

MINUTES OF 12th RECONSTITUTED EXPERT APPRAISAL COMMITTEE (INDUSTRY)
HELD DURING 30th SEPTEMBER, 2013 to 1st OCTOBER, 2013

VENUE: Scope Complex, Fazal Hall, Scope Convention Centre, Scope Complex, Lodhi Road, New Delhi 110 003.

TIME 10.00 A.M.

12.0 Opening Remarks of the Chairman

At the outset, Chairman welcomed the members of the Expert Appraisal Committee (Industry). Thereafter, agenda items were taken up for discussion. The deliberations held and decisions taken are as under.

12.1 Confirmation of the Minutes of the 11th Reconstituted Expert Appraisal Committee (Industry) held during 26th August 2013 – 27th August 2013.

The minutes of the 11th Reconstituted Expert Appraisal Committee (Industry) meeting held during 26-27th August 2013 were confirmed.

30th September, 2013

12.2.0 Consideration of the Projects:

Environmental Clearance

12.2.1 Proposed Integrated Cement Project (Clinker- 2.2 MTPA, Cement - 3.3 MTPA) along with installation of Captive Power Plant (30 MW), WHRB (5 MW) and DG Set (6 MW) at Villages Tunkara & Balara, Tehsil Jaitaran, District Pali in Rajasthan by **M/s Ultratech Cement Limited - regarding Environment Clearance.**

The Committee noted that the proponent vide letter no. UTCL/ENV/DEL/2013/81 dated 23.9.2013 expressed their inability to attend the meeting due to some unavoidable circumstances.

The Committee recommended that the proposal may be placed before the EAC as and when requested by the project proponent.

12.2.2 Proposed 1.5 MTPA Clinker and 2.0 MTPA Cement Plant with 35 MW Captive Power Plant at Jamuna Village, Rampur Baghelan Tehsil, Satna District in Madhya Pradesh by **M/s Jaiprakash Associates Limited - regarding Environment Clearance.**

1. The project authorities and their consultant M/s. Vimta Labs - Hyderabad 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 27th meeting of the Expert Appraisal Committee (Industry -1) held on 26-27th August, 2011 for preparation of EIA/EMP report. The ToR was awarded by MoEF vide F.No. J-11011/374/2011-IA.II(I) dated 13.9.2011 for preparation of EIA/EMP report. The proponent submitted the final EIA/EMP report vide letter no.JAL/SCP/MOEF/2013-001 dated 31.7.2013 for grant of Environmental Clearance after conducting Public Hearing/Public Consultation on 10.5.2013. All the Cement Plants (\geq 1.0 MTPA) are listed at S.No. 3(b) under Category 'A' of the schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry) of MoEF.

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

M/s. Jaiprakash Associates Limited (JAL) have proposed to set up an 1.5 MTPA Clinker and 2.0 MTPA Cement Plant with 35 MW Captive Power Plant at Jamuna Village, Rampur Baghelan Tehsil, Satna District in Madhya Pradesh. The land requirement for the proposed project is 201 acres (81.3 ha). The longitude and latitude of the project site is $81^{\circ} 04' 46.0''$ E to $81^{\circ} 05' 33.45''$ E and $24^{\circ} 33' 04''$ N to $24^{\circ} 33' 40.0''$ N respectively. The land is already acquired through direct outright purchase and is under the possession of JAL. No Forest land is involved. No R&R issues are involved. No Defense Installation, Biosphere Reserve, National Park/Wild Life Sanctuary, Ecologically Sensitive Area is located within 10 km radius of the project site. No court case/litigation is pending against the proposed project. Nar nadi and Tons river are located at a distance of 4.0 km and 7.9 km from the project site. The industries exists in the study area are:- Jaypee Rewa Plant - 7.5 km, Jaypee Soya Plant – 7.7 km, Heavy Engineering Works – 7.8 km, Jaypee Bela Plant – 7.9 km, Prism Cement – 8.5 km and existing Captive limestone Mines at a distance of 9.7 km from the project site. The nearest railway station is Turki located at a distance of 3.9 km in southeast direction from the project site. Sathari RF near Patarahat is located at a distance of 2.2km in north direction from the project site. Total cost of the project is Rs. 1100 crores. Rs. 132 crores and Rs.11.2 crores is earmarked for the capital cost and recurring cost per annum towards the environmental pollution control measures. Rs. 55 crores and Rs. 11 crores is earmarked towards the capital and recurring cost towards the Enterprise Social Commitment based on Public Hearing issues.

In the proposed cement plant, dry process has been selected to manufacture clinker, which comprises of rotary kiln, pre-heater and pre-calciner. Kilns with 6 stage pre-heater and pre-calciner will be set up. Cement manufacturing principally involves grinding and blending of raw materials in a definite proportion - a material containing calcium oxide (such as limestone, chalk, marl) with a siliceous material (such as clay, shale, sand) along with certain additive or corrective materials (such as laterite, iron ore) and then calcining the mixture at high temperatures in a rotary kiln. The facilities proposed in the said project involve Clinkerization, Cement plant, Captive power plant (35 MW), Workshop, Administrative building, Roads, township, Water reservoir and dispensary.

Limestone (2.4MTPA), laterite/iron ore (0.1MTPA), fly ash (0.6MTPA), gypsum (0.1 MTPA) and coal (0.55 MTPA) are the raw materials that will be used. The limestone will be sourced from JAL's own captive mines at Ramnagar, Barti- fafir, Janardhanpur, Karmau, Raghunathpur etc in Madhya Pradesh. The application for Coal linkage for Cement Plant and Captive Power Plant has been submitted to Ministry of Coal. However, the Project Authorities informed that as an interim arrangement imported coal supply has been tied up for supply of Indonesia Coal for Captive Power Plant. To this effect, the proponent submitted the MoU made between M/s.JAL and M/s Rawnet Commodities Private Limited. As per the MoU submitted to the Ministry, the ash and sulphur content in the coal will be 8-12% and 0.6% respectively. The Gross Calorific Value of the coal would be 5300 kcal/kg. The power requirement is 30 MW which will be met from the captive power plant.

Ambient air quality monitoring has been carried out at 8 locations during October – November 2011 and the data submitted indicated: PM_{10} (11.4-38.3 $\mu\text{g}/\text{m}^3$), $PM_{2.5}$ (5.3-11.5 $\mu\text{g}/\text{m}^3$), SO_2 (7.1-13.5 $\mu\text{g}/\text{m}^3$) and NO_x (7.3-14.3 $\mu\text{g}/\text{m}^3$). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs would be 2.14 $\mu\text{g}/\text{m}^3$, 5.8 $\mu\text{g}/\text{m}^3$ and 2.06 $\mu\text{g}/\text{m}^3$ with respect to PM_{10} , SO_2 and NO_x respectively. The coal mill, cement mill and the packer units will be equipped with bag filter arrangement with 99.9% efficiency. The CPP will be equipped with ESP with emission $<50 \text{ mg}/\text{Nm}^3$. Bag filters will be provided with appropriate suction devices to control the fugitive emissions. Water spraying arrangements will be made, particularly raw material storage area, wagon tippler and truck tippler areas. Good housekeeping practices will be adopted to control the fugitive emissions.

The water requirement for the proposed project is 3000 KLD which will be sourced from the reservoir created within the plant area and ML area for Rain water collection. No ground water will be used. No Process wastewater will be generated. CPP effluent will be treated in ETP. Sanitary effluent will be treated in STP. Treated effluent from CPP is completely recycled and is used in cement plant for cooling and STP treated wastewater will be used for greenbelt development and dust suppression. There will be no discharge of the effluent outside the plant premises.

No hazardous waste will be generated either in the process or pollution control facilities. Dust collected from air pollution control equipment will be 100% recycled in process and there will be no solid wastes in cement plant. The fly ash from the CPP will be utilized for manufacture of PPC. The bottom ash will be utilized in the raw mill. Sludge from the STP will be used as manure. Used lube oil will be disposed off through authorised vendors. Green belt will be developed in an area of 67 acres.

The Committee deliberated on the issues raised during Public Hearing/Public Consultation conducted by Madhya Pradesh Pollution Control Board on 10.5.2013, in presence of Additional District Collector - Satna at Jamuna village, Rampur Baghelan Tehsil Satna Dist. Madhya Pradesh. The issues raised by the public are: providing employment to the locals, providing education, training and health services to the local villages, impact on livestock and crop yield and improvement of socio – economic conditions which were addressed in the final EIA/EMP report.

3. After detailed deliberations, the Committee sought the following additional information for reconsideration:-

- i. Action plan for the transportation of limestone for the proposed cement plant to the plant site by closed conveyor instead of road transportation;
- ii. Values of PM₁₀ and PM_{2.5} needs to be rechecked. PM₁₀ and PM_{2.5} parameters shall be monitored for a one month period and the data shall be submitted;
- iii. Action plan for the crushing of limestone at the mining site instead of plant site in order to reduce the fugitive emissions;
- iv. Traffic assessment study along with the transportation pattern of incoming raw materials and outgoing finished products
- v. Status of environmental clearance for the captive lime stone mines;
- vi. Cumulative environmental impacts of the cement plant, captive power plant & captive limestone mines and;
- vii. A consolidated compliance report on environmental performance of other M/s. JAL units located within the study area of the project site from the Regional Office of MoEF at Bhopal

12.2.3 Proposed 0.72 MTPA Iron Ore/Blue dust Beneficiation Plant and 0.64 MTPA Pelletization Plant at Village Hirdyanagar, Teshil Sihora, District, Jabalpur in Madhya Pradesh **by M/s Archana Hi-tech Automation Systems Pvt. Limited-regarding Environment Clearance.**

The Committee deferred the consideration of the proposal as the final EIA/EMP report submitted by the proponent is found to be incomplete in several technical aspects.

After detailed deliberations, the Committee sought the following documents from the proponent for fresh consideration of the proposal:-

- i. Reasons for change in the EIA consultancy firm from M/s. Creative Enviro Services - Bhopal to M/s. Enviro Techno Consultant – Nagpur;
 - ii. Revised EIA/EMP report with specific compliance to all the points mentioned in the Terms of Reference (ToR) issued by MoEF vide F.No.J-11011/234/2011-IA.II(I) dated 21.7.2011;
 - iii. Revised plant layout plan showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site;
 - iv. Fuel linkage documents and;
 - v. Action plan for solid/hazardous waste generation, storage, utilization and disposal. A note on the treatment, storage and disposal of all type of solid waste should be included. End use of solid waste and its composition should also be covered.
- 12.2.4 Proposed Integrated Steel Plant (3.0 MTPA) along with 900 MW Captive Power Plant at Village Potka, District East Singhbhum in Jharkhand by **M/s Bhushan Power & Steel Limited- regarding - regarding Environment Clearance.**

The Committee noted that the Public Hearing (PH) for the aforesaid project was conducted on 24.9.2012 at Government Girls High School, Potka, East Singhbhum District. As per the proceedings of the said PH annexed to the final EIA/EMP report, *due to chaos created by supporters and opponents of proposed project during PH nothing could be concluded. The queries raised/view expressed could not be answered due to disturbances. The Presiding Officer declared closure of the Public Hearing amid unruly behaviour of a group of people.*

After detailed deliberations, the Committee sought the following documents/information from the proponent for fresh consideration of the proposal:-

- i. Minutes of the EIA presentation, public hearing with soft and hard copy, copy of attendance sheet, question and answer sheet during PH, complaints received PH including a video CD of the PH received from the Jharkhand State Pollution Control Board;
 - ii. Necessary documents indicating acquisition of total land of 2000 acres required for the project;
 - iii. Details of the boundary wall construction undertaken at the project site along with its latest photographs and;
 - iv. A consolidated compliance report on environmental performance of other units owned by the company in the country.
- 12.2.5 Integrated Steel Plant (1.0 MTPA) along with Coal based Power Plant (200 MW) at Village Hjalgarh Mouja, P.S-jamuraia, District Burdwan, in West Bengal by **M/s Rashmi Cement Ltd- regarding Environment Clearance.**

1. The project authorities and their consultant M/s. Envirotech East (P) Limited 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 11th meeting of the Expert Appraisal Committee (Industry -1) held on 24-25th June, 2010 for preparation of EIA/EMP report. The ToR was awarded by MoEF vide F.No. J-11011/112/2010-IA.II(I) dated 14.7.2010 for preparation of EIA/EMP report. The proponent submitted the final EIA/EMP report vide letter no.Nil dated 6.4.2012 for grant of Environmental Clearance after conducting Public Hearing/Public Consultation on 3.8.2011. All the steel plants are listed at S. No. 3(a) in primary metallurgical industry under Category 'A' of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry) of MoEF.

The proposal cited above was originally considered in the 2nd meeting of the Reconstituted Expert Appraisal Committee held during 29-31st October, 2012 wherein the Committee noted that the proposal is incomplete for want of coal linkage, iron ore linkage etc. and deferred the proposal. As the said information was not submitted within the stipulated time frame, Ministry vide letter dated 1.5.2013 delisted the proposal in accordance with the O.M. No.J-11013/5/2009-IA.II(I) dated 30.10.2012 pertaining to delisting of pending projects. Thereafter, M/s. Rashmi Cement Limited vide letter no. Nil dated 14.5.2013 informed that due to the shortfall in the availability of basic raw materials, the proponent has revised the configuration from "Integrated Steel Plant (2.0 MTPA) along with Coal based Power Plant (2 x250 MW)" to Integrated Steel Plant (1.0 MTPA) along with Coal based Power Plant (200 MW). To this effect, the proponent has submitted the revised EIA/EMP report. The said revised proposal was placed before the EAC for consideration.

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

M/s. Rashmi Cement Limited (M/s. RCL) have proposed to set up an Integrated Steel Plant (1.0 MTPA) along with Coal based Power Plant (200 MW) at Village Hijalgarh Mouja, P.S-Jamuraia, District Burdwan, in West Bengal. The land requirement for the proposed project is 515 acres. The longitude and latitude of the project site is 87^o 07' 20" E and 23^o 42' 25" N respectively. Out of the 515 acres of the land, 457 acres land is under the possession of the company and the balance 58 acres land is under advanced stage of negotiation. No Forest land is involved. No Defense Installation, Biosphere Reserve, National Park/Wild Life Sanctuary, Ecologically Sensitive Area is located within 10 km radius of the project site. No court case/litigation is pending against the proposed project. Ajay river and Damodar river are located at a distance of 5.5 km and 13.0 km from the project site. The nearest railway station is Ikrah located at a distance of 2.0 km from the project site. Total cost of the project is Rs. 2336 crores. Rs. 160 crores and Rs. 22.50 crores is earmarked for the capital cost and recurring cost per annum towards the environmental pollution control measures.

The revised project configuration details are as below:-

Units	Configuration	Products
Pallet Plant (along with I/O Beneficiation plant)	Beneficiation Plant (1.5 MTPA) Pellet Plant (1.2 MTPA)	Iron Ore Concentrate & Pellet
DRI Kiln	0.84 MTPA (6x350 TPD + 7x100 TPD)	Sponge Iron
Blast Furnace	0.42 MTPA (2x350 m ³)	Pig Iron / Hot Metal
Coal Washery	--	--
Coke Oven Plant	0.50 MTPA	Metallurgical Coke
Steel Making Facilities	1.05 MTPA (3x40 T EAF + 3x40 T LF)	Liquid Steel

Units	Configuration	Products
Ferro Alloys Plant	0.036 MTPA (SAF 3x9.0 MVA)	Ferro Alloys
Sinter Plant	0.6 MTPA (1x70 m ² + 1x 25 m ² grate area)	Sinter
Lime & Dolomite Plant	300 TPD	Calcined Lime & Dolime
Oxygen Plant	300 TPD	Oxygen, Nitrogen & Argon
H.R. Coil Mill	0.6 MTPA	Seamless Pipe, HR coil, Slabs, Angle, Beams, Wire Rods, Channels, TMT etc
Alloy Steel Plant	0.4 MTPA (Billet & Bloom Caster)	Plates, DI Pipe etc.
Captive Power Plant	200 MW (WHR based 12+18+40 MW & CFBC based 2 x 65 MW)	Power

Iron ore lump (65,100 TPA), iron ore fines (24,66,000 TPA), non-coking coal (11,19,500 TPA), coking coal (6,70,000 TPA), dolomite (1,21,400 TPA), limestone (1,54,500 TPA), Mn-Ore (93,600 TPA), Quartzite (1,80,200 TPA), Bentonite (30,000 TPA) are the raw materials that will be used. The iron ore will be supplied by M/s. Rungta Mines Limited. For the coal supply from South Africa, the Project Authorities submitted the MoU made between M/s.RCL and M/s Saraogi Udyog Pvt. Limited Kolkata. As per the MoU submitted to the Ministry, the ash and GCV content in the coal will be $\leq 8\%$ and 4500-6000 kcal/kg respectively. For the coal supply from Indonesia, the Project Authorities submitted the MoU made between M/s.RCL and M/s Inrhythm Energy Limited, Kolkatta. As per the MoU submitted to the Ministry, the ash and sulphur content in the coal will be 5-6% and $<1\%$ respectively. The Gross Calorific Value of the coal is 5300-5400 kcal/kg. The power requirement will be 215MW which will be met from the Captive Power Plant and Damodar Valley Corporation (DVC) Supply.

Ambient air quality monitoring has been carried out at 8 locations during April – June 2010 and further revalidated during January, 2013. The data submitted indicated: PM₁₀ (46-106 $\mu\text{g}/\text{m}^3$), PM_{2.5} (16-46 $\mu\text{g}/\text{m}^3$), SO₂ (4-13 $\mu\text{g}/\text{m}^3$) and NO_x (12-35 $\mu\text{g}/\text{m}^3$). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs would be 4.42 $\mu\text{g}/\text{m}^3$, 20.11 $\mu\text{g}/\text{m}^3$ and 17.63 $\mu\text{g}/\text{m}^3$ with respect to PM₁₀, SO₂ and NO_x respectively. Adequate air pollution control devices like Electrostatic Precipitators (ESPs), Bag Filters, Scrubbers, Cyclone/ Multicyclone and Stacks of adequate height at relevant points shall be installed to control point source emission. There will be Dust Extraction / Dust Suppression Systems / Foggy Dust Arresters to control fugitive emissions from raw material handling section and various other facilities inside the plant. Waste gases from DRI Plant and Coke Oven Plant (non-recovery type) will be conveyed to the Waste Heat Recovery Boilers (WHRB) for recovery of waste heat for producing steam. The fugitive emissions emanating from tapping point of SMS will be controlled by high efficiency Bag Filters. Fugitive dust emissions from the areas like raw materials stockpile, raw materials unloading and loading points, raw materials spillages from the conveyor system etc. will be arrested by Dry Fogging (DF).

The water requirement for the proposed project is 965 m³/hr (23160 KLD) which will be sourced from river Ajay & Borewells. For the drawl of water from river bed of Ajay, M/s. RCL has submitted the permits obtained for sinking of new well. For the drawl of water from

bore wells, M/s. RCL submitted the permission obtained from M/s. Jamuria Municipality. Effluent generation is about 222 m³/hr. Effluent Treatment facility will be set up for treating the plant wastewater. Treated wastewater will be recycled for various purposes inside the plant, thereby achieving zero effluent discharge. Domestic effluents after treatment in Sewage Treatment Plant will be reused for greenery development purpose.

