPA Si-Mn plant and 0.05 MTPA sinter plant at Joda, Keonjhar district, Odisha. About 47.135 acres of land acquired originally is in possession of TSL for Ferro Alloys Plant at Joda, out of which the existing plant is established over an area of 33.4 acres and the proposed expansion will be carried out in the remaining 13.735 acres. The project site is located at 22º 01' 01.181" N to 22º 01' 25.922" N latituide and 85º 25' 32.409" E to 85º 25' 46.601" E longitudes and is at an elevation of about 468 m above Mean Sea Level (aMSL). There are no ecologically sensitive areas, national parks or wildlife sanctuary within the buffer zone i.e.10 km radius of the study area. Five reserved forests exist within the study area. It is proposed to invest about Rs 700 Lakhs on pollution prevention, pollution control, treatment and monitoring systems. The recurring cost of environmental measures will be Rs 70 Lakhs, out of which, Rs 8 Lakhs per annum will be used in development of green belt around the project site. The total project cost will be about Rs. 185.58 Crores. The project would provide employment to about 1500-2000 persons during construction stage and for about 156 persons during operation stage. In addition to the direct employment, there will be indirect employment (about 1000 persons) of local people in various areas like horticulture, site clearing, nursery development etc. Further, secondary employment will be generated through imminent establishment of hotels, restaurants, utility shops, transport operators etc. About 108.41 Crores has been allocated towards Corporate Social responsibility for the next five years. Following table shows the requirement of raw material for the proposed facility:

Sr. No.	Raw Material	Gross Requirement	
		TPA	TPD
1	Mn Ore-49% Gr. (Captive Ore)	51573	144.06
2	Mn Ore-46% Gr.(Captive Ore)	42472	118.64
3	Mn Ore-38-42% Gr. (Captive Ore)	36818	102.84
4	Mn Ore-36% Gr. (Purchase)	10800	30.17
5	Mn Ore-44% Gr. (Purchase)	30470	87.06
6	Mn Ore-36% Gr. (Captive Ore)	45044	128.70
7	Fe Mn Slag (In House)	40458	115.08
8	Mn Ore-Sinter (In House)	24808	70.88
9	Purchase Mn Ore Fines	3200	10.00
10	Mn Ore Fines from Mines	21671	67.72
11	Nut Coke-1	9300	25.98
12	Nut Coke-2	27900	77.93
1	Coke	27235	77.81
14	Coal	9060	25.89
15	Flux (Dolomite)	28604	80.69
16	Quartzite	30191	85.86
17	Electrode Paste	2220	6.28
18	Dolomite Fines	750	2.34
19	Coke breeze	5550	17.34
20	Pulverized Coal As alternative Fuel (Sinter)	1750	5.47
21	Refractory	250	0.71

The total water requirement will be about 65 m^3/hr (including expansion), which will be met from Kundru nalah. The power requirement will be 63.95 MVA, which will be sourced from ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL). An area of 1.235 acres has been earmarked to store temporarily and process the slag and dust. The slag dump area will be lined and provided with garland drain connecting to a collection cum settling tank for removal of solids.

The baseline environment quality has been monitored during pre monsoon season (summer) 2013. With regard to the air quality in the study area, the concentrations of particulate matter PM_{10} ranges between 46.7 µg/m^3 to 68.4 µg/m^3, $PM_{2.5}$ between 23.0 to 36.7 µg/m^3, sulphur dioxide (SO_2) between 12.9 to 16.6 µg/m^3, and oxides of nitrogen (NOx) between 14.7 – 19.5 µg/m^3, and other pollutants levels are within the stipulated standards as per 16th November, 2009 Notification. The contributors to the air quality are predominantly mining, traffic and unpaved open surfaces in the region.

Public hearing for the proposed project was conducted by State Pollution Control Board, Odisha on 12th November 2014 in the presence of Additional District Magistrate, Keonjhar district. The issues raised during public consultation inter alia include peripheral development, medical facility, education and employment, etc. The issues raised were discussed during the meeting.

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

i. The details on new components to be listed along with the existing units in a tabular form and submitted.

ii. Data from the nearby hospital, on the skin disease for past 5 years should be submitted.

iii. The analysis report annexed with the EIA and EMP report for heavy metal analysis for raw material and sludge, placed at Annexure – V (AV-1) (copper, mercury and fluoride) should be rechecked and resubmitted.

iv. Medical report of the employees for the last 3 years should be submitted

The proposal would be considered internally by the EAC.

35.3.2 Proposed for 4 x 9 MVA Ferro Alloy Plant for production of either or combination of High Carbon Ferro Chrome, Ferro Manganese or Silico Manganese by **M/s Misrilall Mines Private Limited** [File No. J-11011/307/2011-IA.II(I)]

M/s Misrilall Mines Private Limited [Project Proponent (PP)] and their EIA-EMP consultant Environmental Research and Services (India) Pvt. Ltd. made 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 26th meeting of EAC held on 22nd - 23rd July, 2011 and the Terms of Reference (ToR) was issued on 12th August, 2011 vide letter No. J-11011/307/2011-IA-II (I) for preparation of EIA-EMP report. PP submitted the final EIAand EMP report vide letter dated 19.03.2015 after conducting Public Hearing for grant of

Environmental Clearance. The baseline data was collected during summer season (March, April & May) 2012. The proposal was placed before the EAC (Industry) for consideration. The proposed project activity is listed at S.No. 3(a) in primary metallurgical industry under Category 'A' of the Schedule of EIA notification 2006 and appraised by the EAC (Industry) of MoEF. The consultant is not accredited however obtained orders from High Court of Orissa which enter-alia permits to conduct EIA studies and present before the EAC and SEAC.

2. The salient points of the proposed project as per the final EIAand EMP report submitted by project authorities vide letter referred above in para 1 are as follows:

M/s Misrilall Mines Pvt. Ltd. had established 1 x 4.5 MVA Submerged Arc Furnace (SAF) in January 2011 for manufacturing of 15,000 TPA of High Carbon Ferro Chrome in village Pankpal, Tehsil Sukinda in Jajpur district of Odisha State. The plant is operating with Consent to Operate from Odisha State Pollution Control Board, Odisha. Due to market demand in recent years, the proponent has proposed to increase its production capacity by installing additional four numbers of SAF each of capacity 9 MVA. and to have product flexibility keeping in view the demand supply scenario, the Company proposed to use the same SAF fully or partially to manufacture either or combination of different Ferro Alloys like High Carbon Ferro Chrome, Ferro Manganese and Silico Manganese. The proposed expansion will be installed within the existing plant premises. The total land requirement is 49.36 Acres and the cost of the Project Expanssion is Rs.75.00 Crores. Capital Cost on Environmental Pollution Control is Rs.850.00 Lacs. Recurring Cost on Environmental Pollution Control is Rs.85.15 Lacs per annum.

The project is around the geographical Coordinates having Latitude 20^0 55' 19.51" N and Longitude 85^0 00' 39.54" E . There are Open Mixed Jungle, Open Jungle, settlements, Reserve Forests, village forest, roads, Railway lines, water bodies and waste lands in the buffer zone of the project. The distance of 'River Brahmani' is about 5.2 Kms from the Project site. No notified ecologically sensitive area, like national park, wildlife sanctuary, biosphere reserve and archaeological monuments exists within 10 km radius of the proposed project site. Besides, the project area does not fall under critically or severely polluted area (as listed under Office Memorandum of MoEFCC, Govt of India, vide.J-11013/5/2010-IA-II (I), dated 13th Jan, 2010 and revised there after).

Raw material for production of HC Ferro Chrome, Ferro Manganese and Sillico Manganese are Chrome Ore, Manganese Ore, Reducing Agents, Fluxes and Carbon Electrode Paste etc. The raw material will be transported through road transport. Following table provide details regarding quantity of raw material and its source and mode of transportation.

List of raw materials to be used at all stages of manufacture	**'Physical and chemical nature of raw material**	**'Quantity (tonnes/month) full production capacity (Consumption norm per MT of Production)**	**Source of materials**
High Carbon Ferro Chrome			
Chrome Ore	Solid	2.40	From own captive Mines at Sukinda

			From external purchases for emergency in case lumpy ore from captive mine not available
Molasses	Semi Solid	0.04	Local Market
Hydrated lime	Solid	0.004	Local Market
Coke	Solid	0.75	Local Market
Carbon Paste	Solid	0.025	Local Market
Quartz	Solid	0.18	Local Market
Bauxite	Solid	0.10	Madhya Pradesh
Magnesite	Solid	0.05	Tamil Nadu
Mill Scale	Solid	0.010	Local Market

List of raw materials to be used at all stages of manufacture	**'Physical and chemical nature of raw material**	**'Quantity (tonnes/month) full production capacity (Consumption norm per MT of Production)**	**Source of materials**
Ferro Manganese			
Manganese Ore	Solid	2.50	Indigenous / Local Market / Other Sources
Coke	Solid	0.75	Local Market
Carbon Paste	Solid	0.015	Local Market
Quartz	Solid	0.30	Local Market
Dolomite	Solid	0.250	Local Market
Manganese Ore	Solid	2.50	Indigenous / Local Market / Other Sources
Coke	Solid	0.75	Local Market
Carbon Paste	Solid	0.015	Local Market
Quartz	Solid	0.30	Local Market
Dolomite	Solid	0.250	Local Market
Ferro Manganese Slag	Solid	0.50	Maharashtra, West Bengal

The power required for the proposed project will be 31777.5 KW or 37704.5 KVA and it will be sourced from the state grid. The water requirement is 125 m3/day sourced from ground water and partially from Rain Water Harvesting Pond. The permission for drawl of ground water will be taken from Central Ground Water Authority. The Plant would operate for about 330 days in a year. The total number of Manpower requirement will be about 480 (direct and indirect) to operate the proposed facilities.

The base line Ambient Air Quality are within National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No 826(E) dated 16th November, 2009. It is observed that, PM_{10} values ranged between 71.78 to 63.03 $\mu g/m^3$ and $PM_{2.5}$ values from 44.81 to 20.56 $\mu g/m^3$. Similarly the SO_2 levels ranged from 4.47 to 1.87 $\mu g/m^3$, while NOx ranged from 3.56 to 1.39 $\mu g/m^3$. Ambient noise levels were also well within the National Standards. 75 dB(A) during day time in plant premises & 55 dB(A) during day time in Residential area and 70 dB(A) during night time in plant premises & 45 dB(A) in residential area during night time. Several village ponds exist in the study area which is mainly used for bathing and agricultural purposes. Depth to Water Level in project area ranges between 6.0 to 7.0 mbgl during Pre monsoon period and 2.0 to 3.0 m bgl during post monsoon period.

The public hearing for the project was conducted on 02.07.2014 at Danagadi Bhawan, Danagadi Village, Jajpur under the Chairmanship of Shri Bharata Chandra Behera, Additional District Magistrate, Jajpur. Major concerns were to provide dust suppression measures at all dust generating points, new technology for control of dust pollution as and when required with the expansion program, plantation to be done around plant boundary including avenue plantation etc.

After detailed deliberations the Committee sought following additional information for further consideration of the proposal:-

i. Analysis report for TCLP test for the slag should be submitted following MoEFCC method, HSM – 2008
ii. One month monitoring and analysis data for the parameters of PM_{10}, $PM_{2.5}$, SOx, NOx and CO should be submitted.
iii. ToR point No 46 is not properly addressed in the EIA report. Revised report on ToR no 46 should be submitted. Nearest Hospitals/Health Centres data for the last 3 years should be submitted in a tabular form.
iv. Details of secondary emission control measures should be submitted

35.4 FURTHER CONSIDERATION CASES

35.4.1 Proposal for enhancement of production capacity from 94800 TPA to 150000 TPA of Ferro-Alloys of **M/s Balasore Alloys Ltd.** at Balasore, Orissa (TOR) [File No. J-11011/247/2014-IA-II(I)] – ToR – Considered in 23rd EAC Held on 18th – 19th Sept, 2014

The matter was considered in the 23rd EAC meeting held on 18th – 19th September, 2014 and the Committee recommended the proposal for grant of ToR with conduct of Public Hearing. Accordingly ToRs were granted vide letter No. J-11011/247/2014-IA-II(I) dated 23/01/2015. In view of the Ministry's OM dated 10th December, 2014 regarding exemption of Public Hearing,

PP vide letter No. BAL/Plant/2139 dated 19.03.2015 requested Ministry to exempt the conduct of Public Hearing as the project is located within the Balgopalpur Industrial Estate, Balasore, Odisha.