Tailings from Iron Ore Beneficiation unit will be used for brick making/land filling. The dust collected in the dedusting system from Pellet Plant will be used in the palletizing mix. the dolochar from DRI Plant will be used in the CFBC Boiler for power generation. Blast Furnace Slag will be sold to the Cement Plant. Coke breeze from Coke Oven Plant will be used in the pellet plant. The mill scale and scraps generated from the Rolling Mill will be used as raw materials in SMS. The slag from SMS will be used for Land filling / Road Construction purpose. The slag generated from the process of Ferro Alloys Plant will be used for land filling / Road Construction purpose. Ash pond should be adequately lined as per CPCB guidelines, to prevent leaching of metals and contaminate the sub-soil strata and groundwater.

The Committee deliberated on the issues raised during Public Hearing/Public Consultation conducted by West Bengal Pollution Control Board on 3.8.2011, in presence of Additional District Magistrate - Asansole at Nazrul Satabarshiki Mancha, Jamuria, Jamuria Municipality, Burdwan district, West Bengal. The issues raised by the public are: local employment, pollution due to dust deposition, local infrastructure development etc which were addressed in the final EIA/EMP report.

3. After detailed deliberations, the Committee sought the following additional information for reconsideration:-

- i. Detailed Resettlement and Rehabilitation Plan;
- ii. Land acquisition documents;
- iii. Permission obtained from Central Ground Water Authority for the drawl of ground water;
- iv. Action Plan for Rain Water harvesting;
- v. Transportation pattern of incoming raw materials and outgoing finished products;
- vi. MoU made for the utilization of solid/hazardous generated from the ISP project;
- vii. Time bound action plan for five years towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with budgetary provision shall be submitted;
- viii. Occupational Health and Safety Management Plan along with budgetary provision shall be submitted and
- ix. Action plan for the storage and disposal of SMS slag.

12.2.6 Proposed Ferro Alloys manufacturing Plant for production of 29,000 TPA of Ferro Alloys (Si-Mn, Fe-Mn and Fe-Si) using 2 x 6.0 MVA Submerged Arc Furnaces (SAF) and for production of Ferro alloys 6,000 TPA (Medium Carbon Ferro Alloys Si-Mn 2,400 TPA, Low Carbon Ferro Alloys Si-Mn 2,400 TPA, Ferro Molybdenum 400 TPA and Ferro Titanium 800 TPA) using Thermitic process at Plot No. 41-C, Slipahri Industrial Area, Tehsil Belha, District Bilaspur in

Chhattisgarh by M/s Srijan Alloys and Steel Pvt. Ltd. - regarding Environment Clearance.

1. Terms of Reference (ToRs) to the aforesaid proposal was accorded by Ministry vide F.No. J-11011/338/2011-IA.II(I) dated 17.10.2011. M/s Srijan Alloys and Steel Pvt. Limited submitted the final EIA/EMP report to the Ministry vide letter no. SASPL/EC/2012-1153 dated 27.8.2012. The aforesaid proposal was deferred by the Ministry vide letter No.J-11011/338/2011-IA.II(I) dated 16.1.2013 with a request to re-validate the EIA/EMP report by the QCI/NABET accredited consultant as the consultant (M/s. Ramky Enviro Engineers Limited, Hyderabad) engaged by the proponent was not accredited by the QCI. The proponent vide letter no. Nil dated 26.7.2013 submitted the EIA/EMP report through the QCI/NABET accredited consultant: M/s. Asian Consulting Engineers Private Limited – New Delhi. The said revalidated EIA/EMP report was placed before the EAC for consideration.

The project authorities and their consultant M/s. Asian Consulting Engineers Private Limited – New Delhi 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 28th meeting of the Expert Appraisal Committee (Industry -1) held on 26-27th September, 2011 for preparation of EIA/EMP report. The ToR was awarded by MoEF vide F.No. J-11011/338/2011-IA.II(I) dated 17.10.2011 for preparation of EIA/EMP report. The proponent submitted the final EIA/EMP report vide letter no.Nil dated 26.7.2013 for grant of Environmental Clearance. All the Ferro Alloy Plants are listed at S.No. 3(a) in Primary Metallurgical Industries under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

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

M/s Srijan Alloys and Steel Pvt. Limited have proposed to set up a Ferro Alloys manufacturing Plant for production of 29,000 TPA of Ferro Alloys (Si-Mn, Fe-Mn and Fe-Si) using 2 x 6.0 MVA Submerged Arc Furnaces (SAF) and for production of Ferro alloys 6,000 TPA (Medium Carbon Ferro Alloys Si-Mn 2,400 TPA, Low Carbon Ferro Alloys Si-Mn 2,400 TPA, Ferro Molybdenum 400 TPA and Ferro Titanium 800 TPA) using Thermite process at Plot No. 41-C, Silpahari Industrial Area, Tehsil- Belha, District-Bilaspur, Chhattisgarh. The proposed site is located in Notified Industrial Area. The land requirement is 16,177 m² which has been allotted by the M/s. Chhattisgarh State Industrial Development Corporation Limited (CSIDC) to the proponent vide letter no. CSIDC/Land/2011/243 dated 7.6.2011. The longitude and latitude of the site location is 82^o 11' 26.52"E to 82^o 11' 32.50"E and 22^o 00' 58.61"N to 22^o 01' 03.0"N respectively No Forest land is involved. No R&R issues are involved. No Defense Installation, Biosphere Reserve, National Park/Wild Life Sanctuary, Ecologically Sensitive Area is located within 10 km radius of the project site. No court case/litigation is pending against the proposed project. Total capital cost of the project is Rs. 9.67 Crores. Rs. 1 Crores have been earmarked towards the environmental protection measures.

The details regarding manufacturing capacity and plant facilities details are as below.

S.No.	Details	Facility/Products
1.	Furnace Capacity	<ul style="list-style-type: none"> • 2 x 6 MVA Submerged Arc furnace • Thermite Process

S.No.	Details	Facility/Products
2.	Products	<ul style="list-style-type: none"> • <u>Submerged Arc Furnace – 2 x 6 MVA</u> Ferro Alloys (Si-Mn /Fe-Mn / Fe-Si) : 29,000 TPA • <u>Thermite Process</u> Medium Carbon Ferro alloys (Si-Mn) : 2400 TPA Low Carbon Ferro alloys (Si-Mn) : 2400 TPA Ferro Molybdenum : 400 TPA Ferro Titanium : 800 TPA

The raw materials required are Manganese Ore, Quartz, Fe-Mn slag, Coke breeze, Coal, iron ore, dolomite, Si-Mn, Lime, mill scale etc. The power requirement of 12 MW will be met from the M/s. Chhattisgarh State Electricity Board and DG set of 250 KVA shall be installed for power back up.

Ambient air quality monitoring has been carried out at 10 locations during March – June 2013 and the data submitted indicated: PM₁₀ (51.3-59 µg/m³), PM_{2.5} (21.75-34.05 µg/m³), SO₂ (11.9-14.85 µg/m³) and NO_x (20.7-26.85 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs would be 1.94 µg/m³, 4.532 µg/m³ and 0.204 µg/m³ with respect to PM₁₀, SO₂ and NO_x respectively. Fumes Extraction System with Cyclone & Bag Filter will be provided. Stack of adequate height will be provided for wider dispersion of air emissions. Dust generated from transfer points will be suppressed by water sprinkling system. Green belt (34 % of the total plant area) will be developed in an area of 1.36 acres all around the plant.

The total water requirement shall be 30 KLD which will be supplied by the CSIDC. The waste water generated from the plant would be 7 KLD which will be treated in the ETP proposed within the plant area. Treated wastewater will be used for dust suppression, gardening, etc. No effluent will be discharged outside the plant premises.

The slag generated from the Submerged Arc Furnace and Thermite Process would be 38400 TPA and 850 TPA respectively. Silicon Manganese Slag and Thermite Slag will be used for construction of boundary wall and tiles manufacturing. Waste fines including those arising at the dust extraction system will be used in the Brick Plant/ Cement manufacturing industries. Used oil will be collected in a shock proof, puncture proof, tear and wear proof as well as air tight barrels and it will be disposed off through Government authorized used/spent oil recyclers.

Public hearing / consultation for project cited above was exempted by the EAC as per stage Section 7 (i), III Stage (3), Para (i)(b) of EIA Notification 2006 due to project being located in notified industrial area.

3. After detailed deliberations, the Committee found the EIA/EMP report adequate and suggested to stipulate following specific conditions along with other environmental conditions while considering for accord of environmental clearance:

- i. No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.

- ii. Continuous monitoring facilities for the process stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/Nm³.
- iii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- iv. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
- v. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB.
- vi. The total water requirement shall not exceed 30 m³/day. The water will be supplied by the M/s. Chhattisgarh State Industrial Development Corporation Limited. 'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the premises.
- vii. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.
- viii. Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of Silico Manganese (Si-Mn). The Si-Mn slag and Fe-Si slag shall be used in the preparation of building materials.
- ix. No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.
- x. An action plan for control of Cr and As in air and water should be prepared and submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xi. As proposed, green belt should be developed in at least 34 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
- xii. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.
- xiii. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xiv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe

drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

Terms of Reference

12.2.7 Proposed 0.8 MTPA Iron Ore Pellet Plant and 1.0 MTPA Iron Ore Beneficiation plant at Village Kamalpur, P.O. Sini, P.S. Saraikela, Dist. Saraikela-Kharswan, Jharkhand **by M/s Srijan Steel and Power Industries (P) Limited - regarding TORs.**

The project authorities 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 integrated project activity is covered under Category (A) and listed at S.N.3(a) of the Schedule of the EIA notification 2006 and have to be appraised at the Central level.

M/s Srijan Steel and Power Industries Private Limited have proposed to set up 0.8 MTPA Iron Ore Pellet Plant and 1.0 MTPA Iron Ore Beneficiation plant at Village Kamalpur, P.O. Sini, P.S. Saraikela, Dist. Saraikela-Kharswan, Jharkhand. The land requirement for the proposed project is 16.3 acres. The latitude and longitude of the project site is 22° 46' 25.82" N and 85° 57' 13.34" E respectively. No Forest land is involved. No National Park, Wildlife Sanctuary is exists within 10 km radius of the project site. Sanjay river and Kharkai river is located at a distance of 1.75 kms and 8 kms respectively from the project site. Sini railway station is located at a distance of 1km from the project site. No court cases/litigation is pending against the project. Project cost is Rs. 256.04 Crores.

The raw materials required are iron ore fines (1040000 TPA), Non coking coal (6400 TPA), coke (14400 TPA), limestone (12000 TPA) and bentonite (8000TPA). The power requirement is 7.5 MVA and will be met from Kharsawan grid of JSEB. The water requirement is 48.6 m³/hr which will be met from Sanjay river.

Adequate control measures like installation of Dry Fog Dust Suppression System, Dust Extraction System, Bag Filters, ESP and stacks of adequate height at relevant points will be installed. There will be no discharge of Industrial Effluent (zero discharge plant). The domestic wastewater will be treated in Septic tank – Soak pit system. Tailings from Beneficiation unit will be disposed off in a designated location within the project premises. Dust as collected in the de dusting system from Pellet Plant will be used in the palletizing mix.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project
2. Photographs of the proposed plant area.
3. Copies of iron ore/coal linkage documents
4. A line diagram/flow sheet for the process and EMP
5. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP.
6. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
7. Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-

- 6 pan sharpened etc. for the 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
8. Break up of small, medium and large farmers from whom the land is being acquired. If small farmers are involved, a detailed R&R plan.
 9. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use / land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc. in 10 km of the project site.
 10. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
 11. Coordinates of the plant site as well as ash pond with topo sheet co-ordinates should also be included.
 12. Details and classification of total land (identified and acquired) should be included.
 13. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
 14. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
 15. Permission and approval for the use of forest land and recommendations of the State Forest Department regarding impact of proposed expansion on the surrounding reserve forests, if applicable, should be included.
 16. A list of industries containing name and type in 10 km radius shall be incorporated.
 17. Residential colony should be located in upwind direction.
 18. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
 19. Studies for tailings, slurry, sludge material and solid waste generated should also be included, if the raw materials used has trace elements and a management plan.
 20. Manufacturing process details for all the process units should be included.
 21. Possibility of installation of WHRB will be explored and details included
 22. Mass balance for the raw material and products should be included.
 23. Energy balance data for all the components should be incorporated.
 24. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
 25. Sources of secondary emissions, its control and monitoring as per the CPCB guidelines should be included. A full chapter on fugitive emissions and control technologies should be provided.
 26. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
 27. Vehicular pollution control and its management plan should be submitted.
 28. A write up on use of high calorific hazardous wastes from all the sources in kiln and commitment regarding use of hazardous waste should be included.
 29. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
 30. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
 31. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.

32. Air quality modeling for all the plants proposed for specific pollutants needs to be done. APCS for the control of emissions within 50 mg/Nm³ should be included.
33. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.
34. Ambient air quality modeling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
 - i. Emissions (g/second) with and without the air pollution control measures
 - ii. Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height using SODAR on hourly basis
 - iii. Model input options for terrain, plume rise, deposition etc.
 - iv. Print-out of model input and output on hourly and daily average basis
 - v. A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
 - vi. Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
 - vii. Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
 - viii. No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
 - ix. Graphs of monthly average daily concentration with down-wind distance
 - x. Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
 - xi. Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
35. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
36. One season data for gaseous emissions other than monsoon season is necessary.
37. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
38. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used along with a Piper and Piper Duro-V diagram. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
39. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
40. Ground water modelling showing the pathways of the pollutants should be included
41. Column leachate study for all types of stockpiles or waste disposal sites, at 20 °C-50 °C should be conducted and included.
42. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.

43. Permission for the drawl of water from the concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
44. A note on the impact of drawl of water on the nearby River during lean season.
45. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
46. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
47. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
48. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
49. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
50. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, and lakes), sub-surface and ground water with a monitoring and management plans.
51. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
52. Action plan for solid/hazardous waste generation, storage, utilization and disposal. A note on the treatment, storage and disposal of all type of solid waste should be included. End use of solid waste and its composition should be covered.
53. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
54. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
55. Action plan for the green belt development plan in 33 % area should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
56. Disaster Management Plan including risk assessment & damage control needs to be addressed and included.
57. Details regarding expected Occupational & Safety Hazards. Protective measures for Occupational Safety & Health hazards so that such exposure can be kept within permissible exposure level so as to protect health of workers. Health of the workers with special reference to Occupational Health. Plan of exposure specific health status evaluation of workers; pre placement and periodical health status of workers; plan of evaluation of health of workers by pre designed format, chest x ray, Audiometry, Spirometry Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations and plan of monthly and yearly report of the health status of workers with special reference to Occupational Health and Safety.
58. 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 should be detailed in the EIA report.
59. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and incorporated.
 60. A note on identification and implementation of Carbon Credit project should be included.
 61. Total capital cost and recurring cost/annum for environmental pollution control measures.
 62. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
 63. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

The following general points should be noted:

- i) All documents should be properly indexed, page numbered.
- ii) Period/date of data collection should be clearly indicated.
- iii) Authenticated English translation of all material in Regional languages should be provided.
- iv) The letter/application for environmental clearance should quote the MOEF file No. and also attach a copy of the letter.
- v) The copy of the letter received from the Ministry should 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 should also be followed.
- viii) The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc.

It was decided that 'TORs' prescribed by the Reconstituted Expert Appraisal Committee (Industry) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the Jharkhand State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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

12.2.8 Proposed Ferro Alloys Plant (2x8.25 MVA) at Mouza: Bhutberia, P.O. Mihijam, District: Jamtara, Jharkhand by **M/s Anjaney Ferro Alloys Limited - regarding TORs.**

The Committee deferred the consideration of the proposal as the proponent has already established and operating 2x8.25 MVA Ferro Alloy Plant without obtaining prior environmental clearance from the Ministry. All the Ferro Alloy Plants are listed at S.No. 3(a) in Primary Metallurgical Industries under category 'A' of the Schedule of EIA Notification, 2006 and requires Environment Clearance from MoEF.

As the aforesaid proposal involves violation, the Committee recommended that the MoEF shall deal with the violation matter in accordance with its Office Memorandum No. J-11013/41/2006-IA.II(I) dated 12.12.12 and 27.6.2013.

12.2.9 Proposed "Expansion of existing plant from 29,700 TPA to 2,10,000 TPA of MS/LAS Billet, TMT Bars/Coils Structural by addition of 2 no's of Induction Furnace of 20 Ton capacity each, 1 Ladle furnace of 30 Ton capacity & Rolling Mill of capacity 25 TPH" at E-129 to E-132, notified RIICO Growth Centre, Tehsil & District- Dholpur, Rajasthan **by Mammon Concast Pvt. Limited - regarding TORs.**

The project authorities along with their consultant M/s. Grass Root Research & Creation India Private Limited gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Terms of Reference for preparation of EIA/EMP report. The proposed project is listed at S.No. 3(a) under Category 'A' of the Schedule of EIA notification 2006 and appraised by the Expert Appraisal Committee (Industry) of MoEF.

M/s. Mammon Concast Limited have proposed expand the existing plant from 29,700 TPA to 2,10,000 TPA of MS/LAS Billet, TMT Bars/Coils Structural by addition of 2 no's of Induction Furnace of 20 Ton capacity each, 1 Ladle furnace of 30 Ton capacity & Rolling Mill of capacity 25 TPH" at E-129 to E-132, notified RIICO Growth Centre, Tehsil & District-Dholpur, Rajasthan. M/s. Mammon Concast Pvt Ltd. has received Consent to Establish from Rajasthan State Pollution Control Board vide file no. F(CPM)/Dholpur(Dholpur)/1(1)/2010-2011/7666-7668, Order no. 2010-2011/CPM/577 dated 03/03/2011 and Consent to Operate file no. F(CPM)/Dholpur(Dholpur)/1(1)/2010-2011/500-502, Order no. 2012-2013/CPM/1300 dated 04/05/2012 for installation M. S. Billets Plant of capacity 29,700 TPA by 1x15 T Induction Furnace with 2 strand of Continuous Casting Machine. The total land requirement after the proposed would be 37600 m² (Existing: 27200 m² and Additional area: 10400 m²). The latitude and longitude of the project site is 26° 43' 38.07" N to 26° 43' 46.06" N and 77° 52' 52.06" E 77° 53' 56.06" E respectively. No Forest land is involved. No national park/wild life sanctuary/ecologically sensitive area located within 10 km radius of the project site. Firojpora village is located at a distance of 300m from the project site. The Protected Forests exists in the study area are – Laungpur PF (4.63 km, S), Bhurakhera PF (5.23 km SSE) and Kila PF (7.50 km). Chambal River and Parbati River is located at a distance of 7.23 km SSE and 7.50 km NW from the project site. The cost of the project is Rs. 55 Crores. No court cases/litigation is pending against the project.

The status of existing and proposed expansion units are as given below:-

Existing units:-

S.No	Plant details	Capacity (TPA)
1.	M.S. Billets Plant	29,700 TPA
S.No	Facility	Capacity (TPA)
1.	1 no. of Induction Furnace	15 Ton
2.	Continuous Casting Machine	2 Strand

Proposed units:-

S.No	Facility	Capacity
1.	2 no. of Induction Furnace	20 Ton

2.	1 no. of Ladle Refining Furnace	30 Ton
3.	Continuous Casting Machine	1 more strand
4.	Rolling Mill	25 TPH

Public hearing / consultation is exempted by the EAC as per stage Section 7 (i), III Stage (3), Para (i)(b) of EIA Notification 2006 due to project being located in notified RIICO Growth Centre.