The Committee deliberated on the issue and it was noted that the Industrial Area is notified by the Government of Orissa on 4th August, 2009 which is after the EIA Notification, 2006. It is also observed that the Industrial Area has not obtained the Environmental Clearance under project/activity 7(c) of the Schedule to the EIA Notification, 2006 from the concern authorities(MoEFCC/SEIAA).

Committee noted that, exemption of Public Hearing shall be provided to only those projects which are either proposed to be established in the existing industrial area, which are notified before EIA Notification, 2006, or, to those projects which are proposed to be established in the industrial area, who has already got Environmental Clearance under activity 7(c) of EIA Notification, 2006.

In view of the above, Committee recommended that PP has to conduct Public Hearing for the project.

35.4.2 Expansion of Integrated Steel Plant from 5 to 10 MTPA and Power Plant from 300 to 600 MW Gas Based) of **M/s JSW Steel Limited** at Geethapuram, Village Dolvi, Tehsil Pen, District Raigarh in Maharashtra – EC - J-11011/76/2013 - IA II (I) considered in 31st EAC meeting held on 10th – 11th January, 2015

The matter was considered in the 31st EAC meeting held on 8th – 9th January, 2015. After detailed deliberations the Committee sought additional information for further consideration of the proposal. It was also decided by the Committee that a sub-committee shall visit the plant and submit the report to the Ministry/EAC after furnishing of the aforesaid details except point no. (iii).

Accordingly, a site visit was conducted on 9th March, 2015 by a sub-committee comprising of Shri R. K. Garg, Prof. C. S. Dubey and Shri Amardeep Raju, Scientist 'D', MoEF&CC.

The Sub-Committee visited the Blast Furnace, Sinter Plant, Power Plant, Pellet Plant, Coke Oven plant along with a visit to the jetty which is approximately 2 -3 Km away from the plant site. It has been observed by the Committee that the Blast Furnace is under advanced stage of construction and is proposed to be commissioned by December, 2015. The DRI plant and the Pellet plant are already commissioned and were operational at the time of site visit. The power plant of capacity 55 MW is also commissioned fired by Blast Furnace Gas. Single drum boiler with capacity of 204 TPH steam at 540 deg C (SH) & 114 kg/cm2. APCD- 40 m stack is attached to BF Gas fired boiler.

The status of implementation of the project of Expansion from 3.0 MTPA to 5.0 MTPA Integrated Steel Plant is as under:

S.N.	UNIT	Capacity for which EC was	Present status

		accorded in 12.11.2012	
1.	DRI (Gas based)	0.8 MTPA (by augmentation)	Commissioned
2.	Pellet Plant	4MTPA	Commissioned
	Sinter Plant	3.2 MTPA	80% complete. Under advanced stage of construction. Commissioning in Dec. 2015
4.	Blast Furnace including pig Casting	1.6MTPA (by augmentation)	Under advanced stage of construction. Commissioning in Dec. 2015
5.	SMS (CONARC)	2.2 MTPA	Under progress (70% completed). Commissioning in Dec. 2015
6.	CSP (HRC Coil) Thin Caster-cum-Hot Strip Finishing Train	0.5MTPA (by augmenting)	Under advanced stage of construction (65%). Commissioning in Dec. 2015
7.	Lime & Dolo Kilns	2x600 TPD	Commissioned one unit (1x600 TPD).
8.	Oxygen Plant	2500TPD	Under execution (civil work in progress), completion in Jan. 2016.
9.	Captive Power Plant	300MW	55MW commissioned
10.	Plate Mill	1.5MTPA	Technology Selection under progress. Construction of these facilities is yet to start.
11.	Cold Rolling Mill	1 MTPA	
12.	Galvanising Line (cold rolled steel strips, hot dip zinc coated full hard)	0.6MTPA	
13.	Electrical Steel CRGO Line	0.4MTPA	
14.	Tin Plate Line	0.4MTPA	

Regarding ETP details, provisions for Biological Oxidation of De Phenolization Plant (BOD) is made for the treatment of waste water generated from Coke Oven. Liquor generated from recovery coke ovens contains cyanides. The generation is around 0.18-0.20 m3/t of coke. This also contains ammonia. It is processed in ammonia stills to remove NH3 at elevated pH. CN gets carried along with the bottom product and is treated in the BOD Plant. BOD plant is a 5 stage treatment plant, the water is pre treated for removal of tar & other impurities. Next in anaerobic process de-nitrification occurs. Then it goes through anoxic tank and aeration tank. It is further passed through activated carbon bed for polishing. However, the Committee observed that there is no clarity on how the treatment of effluent coming out of Blast Furnace is being done in the plant. The committee was however informed that no liquid effluent is being discharge from the plant.

Regarding Gas Balance PP explained that Power generation capacity from the Balance gas is 300 MW. Following tables show the details for gas generation and gas consumption.

Table showing Gas generation

Type of Gas	Production Capacity	Calorific Value (Kcal/Nm3)	Unit production		Total Gas Flow (Nm3/hr)	Total Gas Flow (MCal/hr)	%
			(Mcal/ ton)	(Nm3 /ton)			
COG (existing + proposed)	4.5 MTPA	4300	2105.28	489.6	251507	1081479	45.1
BFG (existing + proposed)	8.1 MTPA	850	1254	1475	1422321	1208973	50.4
BOFG (existing + proposed)	5.5 MTPA	1850	148	80	58201	107672	4.5
TOTAL FUEL GAS ENERGY GENERATION						2398125	100

Table showing Gas Consumption

Plant	CV Kcal/Nm^3	Sp. Cons. Mcal/ton	Flow Nm3/h	Consumption of Gases (Nm3/hr)		
				COG	BFG	LDG
Coke Oven#1	1050	954	466732	27057	439675	0
Sinter	1850	12	11466	0	0	11466
Pellet	1850	170	66262	19827	0	46735
BF	1050	440	404082	23425	380657	0
Conarc	1850	52	15501	4493	11008	0
BOF	1850	35.7	13401	3884	9517	0
LCP# Phase 2	1850	1000	75933	22010	53923	0
CSP-TF	4300	98.7	10144	10144	0	0
Billet Caster	1850	23	2355	683	1672	0
Slab Caster	1850	23	8634	2503	6131	0
HSM	850	260	212418	62	212357	0
Bar Mill	1850	200	21746	6303	15443	0
Power plant (53.5 MW)	850	2300	144765	0	144765	0
Total Consumption				120389	1275147	58201
Balance Gas for Power Generation				131118	147175	0
Balance heat available for power generation= 688906 MCal/hr Power generation capacity from the Balance gas is 300 MW (Heat rate 2300 KCal/kwh)						

Regarding CRZ mapping, it has been submitted by the PP that the status of the land for the project site as per the land records of the Revenue department, Government of Maharashtra is agricultural fields used for paddy cultivation. The land for the project site was purchased in

1980s & 1990s from the private land owners and the steel plant was established in 1994. PP further mentioned that a bund along the bank of Amba River existed prior to the set up of the steel plant, which was constructed by the farmers and maintained by the Kharland Development, Govt of Maharashtra to protect the agricultural fields from water ingress. The area was declared as Industrial zone under the Nagaothane Growth Centre by the Government of Maharashtra vide Notification dated 4th July 1992.

The PP has acquired additional land (600 acres) adjacent to the present site (1200 acres) to facilitate the proposed expansion project and for plantation purpose. Presently the PP has 1200 acres of land in its possession for its existing operating integrated steel plant complex of 5.0 MTPA capacity. Some of the proposed additional capacities are proposed to be setup within the existing plant and some need relocated by acquiring additional 600 acres land. It was noted that the site for the proposed expansion project from 5 MTPA to 10 MTPA is away from the creek and no construction has taken place on the site.

Regarding green belt plantation at the site, it was noted that as per the EC dated 31.12.1996, this plant was required to comply with the condition of providing 30% green belt area. A total of 115 acres of the plant area has been brought under green cover, amounting to about 14% of the total area as applicable to EC for 3 MTPA in 1996. Committee was informed that with the acquisition of 600 acres of land for expansion a total of 655 acres (33 %) will be under plantation. However, as of date the green cover is not matching with the commitment made during the grant of EC for 3 MTPA plant and for the expansion of 3 MTPA to 5 MTPA plant.

PP presented the details of CSR expenditure incurred for the last 3 years and estimated budget for the next 10 years. The CSR budget is Rs 225 cr for 5 MTPA project and Rs 425 Cr for 10 MTPA project.

It has been explained that an amount of Rs 1.81 Cr in the year 2012-2013, Rs 2.8 cr in the year 2013-2014 and an amount of Rs. 3.55 cr was utilized in the year 2014-2015. It was mentioned by the PP that and amount of Rs 22.5 Cr for the year starting from 2015 to 2026 shall be spent on the CSR component per year amounting to total budget of Rs 225 Cr. And an amount of Rs. 42.5 Cr shall be spent from the year 2017 to 2028 for 10 MTPA project. The CSR activities will be implemented in the areas of health care, rural infrastructure development, education, sports and cultural activity, Swachh Bharat Abhiyan. It has been observed by the sub-committee that the implementation of CSR activities is very slow and advised to expedite the implementation of CSR activities. Implementation of the CSR activities is being done as per the recommendations of the Tata Institute of Social Sciences who have carried out a detailed study on the socio-economic status of the area.

The committee also visited the captive jetty which was constructed for transportation of raw material to the plant site. The raw material is unloaded from the barges/vessels and transported to the plant by conveyor belt. The EC was granted by MoEF vide letter no. J16011/6/94-IA.III, dated 04/01/1995, for jetty of 250 m length. The jetty was further expanded to 331.5 m for which the PP has obtained the Environmental Clearance from Ministry of Surface Transport vide' letter no. J-16011/6/94-IA.III/PD.IV, dated 12/01/1997. M/s Ispat Industries Ltd. had proposed expansion of the jetty from 331.5 m to1741 m in 2008.

It is noted that State Coastal Zone Management Authority (SCZMA, Maharashtra) vide its letter no. CRZ-2014/CR-41/TC-4 dated 24th February, 2015 has recommended the proposal to MoEF&CC from CRZ point of view to M/s JSW Dharamtar Port Pvt. Ltd. for expansion of jetty from 331.5 m to 1750 m.

However, it was noted that few piles were installed at the site for the expansion of jetty before the grant of EC/CRZ clearance from the Infrastructure/CRZ division of Ministry. PP mentioned that the initial test piles were dug for geotechnical investigation and that was done by M/s Ispat Industries Ltd, no further work for the jetty has been carried out by M/s JSW Dharamtar Port Private Limited after the take over from M/s Ispat Industries Ltd.

PP has submitted the Coastal Landuse Map prepared by Maharashtra Remote Sensing Application Center and Space Applications Center, ISRO, Ahmedabad. The map indicated that the location of the jetty is in CRZ III and not in CRZ 1(i) area.

Bases on the response to various queries raised by the Sub-Committee and the site visit the Sub-Committee recommends Environment Clearance for expansion with the following observations:

i. The PP should ensure treatment of effluent particularly from BF and Coke Oven plant. The plant should be designed to meet the cyanide standards stipulated by MoEF.
ii. Action on the commitment made by the PP for plantation of the green belt to the tune of 655 acres should be expedited. Three rows of green belt, 12 – 15 meters wide, all along the periphery of the plant should be planted.
iii. The CSR plan as submitted by the PP in the area of health care, rural infrastructure development, education, sports and cultural activity, Swachh Bharat Abhiyan with respect to the earlier projects and the ongoing project at Dolvi site are very slow in implementation. The CSR activities should be implemented expeditiously and simultaneously with the implementation of the project.
iv. As mentioned by the PP, the status of the land for the project site as per the land records of the Revenue department, Government of Maharashtra is agricultural fields used for paddy cultivation. The land for the project site was purchased in 1980s & 1990s from the private land owners and the steel plant was established in 1994. A bund along the bank of Amba River existed prior to the set up of the steel plant, which was constructed by the farmers and maintained by the Kharland Development, Govt of Maharashtra to protect the agricultural fields from water ingress. The area was declared as Industrial zone under the Nagaothane Growth Centre by the Government of Maharashtra vide Notification dated 4th July 1992. In view of this the Sub-Committee feels that there is no need of fresh demarcation of CRZ mapping to be conducted at the site. However, no development should be done on the creek-ward side of the land. Land area between HTL to 100 mts or width of the creek, whichever is less, on the landward side should be kept free from any type of development.
v. The sub-Committee observed that few piles were installed at the site for the expansion of jetty before the grant of EC/CRZ clearance from the Infrastructure/CRZ division of Ministry. The matter related to CRZ clearance for the expansion of jetty should be dealt by the Infrastructure/CRZ committee of the MoEFCC.

PP, during the presentation also provided details on the SMS plant waste utilization, blast furnace waste utilization plan. It is proposed to use BOF Slag in Cement plant as Aggregates. it was mentioned that slag is now included in IS-383, 100% use in all lean concrete, plaster & mortar applications, use permitted in higher grades, IS-383 gives access to MORTH for roads.

PP presented time series data of ambient air quality and effluents collected for the various ECs. It has been explained that total water allotment existing is 53.66 MLD (adequate up to 5 MTPA stage). PP has applied for additional 100 MLD for 5 to 10 MTPA expansion on 30/10/2014. Regarding Rain Water Harvesting, PP mentioned that recharge into ground water is not technically effective due to higher solid concentration and shallow water table at site. The area experiences heavy rainfall, the average rainfall being approximately 3000 mm annually. Roof top rain water will be routed to the nearby water cooling circuit of the plant unit or to the water reservoir, thereby reducing the fresh water intake. Estimated about 600 KLD of roof top rain water can be utilized.

Regarding Iron ore and Coal linkages, PP presented the following:

Name of the Party	Quantity
COAL	
COECLERIC ASIA PTE LTD., Singapore	0.75 Mtpa of PCI 1.0 Mtpa of Coking Coal
AVANI RESOURCES PTE LTD., Singapore	0.75 Mtpa of PCI 1.0 Mtpa of Coking Coal
Duferco SA, Switzerland	0.75 Mtpa of PCI 3.0 Mtpa of Coking Coal 0.7 Mtpa Pet coke 0.75 Mtpa Anthracite
IRON ORE	
Duferco SA, Switzerland	17 Mtpa of Iron ore

Based on the site visit report of the Sub-Committee and its recommendation to the Ministry and the response to the observations of the earlier EAC meeting presented during the meeting the Committee recommended the project for environmental clearance subject to stipulation of the following specific conditions and other mitigative measures and conditions for environmental protection:

i. The PP should ensure treatment of effluent particularly from Blast Furnace (BF) and Coke Oven plant. The plant should be designed to meet the cyanide standards stipulated by MoEF under EPA Act 1986.

ii. The commitment made by the PP for plantation of the green belt to the tune of 655 acres should be expedited. Three rows of green belt, 12 – 15 meters wide, all along the periphery of the plant should be planted.

iii. The CSR plan as submitted by the PP in the area of health care, rural infrastructure development, education, sports and cultural activity, Swachh Bharat Abhiyan with respect to the earlier projects and the ongoing project at Dolvi site are very slow in implementation. The CSR activities should be implemented expeditiously and simultaneously with the implementation of the project, and annual report on CSR activity should be submitted to the Ministry.

iv. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs. The proponent shall prepare a detailed CSR Plan for every next 5 years for the existing-cum-expansion project, which includes village-wise, sector- wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO, at Bhopal. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.

v. No development should be done on the creek-ward side of the land. Land area between HTL to 100 mts or width of the creek, whichever is less, on the landward side should be kept free from any type of development.

vi. Full utilization of slag both BF and SMS should be implemented. The details should be submitted along with 6 monthly compliance report.

vii. No waste water will be discharged outside the plant boundary during normal operation. In case it become necessary to discharge effluent meeting norms fit to the marine environment, permission of the relevant authority should be obtained.

viii. No untreated effluent should be reused for any process.

ix. Measures shall be taken to reduce PM levels in the ambient air. Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50mg/Nm3 and installing energy efficient technologies in the Plant.

x. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

xi. 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.

xii. Water consumption shall not exceed as per the CREP standard prescribed for the steel plants. Additional water, if any, required for the plant project operations shall be met form rainwater stored in rainwater harvesting structures.

xiii. Rainwater harvesting scheme shall be prepared so that the rainwater can be collected, re-used and may be used for ground water recharge. The concrete drains shall be de-silted and regular supervision of the areas shall be carried out so that blocking of drains may be avoided for quick discharge of rainwater. Efforts shall further be made to use maximum water from the rain water harvesting sources. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement.

xiv. All the effluents shall be treated and reused for dust suppression/green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted.

xv. Full utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2010. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Bhopal.

xvi. Hazardous materials required during construction phase and in plant operations shall be stored properly as per the regulations and reused/recycled as per the E(P)A Rules.

xvii. Vehicles and construction machinery are properly maintained to minimize the exhaust emission as well as noise generation to meet prescribed standards.

xviii. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and implemented.

xix. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.

xx. All the commitments made to the public during public hearing/public consultation shall be satisfactorily implemented and adequate budget provision shall be made accordingly.

xxi. All the permanent workers shall be covered under ESI Scheme. The company shall have the provision for treatment of its workers at the local Nursing Homes & Hospitals in case of emergency. Annual Medical Check-up on some medical parameters like Blood test, Chest X-Ray, Eye test, Audiometry, Spirometry etc. shall be conducted amongst the employees of the Company.

35.5 ANY OTHER ITEMS

35.5.1 Environmental clearance for expansion of structural Rolling Mill (4800 TPA to 45000 TPA) and Induction furnace (50400 TPA) at Patwari Halka No. 101, Village Borjhara,

Near Industrial Growth Center, Raipur Disctict, Chhattisgarh by **M/s Alankar Alloys Pvt Ltd** – Extension of validity of EC – [F. No – J-11011/950/2007-IA-II(I)]

Environmental Clearance for the proposal of expansion of structural Rolling Mill (4800 TPA to 45000 TPA) and Induction furnace (50400 TPA) was granted by the Ministry on 24th April 2008. PP vide letter dated 29th January 2013 requested Ministry for extension of validity of EC. PP mentioned that 45,000 TPA of Rolling Mill has already been implemented and CTO is being renewed by CECB regularly. 50,400 TPA of Induction Furnace has been implemented and applied to CECB for obtaining CTO. Subsequently, CECB has advised PP to obtain the extension of validity of EC for consideration of issue of CTO for Induction Furnace.

Accordingly an online application for extension of validity of EC has been submitted to MoEFCC on 29th November 2014.

Status of implementation of the project is presented in the following table.

Units	**Existing Plant**	**Expansion Production capacities for which EC has been obtained on 24-04-2008**	**Production capacities after expansion**	**Status of Implementation of Expansion project for which EC has been accorded**
Induction Furnace	--	50,400 TPA	50,400 TPA	Implemented and Applied to CECB for issue of CTO
Rolling Mill	4,800 TPA	40,200 TPA	45,000 TPA	Implemented and plant is in operation & CTO is being renewed by CECB regularly

Based on the presentation made and discussions held during the meeting, the committee recommended the extension of validity of EC dated 24th April 2008 for a period of 5 years with effect from 24th April, 2013.

35.5.2 Environmental Clearance of Integrated Steel Plant (0.6MTPA) along with Captive Power Plant (15MW) at Bhorandiha.P.O. Udanabad, District Giridh, Jharkhand by **M/s Atibir Industries Company Ltd** – Extension of validity of EC – [File No.J-11011/ 14/2008-IA II(I) on dated 13th May,2009]

Environment Clearance for the proposal for setting up of Hot metal (Pig Iron) 600,000 TPA, Sinter – 680,000 TPA, Pellet – 300000 TPA, Steel Making (Converter) – 600,000 TPA, Oxygen Plant 2400 m^3/Hr, Rolling Mill – 600,000 TPA, Hard Coke – 240,000 TPA and Captive Power Plant – 15 MW at Bhorandiha.P.O. Udanabad, District Giridh, Jharkhand was accorded by the Ministry vide letter no. J-11011/14/2008-IA-II(I) dated 13th May, 2009.

PP mentioned that, in the first Phase they have set up Blast furnace - 300,000 TPA, Sinter Plant - 340,000 TPA, Pellets Plant - 300000 TPA and Oxygen Plant - 2400 m^3/hr. However, due to some unavoidable circumstances and hardship the remaining portion of the project could not be completed within the EC period.

PP has mentioned the following reasons for non completion of the project:

i. Though D.V.C sanctioned 0.5 MVA power for construction but failed to supply the committed and required power of 12.0 MVA upto February, 2012 for successful operation of newly set Plant. The DVC sanctioned the same only in March 2012, only after interference and several communication by Govt. Of Jharkhand to DVC. This was a major cause for the management to reconsider the further construction work.

ii. There were technical problems in the operation of the plant & hence Chinese Engineers were to visit the plant but there was delay in issuing VISA by the Govt. of India, although recommended by Govt. of Jharkhand.

iii. Due to the above reasons plant failed to generate revenue as projected

iv. There was an insurgent attack to the plant of the Project Proponent of M/S Atibir Industries Co. Ltd. where the guard was gunned down.

It has been mentioned by the PP that an Expenditure of approx. Rs. 340.89 Crores has already been incurred as against the total proposed project cost of 1,435.98 Crores.

The Committee noted that the EC for the project was granted on 13th May, 2009, however, the PP has applied for extension of validity on 15.12.2014 i.e. after the expire of EC which was valid only upto 12th May, 2014.

The Committee deliberated on the issue and it was decided that, although the request for extension has come a few months after the expiry of 5 years from the time of the earlier EC, Committee requested Ministry to take a sympathetic view.

35.5.3 Copper Smelter Plant –II (1200 MTPD Copper) in the Special Economic Zone of **M/s Sesa** Sterlite **Limited** (Formerly M/s. Sterlite Industries (India) Limited) at SIPCOT Industrial Complex, Therkku Veerapandia Puram Village, Ottapidaram Taluk Tuticorin, Tamil Nadu – Extension of validity of EC - J-11011/431/2008 IA-II(I)

Ministry of Environment, Forest and Climate Change vide letter dated 01.01.2009 accorded Environmental Clearance to M/s Sterlite Industries (India) Limited for expansion of its Copper Smelter at SIPCOT Industrial Complex at Thoothukudi. The Public Hearing was exempted for the project since the project is located in the notified SIPCOT Industrial area. Therefore, as per the section (iii), Stage (3), Para (i) (b) of the EIA Notification dated 14.09.2006, PH was exempted for the project.

The EC was challenged before the Madras High Court in WP No. 13810/2009 by Shri. Pushparayan, Project Director of an NGO, East Coast Research and Development, Tuticorin, mainly on the ground that PH has not been conducted before granting EC. All Respondents, including MoEFCC have filed their Affidavits. Thereafter, the WP got adjourned in view of pendency of SLP (C) Nos. 28116-28123 of 2010 filed by the PP challenging the judgment of

Madras High Court directing immediate closure of their Copper smelter at Thoothukudi. Matter is yet to be listed before Madras High Court since January, 2013.

Final orders on other allegations in this WP regarding environmental pollution has been issued by Hon'ble Supreme Court on 02.04.2013 passed in Civil Appeal Nos. 2776-2783 of 2013 (arising out of SLP (C) Nos. 28116-28123 of 2010). Further, the National Green Tribunal, Principal Bench, New Delhi ('NGT') vide its Order dated 15.07.2013 passed in Appeal Nos.57-58 of 2013 [Appeal No.22-23 of 2013(SZ)] filed by PP, interalia recorded that "the Appellant company (Sterlite) is neither an existing pollutant nor is a threat of future pollution (not violating prescribed standards) resulting in health hazards".

PP vide letter dated 26.12.2013 along with updated Form-I requested MoEFCC for extension of validity of EC, since the EC was expiring on 31.12.2013.

The matter was considered in the EAC meeting held on 28th – 30th April, 2014, however, the Committee desired that the EIA-EMP Report be updated with details regarding (i) One season baseline data, (ii) Conduct of PH, (iii) Details of episodal SO_2 stack emissions, (iv) Changes in land use of SIPCOT Industrial Area, (v) Status of compliance of CTO for existing unit, and (vi) Status of disposal of HW in existing unit.

Meanwhile, MoEFCC vide Circular dated 10.12.2014 has clarified that "the exemption from public consultation, as provided for under para 7(i) III. Stage(3)(i)(b) of EIA Notification, 2006 is available to the projects or activities or units located within the Industrial Estates or Park, which were notified prior to 14.09.2006, i.e. the EIA Notification, 2006 coming in to force".

Since the entire land allotted for the project by SIPCOT was acquired during 2005 by the PP and the land was falling within the SIPCOT Industrial area, PP has submitted the updated EIA-EMP Report on 23.01.2015, mentioning that PH is not required to be conducted for present expansion project in view of OM dated 10.12.2014.

The Committee deliberated on the request of PP and also on the exemption of Public Hearing as prescribed to them when the PP has applied for extension of Validity of EC. The Committee decided that since the matter regarding conduct of Public Hearing is already sub-judice, the issue can only be resolved on the final outcome of the court order. As far as extension of validity of EC is concerned, the Committee recommended the extension of validity of the EC for a period of 5 years from 01.01.2014 subject to the final outcome of the court case.