Steel scrap, pig iron, sponge iron, Si-Mn, Fe-Si, burnt lime, dolomite, lime stone etc are the raw materials that will be used. The water requirement after the proposed expansion is 190 KLD (Existing: 25 KLD; Additional: 165 KLD) which will be met from ground water and RIICO water supply. The power requirement is 36500 KVA which will be met from Jaipur Vidyut Vitran Nigam Limited.

Adequate stack height will be provided to ensure wider dispersion of emissions. Water sprinkling system will be installed at various location to control fugitive emissions. The material handling system i.e. Belt Conveyors, Transfer points, Feeders, Hoppers, Junction points will be equipped with Bag Filters & Cyclones for de-dusting. All conveyors will be covered and will have water fogging system for dust suppression. In order to conserve water and minimize the makeup water requirement, it is proposed to adopt re-circulating systems for equipment cooling. IF and LRF slag, Refractory bricks and mill scale are the solid wastes generated from the proposed project.

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

1. Executive summary of the project
2. Photographs of the existing and proposed plant area.
3. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB.
4. A certified copy of the report of the status of compliance of the conditions stipulated in the environmental clearance and Consent to Operate for the ongoing / existing operation of the project by the Regional Office of the Ministry of Environment and Forests and SPCB.
5. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
6. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, compliance to the notice(s)
7. A line diagram/flow sheet for the process and EMP
8. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP.
9. A copy of Gazette Notification issued by the State Government indicating location of the project in notified industrial area should be included necessarily.
10. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
11. Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
12. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use / land cover,

- reserved forests, wildlife sanctuaries, national parks, tiger reserve etc. in 10 km of the project site.
13. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
 14. Coordinates of the plant site with topo sheet co-ordinates should also be included.
 15. Details and classification of total land (identified and acquired) should be included.
 16. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
 17. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
 18. Permission and approval for the use of forest land and recommendations of the State Forest Department regarding impact of proposed expansion on the surrounding reserve forests, if applicable, should be included.
 19. A list of industries containing name and type in 10 km radius shall be incorporated.
 20. Residential colony should be located in upwind direction.
 21. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
 22. Studies for slurry, sludge material and solid waste generated should also be included, if the raw materials used has trace elements and a management plan.
 23. Manufacturing process details for all the process units should be included.
 24. Possibility of installation of WHRB will be explored and details included
 25. Mass balance for the raw material and products should be included.
 26. Energy balance data for all the components should be incorporated.
 27. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
 28. Sources of secondary emissions, its control and monitoring as per the CPCB guidelines should be included. A full chapter on fugitive emissions and control technologies should be provided.
 29. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
 30. Vehicular pollution control and its management plan should be submitted.
 31. A write up on use of high calorific hazardous wastes from all the sources in kiln and commitment regarding use of hazardous waste should be included.
 32. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
 33. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
 34. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
 35. Air quality modeling for all the plants for specific pollutants needs to be done. APCS for the control of emissions within 50 mg/Nm³ should be included.
 36. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.
 37. Ambient air quality monitoring along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :

- i. Emissions (g/second) with and without the air pollution control measures
 - ii. Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height using SODAR on hourly basis
 - iii. Model input options for terrain, plume rise, deposition etc.
 - iv. Print-out of model input and output on hourly and daily average basis
 - v. A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
 - vi. Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
 - vii. Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
 - viii. No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
 - ix. Graphs of monthly average daily concentration with down-wind distance
 - x. Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
 - xi. Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
38. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
 39. One season data for gaseous emissions other than monsoon season is necessary.
 40. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
 41. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used along with a Piper and Piper Duro-V diagram. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
 42. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 43. Ground water modelling showing the pathways of the pollutants should be included
 44. Column leachate study for all types of stockpiles or waste disposal sites, at 20 °C-50 °C should be conducted and included.
 45. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
 46. Permission for the drawl of water from the concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
 47. A note on the impact of drawl of water on the nearby River during lean season.
 48. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.

49. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
50. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
51. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
52. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
53. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, lakes), sub-surface and ground water with a monitoring and management plans.
54. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
55. Action plan for solid/hazardous waste generation, storage, utilization and disposal. A note on the treatment, storage and disposal of all type of solid waste should be included. End use of solid waste etc. and its composition should be covered.
56. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
57. Action plan for the green belt development plan in 33 % area should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
58. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
59. Disaster Management Plan including risk assessment & damage control needs to be addressed and included.
60. Occupational health:
 - a. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
 - b. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of abovementioned parameters as per age, sex, duration of exposure and department wise.
 - c. Annual report of health status of workers with special reference to Occupational Health and Safety.
 - d. Action plan for the implementation of OHS standards as per OSHAS/USEPA.
 - e. Plan and fund allocation to ensure the occupational health & safety of all contract and sub-contract workers.
61. 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 should be detailed in the EIA report.
62. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on local needs and item-wise details along with time bound action plan should be prepared and incorporated.
63. Total capital cost and recurring cost/annum for environmental pollution control measures.
64. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.
- iii. Authenticated English translation of all material in Regional languages should be provided.
- iv. The letter/application for environmental clearance should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should 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 should also be followed.
- viii. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation should be provided. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance. Public hearing is not required as the unit is located in the notified RIICO Growth Centre.

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

12.2.10 Proposed 4 MTPA Iron Ore Pellet Plant at village - Jalpaposi, Tehsil - Jumpura, District - Keonjhar, Odisha by **M/s. Bhushan Steel Limited -regarding TORs.**

The project authorities 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 covered under Category (A) and listed at S.N.3(a) in Primary Metallurgical Industries of the Schedule of EIA Notification 2006 and have to be appraised at the Central level.

M/s. Bhushan Steel Limited have proposed to set up a Iron-ore Pelletization Plant of 4.0 MTPA capacity at village - Jalpaposi, Tehsil - Jumpura, District - Keonjhar, Odisha. The land requirement for the proposed project is 97 acres. The latitude and longitude of the project site is 21° 51' 20.73" N and 85° 26'33.81" E respectively. Land acquisition through IDCO ,Govt. of Odisha is under process. No Forest land is involved. No National Park, Wildlife Sanctuary is exists within 10 km radius of the project site. No court cases/litigation is pending against the project. Baitarani river is located at a distance of 0.6 km from the project site. Nayagarh railway station is located at a distance of 1.76 km from the project site. Project cost is Rs. 1001 Crores. Rs. 63.50 crores and Rs.9.51 crores per annum is earmarked towards the capital cost and recurring cost towards the environmental protection measures. Rs. 51 crores is earmarked towards the Enterprise Social Commitment based on Public Hearing issues.

The raw materials required are iron ore fines (4 MTPA), lime stone (0.28 MTPA), coke breeze (0.07 MTPA), bentonite (0.03 MTPA) and heavy furnace oil (82000 TPA). The power requirement is 45 MW, will be sourced from nearby substation at Brahmanidihi, Nayagarh The water requirement is 75 m³/hr which will be met from water recovered and used from slurry filtration at pellet plant, Jalpaposi. No direct fresh water is required.

The pellet plant will be equipped with ESP and bag filter. Stack of adequate height will be provided. ESP and bag filter dust will be recycled in the process. There will ne no wastewater generation as there will be complete recirculation. Sludge from raw water treatment plant will be used as manure in plantation. Used oil will be sold to registered recyclers.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project
2. Photographs of the proposed plant area.
3. Copies of iron ore/coal linkage documents
4. A line diagram/flow sheet for the process and EMP
5. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP.
6. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
7. Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
8. Break up of small, medium and large farmers from whom the land is being acquired. If small farmers are involved, a detailed R&R plan.
9. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use / land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc. in 10 km of the project site.
10. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.

11. Coordinates of the plant site with topo sheet co-ordinates should also be included.
12. Details and classification of total land (identified and acquired) should be included.
13. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
14. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
15. Permission and approval for the use of forest land and recommendations of the State Forest Department regarding impact of proposed expansion on the surrounding reserve forests, if applicable, should be included.
16. A list of industries containing name and type in 10 km radius shall be incorporated.
17. Residential colony should be located in upwind direction.
18. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
19. Studies for slurry, sludge material and solid waste generated should also be included, if the raw materials used has trace elements and a management plan.
20. Manufacturing process details for all the process units should be included.
21. Possibility of installation of WHRB will be explored and details included
22. Mass balance for the raw material and products should be included.
23. Energy balance data for all the components should be incorporated.
24. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
25. Sources of secondary emissions, its control and monitoring as per the CPCB guidelines should be included. A full chapter on fugitive emissions and control technologies should be provided.
26. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
27. Vehicular pollution control and its management plan should be submitted.
28. A write up on use of high calorific hazardous wastes from all the sources in kiln and commitment regarding use of hazardous waste should be included.
29. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
30. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
31. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
32. Air quality modeling for all the plants proposed for specific pollutants needs to be done. APCS for the control of emissions within 50 mg/Nm³ should be included.
33. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.
34. Ambient air quality modeling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
 - i. Emissions (g/second) with and without the air pollution control measures
 - ii. Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height using SODAR on hourly basis
 - iii. Model input options for terrain, plume rise, deposition etc.
 - iv. Print-out of model input and output on hourly and daily average basis

- v. A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
 - vi. Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
 - vii. Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
 - viii. No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
 - ix. Graphs of monthly average daily concentration with down-wind distance
 - x. Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
 - xi. Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
35. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
 36. One season data for gaseous emissions other than monsoon season is necessary.
 37. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
 38. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used along with a Piper and Piper Duro-V diagram. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included.
 39. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 40. Ground water modelling showing the pathways of the pollutants should be included
 41. Column leachate study for all types of stockpiles or waste disposal sites, at 20 °C-50 °C should be conducted and included.
 42. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
 43. Permission for the drawl of water from the concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
 44. A note on the impact of drawl of water on the nearby River during lean season.
 45. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
 46. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
 47. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
 48. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.

49. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
50. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, and lakes), sub-surface and ground water with a monitoring and management plans.
51. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
52. Action plan for solid/hazardous waste generation, storage, utilization and disposal. A note on the treatment, storage and disposal of all type of solid waste should be included. End use of solid waste and its composition should be covered.
53. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
54. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
55. Action plan for the green belt development plan in 33 % area should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
56. Disaster Management Plan including risk assessment & damage control needs to be addressed and included.
57. Details regarding expected Occupational & Safety Hazards. Protective measures for Occupational Safety & Health hazards so that such exposure can be kept within permissible exposure level so as to protect health of workers. Health of the workers with special reference to Occupational Health. Plan of exposure specific health status evaluation of workers; pre placement and periodical health status of workers; plan of evaluation of health of workers by pre designed format, chest x ray, Audiometry, Spirometry Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations and plan of monthly and yearly report of the health status of workers with special reference to Occupational Health and Safety.
58. 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 should be detailed in the EIA report.
59. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and incorporated.
60. A note on identification and implementation of Carbon Credit project should be included.
61. Total capital cost and recurring cost/annum for environmental pollution control measures.

62. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
63. Any litigation pending against the project and / or any direction / order passed by any Court of Law against the project, if so, details thereof.

The following general points should be noted:

- i) All documents should be properly indexed, page numbered.
- ii) Period/date of data collection should be clearly indicated.
- iii) Authenticated English translation of all material in Regional languages should be provided.
- iv) The letter/application for environmental clearance should quote the MOEF file No. and also attach a copy of the letter.
- v) The copy of the letter received from the Ministry should 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 should also be followed.
- viii) The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc.

It was decided that 'TORs' prescribed by the Reconstituted Expert Appraisal Committee (Industry) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the Odisha Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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

12.2.11 Proposed manufacturing of sponge iron 300 TPD (96000 TPA) Billets 140 TPD (44800 TPA) rolled products 132 TPD (42240 TPA) with Captive Power Plant 12 MW at Marhand, Katkamsandi, Dist- Hazaribagh, Jharkhand **by M/s Narsimha Iron & Steel Pvt. Ltd.- regarding TORs.**

Terms of Reference (ToRs) for the aforesaid proposal was accorded by MoEF vide F.No.J-11011/26/2010-IA. II (I) dated 12.6.2010. Additionally, the project authorities informed that Public Hearing for the said proposal was held on 14.6.2011. The proponent vide letter no. NISPL/03/12-13 dated 7.1.2013 requested MoEF for extension of validity of ToR for additional two years. The proponent along with their EIA consultant – M/s. J.M. EnviroNet Private Limited - Gurgaon made a presentation before the Committee.

The reasons submitted by the proponent for validity extension of ToR are as below: -

- Former environmental consultant, M/s. Eco Care Environmental Laboratory (ECEL) Kumarpur, West Bengal had lost its accreditation from NABET, QCI.

- Company could not submit the final EIA/EMP Report in MoEF, New Delhi within the validity period of ToR letter

The Committee noted that as per the Ministry's O.M. No. J-11011/41/2006-IA.II(I) dated 22.3.2010, the maximum validity of the aforesaid ToR was expired on 11.6.2013. As the maximum validity of the ToR has already expired, the Committee recommended that validity of the ToR cannot be further extended and asked the proponent to submit the form I application and pre-feasibility project report for consideration of fresh ToR in accordance with the procedure stipulated in the EIA, Notification 2006.

Further, the EAC informed the proponent that the configuration of sponge iron (3x100 TPD) are not permitted due to environmental concerns. The Committee asked the proponent to review the DRI plant configuration to 1x350 TPD [or] 2x200 TPD instead of 3x100 TPD.

12.2.12 2x100 TPD Sponge Iron Plant (Expansion Project) at Village Gourandi, District Bankura, West Bengal by **M/s Concast Bengal Industries Ltd. regarding ToRs.**

The aforesaid proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 7th meeting held during 4-5th April, 2013 wherein the Committee deferred the consideration of the proposal and asked the proponent to review the DRI plant configuration to 1x350 TPD (or) 1x200 TPD instead of 2x100 TPD.

In this regard, the proponent vide letter No.CBIL/MEF/APP/13-14/01 dated 8.4.2013 requested the Ministry to consider the proposal for grant of ToR for 2x100 TPD kiln. Thereafter a representation was received from Convener – M/s. West Iron and Steel Manufacturers Association vide letter dated 14.8.2013 requesting to allow 100 TPD DRI kiln in West Bengal. It was also requested to consider the proposal of M/s Concast Bengal Industries Limited for grant of ToR for setting up of 2x100 TPD DRI kiln. The said request of the proponent and representation of M/s. West Iron and Steel Manufacturers Association was placed before the EAC.

Member Secretary – Industry Sector apprised the EAC that the Ministry has requested the Central Pollution Control Board for their comments/views on the proposals involving setting up of 100TPD DRI units and the same is awaited. In view of this, the Committee deferred consideration of the proposal.

12.3.0 **Reconsideration**

12.3.1 Expansion of White Cement Production Capacity from 0.56 Million TPA to 1.4 Million TPA and Captive Power Plant capacity from 7.5 MW to 33.5 MW at Rajashree Nagar, Village: Khariakhangar, Tehsil: Bhopalgarh, District: Jodhpur, Rajasthan By **M/s Ultra Tech Cement Limited (Unit: Birla White) - regarding reconsideration for grant of Environment Clearance.**

The aforesaid proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 8th meeting held during 16-17th May, 2013 for grant of Environmental Clearance. After detailed deliberations, the Committee sought following addition information from the proponent for reconsideration:

- AAQ modeling for the proposed cement plant and the captive power plant for SO₂, and NO_x parameter along with its Isopleth
- Permission obtained from Govt. of Rajasthan for Surface water withdrawal
- Land acquisition documents

- iv. Resettlement & Rehabilitation Plan
- v. Nickel (Ni) and Vanadium (Va) parameter in the ambient air shall be monitored for a one month period and the data shall be submitted
- vi. Transplantation scheme of natural species of the project proposed site shall be submitted.
- vii. Inventory of existing species of the project area to be submitted with the help of specialized institution.
- viii. Time bound action plan for five years towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with budgetary provision shall be submitted.
- ix. Rain water harvesting plan
- x. MoU for hazardous waste utilization in kiln
- xi. Actual data from the continuous online monitoring system for the existing unit
- xii. Time bound action plan to reduce the drawl of surface and ground water
- xiii. Distance of captive mine from the cement plant
- xiv. Status of environmental clearance for the lime stone mine including its expansion
- xv. Cumulative environmental impacts of the cement plant, captive power plant and captive mine

The proponent vide letter No. UTCL/BW/ENV/13/73899 dated 4.7.2013 submitted the aforesaid additional information to the Ministry. The proponent along with their EIA consultant – M/s. J.M. EnviroNet Private Limited - Gurgaon made a presentation before the Committee.

The Committee noted that AAQ modeling study for point source emissions indicates that the maximum incremental GLCs would be $8.03 \mu\text{g}/\text{m}^3$ and $7.75 \mu\text{g}/\text{m}^3$ with respect to SO_2 and NO_x respectively. M/s. Ultra Tech Cement Limited (Unit: Birla White) submitted a letter dated 18.4.2013 from Chief Engineer (Sp. Projects), Jaipur sent to Chief Engineer (Projects), Jodhpur for further procedure to be carried out for supply of $1600 \text{ m}^3/\text{day}$ of water for the proposed project. The total area of the existing plant is 204 acres and an additional area of 80 acres is required for the proposed expansion. Out of the 80 acres land, the proponent has already acquired 67.68 acre land and simultaneously converted to industrial use. An amount of Rs. 929.84 lakhs is earmarked towards the resettlement budget. Rs. 53.07 crores is earmarked towards the Enterprise Social Commitment based on Public Hearing issues. Nickel and Vanadium in the ambient air are reported as $1.1\text{-}7.8 \text{ ng}/\text{m}^3$ and $<1 - 5.1 \text{ ng}/\text{m}^3$ respectively. Action plan to reduce the drawl of surface & ground water has been submitted. Used oil is the only hazardous waste being generated at plant site and it will be sold to RPCB/CPCB authorized recyclers. M/s. UltraTech Cement Ltd. (Unit: Birla white) has a captive limestone mine at Village Basni, Tehsil Merta City, District Nagaur, Rajasthan which is located at a distance of approximately 12 km from the plant site. Environmental Clearance for Rajashree Limestone Mine (No. 2) (ML Area 400.70 ha) for 0.45 MTPA has been obtained from MoEF, New Delhi vide F. No. J-11015/15/2005-IA.II(M) dated 17.11.2005.

After detailed deliberations, the Committee found the additional information submitted by the proponent is satisfactory and suggested to stipulate following specific conditions along with other environmental conditions while considering for accord of environmental clearance.

- i. Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled within $50 \text{ mg}/\text{Nm}^3$ by installing adequate air pollution control system. Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO_x burners should be provided to control NO_x emissions. Regular calibration of the instruments must be ensured.
- ii. Possibilities shall be explored for the proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be

prepared and submitted to the Ministry and its Regional Office at Lucknow within 3 months from the date of issue of the letter.

- iii. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- iv. Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard should be followed.
- v. Arsenic and Mercury shall be monitored in emissions, ambient air and water.
- vi. The coal yard shall be lined and covered.
- vii. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash should be transported in the closed containers only and shall not be overloaded. The company shall have separate truck parking area. Vehicular emissions should be regularly monitored.
- viii. Total fresh water requirement after the proposed expansion of the cement and captive power plant shall not exceed 2650 m³/day which will be sourced from the Ground Water & Surface Water. A five year water management plan should be made so as to achieve reduction in ground water withdrawal.
- ix. Efforts shall be made to further reduce water consumption by using air cooled condensers. All the treated wastewater shall be recycled and reused in the process and/or for dust suppression and green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge should be adopted.
- x. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- xi. Regular monitoring of influent and effluent surface, sub-surface and ground water should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Lucknow, SPCB and CPCB.
- xii. All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices should be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers / reprocessors only.
- xiii. All the fly ash shall be utilized as per Fly ash Notification, 1999 subsequently amended in 2003 and 2008. Efforts should be made to use fly ash maximum in making Pozzolona Portland Cement (PPC).
- xiv. A detailed study on chemical composition of coal used particularly heavy metal and radio activity contents shall be carried out through a reputed institute and report shall be submitted to Regional Office of the Ministry at Lucknow. Only after ascertaining its radioactive level shall fly ash be supplied for utilization in cement manufacturing.