35.5.4 Proposed changes in plant configuration from the existing Environmental Clearance including augmentation of capacity of new Merchant Mill and new Wheel & Axle Plant at Durgapur Steel Plant, Durgapur, **M/s Steel Authority of India Ltd** – Amendment in EC- [F. No J-11011/492/2007-IA-II(I)]

Environmental Clearance for the project of Expansion – Cum – Modernization plant of Durgapur Steel Plant (2.088 MTPA to 3.5 MTPA, Gross Hot Metal) and Captive Power Plant (40 MW) at Faridpur, Burdwan, Durgapir, West Bengal was accorded on 10th September, 2007. Extension of validity of the EC for further period of 5 years has been granted by the Ministry on 5th July, 2013 till 9th September, 2017.

PP mentioned that completion of some of the units for the extended EC may spill beyond the extended validity period i.e up to 9th September, 2017. PP also requested for marginal augmentation of capacity at few units like New Merchant Mill and Wheel & Axle Plant and drop some of the units from the EC. PP mentioned that since the validity of EC cannot be extended further, a fresh EC may be provided for the requisite amendment.

The Committee after detailed deliberation advised PP to submit two separate applications for the proposed changes. One application for seeking amendment of the EC dated 10th September, 2007 with regard to change in the plant configuration, wherein PP has proposed to take out/drop certain units from the earlier environment clearance. Second application for the units which are spilling over beyond the extended validity and the PP wants to commission such units, a fresh application for seeking ToR should be submitted.

35.5.5 Amendment of EC for change of product mix with no change in overall production – 4.6 MTPA Standalone Grinding Unit at Rahargora, Jamshedpur Dist, Jharkhand by **M/s Lafarge India Pvt Ltd.** – Amendment in EC – [F. No – J-11011/638/2008-IA-II(I) dated 19.12.2008]

Environmental Clearance for the project of 4.6 MTPA Standalone Grinding Unit at Rahargora, Jamshedpur Dist, Jharkhand by M/s Lafarge India Pvt Ltd was accorded by the Ministry vide letter dated 19.12.2008. Environmental Clearance for the project was granted to produce 3.2 MTPA of Portland Slag Cement (PSC) and 1.4 MTPA of Portland Pozzolona Cement (PPC) with over all cement production capacity of 4.6 MTPA.

PP vide letter dated 16.02.2015 requested for amendment in the EC and applied online for the said amendment. It has been explained that as part of waste utilization, keeping in view availability of slag from steel plant and also market conditions, LIPL propose to increase PSC production from 3.2 MTPA to 4.0 MTPA (max) and reduce PPC production from 1.4 MTPA to 1.0 MTPA (max) with overall production at 4.6 MTPA.

It has been mentioned that the change of product mix will result in the following advantages.

i. Addition of slag to an extent of 45 % will result in decrease of clinker consumption to an extent of 45 %. When PSC production increases from 3.2 to 4.0 MTPA, slag (waste) consumption will increase from 1.90 To 2.40 MTPA. thus clinker of about 0.50 MTPA is saved
ii. Saving of clinker of 0.50 MTPA will be directly result in saving of 0.075 MTPA of coal
iii. Saving of Clinker and coal, will result in reduction of C02 gas (green house gas) generation of about 0.40 MTPA
iv. No additional/change of machinery is involved.
v. No capital cost is involved

Considering the above advantages, PP requested to issue amendment for EC for change in cement product mix as shown below

	MTPA

	Present Production	Proposed change of Product mix
PSC	3.2	4.0 (max)
PPC	1.4	1.0 (max)
Total	4.6	Over all production will not cross 4.6 MTPA

After deliberation the Committee desired to see the compliance of earlier stipulated safeguards, before recommending the amendment.

35.5.6 Mini Steel Plant of **M/s Agarwal Induction Furnace Pvt. Ltd.** in vill. Gollapuram, Mandal Hindupur, Dist. Ananthapur, A.P. (Letter dated 12.11.2014 seeking ext. of validity of EC NO. J-11011/221/2009-IA.II (I) dated 21.01.2010 and 04.09.2012)

The above proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 29th EAC meeting held during 11th -12th December, 2014. It was mentioned by PP that they were not able to implement the units due to sluggish market conditions and non-availability of Funds. Committee recommended the extension of validity of EC for a period of 5 years with effect from 27th January, 2015.

However, while processing the recommendations of the Expert appraisal commissttee, it was decided by the Ministry to extend the validity of the Environmental Clearance letter no. J-11011/221/2009-IA.II(I) dated 27.01.2010 for a period of two years with effect from 27.01.2015 subject to the Environmental safeguards.

Since the Ministry disagrees on the recommendations of the Committee by only extending the validity of EC for a period of 2 years, as per Para 8(ii) of EIA Notification, 2006 the matter has been referred back to the Committee to furnish its views on the same.

The Committee took note of Ministry's decision and recommended for extension of validity of EC for a period of 2 years with effect from 27.01.2015 subject to the Environmental safeguards.

35.5.7 Ferro Alloys and Steel Plant of **M/s Sarda Metals & Alloys Ltd.** at Sy.No. 179, 181-183, 185-203 of APIIC Industrial Area, vill. Kantakapalli, Mandal Kothavalasa, Dist. Vizianagaram, A.P. (Letter dated 07.10.2014 seeking Extension of validity of EC No.J-11011/164/2009-IA.II(I) dated 26.11.2009)

The above proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 29th EAC meeting held during 11th -12th December, 2014. It was noted that environmental clearance for the above proposal was granted on 26.11.2009 for the three phases of implementation. PP has implemented phase – I of the project however phase – II and phase – III of the project is yet to be implemented. It has been mentioned that phase – II shall be completed by 2017 and phase – III by December, 2019. The Committee after deliberations recommended for extension of validity of EC for a period of 5 years with effect from 26.11.2014;

However, while processing the recommendations of the Expert appraisal committee it was decided by the Ministry to extend the validity of the Environmental Clearance letter no. J-11011/164/2009-IA.II(I) dated 26.11.2009 for a period of two years with effect from 25.11.2014 subject to the Environmental safeguards.

Since the Ministry disagrees on the recommendations of the Committee by only extending the validity of EC for a period of 2 years, as per Para 8(ii) of EIA Notification, 2006 the matter has been referred back to the Committee to furnish its views on the same.

The Committee took note of Ministry's decision and recommended for extension of validity of EC for a period of 2 years with effect from 25.11.2014 subject to the Environmental safeguarda.

35.6 CASES FOR TERMS OF REFERENCE (TOR)

35.6.1 Proposed modification cum expansion of (1X600 m3) Blast Furnace and 1X110 m2 Sinter Plant) of 1.6 MTPY Stainless Steel Plant of M/s Jindal Steel Ltd at Kalinganagar Industrial Complex, Jajpur District, Odisha – ToR – [File No.J-11011/281/2007-IA-II(I)]

The PP along with their EIA-EMP consultant M/s Visiontek Consultancy Services Private Limited, Bhubaneswar, 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 References for the preparation of EIA-EMP report. The proposed project activity is listed at S.No. 3(a) under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

Environmental Clearance for 1.6 MTPA Integrated Steel Plant was obtained vide letter F.No J-11011/155/2005-1A II(I) dated 5th August, 2005 and subsequently for modification -cum-expansion of 1.6 MTPY Integrated Steel Plant vide letter F. No. J- 11011/281/2007- IA II(I) dated 1st November 2007. PP explained that the Blast Furnace of 1 x1600 m^3 capacity and Sinter Plant of 1 x 180 m^2 capacity were part of the above Clearance. However these units had not been implemented due to certain strategic planning in production plan. To optimize existing operations, it has been proposed to install Blast Furnace of 1 x 600 m^3 capacity and Sinter Plant of 1 x 110 m^2 capacity. This will help in improving overall Plant performance.

No National Park/wild life sanctuary is located within 10 km radius of the project site. The site is about 7.0 km away from nearest town Duburi. Nearest railway station is Sukinda Road & Jakhapura about 1.0 km & 5.28 km respectively. Nearest airport is Bhubaneswar about 110 km away from the project site. Nearest river Bramhani is about 7.5 km away from the project site. The interstate boundary (Jharkhand) is about 115 km North direction from the project site. Total proposed project area is of 80 acres out of existing land area of 1240 acres. Total cost of the project is estimated at Rs. 500 Cr. Rs. 47 Cr and Rs.6.83 Cr will be earmarked towards capital cost and recurring cost for environmental pollution control measures.

Coke, PCI coal for BF, Coal for SP, Iron ore lump for BF, Iron ore fines for SP, River sand for BF, Limestone, Dolomite, Dunite, Quartz, Quick lime, Burnt lime, Manganese Ore are the raw materials used in the plant process.

Total water requirement for the proposed project is of 144 m^3/hr. Total power requirement is about 31MW. Green belt already developed in 443 Acres (36%) of the total plant area.

Based on the presentation made and discussions held during the meeting, the Committee prescribed following specific TORs for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2**:

i. P.H. shall be conducted by the Odisha Pollution Control Board.
ii. Site photographs should be presented at the time of EIA/EMP presentation
iii. CSR Details for the existing EC and the proposed CSR plan should be submitted
iv. Green belt details for 135 ha. should be provided along with the detailed photographs of the plantation
v. ETP for BF and Coke oven plant should be installed for Cyanide standards
vi. Tie up with vendor for hazardous waste disposal should be finalized and submitted
vii. Comparison for dry coke quenching and wet coke quenching and justification for using wet coke quenching should be provided in the EIA report
viii. Analysis of trace elements in the raw material should be conducted and enclosed with the EIA/EMP report

35.6.2 Integrated 36000 TPA High Titanium Slag, 20000 TPA Pig Iron and 30000 TPA Titanium Dioxide Pigment Plant by **M/s Saraf Agencies Pvt. Ltd.** SEZ, Chhatrapur, Dist: Ganjam, Odisha by Saraf Agencies Pvt. Ltd. – ToR [F. No. J-11011/658/2007-IA II (I)]

The PP along with their EIA-EMP consultant M/s Global Experts 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 Terms of References for the preparation of EIA-EMP report. The proposed project activity is listed at S.No. 3(a) under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

Saraf Agencies Pvt. Ltd (SAPL) has proposed to set up an integrated complex for production of 36,000 TPA High Titanium Slag, 20,000 TPA Pig Iron, 30,000 TPA Titanium Dioxide Pigment Plant at SEZ Chhatrapur, Dist: Ganjam, Odisha. The company is in possession of 260 Acres of land. Anatase and Rutile grade Titanium Dioxide Pigment Plant based on Sulphate route. The site is located near Chhatrapur in Ganjam district of Odisha. The site is near to OSCOM plant of Indian Rare Earths Limited. The aerial distance of the site from coastal line of Bay of Bengal is around 2.5 Km.

The proposed site is about 6 km from Chhatrapur railway station and 2 km (aerially) from Gopalpur Fair Weather Port. Latitude - longitude of the proposed site are 19° 20' 03" N and 84° 57' 32" E (approx.). The nearest rail station is at Chhatrapur. Being located near NH -16, Berhampur of East Coast Railway, is an important Railway Station in between Kolkata & Chennai. Paradeep port is about 260 km while the Vizag port is at a distance of 250 km from the project site. The nearest Airstrip is Rangelunda (Bhanja Vihar) at a distance of about 5 km from project site and the nearest airport is located at Bhubaneswar, which is at about 150 km from the project site. NH-16 (National Highway from Kolkata to Chennai) is at a distance of 0.5 km from the project site.

Raw Materials for Titanium Slag & Pig Iron are derived from natural ilmenite through Electro Smelting Process. Ilmenite is principal raw material. Besides this, other raw materials are anthracite coal/ pet coke. Titanium Dioxide Pigment is produced by Sulphate Process with raw materials like natural Ilmenite and Titanium slag. Ilmenite and Ti-slag are principal raw

materials. Besides those, other raw materials like Sulphuric Acid, Iron Powder, Sodium Hydroxide, Aluminium Powder etc. are also required.

The raw water requirement for the project is 7700m^3/day (i.e. 321m^3/hr). For the Titanium Slag Plant about 800m^3/day of water is required. This will be met through ground water resource. The balance water requirement 6900m^3/day for Titanium Dioxide Plant shall be met through surface water from Rushikulya River. The total power requirement for the project has been estimated to be around 23MVA and it will be met from South Co from Chhatrapur Grid.

The total project cost of the unit is 779.5 Crore. Project Technology Consultant : HPWY (China) for Titanium Slag Plant Chong Qung Chemical Engineering Design and Research Institute (CCDRI) for Titanium Dioxide Pigment Plant.