- xv. Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.
- xvi. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision should be made accordingly.
- xvii. As proposed, green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.
- xviii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.
- xix. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 15.2.2013 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Lucknow.
- xx. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Lucknow. Implementation of such program shall be ensured accordingly in a time bound manner.
- xxi. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Lucknow, SPCB and CPCB within 3 months of issue of environment clearance letter.
- xxii. To educate the workers, all the work places where dust may cause a hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.
- xxiii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

12.3.2 Proposed Integrated Steel Plant (Beneficiation Plant- 1.40 MTPA, Pellet Plant- 1.2 MTPA, DRI Kilns- 4x350 TPD= 4,35,000 TPA, Tunnel Furnaces SMS - 8 x100 TPD=2,64,000 TPA, Ladle Furnace-1x30 TPD=4,35,000 TPA, 1no. CCM Machine for manufacturing of 4,22,400 TPA Billets, 2 no. (25T each)of Rolling Mill- 2,90,000 TPA) along with 70 MW captive power plant at Village Parakheda, Tehsil Sihora, District Jabalpur in Madhya Pradesh by **M/s Pacific Iron Manufacturing Limited - regarding reconsideration for grant of Environment Clearance Environment Clearance.**

The aforesaid proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 9th meeting held during 10-11th June, 2013 for grant of Environmental Clearance. After detailed deliberations, the Committee sought following additional information from the proponent for reconsideration:

- i. Map showing the location and distance of captive iron ore mine from the proposed project site
- ii. Status of environmental clearance for the captive iron ore mine
- iii. Land acquisition documents
- iv. Resettlement and Rehabilitation(R&R) action plan

- v. Details of the tribal land acquisition and the permission from the Competent Authority for the acquisition of the tribal land
- vi. Permission from Central Ground Water Authority (CGWA) for the water drawl of 557 m³/hr from bore wells
- vii. English translation of the Public Hearing proceedings and the point wise reply to the issues raised during Public Hearing in tabular form and Enterprise Social Commitment Plan based on Public Hearing.
- viii. MoUs for the utilization of tailings, slag and ash generated from the CFBC boiler
- ix. Revised plant lay out by reducing waste dump area and showing 33% of the green belt area
- x. Details regarding facilities earmarked for temporary storage
- xi. Energy balance for all the components of the steel plant
- xii. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden, Government of Odisha for conservation of Schedule I fauna if any, exists in the study area
- xiii. Transportation modeling studies indicating impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
- xiv. Details of cost earmarked towards the Environmental Management Plan measures
- xv. Occupational health and safety management plan along with cost earmarked for the implementation of the same.

The proponent vide letter No. Nil dated 12.8.2013 submitted the aforesaid additional information to the Ministry. The proponent along with their EIA consultant – M/s. Envirotech East (P) Limited - Kolkata made a presentation before the Committee.

M/s Pacific Iron Manufacturing Limited informed the Committee that they have dropped the Tunnel Kiln (8x100 TPD) in the proposed project configuration. Due to this, the revised water requirement and revised project cost would be 387 m³/hr (previously 557 m³/hr) and Rs. 1524 crores (previously Rs.1874 crores) respectively.

The Committee noted that the distance of the iron ore mine from the project site is 3.5 km. The Environmental Clearance for the Captive Iron Ore Mine was granted by State Environment Impact Assessment Authority (SEIAA), Madhya Pradesh vide letter No. 1676/SEIAA/12 dated 10.12.2012. The Project Authorities informed that total 125 acres (private land: 67 acres and Govt. land: 58 acres) has been acquired. Out of 125 acres land, around 38.9 acres of land belonging to two persons of Tribal origin, have been acquired after the necessary permission from the Competent Authority. However, the necessary approval in this regard and the detailed R&R plan has not been submitted. The permission from CGWA for the ground water drawl of 387 m³/hr is yet to be obtained. Action Plan for Enterprise Social Commitment based on Public Hearing issues and item-wise details along with budgetary provision have not been submitted.

The proponent has submitted the MoU made with M/s. Hills Cement Company Limited and M/s. Pacific Exports for utilization of fly ash and tailings respectively. However, MoU for the slag utilization have not been submitted. The revised lay out plan and transportation modeling studies have been submitted. Further, the proponent submitted that there is no Wildlife Sanctuary, Tiger Reserve/ Corridor, Elephant Corridor in 10 km. radius area from the proposed project site of M/s Pacific Iron Manufacturing Limited. To this effect “No Objection Certificate” obtained from the Chief Conservator of Forests has been submitted.

After detailed deliberations, the Committee again sought following additional information from the proponent for reconsideration:

- i. Detailed Resettlement and Rehabilitation(R&R) action plan;
- ii. Permission from the Competent Authority for the acquisition of the tribal land;

- iii. Permission from Central Ground Water Authority (CGWA) for the water drawl of 387 m³/hr from bore wells;
- iv. Time bound action plan for five years towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with budgetary provision shall be submitted;
- v. Occupational Health and Safety Management Plan along with budgetary provision shall be submitted and;
- vi. Action plan for the storage and disposal of SMS slag.

12.3.3 Expansion of Integrated Cement plant for production of clinker(1.32 MTPA to 3.06 MTPA),Cement(1.52 MTPA to 3.52 MTPA), installation of 36 MW (2X18 MW)coal based captive power plant at Village Muktyala,District Krishna ,Andhra Pradesh by **M/s The KCP Limited- regarding reconsideration for grant of Environment Clearance Environment Clearance.**

The aforesaid proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 7th meeting held during 4-5th April, 2013 for grant of Environmental Clearance. After detailed deliberations, the Committee sought following additional information from the proponent for reconsideration:

- I. Point wise compliance report to the following findings of the Regional Office, Bangalore
 - i) WHRB is yet to be installed.
 - ii) Fugitive emission control is not satisfactory. Laterite storage shed is yet to be erected. Black topping of internal roads are yet to be complied.
 - iii) STP yet to be installed. Reportedly, it will be installed by July, 2013.
 - iv) Near packing plant and coal mill noise levels are close to permissible upper limits
 - v) Risk analysis reports and Disaster Management Plan are yet to be prepared
 - vi) Of the stipulated four AAQ stations only two are installed so far.
 - vii) Housekeeping has to be improved
 - viii) Data on AAQ has to be displayed near the main gate
 - ix) Central Ground Water Board suggestions are yet to be obtained for augmenting ground water
 - x) The company must approach State Forest Department to comply with the condition regarding conservation of wildlife.
 - xi) There is a pond on the company's own land and is in a Dilapidated State. Some water birds are sighted in this area. Project authorities may take up development of this pond as part of eco-development work.
- II. Detailed note of court cases pending against the project and its present status along with requisite supporting documents.
- III. Revised layout plan showing the green belt development area
- IV. Coal linkage documents along with its analysis data
- V. Copy of the Public Hearing Proceedings along with CD.
- VI. Letter from Forest department regarding the impact on Reserve Forests due to the proposed expansion
- VII. Rain water harvesting plan
- VIII. MoU for hazardous waste utilization in kiln
- IX. Actual data from the continuous online monitoring system for the existing unit
- X. Time bound plan to reduce the drawl of water from Krishna river

The proponent vide letter No. KCP/U-II/PROC/2013-14 dated 22.6.2013 submitted the aforesaid additional information to the Ministry. The proponent along with their EIA consultant – M/s. B.S. Envi-Tech Private Limited made a presentation before the Committee.

The Committee noted that M/s. The KCP Limited is yet to be fully complying with the findings of the Regional Office - Bangalore.

After detailed deliberations, the Committee recommended that a fresh site visit to M/s. The KCP Limited shall be undertaken by the Regional Office of the MoEF at Bangalore to verify the compliance of its findings and the report shall be submitted to the EAC for further consideration of the proposal.

12.4.0 Any Other Items

12.4.1 Integrated Cement Plant of 5 MTPA Capacity with Captive Limestone Mine (701.2681 ha) and 54 MW CPP, Near Village Mangrol, Taluk Nimbahera, District Chittaurgarh in Rajasthan by M/s Rajputana Properties Private Limited (RPPL), is a fully owned subsidiary of **M/s Dalmia Cement Ventures Ltd. - regarding Amendment in ToR.**

Terms of Reference (ToRs) to the above proposal was accorded by MoEF vide letter no. J-11011/417/2010-IA II (I) dated 16.11.2010. Thereafter, Ministry vide letter dated 22.3.2013 extended the validity of the ToR for a period one year with effect from 16.11.2012. The Project Proponent (PP) vide letter No. Nil dated 24.7.2013 requested MoEF for amendment in the point no. 42 (ToR of cement plant) and in the point no. 13 (ToR of Mines) dated 16.11.2010 in respect of quantity and source of water drawl.

The Project Authorities informed that the water requirement for the project is 4500 KLD which will be met from ground water and rain water harvesting. However, the quantity and source of water is mentioned as 15,800 m³/day and Lilagar River respectively in the point no. 42 (ToR of cement plant) and in the point no. 13 (ToR of Mines) of the ToR dated 16.11.2010.

After detailed deliberations, the Committee recommended for the amendment in the point no. 42 (ToR of cement plant) and in the point no. 13 (ToR of Mines) of the ToR dated 16.11.2010 as mentioned below:-

Point no. 42 ToR of cement plant dated 16.11.2010 may be read as:-

Permission for the drawl of 4500 m³/day ground water from the concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.

Para no. 3 (line no. 2 to 4) of the EC dated 31.10.2011 may be read as:-

Necessary clearance from the Competent Authority for drawl of 4500 m³/day ground water for the project should be provided.

12.4.2 Expansion of Integrated Steel Plant (3.25 MTPA to 4.25 MTPA) at Village Gorkha. District Raigarh in Chhattisgarh by **M/s Jindal Steel & Power Limited - regarding Extension of validity of TOR.**

Terms of Reference (ToRs) to the above proposal was accorded by MoEF vide letter no. J-11011/331/2011-IA II (I) dated 12.8.2011. The Project Proponent (PP) vide letter No. Raigarh/EMD/2013 dated 8.8.2013 requested MoEF for extension of validity of ToR. The PP also made a presentation before the Committee.

It was submitted by the proponent following are the reasons for seeking extension of validity of ToR:

- i. Draft EIA has been prepared and submitted to Chhattisgarh Environment Conservation Board (CECB) on 5-3-2012. Date for Public Hearing is awaited from CECB.

After detailed deliberations, the committee recommended for the extension of validity of TOR for a period of one year with effect from 11.8.2013.

12.4.3 Expansion-cum-modernization of Durgapur Steel Plant (2.088 MTPA to 3.50 MTPA) along with Captive Power Plant 40 MW at Faridpur, Burdwan, Durgapur, West Bengal by **M/s Steel Authority India Limited – regarding amendment in Environment Clearance for minor changes in Coke Ovens**

Environmental Clearance (EC) to the above proposal was accorded by MoEF vide letter no. J-11011/492/2007-IA II (I) dated 10.9.2007. Thereafter, Ministry vide letter dated 5.7.2013 extended the validity of the EC for a period of five years with effect from 9.9.2012 subject to environmental safeguards. The proponent vide letter No. GM(P)/SKHC/ENV/01/530 dated 24.5.2013 requested the Ministry for amendment in the EC for minor changes in the Coke Ovens.

After detailed deliberations, the Committee sought following additional information from the proponent for reconsideration:

- Project report for the proposed minor changes in the coke ovens
- Pollution load details (air emissions, wastewater treatment and solid /hazardous waste generation) in tabular form [Original approved proposal Vis-a-Vis minor changes in the coke ovens] along with its pollution mitigation measures
- Certified compliance report from Regional Office of MoEF at Bhubaneswar for the existing unit

12.4.4 Proposed 28000 MT/year Decarbonisation of Ferro-Alloys at Khasra No. 511/1-2 & 512/1-2, Urla Industrial Area, District Raipur (C.G.) by **M/s. Hira Power and Steel Ltd. – Clarification regarding applicability of Environmental Clearance.**

M/s. Hira Power and Steel Limited (HPSL) vide letter no.519/HPSL/Admin/U-II/2013-14/572 dated 24.7.2013 sought clarification from MoEF regarding applicability of EIA Notification 2006 for installation of 12 T/heat of Creusot Loire Uddeholm (CLU) converter to refine 28000 MTPA High Carbon Ferro Alloys to Low/Medium Carbon Ferro alloys and 700 m³/ hr Oxygen Plant at Unit II Khasra no. 511/1-2 & 512/1-2, Urla Industrial Complex, District - Raipur, Chhattisgarh.

The Project Authorities informed the Committee that they already obtained Environmental Clearance (EC) from MoEF for the expansion of Ferro Alloy Plant [Unit-II, Si-Mn (9,000 TPA) / Fe-Mn (9,000 TPA)] at Khasra Nos. 513/1, 513/2, 513/3, 513/4, Urla Industrial Area, Raipur, Chhattisgarh vide letter no. J-11011/836/2008- IA II (I) dated 11.2.2009. Further, it was informed that the site proposed for the installation of Creusot Loire Uddeholm (CLU) converter and oxygen plant by M/s.HPSL is adjacent to the Ferro Alloy Plant for which EC was accorded by the MoEF on 11.2.2009.

As per the EIA Notification 2006, if the existing unit is a Category 'A' project under the EIA Notification, 2006, any expansion and modernization of such existing projects or activities and change in product mix, shall require prior environmental clearance from MoEF.

The Committee recommended that installation of Creusot Loire Uddeholm (CLU) converter to refine 28000 MTPA High Carbon Ferro Alloys to Low/Medium Carbon Ferro alloys and 700 m³/ hr Oxygen Plant requires EC from MoEF as it involves the modernization of the existing Ferro Alloy Plant. The Committee asked the proponent to submit Form I application and pre-feasibility project report for consideration of ToR in accordance with the procedure stipulated in the EIA, Notification 2006.

1st October, 2013

12.5.0 Consideration of the Projects:

Environmental Clearance

12.5.1 Proposed expansion cum backward integration project at Village Sarigam, Umbergaon, Valsad, Gujarat by Madura Industrial Textiles Ltd - regarding Environment Clearance.

The project authorities and their consultant (Precitech Laboratories Pvt. Ltd.) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Draft Terms of References (TORs) awarded during the 31st Meeting of the Expert Appraisal Committee (Industry) held during 22nd-23rd December, 2011 for preparation of EIA/EMP report. All manmade fibres manufacturing other than rayon are listed at S.No. 5(d) under category 'B' of Schedule of EIA Notification, 2006 and should have been appraised at SEIAA/SEAC. Due to location of the project within 10 km of the interstate boundary, as per the general condition of EIA Notification, 2006, the proposal has been appraised by the Expert Appraisal Committee (Industry) in the Ministry.

M/s Madura Industrial Textiles Limited have proposed for expansion cum backward integration by setting up of a polymerization and spinning facilities for manufacturing of Nylone-6 Yarn at Sy. No. 331/1, 331/3, 331/5, 331/7, 348/P1, 348/P1, 348/P6, 349/2/P5, 349/2/P9, 350/P3, 350/P7 & 278/P1/P2, Village Sarigam, Tehsil Umbergaon, District Valsad in Gujarat. The total plot area of the unit is 63106m² out of which 21074m² is earmarked for green belt development. Damanganga Canal and River Darohta are flowing at a distance of 0.58 Km and 4.08 Km distance respectively. Patches of reserved forests are within 5 Km. Interstate boundary Dadar Nagar Haveli is at a distance of 7.2 Km. The total cost of project is Rs.151.10 crores. Details of the Products along with Production Capacity are as follows:

S. No.	Name of the Product	Phase - 1* (TPM)	After Phase – 2 (TPM)
1.	N – 6 Dipped Fabrics*	1666	1950
2.	Grey Fabrics*		
3.	N – 6 Yarn	NIL	
*Note: For Phase-1, EC was not applicable and GPCB Consent to Establish (NOC) No. 23152, dated 09/06/2011 has been obtained.			

Ambient air quality monitoring was carried out at 5 locations December, 2010 to February, 2011 & February, 2012 and submitted data indicates as PM10 (36–98 ug/m³), SPM (136–205 ug/m³), SO₂ (16 – 31 ug/m³) and NO_x (20-36 ug/m³). Predicted value of ground level concentration due to proposed expansion is PM10 (0.04 ug/m³), SO₂ (0.78 ug/m³) and NO_x (2.26 ug/m³). The resultant concentrations are within the NAAQS. Stack height of 30 m will be provided to gas fired boiler (2 Nos.), Thermopac (2 Nos.) and Gas generator (2 x 1000 KVA). Emissions control system will be provided to control process emissions such as Formaldehyde, Ammonia, Nitrogen Dioxide and Carbon Monoxide. Fresh water requirement will be increased from 295 m³/day to 733 m³/day after expansion. Additional water requirement of 438 m³/day will be met from Damanganga Canal. Total effluent generation will be increased from 20 m³/day to 130 m³/day after expansion. During

discussion, Industrial effluent will be treated in effluent treatment plant followed by Reverse Osmosis. Filtrate will be recycled back to the plant with fresh water. RO rejects will be evaporated in MEE. ETP sludge will be sent to TSDF. Used oil will be sent to authorized recycler/re-processors. Yarn waste and Fabric waste will be sent end users. Power requirement for phase -2 from DGVCL will be 7500 KW. Natural Gas / HSD will be as fuel.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 15th March, 2013. The issues raised during public hearing were regarding ETP, solid waste management, local employment, social upliftment, water source, rain water harvesting etc. Regarding ETP, project proponent informed that ETP will be installed to treat effluent. Effluent will be further treated through RO and treated effluent will be recycled/reused in process/cooling tower make up water. They have also asked for permission from CETP for discharging treated effluent into CETP. It was also informed that Company employed the local people in its first phase and trained them as a skilled labour. In the second phase, Company assured to employ @ 80% from local people and given commitment for trained them as a skilled labour. Company also informed that they have made provision of spending 5 % of total project cost for social upliftment for next 20 years. The issues raised have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

After detailed deliberations, the Committee found the final EIA/EMP report adequate and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i) Adequate stack height will be provided to gas fired boiler.
- ii) The levels of PM₁₀, PM_{2.5}, SO₂, NO_x, CO, NH₃ and VOC should be monitored in ambient air.
- iii) Emissions control system will be provided to control process emissions such as Formaldehyde, Ammonia, Nitrogen Dioxide and Carbon Monoxide.
- iv) Total fresh water requirement from ground water source should not exceed 733 m³/day after expansion. Additional fresh water requirement (438 m³/day) shall be met from Damanganga Canal.
- v) Total industrial effluent generation should not exceed 100 m³/day. Effluent shall be treated in ETP followed by RO. RO rejects shall be evaporated.
- vi) No effluent shall be discharged outside the factory premises and zero effluent discharge concept shall be adopted.
- vii) The company should obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from GPCB should be obtained for disposal of solid / hazardous waste in the TSDF.
- viii) Green belt shall be developed in 21074 m² area.
- ix) Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.
- x) All the issues raised during the public hearing/consultation meeting held on 15th March, 2013 shall be satisfactorily implemented.