Based on the presentation made and discussions held during the meeting the Committee deferred consideration of the proposal and advised PP to submit the following information for further consideration of the proposal:

i. A detailed management plan for the treatment and disposal of effluent from the Sulphate pigment plant should be submitted.
ii. Material balance statement in respect of Titanium and Iron in the ilminite and products and waste and for Sulphuric acid should be submitted.
iii. Economic viability of the proposed project

35.6.3 "Regularization of the Statutory Approvals of Existing 6,00,000 TPA Iron Ore Pelletization Plant" and "Proposed expansion by adding 10 Nos Coal Gasifier Plant (Fuel Replacement for Pellet Plant) – 27,46 Nm3/Hr. and Expansion of Iron Ore Grinding Unit to Iron Ore Grinding & Beneficiation Plant – 10,00,000 TPA" by **M/s Sarda Energy & Minerals Ltd.** – ToR – [F. No. J-11011/45/2012-IA-II(I)]

The PP along with their EIA-EMP consultant M/s Pollution and Ecology Control Services (PECS), Nagpur, 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 References for the preparation of EIA-EMP report. The proposed project activity is listed at S.No. 3(a) under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s Sarda Energy & Minerals Ltd. has proposed to regularize operational 0.6 MTPA Iron Ore Pelletization Plant, proposed installation of 10 No. Coal Gasifier plant & Proposed up-gradation of Iron Ore grinding unit to Iron ore Grinding & Beneficiation plant of 1.0 MTPA. The proposed up-gradation project is located at Phase – I of Siltara Industrial Growth Center at village Mandhar, Raipur. The project site is located between N 21^0 20' 9.74" – N 21^0 20' 42.57" latitude and E $81^0$41'10.57" - E81^0 42'02.48" longitude. The Total Cost of the Project is Rs. 316.65 Crores and the EMP Cost is Capital Cost: Rs. 35.00 Crores and Recurring Cost: Rs. 3.00 Crore per Annum. The Total land in possession is 204.452 Ha. 12.04 Ha. Land is reserved for this project and proposed upgradation.

The total water requirement is 2177 m^3/day. Out of which the water requirement for the existing plant is 808 m^3/day and for the proposed up-gradation project is 1369 m^3/day. The water will be

sourced from Kharoon River (2 MGD + 1.25 MGD water allocated by water resources dept). The total power requirement is 7600 KW. Out of which the power requirement for the existing plant is 6400 KW and for the proposed up-gradation project is 1200 KW. The power will be supplied by CSPDCL and in house CPP. The total manpower required for the existing and proposed upgradation project is 332.

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

i. P.H. shall be conducted by the Chhattisgarh Pollution Control Board.

The Committee advised PP that the present proposal should not be linked with the EC granted dated 23rd December, 2008.

FRIDAY, 27th MARCH 2015

TIME: 2nd Day (09.01.2015), 10.00 A.M

35.7 Environmental Clearance

35.7.1 Proposed Cement Plant (3.0 MTPA), Clinker Unit (1.4 MTPA), Coal Washery (0.96 MTPA) along with 2x20 MW Captive Power Plant at Village Pataidih (Semradih Panchayat), Tehsil Masturi, District Bilaspur in Chhattisgarh and proposed new Limestone Mine i.e. Chilhati Limestone Mine, District Bilaspur in Chhattisgarh by **M/s SKS Cement Limited** (A subsidiary of SKS Ispat and Power Limited) - Environmental Clearance – [F. No. J-11011/252/2011-IA-II (I)]

Consideration of the proposal was deferred as the PP did not attend the meeting. The proposal would be considered as and when requested for by the PP.

35.7.2 Proposed asbestos sheet manufacturing plant (21600 TPA) at survey No. 265/1-4; 266/1,2,3,4; 268; 285, village Rachakpura, Shedriya Grampanchayat, Niwali Tehsil, Tonk District, Rajasthan by **M/s Visaka Industries** – Environmental Clearance – [F. No J-11011/256/2012-IA-II(I)]

M/s Visaka Industries –PP and their EIA-EMP consultant (M/s Enkey Enviro Services Pvy Ltd) 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 10th meeting of Expert Appraisal Committee (Industry) held on 29th – 31st July, 2013 for the preparation of EIA-EMP report. The ToR was awarded by MoEF vide F. No. J-11011/256/2012-IA –II (I) dated 26th September, 2013 for the preparation of EIA-EMP report. The proposed unit is categorized under 4 (c) 3 of EIA Notification, 2006 and subsequent amendment on 01.12.09 (Asbestos milling and asbestos based products).

2. The salient features of proposed project as per the final EIA – EMP report submitted by project authority vide letter referred in above para 1 are as under:

Visaka Industries Ltd. has proposed to set up a manufacturing unit of 2,16,000 TPA capacity of Asbestos Cement Sheets at Visaka Industries Ltd., Rachakpura Village, Shedriya Grampanchayat, Niwai Tehsil, Tonk District, Rajasthan. The land requirement for the project is 28 acres. The complete land has been acquired for the project. The latitude and longitude of the site are Latitude 26^{o} 26'04.82" N, 26^{o} 26'00.49" N, 26^{o} 25'51.55" N and 26^{o} 25'52.86" N. No forest land is involved. There is no national park, biosphere reserve or any wild life sanctuary within the 10 km radius of the project. There is only one reserve forest in the study area at 5.4 km from the project site. The total proposed investment for the project is 56.62 crores. Rs. 50 Lakhs is earmarked for the environmental protection measures. An amount of Rs 2. 83 Cr is earmarked for proposed CSR activities. The total requirement of manpower will be 350 persons.

The Asbestos fiber (Chrysotile variety) is imported from Brazil, Zimbabwe, & Russia. The quantity of raw material required is Asbestos-(Chrysotile) (17992 TPA), Cement-OPC (90007TPA), Fly Ash (61689.6 TPA), Pulp (1728 TPA).

Total power required for the project is 750 kVA. Two D.G. set of 500 kVA will be required for power backup. The total water demand for the proposed project is 240 KLD. The NOC from CGWA has been obtained for withdrawing 240 KLD ground water. The area is falling in Zone-II, Low Damage Risk Zone (MSK VI or less).

The maximum value for PM10 observed at Lalwari 52.9 µg/m3 and minimum value for PM10 at Project Site 30.6 µg/m3 . The maximum value for PM 2.5 observed at Sedria 27.9 µg/m3 and minimum value for PM 2.5 at Project site 14.2 µg/m3. The maximum value for SO2 observed at Lalwari 6.8 µg/m3 and minimum value for SO2 at Project site 4.2 µg/m3 . The maximum value for NO2 observed at Sedria 15.6 µg/m3 and minimum value for NO2 at Project site 12.2 µg/m3 . The maximum value for CO observed at Lalwaria 291 µg/m3 and minimum value for CO at Project site is 200 µg/m3 .

The asbestos is received in shrink or stretch- wrapped HDPE woven bags. Fiber bags are received tightly packed in wooden pallets and transported in closed containers. The bags bear the warning symbol "a". After unloading containers are cleaned using Vacuum cleaners. The bags are handled at site by means of forklifts. Spillages if any and container after unloading at site is cleaned using portable vacuum cleaner. Where this is not practicable, wet mopping, collection & recycling method is adopted. Torn bags received if any, is stitched and sealed with suitable adhesive tapes. Such cleaning operation is undertaken by the operatives wearing protective clothing and respiratory masks.

The Public hearing was conducted on 24.7.2014 under the Additional Deputy Commissioner (ADC-Tonk) Mr. P.S. Naga and The Regional Officer, Rajasthan Pollution Control Board, Kishangarh Mr. Mr. V.S. Sankhala. The issues raised during the public hearing are employment due to the proposed project and training to the local people.

Based on the presentation made and discussions held during the meeting the Committee sought following additional information for further consideration of the proposal:-

i. Time series data for all the operating plants of PP for a period of 1 year for asbestos fibre and particulate matter in stack emission, work place and ambient air should be submitted.
ii. Confirmation that 33% green belt with 10-15 meter width of plantation all around the plant boundary will be provided
iii. To confirm that the discharge from the plant will be zero and water consumption will be restricted to 220 KLD. Revised water balance calculation should be submitted
iv. Occupational health budget should be increased to 15 lakhs. Details on list of equipments and dispensary proposed to be installed should be submitted.

The committee decided that on receipt of information from the proponent, the proposal would be discussed internally.

35.8 Further Consideration Cases

35.8.1 Environment clearance for Productivity improvement through technology up-gradation of the steel melting shop with Electric Arc Furnace from 1,25,000 TPA to 2,00,000 TPA at Industrial Focal Point, Ludhiana, Punjab by **M/s Vardhman Special Steels Ltd** – EC- Considered in EAC meeting held on 18th March, 2014

The matter was earlier considered in the 17th EAC meeting held on 18th – 19th March, 2014 and sought additional information.

Based on the information received from the proponent, the proposal was further considered by the Committee. The PP vide letter dated 8th January, 2015 submitted the letter No. 6383 dated 19/12/2014 issued by Sr. Environmental Engineer – Zonal Office – I, Punjab State Pollution Control Board, stating that the board has no objection for the proposal for increase of production capacity from 1,25,000 TPA to 2,00,000 TPA.

The Committee noted that the proposal is regarding productivity improvement through technology upgradation of steel melting shop with Electric Arc Furnace from 1,25,000 TPA to 2,00,000 TPA by Installation of Oxy Fuel Burner (Virtual lance Burner), Oxygen and Carbon lanced manipulator, Automation of Electrode regulation for optimum power utilization, Up-gradation of transformers & Purchase of power through open access to run the plant 24 hrs instead of 21 hrs at present by M/s. Vardhman Special Steels. Plant site Coordinates of 4 corners 30˚53.356' N, 75˚54.404' E 30˚53.283' N, 75˚54.546' E 30˚53.161' N, 75˚54.448' E 30˚53.216' N, 75˚54.305' E elevation 229 m. The total land requirement is 19.74 Acres (7.99 Ha). The nearest railway station is Ludhiana which is 6.5 km in WNW direction. Nearest airport is Chandigarh airport, 87 km in ESE. No national parks / wildlife sanctuary / reserve forests within 10 km study area. The total cost of the project is Rs. 24.50 Cr and man power requirement is 630 persons. Funds to the extent of Rs. 115 Lakhs i.e. 5% of total project cost shall be earmarked for CSR activities, this fund shall be utilized over a period of 5 years. Afterwards Rs. 5 Lakhs shall be utilized per annum as Recurring expenditure for CSR. Public hearing is exempted for the project since the site is located within the Industrial area, Ludhiana.

List of raw material required and source along with mode of transportation is shown in the following table

S. No	Description of Raw Material	Specific Consumption Per MT of Billets	Existing Quantity (TPA)	Additional quantity (TPA)	Total quantity (TPA)	Mode of Transportation
1	Purchase Scrap	0.490 t	61250	36750	98,000	Rail/Trucks
2	DRI / Sponge Iron	0.564 t	70500	42300	112,800	Rail/Trucks
3	Pig iron	0.0291	3653.75	2192.25	5846	Rail/Trucks
4	Lime	100 kg	12,500	7500	20,000	Trucks
5	Carburizers	15 Kg	1875	1125	3000	Trucks
6	Refractories (SMS);					
	Bricks	25 kg	3125	1875	5000	Trucks
	Ramming Mass	3.5 kg	437.5	262.5	700	Trucks
	Gunning Mass	1.5 kg	187.5	112.5	300	Trucks
7	Refractories Rolling Mill	1.0 kg	200	0	200	Trucks
8	Fuel Oil & HSD;					
	SMS	11.0 kg	. 1375	825	2,200	Road Tankers
	Rolling Mill	35.0 kg	7000	0	7000	Road Tankers
	Graphite Electrodes	3.3 kg	412.5	247.5	660	Trucks
9	Process Gases;					
	Argon (1.786 Kg/Cu.m)	0.5 Cu.m	111.88	67.12	179	Trucks
	LPG (1.965 Kg/Cu.m)	0.8 Cu.m	196.88	118.12	315	Trucks
10	Ferro-Alloys	30 kg	3750	2250	6000	Trucks
11	Lancing Pipe	1.4 kg	175	105	280	Trucks
12	Other misc. items like T.C. Tips, Positherm Tips etc.	0.5 nos.	125	75	200	Trucks

The total water requirement for the project is 773 m3/day. No additional ground water is required for the project. There are 2 sources of water hence no statuary permission is required from the

water board. Total Electricity demand 34.8 MVA and will be sourced from Punjab State Power Corporation Ltd.