- xi) At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on earlier Public Hearing Issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.

12.5.2 Dye Unit at Sy. No. 34, Village Paldi, TalukaKhambat, District Anand, Gujarat by M/s Shreenathji Enterprise. – regarding Environment Clearance.

The project authorities and their consultant (BhagwatiEnviro Care Pvt. Ltd.) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Draft Terms of References (TORs) awarded during the 29th Meeting of the Expert Appraisal Committee (Industry) held during 17th-18th November, 2011 for preparation of EIA/EMP report. All the Synthetic Organic Chemicals Manufacturing Unit located outside the notified industrial area are listed at S.N. 5(f) under Category 'A' and appraised at the Central level.

M/s ShreenathjiEnterprisehave proposed for setting up ofDye Manufacturing Unit at Sy. No. 34, Village Paldi, TalukaKhambat, District Anand, Gujarat. Total plot area is 46,122 m². Total cost of the project is Rs. 9.25 Crore. No national park/wild life sanctuary/reserve forest within 10 Km. Rs. 76.00 Lakh and Rs. 8.90 Lakh are earmarked towards capital cost and recurring cost per annum for pollution control device. Following products will be manufactured:

S.N.	Products	Quantity (MTPM)
A.	Products:	
1.	Vinyl Sulphone	300
2.	CPC	500
3.	Alpha Blue	200
4.	Beta Blue	200
5.	CPC Green 7	200
6.	Dyes	1000
7.	Direct Turquoise Blue 86	600
8.	Direct Turquoise Blue FBL-199	
9.	Reactive Blue G	
10.	Reactive Turquoise Blue H5G	
11.	Reactive Blue 72	
Total		3,000
B.	By Products:	
1.	Hydrochloric Acid	47
2.	Ammonium Sulphate	16.4
3.	Spent Sulphuric Acid	434
4.	Ammonium Carbamate	28.60
5.	NaOCl	3.5

Ambient air quality monitoring was carried out at 6 locations march to October – December, 2011 and submitted data indicates as PM10 (67.8–94.8 ug/m³), SO₂ (2.9 – 10.8 ug/m³) and NO_x (9.5-38.5 ug/m³). Predicted value of ground level concentration due to proposed expansion is SPM (3.188ug/m³), SO₂ (5.54 ug/m³) and NO_x (1.985ug/m³). The resultant concentrations are within the NAAQS.

Stack height of 33 m will be provided to gas/oil fired boiler / hot air generator. Three Stage Scrubber system will be provided to the reactors to control process emissions viz. HCl, NH₃and SO₂. Cyclone separator followed by water scrubber will be provided to Spray dryer. Quenching followed by ventury scrubber followed by spray tower will be provided to

incinerator. Total water requirement will be 1045 m³/day. Out of which fresh water requirement from ground water source will be 444 m³/day and remaining water requirement (601 m³/day) will be met from treated effluent/recycled water. Industrial effluent generation will be 659 m³/day. Industrial effluent will be segregated into High TDS/COD effluent stream and low TDS/COD effluent stream. High TDS/COD effluent stream will be concentrated in MEE. Low TDS/COD effluent stream will be treated in ETP followed by nano filtration. Treated effluent will be recycled/reused in the process. ETP sludge, Incinerator ash and evaporated salt will be sent to TSDF. Spent oil/ used oil will be sent to authorized recycler/re-processors.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 26th June, 2012. The issues raised during public hearing were regarding pollution issues from chemical industries, air pollution, zero discharge scheme, public hearing advertisement etc. In response, project proponent informed that proposed unit is going to be a zero discharge unit. There shall be no wastewater discharge. Unit will install adequate air pollution control system and for solid waste management, unit will become member of TSDF. Regarding paper advertisement, it is reported that public notice was issued in English Newspaper "The Indian Express" on 25th May, 2012 and in Gujarati Newspaper "Gujarat Samachar" on 26th May, 2012. Public hearing issues have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

The Committee noted that the proposed unit is a zero discharge unit, gas is used as fuel, solid waste will be sent to TSDF. After detailed deliberations, the Committee found the final EIA/EMP report adequate and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i) Adequate stack height should be provided to gas/oil fired boiler / hot air generator.
- ii) The levels of PM₁₀, PM_{2.5}, SO₂, NO_x, CO, NH₃, HCl and VOC should be monitored in ambient air.
- iii) Two stage chilled water/caustic scrubber should be provided to process vents to control HCl. Two stage scrubber with caustic lye media solution should be provided to process vents to control SO₂. Two stage scrubber with chilled water media should be provided to process vents to control NH₃. The scrubbing media should be sent to effluent treatment plant (ETP) for treatment. Efficiency of scrubber should be monitored regularly and maintained properly. At no time, the emission levels should go beyond the prescribed standards.
- iv) Fugitive emissions in the work zone environment, product, raw materials storage area etc. should be regularly monitored.
- v) Total fresh water requirement from ground water source shall not exceed 444 m³/day and prior permission shall be obtained from the CGWA/SGWA.
- vi) Trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD should be passed through stripper followed by MEE. Low TDS effluent stream should be treated in ETP followed by nano filtration. Treated effluent will be recycled/reused in the process. 'Zero' effluent discharge should be adopted and no effluent will be discharged outside the premises.
- vii) The company should obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of

Hazardous wastes and prior permission from GPCB should be obtained for disposal of solid / hazardous waste in the TSDF. Measures should be taken for fire-fighting facilities in case of emergency.

- viii) Incinerator comprising primary and secondary chamber shall be designed as per CPCB guidelines. SO₂, NO_x, HCl and CO emissions shall be monitored in the stack regularly.
- ix) All the commitment made regarding issues raised during the public hearing/ consultation meeting held on 26th June, 2012 shall be satisfactorily implemented.
- x) At least 5 % of the total cost of the project should be earmarked towards the Enterprise social responsibility based on public hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.
- xi) Green belt should be developed in 17000 m² out of total plant area.
- xii) All the recommendations made in the risk assessment report should be satisfactorily implemented.
- xiii) Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.

12.5.3 Modernization cum Expansion of Molasses based Distillery (from 30 KLPD to 60 KLPD), Cogeneration Power Plant (from 16 MW to 26 MW) and Sugar (2500 TCD to 5000 TCD) at Arvindnagar, Post Keshegaon, Taluka & District Osmanabad, Maharashtra by M/s Dr. Baba Sahib Ambedkar Sahakari Sakhar Karkhana Ltd.– regarding Environment Clearance.

The project authorities and their consultant (M/s Vasantdada Sugar Institute) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Draft Terms of References (TORs) awarded during the 3rd Meeting of the Expert Appraisal Committee (Industry) held during 3rd-5th December, 2012 for preparation of EIA/EMP report. All molasses based distilleries are listed at S.N. 5(g) (i) under category 'A' and appraised at Central level.

M/s Dr. Baba Sahib Ambedkar Sahakari Sakhar Karkhana Ltd. have proposed for Modernization cum Expansion of Molasses based Distillery (from 30 KLPD to 60 KLPD), Cogeneration Power Plant (from 16 MW to 26 MW) and Sugar (2500 TCD to 5000 TCD) at Arvindnagar, Post Keshegaon, Taluka & District Osmanabad, Maharashtra. Total plot area is 10.65 acres out of which greenbelt will be developed in 2.65 acres. No additional land will be acquired. Cost of project is Rs. 101 Crore. Sugar unit will be operated for 210 days. Distillery will be operated for 270 days and cogeneration unit will be operated for 300 days.

Ambient air quality monitoring was carried out at 6 locations March to May, 2012 and submitted data indicates as PM₁₀ (42.17–75.58ug/m³), PM_{2.5} (20.17–29.92ug/m³), SO₂ (5.08 – 10.67ug/m³) and NO_x (7.3-12.08ug/m³). Predicted value of ground level concentration due to proposed expansion is PM₁₀ (1.18 ug/m³) and SO₂ (4.43ug/m³). The resultant concentrations are within the NAAQS. ESP will be provided to bagasse fired boiler (1x 50 TPH). Mechanical dust collector followed by wet scrubber have been provided to existing boilers (2 x 32 TPH + 1 x 30 TPH). Fresh water requirement from Vadala Dam for sugar and cogeneration plant will be 655 m³/day (for season) and 595 m³/day (off season) and for Distillery will be 475 m³/day. Spent wash generation will be 10 KL per KL of alcohol

produced. Spent wash will be treated through bio-methanation followed by MEE and composting. Sugar effluent will be treated in ETP. Treated effluent will be used for horticulture purpose. Condensate water and treated spentlees will be reused as dilution water for fermentation, cooling tower and boiler make up. No effluent will be discharged outside the plant premises. Fly ash from bagasse as a fuel will be sent to compost yard. Sludge from sugar ETP/polishing unit of distillery, fermentation unit and bio-digester will be used as a filler materials.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Maharashtra Pollution Control Board on 26th April, 2013. The issues raised during public hearing were regarding compost testing, source of water, impact on environment due to power generation, usage of wastewater, ETP, benefits of expansion project, etc. Public hearing issues have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

The Committee also discussed the compliance status report on the conditions stipulated in the existing environmental clearance, which were monitored by the Ministry's Western regional office, Bhopal. It is reported that monitoring of stack emissions as well as effluent has been done on six monthly basis and reports as submitted do not show any anomaly except SO₂ emission. Pollution Control devices were installed & operated with captive power. Spent wash generation was less than the prescribed limits of 300 m³/day. Bio-methanation unit has been installed and compost was prepared using press mud. Lagoon has been constructed for 30 days storage. Piezometers around the project area and the compost yard are yet to be installed. Details of greenbelt need to be submitted. Rain water harvesting structure is not constructed. The Committee advised them to submit action plan for non-compliance points.

After deliberations, the Committee desired following additional information:

- 1 Water balance chart for existing and expansion project.
- 2 Fresh water requirement for the existing unit and after proposed expansion.
- 3 Stack monitoring report for SO₂.
- 4 Commitment to install Piezometers around the project area and compost yard.
- 5 Commitment to install rain water harvesting including design details.

The proposal is deferred till the desired information is submitted. The above information shall be provided with the uploading of minutes on the website. The Reply will be discussed internally without calling project proponent.

12.5.4 Expansion of Synthetic Drug API (656 TPA to 1268 TPA) and R&D Product (0 to 5 TPA) at Plot No. 89A/B,90,91,F10 & 80 Village Pologround Industrial Estate, tehsil and District Indore, Madhya Pradesh by **M/s Ipca Lab. Ltd. – regarding Environment Clearance.**

The Committee noted that project proposal falls under critically polluted area, i.e. Indore (CEPI-70.82). As per Ministry's O. M. dated 17th September, 2013, Ministry has re-imposed moratorium on consideration of project. As on date, moratorium has not been lifted in respect of Indore, MP. Therefore, project cannot be considered.

12.5.5 Manufacturing ofPVC Stabilizers Metallic Stearate and Specially Polymer at Plot No. 2816, GIDC, Village Sarigam, TalukaUmargam, District Valsad, Gujarat by **Kalpataru Organics Pvt. Ltd.- regarding Environment Clearance.**

The project authorities and their consultant (Unistar EIA Consultant Organization) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Draft Terms of References (TORs) awarded during the 4th Meeting of the Expert Appraisal Committee (Industry) held during 8th – 9th January, 2013 for preparation of EIA/EMP report. All Synthetic Organic Chemicals Industry located inside the notified industrial area/estate are listed at S.N. 5(f) under category 'B'. However, applicability of general condition due to project location within interstate boundary, proposal is treated as category 'A' and appraised by Expert Appraisal Committee (I).

M/s. Kalpataru Organics Pvt. Ltd. have proposed Manufacturing of PVC Stabilizers Metallic Stearate and Specially Polymer at Plot No. 2816, GIDC, Village Sarigam, TalukaUmargam, District Valsad, Gujarat. Total land requirement is 25227 m² (6.27 acres) of which greenbelt will be developed in 5045 m². Inter-state boundary (Dadra Nagar Haveli) is 7 Km away. Darohta River is flowing at a distance of 3.20 Km. Damanganga River is flowing at a distance 6 Km. Arabian Sea is at a distance of 7.5 Km. No National Park and Wildlife Sanctuary is located within 10 km distance from the project site. Total cost of the project is Rs.9 crore. Rs. 30 lakhs and Rs. 14.5 lakhs are earmarked towards capital cost and recurring cost/annum for pollution control measures. The products details are as below:

S.N.	Products	Production capacity (MTPM)
1.	PVC Stabilizers (Di basic lead phthalate, Neutral lead Stearate, Basic Lead Stearate, One Pack Stabilizers-Flakes etc)	1900.00
2.	Metallic Octoates&Naphthanates	1000.00
3.	Metallic Stearates	1000.00
4.	EpoxidisedSoyabean Oil	750.00
5.	Plasticizers (DI Butyl Phthalate, Di OctylAdipate, DI OctylSebacate, Polymeric Plasticizer, Benzoate)	1000.00
6.	Organic Esters (Butyl Stearate, Octyl Stearate, Stearyl Stearate, Glycerol Mono Stearate, Butyl Oleate)	500.00
7.	PVC Stabilizers (by mixing, blending and packaging)	1000.00
8.	Formulated waxes (by mixing, blending and packaging)	300.00
9.	PVC Compounds (by mixing, blending and packaging)	500.00
10.	Flame Retardants (by mixing, blending and packaging)	300.00
11.	Inorganic products (Litharge, Zinc Borate, Tri basic lead Sulphate , Di basic Lead Phosphite)	2000.00
	Total	10250.00

Ambient air quality monitoring was carried out at 6 locations march to December, 2012–February, 2013 and submitted data indicates as PM10 (36.00–120ug/m³), PM2.5 (4.0–34ug/m³), SO₂ (16–42ug/m³) and NOx (10-29ug/m³). Predicted value of ground level concentration due to proposed project is PM10 (0.74ug/m³), SO₂ (0.65ug/m³) and NOx (5.167ug/m³). The resultant concentrations are within the NAAQS. Project proponent confirmed that natural gas as a fuel will be used. No coal will be used. In Litharge plant, waste gases will be passed through dust collector. But, the Committee insisted for installation of bagfilter instead of dust collector. Low NOx burner will be used in gas fired boilers and Litharge Plant-IV. Fresh water requirement from GIDC water supply will be 155 m³/day. Unit has proposed to meet the water requirement during monsoon from rain water harvesting system. Industrial effluent generation will be 57 m³/day. Effluent will be treated in

ETP. Treated effluent will be discharged through close pipeline into Arabian Sea. ETP sludge and process solid will be sent to TSDF. Used oil will be sent to authorized recyclers. Total power requirement is 700 KVA, which will be met from Dakshin Gujarat Vij. Co. Ltd. DG set (250 KVA) will be installed for emergency purpose.

Public hearing / consultation was exempted as per stage Section 7 (i), III Stage (3), Para (i)(b) of EIA Notification 2006 due to project being located in notified GIDC.

After detailed deliberations, the Committee found the final EIA/EMP report adequate and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i) Adequate stack height shall be provided to gas fired boiler.
- ii) In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling & conveyance of chemicals/materials, multi cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system shall be provided at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored.
- iii) Total fresh water requirement from GIDC water supply shall not exceed 155 m³/day and prior permission shall be obtained from the competent Authorities.
- iv) Total industrial effluent generation shall not exceed 57 m³/day. Effluent shall be treated in ETP.
- v) Treated effluent shall be passed through guard pond. Online pH meter, flow meter and TOC analyzer shall be installed.
- vi) The company should obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from GPCB should be obtained for disposal of solid / hazardous waste in the TSDF. Measures should be taken for fire-fighting facilities in case of emergency.
- vii) Green belt should be developed in 5045 m² out of total plant area.
- viii) All the recommendations made in the risk assessment report should be satisfactorily implemented.
- ix) Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.

Terms of Reference

12.5.6 New Integrated Unit of Coal based Fertilizer & Chemical Complex at Village Vikrampur, Talcher, District Angul, Odisha by **M/s Rashtriya Chemicals and Fertilizers Ltd.-regarding TORs.**

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the

draft Term of References for the preparation of EIA/EMP. All the Fertilizer Plants are listed at S.N. 5(a) under Category 'A' and appraised at the Central level.

M/s Rashtriya Chemicals and Fertilizers Ltd. have proposed for setting up of Coal based Fertilizer & Chemical Complex at Village Vikrampur, Talcher, District Angulin Odisha. The project will be implemented in the existing closed unit of M/s Fertilizer Corporation of India Ltd, Talchar. Total area of Talcher Fertilizer Complex is 904.53 acre. Out of this total area, 584.15 acres of land is available for fertilizer complex and remaining area is occupied by residential colony. Out of total plant area of 584.15 acres, 14.44 acres of area is occupied by Heavy Water Board. Therefore, the area available for proposed project is 569.71 acres. Total cost of project is Rs. 8700 Crore. Following units will be installed:

S.N.	Plant	Capacity
1	Coal Washery	650 TPH
2	Coal Gasification and Purification Unit	298188 NM ³ /Hr. of Ammonia Synthesis gas and 60480 NM ³ /Hr. of CO ₂
3	Ammonia Synthesis Unit	2700 MTPD of Liquid Ammonia
4	Urea Plant	3850 MTPD
5	Nitric Acid Plant	850 MTPD
6	Low Density Prilled Ammonium Nitrate (LDPAN) Plant	1000 MTPD
7	Coal based Boilers	5 x 250 MTPH
8	CPP	2 x 50 MW

Independent hot flare stacks will be provided in ammonia and two ammonia storage tanks area. Tail gas abatement system will be installed in Nitric Acid Plant to reduce NO_x. In Nitric Acid Plant, ammonia burners shall be such that minimum quantity of ammonia is converted into N₂O. ESP will be provided to control particulate emissions. Wet limestone flue gas desulphurization (FGD) for SO₂ control (95 % + removal) in CPP. Low NO_x burners and selective catalytic reduction (SCR) for high efficiency NO_x control in CPP. In coal gasification unit vent gases will be suitably incinerated and disperse through flares. Total water requirement will be 3000 m³/ hr. Effluent from coal washery, coal gasification and purification unit will be treated suitably in central ETP. Effluent generated in Urea, Ammonia and Nitric acid & Ammonia Nitrate Plant will be treated in the in-built effluent treatment systems or centralized ETP. Treated effluent will be used for gardening purpose and ash slurry. All process condensate produced in the different plant will be sent to centralized condensate polishing unit. Boiler blowdown will be used for makeup of cooling tower. Total quantity of middlings/rejects generated from coal washery will be recycled to the captive power plant. It was informed that provision will be made to dispose the ash into mine out quarry. The ammonia synthesis catalyst after expiry of the life will be recycled to authorized recycler. In Nitric Acid Plant, primary catalyst which contains mainly platinum is recovered through the authorized recyclers. NO_x reduction catalyst used in tail gas abatement system of Nitric Acid Plant will be sent authorized recyclers/re-processors.