Ambient Air Quality has been carried out at 8 locations and the data submitted indicated PM_{10} 68.8 to 245.1 µgm/m3, $PM_{2.5}$ 47.3 to 105.3 µgm/m3, SO_2 5.3 to 36.5 µgm/m^3 NO_x 11.2 to 82.1 µgm/m^3. The results of modeling study indicates the maximum increase of GLC for the project is 5.9 µgm/m3 for respect to the PM_{10}. Slag will be used as railway ballast, road construction materials, other construction purposes, low lying land filling etc. Primary & Secondary emission will be controlled by Bagfilters, with stack height-- 50 m and Particulate Matter concentration in discharged gases will remain <50 mg/Nm3. Capital Cost of pollution control system will be approx. Rs 756 lakhs.

Based on the presentation made and discussions held during the meeting, the Committee recommended the project for environmental clearance subject to commissioning of pollution control system as approved by the State Pollution Control Board and stipulation of following specific conditions along with other environmental conditions while considering accord of environmental clearance:

i. Increased production should be taken up only after installation and commissioning of the pollution control equipments as approved by PPCB.

ii. Measures shall be taken to reduce PM levels in the ambient air. Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50mg/Nm3 and installing energy efficient technologies in the Plant.

iii. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

iv. 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.

v. Water consumption shall not exceed as per the CREP standard prescribed for the steel plants. Additional water, if any, required for the plant project operations shall be met form rainwater stored in rainwater harvesting structures.

vi. Rainwater harvesting scheme shall be prepared so that the rainwater can be collected, re-used and may be used for ground water recharge. The concrete drains shall be de-silted and regular supervision of the areas shall be carried out so that blocking of drains may be avoided for quick discharge of rainwater. Efforts shall further be made to use maximum

water from the rain water harvesting sources. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement.

vii. Greenbelt of approximately 15-20 meter width consisting of a 3-tier of trees consisting of species with thick canopy shall be developed all along the periphery of the plant, roads, vacant spaces, transfer points, etc as part of 33% of total plant area.

viii. All the effluents shall be treated and reused for dust suppression/green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted.

ix. Full utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2010. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Chandigarh.

x. Hazardous materials required during construction phase and in plant operations shall be stored properly as per the regulations and reused/recycled as per the E(P)A Rules.

xi. Vehicles and construction machinery are properly maintained to minimize the exhaust emission as well as noise generation to meet prescribed standards.

xii. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and implemented.

xiii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.

xiv. All the commitments made to the public during public hearing/public consultation shall be satisfactorily implemented and adequate budget provision shall be made accordingly.

xv. All the permanent workers shall be covered under ESI Scheme. The company shall have the provision for treatment of its workers at the local Nursing Homes & Hospitals in case of emergency. Annual Medical Check-up on some medical parameters like Blood test, Chest X-Ray, Eye test, Audiometry, Spirometry etc. shall be conducted amongst the employees of the Company.

xvi. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs. The proponent shall prepare a detailed CSR Plan for every next 5 years for the existing-cum-expansion project, which includes village-wise, sector- wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO, at Chandigarh. The details of

the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.

35.8.2 Proposed Iron Ore Pelletisation Plant (1.2 MTPA), iron Ore Beneficiation Plant (3MTPA) and Producer Gas Plant (2x25,000Nm3/hr) of **M/s Gulf Ispat Ltd**. at village Ghughra, Tehsil Sihora, Dist. Jabalpur, Madhya Pradesh – Environmental Clearance - (F.No.J-11011/256/2013-IA.II(I) - Considered in EAC meeting held on 11th – 12th December, 2014

The matter was considered in the 29th REAC held on 11th – 12th December, 2014. The Committee advised PP to submit the following information for further consideration of the proposal.

i. Specific Plan for solid waste utilisation with specific companies for use of rejects/solid wastes generated including Plan for the tailings and the final products in specific cement units along with MOUs shall be submitted
ii. Material balance for the raw material and the waste to be generated shall be submitted
iii. Detail plan for the disposal of clinker from the producer gas plant shall be submitted
iv. MoUs with the cement plant/brick kilns for ash and tailing shall be submitted
v. Revised layout plan showing water harvesting structures shall be submitted.
vi. Detailed CSR Plan for 5% of the total project cost (Rs 650 crores) for the upliftment of the area and for the people living nearby shall be submitted.

The Committee also advised PP to submit the details of the present position on the WL Clearance for processing for grant of EC.

PP vide letter no nil dated 22.01.2015 submitted the requisite information. PP has submitted Specific plan for Solid waste management. A copy of MOU made with M/s. KJS Cement Ltd, Satna, M.P. for supply of tailings to their cement plant is also submitted. A copy of receipt of the application submitted to the District Collector, Katni, Madhya Pradesh for disposing ash from the producer gas plant in the abandoned mines was also submitted.

PP has also submitted the details of material balance, plan for disposal of clinker from the producer gas plant, CSR plan and layout plan showing water harvesting structures. Regarding wild life clearance PP mentioned that No wildlife sanctuary, national park, and biosphere reserve falls within the area of 10 km radius from the project site hence no wildlife clearance is applicable for this project.

After detailed deliberations the Committee recommended the project for environmental clearance and stipulated following specific conditions along with other environmental conditions while considering accord of environmental clearance:

i. Measures shall be taken to reduce PM levels in the ambient air. Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm3 and installing energy efficient technologies in the Plant.

ii. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.

iii. 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.

iv. Water consumption shall not exceed as per the CREP standard prescribed for the steel plants. Additional water, if any, required for the plant project operations shall be met form rainwater stored in rainwater harvesting structures.

v. Rainwater harvesting scheme shall be prepared so that the rainwater can be collected, re-used and may be used for ground water recharge. The concrete drains shall be de-silted and regular supervision of the areas shall be carried out so that blocking of drains may be avoided for quick discharge of rainwater. Efforts shall further be made to use maximum water from the rain water harvesting sources. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement.

vi. Greenbelt of approximately 15-20 meter width consisting of a 3-tier of trees consisting of species with thick canopy shall be developed all along the periphery of the plant, roads, vacant spaces, transfer points, etc as part of 33% of total plant area.

vii. All the effluents shall be treated and reused for dust suppression/green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted.

viii. Full utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2010. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Bhopal.

ix. Hazardous materials required during construction phase and in plant operations shall be stored properly as per the regulations and reused/recycled as per the E(P)A Rules.

x. Vehicles and construction machinery are properly maintained to minimize the exhaust emission as well as noise generation to meet prescribed standards.

xi. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and implemented.

xii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.

xiii. All the commitments made to the public during public hearing/public consultation shall be satisfactorily implemented and adequate budget provision shall be made accordingly.

xiv. All the permanent workers shall be covered under ESI Scheme. The company shall have the provision for treatment of its workers at the local Nursing Homes & Hospitals in case of emergency. Annual Medical Check-up on some medical parameters like Blood test,

Chest X-Ray, Eye test, Audiometry, Spirometry etc. shall be conducted amongst the employees of the Company.

xv. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs. The proponent shall prepare a detailed CSR Plan for every next 5 years for the existing-cum-expansion project, which includes village-wise, sector- wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO, at Bhopal. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.

35.8.3 Proposed modification cum expansion of existing integrated steel project at Kalinga nagar Inductrial Complex, District Jajpur, Odisha by **M/s VISA Steel Limited** – TOR-Waiver of Public Hearing

PP did not attend the meeting. However, the response submitted by the PP was considered by the Committee in the absence of PP. The Committee noted that the Industrial Area is notified by the Government of Orissa in 2014, which is after the EIA Notification, 2006. The Committee was of the view that it is not clear from the information, whether the industrial area has obtained EC or not. Unless this is confirmed, the PH cannot be exempted. If EC is not available for the industrial area, PP has to conduct PH for the project.

35.9 Any Other Items

35.9.1 Extension of Validity of EC and Amendment in the EC granted for the proposal of 'Expansion of Steel Plant (1,15,000 TPA to 6,00,000 TPA) and Captive Power Plant (WHRB)(8 MW to 40 MW) and FBB (108 MW) at Marakuta & Pondaripathar, Odisha by **M/s Action Ispat & Power Ltd'** – [F. No – J-11011/186/2007-IA-II(I)] and Expansion of Steel Plant (Part-2 of Phase-II) [J-11011/535/2008.-IA.II(I)]

As communicated by the PP the company has established 1 X 350 DRI, 8 MW WHRB, 125000 TPA SMS with the permission of State Pollution Control Board, Orissa vide the Consent to Establish Order dtd.07.10.2005 and subsequent issue of Consent to Operate dtd.10.08.2006 of the said unit located at village Marakuta & Pandripathar in Jharsuguda district of Odisha state.

Vide EC letter No. J-11011/186/2007-IA II (I) dtd. 15th September 2008, Ministry has accorded clearance for Phase –I expansion of Integrated Steel Plant as DRI (1,15,000 TPA to 6,00,000 TPA), WHRB (8 MW to 40 MW), FBB (108 MW), SMS (1,25,000TPA to 8,00,000 TPA), Mini BF (1 X 350 M^3) for production of 3,00,000 TPA Pig Iron, Rolling Mill of 5,00,000 TPA and Coal Washery of 450 TPH, for production of 8,00,000 TPA Steel

Ministry vide Letter No. J-11011/819/2008-IA II (I) dated 14th July 2009 accorded Environmental Clearance for phase – II setting of Ferro Alloy Plant (4x9 MVA SAF to produce

57,000 TPA Si-Mn) within the existing plant premises at Jharsuguda, Odisha. And Phase – II (Part –2) expansion proposal for setting of Blast Furnace of capacity 1x150 m^3 for production of 1,00,000 TPA of Pig Iron, Coke Oven Plant (Non Recovery type) of capacity 3,00,000 TPA and Sinter Plant of 1 x 25 m^3 (4,00,000 TPA) within the existing plant premises at Jharsuguda, Odisha. Obtained Environmental Clearance vide Letter No. J-11011/535/2008-IA II (I) dtd. 18th March, 2009.

PP explained that during the period since August 2010 due to the examination of Saha Commission of various mining activities in Odisha State, there was acute shortage of Iron Ore and Manganese. As the main raw material for basic plant is iron ore and Manganese Ore, PP could not operate existing units in full load. Thus suffered a huge financial loss and could not able to continue in full swing new construction of facilities for which EC and CTE was obtained.

Now since situation is improving, PP wanted to complete their pending installations for which EC has been obtained.

PP has requested for revalidation of the ECs with amendment of project configuration as given below.

a. Revalidation of EC Order Nos.

1. J-11011/186/2007-IA II (I) dtd. 15th September 2008.
2. J-11011/535/2008-IA II (I) dtd. 18th March, 2009.
3. J-11011/819/2008-IA II (I) dtd. 14th July 2009.

b. Amendment in EC Order Nos.

1. J-11011/535/2008-IA II (I) dtd. 18th March, 2009. :
   a. 1 X 500 M3 BF instead of 1 X 350 M3 and 1 X 150 M3 BF
1. J-11011/819/2008-IA II (I) dtd. 14th July 2009. :
   a. Change of Product Mix as Production of same quantity of either or combination of Silico Manganese, Ferro Manganese, Ferro Silicon Instead of only Silico Manganese.

The committee noted that PP had applied for extension of validity of EC and EC amendment vide letter dated 19th March, 2015; however, the ECs are expired before the date of application i.e. on 14th September, 2014, 17th March, 2014 and 13th July, 2014 respectively. The Committee referred the matter to Ministry to take a view.

35.9.2 Increase in capacity of liquid steel production from 6.3 MTPA to 7.3 MTPA by revamping and augmentation of existing facilities for the EC granted for 'Expansion of Hot Metal (Steel Plant) from 4.0 to 6.5 million tonne per annum at Vishakapatnam, AP by **M/s Rashtriya Ispat Nigam Limited** – [F.No – J-11011/196/2005-IA-II(I)]

The consideration of the proposal was deferred as the PP did not attend the meeting. The proposal shall be considered as and when requested by the proponent.

35.9.3 Proposed expansion of Iron Ore Pelletisation plant (0.6 MTPA to 2.1 MTPA) by addition of Iron Ore Washery (3 MTPA), DRI Plant (1.2 MTPA), SMS (1.2 MTPA), Rolling Mill (1.2 MTPA) along with power plant (100 MW) of **M/s Ardent Steel** - Amendment of ToR granted vide letter No. J-11011/112/2013 dated 10.11.2014

Ardent Steel Limited had applied for grant of ToR on 10th June, 2014 for expansion of existing Iron Ore Pelletizing Plant along with other manufacturing facilities at Village Phuljhar, District Keonjhar, Odisha, which included a 1.2 MTPA DRI Plant among other manufacturing facilities. TORs for the proposal were issued on 10th November, 2014.

Further, PP had approached the Industrial Promotion and Investment Corporation of Odisha Limited (IPICOL) authorities for single window clearance for land, water, power etc. before proceeding with the preparation of EIA/EMP report. However, it was noted by PP that guidelines had been issued by the Department of Steel & Mines, Government of Odisha vide their Notification No. 6215 dated 8th August, 2011 on the expansion of green field and brown field projects, which states that the proposals for steel making capacity between 0.60 to 1.50 MTPA will be allowed by the State with a provision of setting up the hybrid system through DRI and hot metal production unit route.

Therefore, the PP has applied for amendment of TORs for revised configuration of their proposed expansion. PP mentioned that, since their proposed steel making capacity is for 1.2 MTPA, they have changed the project configuration by decreasing the capacity of DRI from 1.2 to 0.6 MTPA and addition of Pig Iron Blast Furnace (0.6 MTPA) and Sinter plant (0.8 MTPA).

PP mentioned that there will be no change in the land requirement of 217.254 ha. The water & power requirement will be increased since there is change in project configuration.

After detailed deliberation, the Committee recommended the amendment of ToRs for the revised configuration by decreasing the capacity of DRI from 1.2 to 0.6 MTPA and addition of Pig Iron Blast Furnace (0.6 MTPA) and Sinter plant (0.8 MTPA).

35.9.4 Expansion of integrated steel plant from 1.5 MTPA to 3.0 MTPA along with CPP from 2X50 MW to 3X50 MW at Village Satarda, Taluka Sawantwadi, District Sindudurg in Maharashtra by M/s Shree Uttam Steel and Power Limited- EC– [F. No. J-11011/467/2010-IA-ll (I)]

M/s Shree Uttam Steel and Power Limited **–PP and their EIA-EMP** consultant 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 vide Ministry's letter F.No. J-11011/ 467/2010- IA II (I) dated November 18th, 2010. Environmental Clearance was granted vide letter F. No. J-11011/ 158/2008- IA II (I) dated 20th January 2010. The project proponent had realized while setting up the infrastructure for 1.50 MTPA that the project would not be techno-commercially viable under the changed market scenario both nationally and internationally, therefore immediately applied for expansion during the year 2010. However, after imposition of moratorium, further progress of implementation of the project was halted. Therefore, after lifting of the moratorium, PP has approached the Ministry for grant of approval for expansion of Integrated Steel plant from 1.5 MTPA to 3.0 MTPA along with CPP 3 x 50

MW. In the meantime, the extension of validity of existing EC has been recommended by the EAC for further 5 years with effective from 20th January 2015 in the 29th meeting held on 13-14th December 2014. The proposal of expansion of Integrated Steel plant from 1.5 MTPA to 3.0 MTPA with CPP 3x50 MW was deferred in the 29th EAC (I) as the documents were not received by some of the Members of EAC and hence now placed before the 35th EAC (I).

As per clause 4.0 of ToR dated 18th November 2010, public hearing in this case is not required as the unit is located in the notified industrial area.

Expansion is proposed in the existing 351 hectares of industrial land which is situated at villages Satarda & Satose, Taluka Sawantwadi, District Sindhudurg in Maharashtra State. The said land is in possession of project proponent within the existing project location secured with boundary wall. No additional land purchase or resettlement is involved. Project cost including proposed expansion is estimated Rs.13,196.28 Crores Capital cost on environment protection measures including expansion Rs.960.00 Crores. Recurring cost on environment protection measures including expansion Rs.240.00 Crores / annum. Following table shows plant configuration for 1.5 MTPA plant and proposed plant of 3.0 MTPA capacities:

Sl. No.	**Technological facilities**	**Plant Configuration for 1.5 MTPA**	**Capacity (MTPA)**	**Proposed plant expansion Configuration for 3.0 MTPA**	**Total Capacity (MTPA)**
1	Coke oven and by-product plant, 4.5 m tall	4 batteries each comprising 2 blocks of 35 ovens	1.00	4 batteries each comprising 2 blocks of 35 ovens	2.00
2	Sinter plant	1 x 240 m^2	2.46	1 x 240 m^2	4.92
3	Blast furnace	1 x 2400 m^3	1.70	1 x 2400 m^3	3.40
4	Basic oxygen furnace	1 x 175 t	1.55	1 x 175 t	3.10
5	Ladle furnace	1 x 175 t, 35 MVA each	1.55	1 x 175 t, 35 MVA each	3.10
6	Vacuum degasser	1 x 175 t	1.55	1 x 175 t	3.10
7	Slab caster	1 x 1 strand	1.54	1 x 1strand	3.08
8	Hot strip mill with roughing and finishing train	1 x 1.5 MTPA	1.55	1 x 1.5 MTPA	3.10
9	Oxygen plant	2 x 500 TPD	1000 TPD	1X 1000 TPD	2000 TPD
10	Lime & Dolo plant	2 x 250 TPD (Lime plant) 1 x 200 TPD (Dolo plant)	500 TPD (Lime plant) 200 TPD (Dolo plant)	1 x 330 TPD (Lime plant)	830 TPD (Lime) 200 TPD (Dolo)
11	Captive power plant – Multi fuel	2 x 50 MW	100 MW	1 x 50 MW	3 x 50 MW

	fired				
12	Pig casting machine	5 x 1500 TPD	7500 TPD	2 x 1700 TPD	10900 TPD

The total requirement of fresh water including expansion project is around 3500 m^3/hr. The company has obtained permission from Water Resources Dept., Govt. of Maharashtra for drawl of 84 Million Litre per day (3500 m^3/ hour) water from the Tillari River, which is about 38 Km from the project site of SUSPL,Satarda.

A total of about 33% of the project area will be developed as green belt at the project site (including waste dump site) and other areas. Green belt for a minimum 10 meter width along the boundary has been partly developed in the plant premises and will be developed further all along the boundary. Plantations of trees along with road side within plant and outside roads of the plant partly done and will be further developed.

After detailed deliberations the Committee sought following additional information for further consideration of the proposal. The Committee directed PP to submit the requisite information to the Ministry. The matter shall be considered in the EAC meeting once information is submitted.

i. The PP shall submit the details regarding raw material, quantity wise, from all the sources with firm linkages
ii. Tie up with the agencies for disposal of sludge and SMS slag should be submitted.
iii. Rainwater harvesting plan for storage reservoir to the tune of 30 days storage capacity should be prepared and submitted.
iv. Confirmation regarding use of Dry coke quenching methodology should be submitted
v. ETP should be designed for cyanide standards. Design of ETP should be submitted
vi. Hazardous waste should go to TSDF site. A tie up with the TSDF facility should be submitted
vii. Revised layout plan should be submitted with proper color coding. Different colors should be used for existing and proposed facility.
viii. A layout plan showing 15 meter of green belt all around the plant boundary should be submitted. Green belt with details of plant species and area to be provided.
ix. Residential area details should be submitted
x. Details regarding Environment Corporate Policy should be submitted
xi. Monitoring Data including hydro-geology data should be enclosed with the EIA report as an annexure.
xii. Traffic analysis report should be submitted
xiii. Layout plan superimposed on the toposheet should be submitted.
xiv. Drainage management plan should be submitted.

35.10 CASES FOR TERMS OF REFERENCE (TOR)

35.10.1 Proposed 21 MTPA Iron Ore Beneficiation Plant at vill- Kumundi and 4 Nos of Satellite Grinding Stations at Gandhamardan, Jalpaposhi, Balajhori, Tehrai in Keonjhar & Sundergarh district of Odisha with water & Slurry Pipelines Systems Connecting the units with Integrated Steel plant at Meramandali, Denkanal district of

Odisha by **M/s Bhushan Steel Limited.** – ToR – [ToR Presentation held on 25th -27th September, 2013 (Item no.2.6)]

The consideration of the proposal was deferred as the PP had initially applied in the Mining sector, for seeking TOR, wherein the committee requested for certain information. Instead of providing the information to mining sector, the PP applied in industry sector for the same project for ToR approval. The PP was warned for this act and deferred consideration.

35.10.2 3.5 MTPA Beneficiation Plant at Village Muthara, in Rajura Taluqa of Chandrapur District in Maharashtra by **M/s N N Global Mercantile Pvt Ltd**. – ToR – [F. No – J/11011/51/2015]

The consideration of the proposal was deferred as the PP did not attend the meeting. The proposal would be considered as and when requested for by the PP.

35.10.3 Transfer of existing EC Letter no. J-11011/398/2007-IA II (I) dated 1st /4th Aug., 2008 and letter dated 15th April, 2011 & 05th Sept., 2014 from M/s. Jaypee Cement Corporation Limited (JCCL) 'Transferor' to M/s. UltraTech Cement Ltd. (Unit: Sewagram Cement Works) 'Transferee'. And Environmental Clearance of Proposed Expansion of Clinkerization Plant (4.0 to 8.0 MTPA) along with Captive Power Plant (55 to 160 MW) at Village - Vayor, Tehsil - Abdasa, District - Kutch (Gujarat) by **M/s. UltraTech.** – ToR – [F. No – J-11011/398/2007-IA-II(I)]

The PP along with their EIA-EMP consultant M/s JM 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 draft Terms of References for the preparation of EIA-EMP report. The proposed project activity is listed at S.No. 3(b) under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

UltraTech Cement Limited (UTCL) took over Integrated Cement Project (including mines) of M/s. Jaypee Cement Corporation Limited (JCCL) at Kutch (Gujarat) through demerger in June, 2014. Environmental Clearance for the existing Integrated Cement Plant at Kutch (Gujarat) was obtained by JCCL from MoEF, New Delhi vide their letter no. J-11011/398/2007-IA II (I) dated 1st /4th Aug., 2008 and letter dated 15th April, 2011 & 05th Sept., 2014.

PP vide letter no. UTCL/ENV/MUM/2015/16 requested for transfer of existing EC Letter no. J-11011/398/2007-IA II (I) dated 4th August, 2008 and letter dated 15th April, 2011 & 05th September, 2014 from M/s. Jaypee Cement Corporation Limited (JCCL) 'Transferor' to M/s. UltraTech Cement Ltd. (Unit: Sewagram Cement Works) 'Transferee'. And Issuance of ToR for the proposed expansion of Clinkerization Plant (4.0 to 8.0 MTPA) along with Captive Power Plant (70 to 160 MW) at Village - Vayor, Tehsil - Abdasa, District - Kutch (Gujarat) by M/s. UltraTech Cement Limited (Unit - Sewagram Cement Works).
PL CHECK WHETHER EC TRANSFERRED OR NOT?
It is noted that M/s UltraTech Cement Limited has proposed an expansion of Clinkerization Plant (4.0 to 8.0 MTPA) along with Captive Power Plant (70 to 160 MW) at Village - Vayor, Tehsil - Abdasa, District - Kutch (Gujarat). Details of production capacities are as follows:

S. No	Units	Existing Capacity	Proposed Expansion Capacity	Total Capacity after expansion
1	Clinker (MTPA)	4.0	4.0(2X2.0)	8.0
2	Cement (MTPA)	7.2	Nil	7.2
3	Captive Power Plant (MW)	55	105	160
4	Desalination Plant (KLD)	6700	Nil	6700
5	DG Set (MW)	20	Nil	20

Total Plant Area available is 699.85 ha; no additional land is required for the proposed expansion project, as the same will be done within the existing plant premises. Out of the total plant area (i.e. 699.85 ha), 57 ha has already been developed under green belt/ plantation. The same will be maintained & further enhanced. Additional 175 ha will be developed under green belt/ plantation. No National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve, Wildlife Corridor, Protected Forests etc. falls within 10 km radius of the plant site. The cost of the project is Rs. 150 Cr.

The existing water requirement is 3220 KLD. Additional 3120 KLD of water will be required for the proposed expansion. Thus, total water requirement after the proposed expansion project will be 6340 KLD. The water will be sourced from desalinization plant. The existing power requirement is 63.7 MW. Power requirement for proposed expansion project will be around 68.3 MW. Thus, total power requirement after the proposed expansion project will be 132 MW. the source of power will be Captive Power Plant & D.G Set (for back-up). The existing manpower requirement is 895. Additional 450 persons will be required for the proposed expansion.

Raw materials required for the proposed expansion of cement plant are Limestone which will be procured from Captive Limestone Mines; Clay which will be procured from Ashapura China Clay Mines / Captive Clay Mine; Laterite will be purchased from Captive Baranda Laterite Mine.