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

1. Executive summary of the project
2. Coal linkage documents alongwith coal characteristics.
3. Photographs of the proposed plant area
4. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP report.
5. A copy of the mutual agreement for land acquisition signed with land oustees.
6. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains

- i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. A photograph of the site should also be included.
7. Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
 8. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
 9. Location of national parks/wildlife sanctuary/reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
 10. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
 11. Coordinates of the plant site as well as ash pond with topo sheet co-ordinates should also be included.
 12. Details and classification of total land (identified and acquired) should be included.
 13. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
 14. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department.
 15. A list of industries containing name and type in 25 km radius should be incorporated.
 16. Residential colony should be located in upwind direction.
 17. List of raw material required, analysis of all the raw materials and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
 18. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. coal etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per ISO-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.), if applicable, should also be included.
 19. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the amount present in it and hence future risk involved while using it and management plan.
 20. Action plan for excavation and muck disposal during construction phase.
 21. Studies for fly ash, muck, slurry, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.
 22. Manufacturing process details alongwith the chemical reactions and process flow chart of all plants.
 23. Mass balance for the raw material and products should be included.
 24. Energy balance data for all the components of fertilizer plant including proposed power plant should be incorporated.
 25. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.

26. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
27. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
28. Ambient air quality monitoring and stack emission data for the relevant parameters including PM₁₀, PM_{2.5}, SO₂, NO_x, CO, NH₃, HC (Methane and Non-methane) and VOCs.
29. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
30. Air quality modelling for the proposed project for specific pollutants needs to be done.
31. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.
32. Ambient air quality modelling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
 - i. Emissions (g/second) with and without the air pollution control measures
 - ii. Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height) on hourly basis
 - iii. Model input options for terrain, plume rise, deposition etc.
 - iv. Print-out of model input and output on hourly and daily average basis
 - v. A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
 - vi. Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
 - vii. Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
 - viii. No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
 - ix. Graphs of monthly average daily concentration with down-wind distance
 - x. Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
 - xi. Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
33. Air pollution control measures proposed for the effective control of gaseous emissions within permissible limits.
34. Plant-wise air pollution control measures proposed for the control of emissions from all the sources particularly uncontrolled NO_x emission and method to control NO_x.
35. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
36. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided. The alternate method of raw

- material and end product transportation should also be studied and details included.
37. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
 38. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included. Information regarding surface hydrology and water regime should be included.
 39. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 40. Ground water modelling showing the pathways of the pollutants should be included
 41. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
 42. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
 43. Permission for the drawl of water from the State Irrigation Department or concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
 44. A note on the impact of drawl of water on the nearby River during lean season.
 45. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
 46. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean River discharge as well as flood occurrence frequency.
 47. Details of water requirement for proposed project. Water balance chart for proposed project including water intake, effluent generated, recycled and reused and discharged is to be provided.
 48. Action plan to reduce fresh water requirement. Methods adopted/to be adopted for the water conservation should be included.
 49. Design details of the ETP and STP as well as air pollution control equipments (Bag filters/ wet scrubber etc.). Installation of Continuous TOC analyzer to holding tank before discharge of effluent.
 50. Action plan for 'Zero' discharge of effluent should be included.
 51. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
 52. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds, and lakes), sub-surface and ground water with a monitoring and management plans.
 53. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
 54. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources, middlings/rejects and fly ash. Copies of MOU regarding utilization of ash should also be included.
 55. Detailed ash management including characterization, leachability study, stability and suitability for backfilling in mine out area and alternate use of ash.

56. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
57. Details of phenol recovery unit and tarry waste management.
58. Odour control management if any.
59. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
60. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
61. Occupational health:
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Thresh Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.
 - iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
62. 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 should be detailed in the EIA report.
63. 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.
64. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure needs to be constructed and the agency responsible for the same with time frame.
65. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures should be included.
66. Plan for the implementation of the recommendations made for the Fertilizer plants in the CREP guidelines must be prepared.
67. Full Quantitative Risk Assessment & Disaster Management Plan should include:
 - a. Identification of hazards
 - b. Consequence Analysis
 - c. Determination of Individual Risk and Societal Risk
 - d. Proposed measures for risk reduction.
 - e. Petroleum vapour intrusion impact study.

68. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
69. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
70. A note on identification and implementation of Carbon Credit project should be included.
71. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof should also be included.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.
- iii. Authenticated English translation of all material in Regional languages should be provided.
- iv. The letter/application for environmental clearance should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should 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. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation should be provided. The draft EIA/EMP report shall be submitted to the Odisha Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

12.5.7 Additional Onshore Exploratory Drilling of 20 Wells in PEL Block L-II, District Tiruvarur, Nagapatnam, Pudukottai, Tanjavur in Tamil Nadu by **M/s ONGC Ltd.** – Regarding TOR

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP. All the projects related to offshore and onshore Oil and Gas exploration, development and production are listed in para 1(b) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level.

M/s ONGC Ltd. have proposed for additional Onshore Exploratory Drilling of 20 Wells in PEL Block L-II, District Tiruvarur, Nagapatnam, Pudukottai, Tanjavur in Tamil Nadu. L-II PEL Block, covering an area of 1545.02 Sq. Km is located in the Central Part of Cauvery on-land, extending from Tulsapattinam and Vadatheru in the South Karaikal High Flank and Muttur – Pundi in the north. This part of the basin constitutes parts of Nagapattinam, Tanjore

and Southern part of Tranquebar sub-basin. Cost of projects is Rs. 575.5 Crore. Depth of the wells varies from 3000 m to 6000 m. Earlier environmental clearance was obtained vide MoEF letter no. J-11011/2/2011-IA II (I) dated 21st August, 2013. Public hearings were conducted in three districts namely Tiruvarur, Pudukottai and Nagapatnam on 05.12.2012, 05.02.2013 and 12.03.2013 respectively.

Water based fluid will be used for drilling. Approximate depth of the well will be 3000 mtrs. Water requirement will be 25 m³/day. Diesel consumption will be 4 kL/day. Waste water Generation will be 15 m³/day/well. Spent Oil will be sent to authorized recyclers. Drill Cuttings generation will be 300-500 m³/well (to be confined in waste pit).

After detailed deliberations, the Expert Appraisal Committee prescribed the following TORs for preparation of EIA/EMP:

1. Executive summary of a project
2. Project description, project objectives and project benefits.
3. A certified copy of the report of the status of compliance of the conditions stipulated in the environmental clearance and Consent to Operate for the ongoing / existing operation of the project by the Regional Office of the Ministry of Environment and Forests and SPCB.
4. Site details within 1 km of the each proposed well, any habitation, any other installation/activity, flora and fauna, approachability to site, other activities including agriculture/land, satellite imagery for 10 km area. All the geological details shall be mentioned in the Topo sheet of 1:40000 scale, superimposing the well locations and other structures of the projects.
5. CRZ clearance/ recommendation from State Coastal Zone Management Authority, if applicable.
6. Details of forest land involved in the proposed project. A copy of forest clearance letter, if applicable.
7. Permission from the State Forest Department regarding the impact of the proposed project on the surrounding National Park/Wild life Sanctuary/Reserve Forest/Eco sensitive area, if any. Approval obtained from the State/Central Government under Forest (Conservation Act, 1980 for the forestland should be submitted.
8. Distance from nearby critically/severely polluted area as per Notification, if applicable.
9. Does proposal involves rehabilitation and resettlement? If yes, details thereof.
10. Details of project cost.
11. Environmental considerations in the selection of the drilling locations for which environmental clearance is being sought. Present any analysis suggested for minimizing the foot print giving details of drilling and development options considered.
12. Baseline data collection for air, water and soil for one season leaving the monsoon season in an area of 10 km radius with centre of Oil Field as its centre covering the area of all proposed drilling wells.
 - (i) Topography of the project site.

- (ii) Ambient Air Quality monitoring at 8 locations for PM10, SO₂, NO_x, VOCs, Methane and non-methane HC.
 - (iii) Soil sample analysis (physical and chemical properties) at the areas located at 5 locations.
 - (iv) Ground and surface water quality in the vicinity of the proposed wells site.
 - (v) Climatology and Meteorology including wind speed, wind direction, temperature rainfall relative humidity etc.
 - (vi) Measurement of Noise levels within 1 km radius of the proposed wells.
 - (vii) Vegetation and land use; Animal resources
13. Incremental GLC as a result of DG set operation.
 14. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
 15. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, wastewater generation and discharge.
 16. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
 17. Treatment and disposal of waste water.
 18. Treatment and disposal of solid waste generation.
 19. Disposal of spent oil and lube.
 20. Storage of chemicals and diesel at site.
 21. Commitment for the use of WBM only
 22. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
 23. Hazardous material usage, storage accounting and disposal.
 24. Disposal of packaging waste from site.
 25. Oil spill emergency plans in respect of recovery/ reclamation.
 26. H₂S emissions control.
 27. Produced oil handling and storage.
 28. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
 29. Details of control of air, water and noise pollution in oil collection system.
 30. Disposal of produced/formation water.
 31. Whether any burn pits being utilized for well test operations.
 32. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.

33. Measures to protect ground water and shallow aquifers from contamination.
34. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.
35. Environmental management plan.
36. Documentary proof of membership of common disposal facilities, if any.
37. Details of environmental and safety related documentation within the company including documentation and proposed occupational health and safety Surveillance Safety Programme for all personnel at site. This should also include monitoring programme for the environmental.
38. Total capital and recurring cost for environmental control measures.
39. A copy of Corporate Environment Policy of the company as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 available on the Ministry's website.
40. Any litigation pending against the project and or any direction/order passed by any court of law against the project. If so details thereof.
41. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- (v) A copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- (vi) The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues have been incorporated.

The Committee prescribed the above TORs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the State Pollution Control Board for conducting public hearing/consultation in Tanjavur District. The Committee exempted the public hearing in other three districts namely Pudukottai, Nagapatnam and Tiruvarur under section 7 (ii) of EIA Notification, 2006 as public hearings were conducted recently. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP report submitted to the Ministry for obtaining environmental clearance.

12.5.8 Resin Manufacturing Unit at Sy. No. 119/2, VeravalPadavala Road, Village Veraval, District Rajkot, Gujarat **by M/s Neptune Lamination Pvt.Ltd.- regarding TORs.**

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All Synthetic Organic Chemicals Industry located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'A' and appraised at Central level.

M/s Neptune Lamination Pvt. Ltd. have proposed for setting up of Resin Manufacturing Unit at Sy. No. 119/2, VeravalPadavala Road, Village Veraval, District Rajkot, Gujarat. Total plot area is 8397 m² of which greenbelt will be developed in 1892 m². Following products will be manufactured:

S.N.	Product	Quantity
1	Phenol Formaldehyde Resin	700 MTPM
2	Melamine Formaldehyde Resin	300 MTPM
3	Urea Formaldehyde Resin	300 MTPM
4	H P Decorative Laminated Sheets	250000 Nos./Month

Multicyclone dust collector will be provided to coal/biomass fired steam boiler thermic fluid heater. Scrubber will be provided to Melamine and phenol formaldehyde dryer. Fresh water requirement from ground water source will be 29.022 m³/day. Industrial effluent will be treated in ETP. ETP sludge will be sent to TSDF. Used oil will be sent to registered recyclers. DG set (320 KVA) will be installed as a standby arrangement.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project
2. Justification of the project.
3. Photographs of proposed plant site.
4. Promoters and their back ground.
5. Regulatory framework.
6. A map indicating location of the project and distance from severely polluted area
7. Project location and plant layout.
8. Infrastructure facilities including power sources.
9. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
10. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
11. Present land use based on satellite imagery for the study area of 10 km radius. Details of land availability for the project alongwith supporting document.
12. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
13. Details of the total land and break-up of the land use for green belt and other uses.
14. List of products alongwith the production capacities.
15. Detailed list of raw materials required and source, mode of storage and transportation.
16. Manufacturing process details alongwith the chemical reactions and process flow chart.
17. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
18. Ambient air quality monitoring at 6 locations within the study area of 5 km. aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
19. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM10, PM2.5, SO₂, NO_x including VOCs shall be collected. The

- monitoring stations shall take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring shall also be included.
20. Air pollution control measures viz. Multi-cyclone and bag filter etc. shall be proposed for the effective control of gaseous emissions within permissible limits.
 21. Control methanol emission from drying section.
 22. Details of VOC monitoring system in the working zone environment, if any.
 23. Name of all the solvents to be used in the process and details of solvent recovery system.
 24. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
 25. Details of water and air pollution and its mitigation plan.
 26. An action plan to control and monitor secondary fugitive emissions from all the sources.
 27. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
 28. Permission for the drawl of 29 m³/day ground water from CGWA. Water balance chart including quantity of effluent generated recycled and reused and discharged.
 29. Action plan for 'Zero' discharge of effluent shall be included.
 30. Treatment of phenol in the effluent, if any.
 31. Ground water quality monitoring minimum at 6 locations shall be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
 32. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste. Action plan for the disposal of fly ash generated from boiler shall be included.
 33. Precautions to be taken during storage and transportation of hazardous chemicals shall be clearly mentioned and incorporated.
 34. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
 35. List of hazardous chemicals (as per MSIHC rule) with toxicity levels.
 36. A write up on "Safe Practice" followed for methanol handling, storage, transportation and unloading to be submitted.
 37. A write up on "Treatment of workers affected by accidental spillage of methanol/phenol".
 38. Locating the plant in open area instead of covered to be reviewed in view of safety consideration.
 39. An action plan to develop green belt in 33 % area
 40. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
 41. Details of occupational health programme.
 - i. To which chemicals, workers are exposed directly or indirectly.
 - ii. Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii. What measures company have taken to keep these chemicals within PEL/TLV.
 - iv. How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v. What are onsite and offsite emergency plan during chemical disaster.
 - vi. Liver function tests (LFT) during pre-placement and periodical examination.
 42. Details of occupational health surveillance programme.
 43. Socio-economic development activities shall be in place.
 44. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring

- frequency, responsibility and time bound implementation plan for mitigation measure shall be provided.
45. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
 46. Corporate Environmental Responsibility
 - (a) Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company has a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
 47. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
 48. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
 49. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee prescribed the above TORs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the Gujarat Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP report submitted to the Ministry for obtaining environmental clearance.

12.5.9 Expansion of POY/FDY Manufacturing Unit at Village Masat-Samarvani, Silvassa, U.T. of Dadra and Nagar Haveli by **M/s Beekaylon Synthetics Pvt.Ltd.-regarding TORs.**

The project authorities and their consultant (Unistar Environment and Research Labs Pvt. Ltd.) gave a detailed presentation on the salient features of the project and

proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All manmade fibres manufacturing other than rayon are listed at S.No. 5(d) under category 'B' of Schedule of EIA Notification, 2006 and should have been appraised at SEIAA/SEAC. Due to location of the project within 10 km of the interstate boundary, as per the general condition of EIA Notification, 2006, the proposal has to be appraised by the Expert Appraisal Committee (Industry) in the Ministry.

M/s Beekaylon Synthetics Pvt. Ltd. have proposed forexpansion of POY/FDY Manufacturing Unit at Village Masat-Samarvani, Silvassa, U.T. of Dadra and Nagar Haveli. Total plot area is 32990 m². Total cost of the expansion project is Rs. 75.5 Crore. Damanganga River is flowing at a distance of 1.4 Km. Madhuban Dam is at a distance of 8.6 Km. Reserve forest is located at a distance of 2.9 Km. D & NH wildlife Sanctuary is located at a distance of 2.00 Km. Lion Safari and Satmaliya Deer Park is located at a distance of 9.0 km and 7.2 Km respectively. MoEF vide letter no. J-11011/66/2010-IA II (I) dated 30.12.2010 has issued environmental clearance for the existing unit. Following products will be manufactured :

S.N.	Product	Production Capacity (TPA)		
		Existing	Additional	After Expansion
1	Polyester Texturised & Twisted Yarn	24960	15000	39960
2	Polyester Oriented Yarn (POY)/ Fully drawn yarn (FDY)	31500	68500	100000

Bagfilter has been provide to existing coal fired boiler (2 Nos.). DG sets (2 x 1000 KVA) will be installed. Fresh water requirement from canal will be increased from 177 m³/day to 297 m³/day after expansion. Industrial effluent generation will be increased from 60 m³/day to 90 m³/day after expansion and treated in ETP. Partly treated effluent will be recycled in process and partly will be used for gardening purpose. No effluent will be discharged outside the plant premises. ETP sludge will be sent to TSDF. Yarn waste and Tex. Yarn waste will be sold to actual users. Used oil will be sent to authorized recyclers. Committee noted that submitted copy of notification is a notification of regional plan. Copy of gazette notification declaring industrial area/estate was not submitted.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. A separate chapter on status of compliance of Environmental Conditions granted by State/Centre to be provided. As per circular dated 30th May, 2012 issued by MoEF, a certified report by RO, MoEF on status of compliance of conditions on existing unit to be provided in EIA/EMP report.
2. Executive summary of the project
3. Justification of the project.
4. Photographs of proposed plant site.
5. Promoters and their back ground.
6. Regulatory framework.
7. Environment clearance for the existing unit issued by the Ministry (reasons, if not obtained), Consent to Operate and Authorization accorded by the PCC.
8. Copy of NOC/Consent to Establish for the existing unit.
9. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB/PCC.
10. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, compliance to the notice(s).
11. A map indicating location of the project and distance from severely polluted area
12. Project location and plant layout.

13. Infrastructure facilities including power sources.
14. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
15. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
16. Present land use based on satellite imagery for the study area of 10 km radius. Details of land availability for the project alongwith supporting document.
17. Location of national parks/wildlife sanctuary/reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
18. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, from the Standing Committee of the National Board for Wildlife as the project is located within 10 Km distance of D & NH wildlife Sanctuary.
19. Details of the total land and break-up of the land use for green belt and other uses.
20. List of products alongwith the production capacities.
21. Detailed list of raw materials required and source, mode of storage and transportation.
22. Manufacturing process details alongwith the chemical reactions and process flow chart.
23. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
24. Ambient air quality monitoring at 6 locations within the study area of 5 km. aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
25. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM10, PM2.5, SO₂, CO, NO_x including VOCs shall be collected. The monitoring stations shall take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring shall also be included.
26. Air pollution control measures viz. Multi-cyclone and bag filter etc. Shall be proposed for the effective control of gaseous emissions within permissible limits.
27. Details of VOC monitoring system in the working zone environment, if any.
28. Name of all the solvents to be used in the process and details of solvent recovery system.
29. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
30. Details of water and air pollution and its mitigation plan.
31. An action plan to control and monitor secondary fugitive emissions from all the sources.
32. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
33. Permission for the drawl of 297 m³/day water from Competent Authroity. Water balance chart including quantity of effluent generated recycled and reused and discharged.
34. Action plan for 'Zero' discharge of effluent shall be included.
35. Ground water quality monitoring minimum at 6 locations shall be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
36. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste. Action plan for the disposal of fly ash generated from boiler shall be included.

37. Precautions to be taken during storage and transportation of hazardous chemicals shall be clearly mentioned and incorporated.
38. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
39. List of hazardous chemicals (as per MSIHC rule) with toxicity levels.
40. Locating the plant in open area instead of covered to be reviewed in view of safety consideration.
41. An action plan to develop green belt in 33 % area
42. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
43. Details of occupational health programme.
 - i. To which chemicals, workers are exposed directly or indirectly.
 - ii. Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii. What measures company have taken to keep these chemicals within PEL/TLV.
 - iv. How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v. What are onsite and offsite emergency plan during chemical disaster.
 - vi. Liver function tests (LFT) during pre-placement and periodical examination.
 - vii. Details of occupational health surveillance programme.
44. Socio-economic development activities shall be in place.
45. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure shall be provided.
46. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
47. Corporate Environmental Responsibility
 - (a) Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - (b) Does the Environmental 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 report.
 - (c)What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company has a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
48. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
49. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
50. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.

- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee prescribed the above TORs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the State Pollution Control Board/ Pollution Control Committee for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP report submitted to the Ministry for obtaining environmental clearance.

12.5.10 Exploratory Drilling of 22 Nos. of Wells in NELP-IX Blocks CB-ONN-2010/1, CB-ONN-2010/6 & CB-ONN-2010/9 at Banaskantha, Gandhinagar and Ahmedabad Districts, Gujarat by M/s ONGC Ltd.- regarding TORs.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All the projects related to offshore and onshore Oil and Gas exploration, development and production are listed in para 1(b) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level.

M/s ONGC Ltd. has proposed for exploratory drilling of 22 Nos. of Wells in NELP-IX Blocks CB-ONN-2010/1, CB-ONN-2010/6 & CB-ONN-2010/9 at Banaskantha, Gandhinagar and Ahmedabad Districts, Gujarat. Blocks CB-ONN-2010/1, 6 & 9 are awarded under NELP-IX bidding. Blocks are part of Cambay basin. Area of blocks CB-ONN-2010, 6 & 9 are 782, 39 and 120 km². Blocks are located in Banaskantha, Gandhinagar and Ahmedabad Districts. PSC was signed in March, 2012. PEL was signed in March, 2013. Total cost of project is Rs. 95 Crore. It is reported that no forest land /national park/ wildlife sanctuary/reserve forest/eco-sensitive and CRZ area located in area of interest. Following wells will be drilled:

S.N.	Name of Block	Area of Block	Wells already Drilled	Wells proposed to be drilled	Target depth of wells in meter
1	CB-ONN-2010/1	782	2	10	3000
2	CB-ON-2010/6	39	5	7	2500
3	CB-ONN-2010/9	120	3	5	2500

Water based fluid will be used for drilling. Water requirement will be 35 m³/day. Diesel consumption will be 2.5 kl/day. Waste water Generation will be 5 m³/day/well. Spent Oil will be sent to authorized recyclers. Drill Cuttings generation will be 50-100 MT/well. DG sets (4 x 1000 KVA) will be installed.

After detailed deliberations, the Expert Appraisal Committee prescribed the following TORs for preparation of EIA/EMP:

1. A certified report of the status of compliance of the conditions stipulated in the environmental clearance and Consent to Operate for the ongoing / existing operation of the project by the Regional Office of the Ministry of Environment and Forests and SPCB.
2. Executive summary of a project

3. Project description, project objectives and project benefits.
4. Site details within 1 km of the each proposed well, any habitation, any other installation/activity, flora and fauna, approachability to site, other activities including agriculture/land, satellite imagery for 10 km area.
5. Details of forest land involved in the proposed project. A copy of forest clearance letter, if applicable.
6. Permission from the State Forest Department regarding the impact of the proposed plant on the surrounding National Park/Wild life Sanctuary /Reserve Forest/Eco sensitive area, if any. Approval obtained from the State/Central Government under Forest (Conservation Act, 1980 for the forestland should be submitted.
7. Distance from nearby critically/severely polluted area as per Notification dated 13th January, 2010, if applicable.
8. Does proposal involves rehabilitation and resettlement? If yes, details thereof.
9. Details of project cost.
10. Details of all the facilities including CGS, GGS, OCS, produced water treatment etc to be installed. If existing facilities, give details.
11. Environmental considerations in the selection of the drilling locations for which environmental clearance is being sought. Present any analysis suggested for minimizing the foot print giving details of drilling and development options considered.
12. Baseline data collection for air, water and soil for one season leaving the monsoon season in an area of 10 km radius with centre of Oil Field as its centre covering the area of all proposed drilling wells.
 - (i) Topography of the project site.
 - (ii) Ambient Air Quality monitoring at 8 locations for PM₁₀, SO₂, NO_x, VOCs, Methane and non-methane HC.
 - (iii) Soil sample analysis (physical and chemical properties) at the areas located at 5 locations.
 - (iv) Ground and surface water quality in the vicinity of the proposed wells site.
 - (v) Climatology and Meteorology including wind speed, wind direction, temperature rainfall relative humidity etc.
 - (vi) Measurement of Noise levels within 1 km radius of the proposed wells.
 - (vii) Vegetation and land use; Animal resources
13. Incremental GLC as a result of DG set operation.
14. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
15. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, waster water generation and discharge.
16. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.

17. Treatment and disposal of waste water.
18. Treatment and disposal of solid waste generation.
19. Disposal of spent oil and loose materials.
20. Storage of chemicals and diesel at site.
21. Commitment for the use of WBM only
22. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
23. Hazardous material usage, storage accounting and disposal.
24. Disposal of packaging waste from site.
25. Oil spill emergency plans in respect of recovery/ reclamation.
26. H₂S emissions control.
27. Produced oil handling and storage.
28. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
29. Details of control of air, water and noise pollution in oil collection system.
30. Disposal of produced/formation water.
31. Whether any burn pits being utilized for well test operations.
32. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.
33. Measures to protect ground water and shallow aquifers from contamination.
34. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.
35. Environmental management plan.
36. Documentary proof of membership of common disposal facilities, if any.
37. Details of environmental and safety related documentation within the company including documentation and proposed occupational health and safety Surveillance Safety Programme for all personnel at site. This should also include monitoring programme for the environmental.
38. Total capital and recurring cost for environmental control measures.
39. A copy of Corporate Environment Policy of the ONGC as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 available on the Ministry's website.

40. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
41. Any litigation pending against the project and or any direction/order passed by any court of law against the project. If so details thereof.
42. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- (v) A copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- (vi) The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues have been incorporated.
- (vii) Certificate of Accreditation' issued by the QCI to the environmental consultant should be included.

It was decided that TORs prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA/EMP report for the above mentioned project in addition to all the relevant information as per the Generic Structure of EIA given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report should be submitted to the State Pollution Control Board for separate public hearing to be conducted for all Districts. The issues emerged and response to the issues raised during public hearing should be incorporated in the EIA report.

12.5.11 Integrated Sugar Complex including Sugar (5000 TCD), Distillery (100 KLPD) and Cogeneration Power Plant (30 MW) at Village Dhanora, Tehsil Ahmedpur, District Latur, Maharashtra by M/s Twentyone Sugars Ltd.-regarding TORs.

The project authorities and their consultant gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All molasses based distillery are listed at S.N. 5(g) (i) under category 'A' and appraised at Central level.

M/s Twentyone Sugars Ltd. have proposed for setting up of Integrated Sugar Complex including Sugar (5000 TCD), Distillery (100 KLPD) and Cogeneration Power Plant (30 MW) at Village Dhanora, Tehsil Ahmedpur, District Latur, Maharashtra. Total plot area is 100 acres of which greenbelt will be developed in 33 acres. Cost of project is Rs. 93.75 Crore. River Mannyad is flowing at a distance of 2.46 Km.

ESP alongwith stack height of 72 m will be provided to bagasse fired boiler. Fresh water requirement for sugar and cogeneration units will be 696 m³/day. Water requirement for distillery will be 988 m³/day. Water requirement will be met from Vhati lake. Effluent from sugar unit will be treated in ETP. Blowdown, condensate and cooling water will treated through ultra filtration and RO. Treated water will be recycled to process. Spent wash will be concentrated in MEE followed by drying, blending with bagasse. Evaporated effluent will be incinerated in boiler. Spentlees, blowdown and MEE condensate will be treated trough UF &

RO. Treated effluent will be recycled into process. No effluent will be discharged outside the plant premises and Zero discharge concept will be adopted. ETP sludge will be sent to TSDF. Ash will be sent to brick manufacturers. Used/spent oil will be sent authorized recyclers.

After deliberations, the Committee prescribed the following TORs for the preparation of draft EIA/EMP:

1. Executive summary of the project.
2. Detailed break up of the land area alongwith latest photograph of the area.
3. Present land use based on satellite imagery.
4. Details of site and information related to environmental setting within 10 km radius of the project site. A copy of toposheet of the area indicating reserve forests, wildlife sanctuary, water bodies, barren land etc.
5. Information regarding eco-sensitive area such as national park / wildlife sanctuary / biosphere reserves within 10 km radius of project area.
6. Recommendations from the State Forest Department regarding the impact of the proposed plant on the surrounding reserve forest.
7. List of existing distillery units in the study area alongwith their capacity.
8. Number of working days of the distillery unit.
9. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
10. Manufacturing process details of sugar plant, distillery plant and CPP alongwith process flow chart.
11. Details of raw materials and source of raw material including sugar cane/ molasses.
12. Sources and quantity of fuel (coal etc.) for the boiler. Measures to take care of SO₂ emission. A copy of Memorandum of Understanding (MoU) signed with the coal suppliers should be submitted.
13. Action plan to control ambient air quality as per NAAQES Standards for PM₁₀, PM_{2.5}, SO₂ and NO_x as per GSR 826(E) dated 16th November, 2009.
14. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM₁₀, PM_{2.5} SO₂, NO_xCO and HC (methane & non methane) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
15. Mathematical modeling for calculating the dispersion of air pollutants and ground level concentration along with emissions from the boiler.
16. Details of boiler and its capacity. Details of the use of steam from the boiler.
17. Ground water quality around proposed spent wash storage lagoon and the project area.
18. Details of water requirement, water balance chart for Sugar Plant (5000 TCD), Molasses based Distillery (100 KLPD), Co-generation plant (30 MW). Measures for conservation water by recycling and reuse to minimize the fresh water requirement.
19. Water requirement should not exceed 10 Kl/Kl of alcohol for distillery unit. Source of water supply and prior 'permission' for the drawl of total fresh water from the Competent Authority should be obtained.
20. Hydro-geological study of the area for availability of ground water.
21. Spentwash generation should not exceed 8Kl/ Kl of alcohol production.
22. Proposed effluent treatment system for molasses based distillery (spent wash and spent lees), sugar unit as well as CPP and scheme for achieving 'zero' discharge.
23. Lagoon capacity for sugar unit and spent wash.
24. Details of solid waste management including management of boiler ash. MoU with cement plant/brick units for the use of fly ash.
25. Green belt development as per the CPCB guidelines.
26. List of flora and fauna in the study area.

27. Noise levels monitoring at five locations within the study area.
28. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure should be provided.
29. EMP should also include the concept of waste-minimization, recycle/reuse/ recover techniques, Energy conservation, and natural resource conservation.
30. Risk assessment for storage and handling of alcohol and mitigation measure due to fire and explosion and handling areas.
31. Alcohol storage and handling area fire fighting facility as per OISD norms.
32. Provision of Foam System for fire fighting to control fire from the alcohol storage tank.
33. Action plan for rainwater harvesting measures at plant site should be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
34. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.
 - iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
35. Details of socio-economic welfare activities.
36. Traffic study of the area for the proposed projects in respect of existing traffic, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
37. Action plan for post-project environmental monitoring.
38. Corporate Environmental Responsibility
 - (a) 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.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company have a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
39. Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if so, details thereof.
40. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
41. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.

- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- vi. The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter and that raised in Public Hearing/consultation alongwith duly filled in Industry Sector questionnaire. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues and the issues raised in the Public hearing have been incorporated.

The Committee decided that the proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the Maharashtra Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns emerged during the Public Hearing / Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP submitted to the Ministry for obtaining environmental clearance.

12.5.12 Exploratory Drilling of 35 Wells in L-1 PML, Kuthalam PML, Kali & Greater Kali PML, Bhuvangiri PML and Neyveli PML in Cauvery Basin, Tamilnadu **by M/s ONGC regarding TORs.**

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP. All the projects related to offshore and onshore Oil and Gas exploration, development and production are listed in para 1(b) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level.

M/s ONGC have proposed for exploratory drilling of 35 Wells in L-1 PML, Kuthalam PML, Kali & Greater Kali PML, Bhuvangiri PML and Neyveli PML in Cauvery Basin, Tamilnadu. MoPNG, Govt. of India vide F. No. O-12012/52/2003 ONG-II dated 8th February, 2013 has granted PML for the whole of the L-I with an area of 948.16 sq.km. for seven years w.e.f. 31.12.2012 to 30.12.2019 taking in to account of the sustained exploration input in this block. The L-I PML block is covering the Ariyalur-Pondicherry sub-basin in the north and part of Tranquebar Subbasin in the south with an area of 918 sq. km. in Cuvery Basin. It is reported that project proposal does not attract CRZ clearance. No forest land is involved. Cost of project is Rs. 700 Crore. Environmental clearance for the existing wells was obtained vide MoEF's letter no. J-11011/178/2008-IA II (I) dated 28th April, 2008. The PML blocks wise distribution of the proposed drilling wells is as given below:

S.N.	PML Blocks	No. of Exploratory Wells proposed
1	L-I PML	20
2	Kuthalam PMLs	6
3	Kali & Greater Kali PML	4
4	Bhuvanagiri	4
5	Neyveli	1

These wells are planned to drill in following different revenue districts of Tamil Nadu:

S.N.	District	No of Exploratory Wells proposed	Target Depth
1	Cuddalore	14	3000 -5200 m/ basement
2	Ariyalur	6	3000 – 4000 m/basement
3	Thanjavur	5	3000 – 4500 /basement
4	Nagapattinam	8	3000 – 5200 m/basement

5	Tiruvarur	2	3000 – 4000 n/basement
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Water based fluid will be used for drilling. Water requirement will be 25 m³/day. Diesel consumption will be 4 kl/day. Waste water Generation will be 15 m³/day/well. Spent Oil will be sent to authorized recyclers. Drill Cuttings generation will be 15 T/ day.

After detailed deliberations, the Expert Appraisal Committee prescribed the following TORs for preparation of EIA/EMP:

1. A certified report of the status of compliance of the conditions stipulated in the environmental clearance and Consent to Operate for the ongoing / existing operation of the project by the Regional Office of the Ministry of Environment and Forests and SPCB.
2. Executive summary of a project
3. Project description, project objectives and project benefits.
4. Site details within 1 km of the each proposed well, any habitation, any other installation/activity, flora and fauna, approachability to site, other activities including agriculture/land, satellite imagery for 10 km area.
5. Details of forest land involved in the proposed project. A copy of forest clearance letter, if applicable.
6. Permission from the State Forest Department regarding the impact of the proposed plant on the surrounding National Park/Wild life Sanctuary /Reserve Forest/ Eco sensitive area, if any. Approval obtained from the State/Central Government under Forest (Conservation Act, 1980 for the forestland should be submitted.
7. Distance from nearby critically/severely polluted area as per Notification dated 13th January, 2010, if applicable.
8. Does proposal involves rehabilitation and resettlement? If yes, details thereof.
9. Details of project cost.
10. Details of all the facilities including CGS, GGS, OCS, produced water treatment etc to be installed. If existing facilities, give details.
11. Environmental considerations in the selection of the drilling locations for which environmental clearance is being sought. Present any analysis suggested for minimizing the foot print giving details of drilling and development options considered.
12. Baseline data collection for air, water and soil for one season leaving the monsoon season in an area of 10 km radius with centre of Oil Field as its centre covering the area of all proposed drilling wells.
 - (i) Topography of the project site.
 - (ii) Ambient Air Quality monitoring at 8 locations for PM₁₀, SO₂, NO_x, VOCs, Methane and non-methane HC.
 - (iii) Soil sample analysis (physical and chemical properties) at the areas located at 5 locations.
 - (iv) Ground and surface water quality in the vicinity of the proposed wells site.

- (v) Climatology and Meteorology including wind speed, wind direction, temperature rainfall relative humidity etc.
 - (vi) Measurement of Noise levels within 1 km radius of the proposed wells.
 - (vii) Vegetation and land use; Animal resources
13. Incremental GLC as a result of DG set operation.
 14. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
 15. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, waster water generation and discharge.
 16. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
 17. Treatment and disposal of waste water.
 18. Treatment and disposal of solid waste generation.
 19. Disposal of spent oil and loose materials.
 20. Storage of chemicals and diesel at site.
 21. Commitment for the use of WBM only
 22. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
 23. Hazardous material usage, storage accounting and disposal.
 24. Disposal of packaging waste from site.
 25. Oil spill emergency plans in respect of recovery/ reclamation.
 26. H₂S emissions control.
 27. Produced oil handling and storage.
 28. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
 29. Details of control of air, water and noise pollution in oil collection system.
 30. Disposal of produced/formation water.
 31. Whether any burn pits being utilized for well test operations.
 32. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.
 33. Measures to protect ground water and shallow aquifers from contamination.
 34. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.

35. Environmental management plan.
36. Documentary proof of membership of common disposal facilities, if any.
37. Details of environmental and safety related documentation within the company including documentation and proposed occupational health and safety Surveillance Safety Programme for all personnel at site. This should also include monitoring programme for the environmental.
38. Total capital and recurring cost for environmental control measures.
39. A copy of Corporate Environment Policy of the ONGC as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 available on the Ministry's website.
40. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
41. Any litigation pending against the project and or any direction/order passed by any court of law against the project. If so details thereof.
42. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- (v) A copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- (vi) The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues have been incorporated.
- (vii) Certificate of Accreditation' issued by the QCI to the environmental consultant should be included.

It was decided that TORs prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA/EMP report for the above mentioned project in addition to all the relevant information as per the Generic Structure of EIA given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report should be submitted to the State Pollution Control Board for separate public hearing to be conducted for all Districts. The issues emerged and response to the issues raised during public hearing should be incorporated in the EIA report.

12.5.13 Resin Manufacturing Unit at Village Ghodasar, Taluka Mahemdabad, District Kheda, Gujarat by **M/s Kalpsar Lam Pvt. Ltd.- regarding TORs.**

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All Synthetic Organic Chemicals Industry located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'A' and appraised at Central level.

M/s Kalpsar Lam Pvt. Ltd. have proposed for setting up of resin manufacturing unit at Village Ghodasar, Taluka Mahemdabad, District Kheda, Gujarat. Total plot area is 13772 m² of which greenbelt will be developed in 4540 m². Cost of project is Rs. 1 Crore. Following products will be manufactured:

S.N.	Product	Quantity
1	Phenol Formaldehyde Resin	1000 MTPM
2	Melamine Formaldehyde Resin	500 MTPM
3	Urea Formaldehyde Resin	1000 MTPM
4	H P Decorative Laminated Sheets	2,50,000 Nos./Month

Multicyclone dust collector will be provided to coal/biomass fired steam boiler thermic fluid heater. Scrubber will be provided to Melamine and phenol formaldehyde dryer. Total water requirement will 28.745 m³/day. Out of which, fresh water requirement from ground water source will be 16.8 m³/day and remaining will be met from recycled water. Industrial effluent will be treated in ETP. ETP sludge will be sent to TSDF. Used oil will be sent to registered recyclers. No effluent will be discharged outside the plant premises.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project
2. Justification of the project.
3. Photographs of proposed plant site.
4. Promoters and their back ground.
5. Regulatory framework.
6. A map indicating location of the project and distance from severely polluted area
7. Project location and plant layout.
8. Infrastructure facilities including power sources.
9. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
10. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
11. Present land use based on satellite imagery for the study area of 10 km radius. Details of land availability for the project alongwith supporting document.
12. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
13. Details of the total land and break-up of the land use for green belt and other uses.
14. List of products alongwith the production capacities.
15. Detailed list of raw materials required and source, mode of storage and transportation.
16. Manufacturing process details alongwith the chemical reactions and process flow chart.
17. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
18. Ambient air quality monitoring at 6 locations within the study area of 5 km. aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
19. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM10, PM2.5, SO₂, NO_x including VOCs shall be collected. The monitoring stations shall take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring shall also be included.