After detailed deliberations, the Committee prescribed following specific TORs for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-3**:

i. P.H. shall be conducted by the Gujarat Pollution Control Board.
ii. The EC compliance report issued by RO, Bhopal should be submitted along with EIA/EMP report

The Committee agreed on the request made by PP to collect the baseline data for the current season

35.10.4 Proposed Expansion of Integrated Cement Plant - Clinker (2 x 1.5 to 2 x 2.6 Million TPA), Cement (2 x 2.6 to 2 x 3.0 Million TPA), Waste Heat Recovery Power Plant (15

to 30 MW), Captive Thermal Power Plant (25 MW) along with Synthetic Gypsum Unit (65 TPH) and DG Sets {2000 KVA (size 1000/500/250/125)} near Village Khapradih, Tehsil Simga, District Balodabazar - Bhatapara (Chhattisgarh) by **M/s. Shree Cement Ltd.** – ToR – [J-11011/235/2008-IA-II(I)]

The PP along with their EIA-EMP consultant 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 References for the preparation of EIA-EMP report. The proposed project activity is listed at S.No. 3(b) under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

Shree Cement Limited has obtained Environment Clearance for Integrated Cement Plant - Clinker (2 x 1.5 Million TPA), Cement (2 x 2.6 Million TPA), Captive Power Plant (50 MW) & WHRB (15 MW) near Village Khapradih in Dist. Balodabazar - Bhatapara (Chhattisgarh) from MoEFCC vide Letter No. J-11011/235/2008- IA II (I) dated 07th Mar., 2011; as amended on 01st June, 2011 & 04th February, 2015.

It is noted that M/s. Shree Raipur Cement Plant (A unit of Shree Cement Ltd.) has proposed Expansion of Integrated Cement Plant - (Clinker from 2 X 1.5 to 2 x 2.6 Million TPA, Cement 2 x 2.6 to 2 X 3.0 Million TPA), Waste Heat Recovery Power Plant (15 to 30 MW), Captive Thermal Power Plant (25MW) along with Synthetic Gypsum Unit (65 TPH) and D G Sets {2000 KVA (size 1000/500/250/125) near Village – Khapradih, Tehsil – Simga, District- Balodabazar - Bhatapara (Chhattisgarh)

Details of the products along with their production capacity are given below:

Unit	Existing EC Granted Capacity	Proposed Additional Capacity	Total Capacity after Expansion
Clinker Production (Million TPA)	2 x 1.5 = 3.0	2 x 1.1 = 2.2	5.2 (2 x 2.6)
Cement Production (Million TPA)	2 x 2.6 = 5.2	2 x 0.4 = 0.8	6.0 (2 x 3.0)
Synthetic Gypsum (TPH)	Nil	65	65
Thermal Power Generation (MW)	50	(-) 25	25
Waste Heat Recovery Power Generation (MW)	15	15	30
D.G. Set (KVA)	Nil	2000 (size 1000/500/250/125)	2000 (size 1000/500/250/125)

Total Plant Area is 159.256 ha (including Cement Plant, Colony and CPP) ha and the proposed expansion will be done within the existing plant premises, therefore, no additional land will be acquired for the same. 52.55 ha i.e. 33% of the total plant area has been proposed to be developed under greenbelt / plantation. Geographical coordinates for the plant site are Latitude

21^0 35' 41.84" N to 21^0 36' 29.06" N & Longitude 82^0 02' 14.24" E to 82^0 3' 6.17" E. Nearest Town is Balodabazar, which is approx. 12.5 km in ENE direction from the plant site. Nearest highway is NH-200 (~ 30 km in WNW direction). Nearest Railway Station is Bhatapara Railway Station, which is approx. 18 km in NW direction from the plant site and Nearest Airport is Raipur Airport which is approx. 55 km in SSW direction from the plant site.

Total cost of the project is Rs. 1965.34 Crores { Existing cost of Phase - I is Rs. 940.10 Crore and proposed cost along with Phase-II will be Rs. 1025.24 Crore.} . Capital cost for Environmental Protection Measures is Rs. 2.0 Crores and Recurring Cost is Rs. 0.2 Crores/ annum. The cement plant is based on Dry Process Technology for Cement manufacturing with Preheater and Pre- Calciner Technology.

Raw materials required for the proposed expansion of cement plant are limestone which will be sourced from Captive Mines; Gypsum (Indian, Imported, Synthetic and Chemical), Laterite & Iron ore will be sourced from local sources. Indian and Imported Coal / Pet Coke from Local petroleum refinery / Jamnagar pet coke/ USA/SA/ Indonesia etc, Fly Ash from captive power plant & NTPC Siapet (Bilaspur – 150 km), NTPC & CSEB, Korba etc. and Slag from SAIL Bhilai, Rourkela; JSPL Raigarh, Monnet Ispat and Energy Ltd Raigarh; Bhushal Steel and Power Ltd, Jharsuguda.

After detailed deliberations, the Committee prescribed following specific TORs for undertaking a brief EIA/EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-3**:

i. Details on transportation of the raw material/product should submitted.
ii. A brief report on comparison for 1.5 MTPA and 2.6 MTPA should be incorporated as a part of EIA report.

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Executive Summary

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

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

ANNEXURE -I

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

1. Executive Summary
2. Introduction
   - i. Details of the EIA Consultant including NABET accreditation
   - ii. Information about the project proponent
   - iii. Importance and benefits of the project

3. Project Description
   - i. Cost of project and time of completion.
   - ii. Products with capacities for the proposed project.
   - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
   - iv. List of raw materials required and their source along with mode of transportation.
   - v. Other chemicals and materials required with quantities and storage capacities
   - vi. Details of Emission, effluents, hazardous waste generation and their management.
   - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
   - viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided
   - ix. Hazard identification and details of proposed safety systems.
   - x. Expansion/modernization proposals:
     - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing *I*existing operation of the project from SPCB shall be attached with the EIA-EMP report.
     - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4. Site Details

   - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
   - ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)

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

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

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

6. **Environmental Status**

i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
vi. Ground water monitoring at minimum at 8 locations shall be included.
vii. Noise levels monitoring at 8 locations within the study area.
viii. Soil Characteristic as per CPCB guidelines.
ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
xi. Socio-economic status of the study area.

7. Impact Assessment and Environment Management Plan

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

treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.

v. Details of stack emission and action plan for control of emissions to meet standards.

vi. Measures for fugitive emission control

vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.

viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.

ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.

x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

xii. Action plan for post-project environmental monitoring shall be submitted.

xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. Occupational health

i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,

ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of abovementioned parameters as per age, sex, duration of exposure and department wise.

iii. Annual report of heath status of workers with special reference to Occupational Health and Safety.

iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

9. Corporate Environment Policy

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
11. Enterprise Social Commitment (ESC)

i. Adequate funds (atleast 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13. 'A tabular chart with index for point wise compliance of above TORs.

14. The TORs prescribed shall be valid for a period of three years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

<u>The following general points shall be noted:</u>

i. All documents shall be properly indexed, page numbered.
ii. Period/date of data collection shall be clearly indicated.
iii. Authenticated English translation of all material in Regional languages shall be provided.
iv. The letter/application for environmental clearance shall quote the MOEF file No. and also attach a copy of the letter.
v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
vi. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report
vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry shall also be followed.

viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCl) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

ix. TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and summarised in a tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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ANNEXURE-2

ADDITIONAL TORS FOR INTEGRATED STEEL PLANT

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

ANNEXURE-3

ADDITIONAL TORs FOR CEMENT INDUSTRY

1. Limestone and coal linkage documents along with the status of environmental clearance of limestone and coal mines
2. Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
3. For large Cement Units, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
4. Present land use shall be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
5. If the raw materials used have trace elements, an environment management plan shall also be included.
6. Plan for the implementation of the recommendations made for the cement plants in the CREP guidelines must be prepared.
7. Energy consumption per ton of clinker and cement grinding
8. Provision of waste heat recovery boiler
9. Arrangement for use of hazardous waste
10. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
11. Trace metals in waste material especially slag.
12. Plan for trace metal recovery
13. Trace metals in water

ANNEXURE-4

ADDITIONAL TORs FOR PULP AND PAPER INDUSTRY

i. For major Pulp and Paper Units, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.

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

iii. Manufacturing process details for the existing and proposed plant shall be included. Chapter on Pulping & Bleaching shall include: no black liquor spillage in the area of pulp mill; no use of elemental chlorine for bleaching in mill; installation of hypo preparation plant; no use of potcher washing and use of counter current or horizontal belt washers. Chapter on Chemical Recovery shall include: no spillage of foam in chemical recovery plant, no discharge of foul condensate generated from MEE directly to ETP; control of suspended particulate matter emissions from the stack of fluidized bed recovery boiler and ESP in lime kiln

iv. Studies shall be conducted and a chapter shall be included to show that Soda pulping process can be employed for *Eucalyptus/Casuarina* to produce low kappa (bleachable) grade of pulp.

v. Commitment that only elemental Chlorine-free technology will be used for the manufacture of paper and existing plant without chemical recovery plant will be closed within 2 years of issue of environment clearance.

vi. A commitment that no extra bleaching chemicals (more than being used now) will be employed and AOx will remain within limits as per CREP for used based mills.

vii. Plan for reduction of water consumption.

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ANNEXURE-5

LEATHER/SKIN/HIDE PROCESSING INDUSTRY

1. Justification for engaging a particular type of process (raw hide/skin into semi finishing or finished leather, semi finished leather to finished leather, dry finishing operations, chrome/vegetable tanning, *etc.)*.
2. Details regarding complete leather/ skin/ hide processing including the usage of sulfides, nitrogen compounds, chromium or other tanning agents, post-tanning chemicals, biocides, *etc.,* along with the material balance shall be provided.
3. In case of chrome tanning, details of the chrome recovery plant, management of shavings/solid waste including safe disposal.
4. Details on reuse of soak liquor / saline stream from membrane system, if applicable, to the extent possible in pickling activity after required treatment. Also, mention the salt recovery measures.

Coke oven plant

1. Justification for selecting recovery/non-recovery (beehive) type batteries with the proposed unit size.
2. Details of proposed layout clearly demarcating various facilities such as coal storages, coke making, by-product recovery area, *etc* within the plant.
3. Details of coke oven plant (recovery/non-recovery type) including coal handling, coke oven battery operations, coke handling and preparation.
4. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
5. Trace metals in waste material especially slag.
6. Plan for trace metal recovery
7. Trace metals in water

ANNEXURE-7

Asbestos milling and asbestos based products

1. Type of the project – new/expansion/modernization
2. Type of fibres used (Asbestos and others) and preference of selection from techno-environmental angle should be furnished
3. As asbestos is used in several products and as the level of precautions differ from milling to usage in cement products, friction products gasketing, textiles and also differ with the process used, it is necessary to give process description and reasons for the choice for selection of process
4. Technology adopted, flow chart, process description and layout marking areas of potential environmental impacts
5. National standards and codes of practice in the use of asbestos particular to the industry should be furnished
6. In case of newly introduced technology, it should include the consequences of any failure of equipment/ technology and the product on environmental status.

ANNEXURE-8

Induction/arc furnaces/cupola furnaces 5TPH or more

1. Details of proposed layout clearly demarcating various units within the plant.
2. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs and outputs (material and energy balance).
3. Details on design and manufacturing process for all the units.
4. Details on environmentally sound technologies for recycling of hazardous materials, as per CPCB Guidelines, may be mentioned in case of handling scrap and other recycled materials.
5. Details on requirement of raw materials, its source and storage at the plant.
6. Details on requirement of energy and water along with its source and authorization from the concerned department. Location of water intake and outfall points (with coordinates).
7. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
8. Details on toxic content (TCLP), composition and end use of chrome slag. Details on the recovery of the Ferro chrome from the slag and its proper disposal.
9. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
10. Trace metals in waste material especially slag.
11. Plan for trace metal recovery
12. Trace metals in water

ANNEXURE-9

Metallurgical industry (ferrous and non-ferrous)

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants *etc*.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/ aluminium, *etc*.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

LIST OF PARTICIPANTS OF EAC (I) IN 35th MEETING OF EAC (INDUSTRY-I) HELD ON 26th – 27th March, 2015

S.N.	Name		
1	Shri M. Raman	Chairman	A
2	Shri R.K. Garg	Vice-Chairman	P
3	Prof. R.C. Gupta	Member	A
4	Dr. Prem Shankar Dubey	Member	P
5	Dr. R.M. Mathur	Member	P
6	Dr. S. K. Dave	Member	P
7	Dr. B. Sengupta	Member	P
8	Shri Rajat Roy Choudhary	Member	A
9	Dr. S.D. Attri	Member	A
10.	Dr. Antony Gnanamuthu	Member	A
11.	Prof. C. S. Dubey	Member	P
12.	Shri Niranjan Raghunath Raje	Member	A
MOEF Representatives			
13.	Dr.Satish C. Garkoti	Scientist F & MS (Industry-I)	
14.	Shri Amardeep Raju	Scientist D	