20. Air pollution control measures viz. Multi-cyclone and bag filter etc. shall be proposed for the effective control of gaseous emissions within permissible limits.
21. Control methanol emission from drying section.
22. Details of VOC monitoring system in the working zone environment, if any.
23. Name of all the solvents to be used in the process and details of solvent recovery system.
24. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
25. Details of water and air pollution and its mitigation plan.
26. An action plan to control and monitor secondary fugitive emissions from all the sources.
27. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
28. Permission for the drawl of 16.8m³/day ground water from CGWA. Water balance chart including quantity of effluent generated recycled and reused and discharged.
29. Action plan for 'Zero' discharge of effluent shall be included.
30. Treatment of phenol in the effluent, if any.
31. Ground water quality monitoring minimum at 6 locations shall be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
32. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste. Action plan for the disposal of fly ash generated from boiler shall be included.
33. Precautions to be taken during storage and transportation of hazardous chemicals shall be clearly mentioned and incorporated.
34. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
35. List of hazardous chemicals (as per MSIHC rule) with toxicity levels.
36. A write up on "Safe Practice" followed for methanol handling, storage, transportation and unloading to be submitted.
37. A write up on "Treatment of workers affected by accidental spillage of methanol/phenol".
38. Locating the plant in open area instead of covered to be reviewed in view of safety consideration.
39. An action plan to develop green belt in 33 % area
40. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
41. Details of occupational health programme.
 - i. To which chemicals, workers are exposed directly or indirectly.
 - ii. Whether these chemicals are within Threshold Limit Values (TLV)/Permissible Exposure Levels as per ACGIH recommendation.
 - iii. What measures company have taken to keep these chemicals within PEL/TLV.
 - iv. How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v. What are onsite and offsite emergency plan during chemical disaster.
 - vi. Liver function tests (LFT) during pre-placement and periodical examination.
42. Details of occupational health surveillance programme.
43. Socio-economic development activities shall be in place.
44. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure shall be provided.

45. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
46. Corporate Environmental Responsibility
 - (a) Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company has a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
47. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
48. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
49. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee prescribed the above TORs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the Gujarat Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP report submitted to the Ministry for obtaining environmental clearance.

12.5.14 Resin Manufacturing Unit at Survey No.24.P Village Jambudiya District Rajkot Gujarat by **M/s Karsanbhai K. Hothi- regarding TORs.**

Project proponent informed that the name of the company is changed from M/s Karsanbhai k Hoti to M/s Pawan Formalin Pvt. Ltd. The Committee advised them to submit revised form-1. The proposal is deferred till the revised form-1 is submitted. The above information shall be provided with the uploading of minutes on the website.

12.5.15 Bulk Drug Manufacturing Unit at Survey No. 344, Village & Mandal ThalaKondapally, District Mahabubnagar, Andhra Pradesh by M/s Sai Shakthi Pharma Pvt. Ltd.- regarding TORs.

The project authorities and their consultant (Rightsource) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All Synthetic Organic Chemicals Industry located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'A' and appraised at Central level.

M/s Sai Shakthi Pharma Pvt. Ltd have proposed for setting up of Bulk Drug Manufacturing Unit at Survey No. 344, Village & Mandal ThalaKondapally, District Mahabubnagar, Andhra Pradesh. Total plot area is 17200 m² (6.5 acres) of which greenbelt will be developed in land area of 5849 m². Cost of project is Rs. 12.0 Crore. No forest land is involved. It is reported that no national park/sanctuary is located within 10 Km distance. Following products will be manufactured:

S.N.	Product	CAS Number	Quantity (in Kg/Month)	Quantity (in Kg/Day)
1	Lansoprazole	103577-45-3	1000.00	33.33
2	Losartan Potassium	124750-99-8	1000.00	33.33
3	Lisinopril	76547-98-3	1000.00	33.33
4	Levocetirizine Di hydrochloride	130018-87-0	500.00	16.67
5	Rabeprazole sodium	117976-90-6	2000.00	66.67
6	Sertraine Hydrochloride	79559-97-0	2000.00	66.67
7	Zidovudine	30516-87-1	1000.00	33.33
8	Itraconazole	84625-61-6	1000.00	33.33
9	Metformin Hydrochloride	657-24-9	20000.00	666.67
10	Ciprofloxacin Hydrochloride	86483-48-9	3000.00	100.00
11	Carvedilol	72956-3	1000.00	33.33
	Total		33500.00	1116.66

Scrubber will be provided to control process emissions viz. HCl, SO₂ and NH₃. Total fresh water requirement from ground water source will be 99 m³/day. Industrial effluent generation will be 34 m³/day. Effluent will be segregated into High TDS/COD and Low TDS/COD effluent streams. High TDS/COD effluent stream will be treated through steam stripper followed by multiple effect evaporator (MEE) and agitated thin film drier (ATFD). Low TDS/COD effluent stream will be treated in effluent treatment plant (ETP) followed by RO. No effluent will be discharged outside the premises and 'Zero' effluent discharge concept will be adopted. Inorganic & evaporation salt and ETP sludge will be sent to Treatment Storage Disposal Facility (TSD) for hazardous waste. Fly ash will be sold to brick manufacturers. Waste oil and used batteries will be sold to authorized recyclers/re-processors. Coal fired boilers (1 x 3 TPH + 1 x 2 TPH) will be installed. DG sets (1 x 380 KVA + 1 x 250 KVA) will be installed for standby arrangement. Power requirement from APCPDCL will be 850 HP.

After detailed deliberations, the Expert Appraisal Committee prescribed the following ToRs for preparation of EIA/EMP:

1. Executive summary of the project
2. Justification of the project.
3. Project location and plant layout.
4. Promoters and their back ground.
5. Regulatory framework
6. A map indicating location of the project and distance from severely polluted area

7. Infrastructure facilities including power sources.
8. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
9. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
10. Present land use based on satellite imagery for the study area of 10 km radius.
11. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
12. Details of the total land and break-up of the land use for green belt and other uses.
13. List of products alongwith the production capacities.
14. Detailed list of raw material required and source, mode of storage and transportation.
15. Manufacturing process details alongwith the chemical reactions and process flow chart.
16. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
17. Ambient air quality monitoring at 6 locations within the study area of 5 km., aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
18. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM₁₀, SO₂, NO_x including HC and VOCs should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
19. Air pollution control measures proposed for the effective control of gaseous emissions within permissible limits.
20. Name of all the solvents to be used in the process and details of solvent recovery system.
21. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
22. Details of water and air pollution and its mitigation plan
23. Action plan to control ambient air quality as per NAAQES Standards notified by the Ministry on 16th September, 2009.
24. An action plan to control and monitor secondary fugitive emissions from all the sources.
25. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
26. Source and permission for the drawl of 99 m³/day water from the competent authority. Water balance chart including quantity of effluent generated recycled and reused and discharged. Efforts shall be made to reduce ground water drawl.
27. Action plan for 'Zero' discharge of effluent should be included.
28. Ground water quality monitoring minimum at 6 locations should be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
29. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste.
30. Action plan for the management of fly ash generated from boiler should be included. Tie-up or agreement with brick manufacturer to be provided.
31. Precautions to be taken during storage and transportation of hazardous chemicals should be clearly mentioned and incorporated.
32. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they will utilized all the organic solid waste generated.
33. A copy of 'Memorandum of Understanding' (MoU) signed with coal supplier for imported coal and brick manufacturers for management of fly ash.

34. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
35. Material Safety Data Sheet for all the Chemicals are being used/will be used. CAS No./RTECS No./DOT/UN etc to be mentioned against each chemicals.
36. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
37. Risk assessment for storage for chemicals/solvents. Action plan for handling & safety system.
38. An action plan to develop green belt in 33 % area. Layout plan for green belt shall be provided.
39. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
40. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.
 - iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
41. Socio-economic development activities should be in place.
42. Note on compliance to the recommendations mentioned in the CREP guidelines.
43. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure should be provided.
44. EMP should include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
45. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
46. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
47. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee prescribed the above ToRs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the State Pollution Control Board for conducting public hearing/consultation. The

EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP submitted to the Ministry for obtaining environmental clearance.

12.5.16 Product Mix Change in Organic Titanates Manufacturing Unit at TalukaPardi, District Valsad, Gujarat by M/s Skyline Polycats Pvt. Ltd.-regarding TORs.

The Committee noted that project proposal falls under critically polluted area, i.e. Vapi (CEPI-85.31). As per Ministry's O. M. dated 17th September, 2013, Ministry has re-imposed moratorium on consideration of project. As on date, moratorium has not been lifted in respect of Vapi, Gujarat. Therefore, project cannot be considered for award of TOR.

12.5.17 Resin Manufacturing Unit at Opp. Dadashri Nagar, Malia Road, Morbi, Gujarat by M/s OM Lamcoat Pvt. Ltd.-regarding TORs.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All Synthetic Organic Chemicals Industry located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'A' and appraised at Central level.

M/s OM Lamcoat Pvt. Ltd. have proposed for setting up of resin manufacturing unit at Opp. Dadashri Nagar, Malia Road, Morbi, Gujarat. Total plot area is 13456 m² of which greenbelt will be developed in 4440 m². Cost of project is Rs. 80 lakhs. Following products will be manufactured:

S.N.	Product	Quantity
1	Phenol Formaldehyde Resin	400 MTPM
2	Melamine Formaldehyde Resin	150 MTPM
3	Urea Formaldehyde Resin	150 MTPM
4	H P Decorative Laminated Sheets	1,50,000 Nos./Month

Multicyclone dust collector will be provided to coal/biomass fired steam boiler thermic fluid heater. Scrubber will be provided to Melamine and phenol formaldehyde dryer. Total water requirement will 47.456 m³/day. Out of which, fresh water requirement from ground water source will be 42.9 m³/day and remaining will be met from recycled water. Industrial effluent will be treated in ETP. ETP sludge will be sent to TSDF. Used oil will be sent to registered recyclers. No effluent will be discharged outside the plant premises.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project
2. Justification of the project.
3. Photographs of proposed plant site.
4. Promoters and their back ground.
5. Regulatory framework.
6. A map indicating location of the project and distance from severely polluted area
7. Project location and plant layout.
8. Infrastructure facilities including power sources.
9. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
10. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
11. Present land use based on satellite imagery for the study area of 10 km radius. Details of land availability for the project alongwith supporting document.

12. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
13. Details of the total land and break-up of the land use for green belt and other uses.
14. List of products alongwith the production capacities.
15. Detailed list of raw materials required and source, mode of storage and transportation.
16. Manufacturing process details alongwith the chemical reactions and process flow chart.
17. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
18. Ambient air quality monitoring at 6 locations within the study area of 5 km. aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
19. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM10, PM2.5, SO₂, NO_x including VOCs shall be collected. The monitoring stations shall take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring shall also be included.
20. Air pollution control measures viz. Multi-cyclone and bag filter etc. shall be proposed for the effective control of gaseous emissions within permissible limits.
21. Control methanol emission from drying section.
22. Details of VOC monitoring system in the working zone environment, if any.
23. Name of all the solvents to be used in the process and details of solvent recovery system.
24. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
25. Details of water and air pollution and its mitigation plan.
26. An action plan to control and monitor secondary fugitive emissions from all the sources.
27. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
28. Permission for the drawl of 42.9 m³/day ground water from CGWA. Water balance chart including quantity of effluent generated recycled and reused and discharged.
29. Action plan for 'Zero' discharge of effluent shall be included.
30. Treatment of phenol in the effluent, if any.
31. Ground water quality monitoring minimum at 6 locations shall be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
32. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste. Action plan for the disposal of fly ash generated from boiler shall be included.
33. Precautions to be taken during storage and transportation of hazardous chemicals shall be clearly mentioned and incorporated.
34. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
35. List of hazardous chemicals (as per MSIHC rule) with toxicity levels.
36. A write up on "Safe Practice" followed for methanol handling, storage, transportation and unloading to be submitted.
37. A write up on "Treatment of workers affected by accidental spillage of methanol/phenol".
38. Locating the plant in open area instead of covered to be reviewed in view of safety consideration.
39. An action plan to develop green belt in 33 % area

40. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
41. Details of occupational health programme.
 - i. To which chemicals, workers are exposed directly or indirectly.
 - ii. Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii. What measures company have taken to keep these chemicals within PEL/TLV.
 - iv. How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v. What are onsite and offsite emergency plan during chemical disaster.
 - vi. Liver function tests (LFT) during pre-placement and periodical examination.
42. Details of occupational health surveillance programme.
43. Socio-economic development activities shall be in place.
44. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure shall be provided.
45. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
46. Corporate Environmental Responsibility
 - (a) Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company has a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
47. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
48. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
49. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee prescribed the above TORs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the Gujarat Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP report submitted to the Ministry for obtaining environmental clearance.

12.5.18 Resin Manufacturing Unit at Village Kanera, TalukaKheda, District Kheda, Gujarat by M/s AIM Laminar Pvt. Ltd.-regarding TORs.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All Synthetic Organic Chemicals Industry located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'A' and appraised at Central level.

M/s AIM Laminar Pvt. Ltd. have proposed for setting up of Resin Manufacturing Unit at Village Kanera, TalukaKheda, District Kheda, Gujarat. Total plot area is 14164 m² of which greenbelt will be developed in 4674.12 m². Cost of project is Rs. 1.0 Crore. Following products will be manufactured:

S.N.	Product	Quantity
1	Phenol Formaldehyde Resin	1000 MTPM
2	Melamine Formaldehyde Resin	500 MTPM
3	Urea Formaldehyde Resin	1000 MTPM

Multicyclone dust collector will be provided to coal/biomass fired steam boiler thermic fluid heater. Scrubber will be provided to Melamine and phenol formaldehyde dryer. Total water requirement will 37 m³/day. Out of which, fresh water requirement from ground water source will be 27 m³/day and remaining will be met from recycled water. Industrial effluent will be treated in ETP. ETP sludge will be sent to TSDF. Used oil will be sent to registered recyclers. No effluent will be discharged outside the plant premises.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project
2. Justification of the project.
3. Photographs of proposed plant site.
4. Promoters and their back ground.
5. Regulatory framework.
6. A map indicating location of the project and distance from severely polluted area
7. Project location and plant layout.
8. Infrastructure facilities including power sources.
9. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
10. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
11. Present land use based on satellite imagery for the study area of 10 km radius. Details of land availability for the project alongwith supporting document.
12. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
13. Details of the total land and break-up of the land use for green belt and other uses.

14. List of products alongwith the production capacities.
15. Detailed list of raw materials required and source, mode of storage and transportation.
16. Manufacturing process details alongwith the chemical reactions and process flow chart.
17. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
18. Ambient air quality monitoring at 6 locations within the study area of 5 km. aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
19. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM10, PM2.5, SO₂, NO_x including VOCs shall be collected. The monitoring stations shall take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring shall also be included.
20. Air pollution control measures viz. Multi-cyclone and bag filter etc. shall be proposed for the effective control of gaseous emissions within permissible limits.
21. Control methanol emission from drying section.
22. Details of VOC monitoring system in the working zone environment, if any.
23. Name of all the solvents to be used in the process and details of solvent recovery system.
24. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
25. Details of water and air pollution and its mitigation plan.
26. An action plan to control and monitor secondary fugitive emissions from all the sources.
27. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
28. Permission for the drawl of 27 m³/day ground water from CGWA. Water balance chart including quantity of effluent generated recycled and reused and discharged.
29. Action plan for 'Zero' discharge of effluent shall be included.
30. Treatment of phenol in the effluent, if any.
31. Ground water quality monitoring minimum at 6 locations shall be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
32. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste. Action plan for the disposal of fly ash generated from boiler shall be included.
33. Precautions to be taken during storage and transportation of hazardous chemicals shall be clearly mentioned and incorporated.
34. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
35. List of hazardous chemicals (as per MSIHC rule) with toxicity levels.
36. A write up on "Safe Practice" followed for methanol handling, storage, transportation and unloading to be submitted.
37. A write up on "Treatment of workers affected by accidental spillage of methanol/ phenol".
38. Locating the plant in open area instead of covered to be reviewed in view of safety consideration.
39. An action plan to develop green belt in 33 % area
40. Action plan for rainwater harvesting measures at plant site shall be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
41. Details of occupational health programme.

- i. To which chemicals, workers are exposed directly or indirectly.
 - ii. Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii. What measures company have taken to keep these chemicals within PEL/TLV.
 - iv. How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v. What are onsite and offsite emergency plan during chemical disaster.
 - vi. Liver function tests (LFT) during pre-placement and periodical examination.
42. Details of occupational health surveillance programme.
 43. Socio-economic development activities shall be in place.
 44. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure shall be provided.
 45. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
 46. Corporate Environmental Responsibility
 - (a) Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company has a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
 47. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
 48. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
 49. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee prescribed the above TORs for preparation of EIA/EMP reports. The proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the Gujarat Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA

Notification, 2006. The concerns raised alongwith the replies during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP report submitted to the Ministry for obtaining environmental clearance.

12.5.19 Exploratory Drilling(6 Nos.) in the NELP Block CY-OSN-2009/2 in Cauvery Off-shore Sedimentary Basin, Off the Coast of Thoothukudi (Tuticorin), Tamil Nadu by M/s Oil India Ltd.- regarding TORs.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP. All the projects related to offshore and onshore Oil and Gas exploration, development and production are listed in para 1(b) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level.

M/s Oil India Ltd. have proposed for exploratory Drilling(6 Nos.) in the NELP Block CY-OSN-2009/2 in Cauvery Off-shore Sedimentary Basin, Off the Coast of Thoothukudi (Tuticorin), Tamil Nadu. Total block area is 1621 km². OIL is a operator having 50 % participating interest (PI) with ONGCL (50 %). Cost of project is USD \$ 79.48 million. It was informed that all wells are 22 km away from the coast. Coordinates of CY-OSN-2009/2 Block are as given below:

Coordinates						
Point	Longitude			Latitude		
	Deg	Min.	Sec.	Deg.	Min.	Sec.
A	78	50	00	09	04	19.51
B	79	22	11.05	09	04	19.51
C	79	14	09	08	49	21
D	79	03	45	08	47	56
E	78	52	07	08	44	02
F	78	50	00	08	44	5.77
A	78	50	00	09	04	19.51

Only water based drilling mud will be used. The quantity of drilling cuttings generated will be around 300-400 m3. Water requirement for domestic and drilling will be 30 m3/day.

After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. Executive summary of the project.
2. No. of exploratory wells for which environmental clearance is accorded and No. of new wells proposed during expansion. Status and No. of the wells which are completed and closed.
3. Project Description and Project Benefits;
4. Distance from coast line.
5. Commitment for no drilling will be carried within 1.0 Km.
6. Details of sensitive areas such as coral reef, marine water park, sanctuary and any other eco-sensitive area.
7. Approval for the forest land from the State/Central Govt. under Forest (Conservation) Act, 1980, if applicable.
8. CRZ clearance as per CRZ Notification dated 6th January, 2011.

9. Climatology and meteorology including wind speed, wave and currents, rainfall etc.
10. Base line data collection for surface water for one season leaving the monsoon season within 1 km for each exploratory wells, particularly in respect of oil content.
11. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, waste water generation and discharge.
12. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
13. Procedure for handling oily water discharges from deck washing, drainage systems, bilges etc.
14. Procedure for preventing spills and spill contingency plans.
15. Procedure for treatment and disposal of produced water.
16. Procedure for sewage treatment and disposal and also for kitchen waste disposal.
17. Procedure for handling solid waste and any waste segregation at source for organic, inorganic and industrial waste.
18. Storage of chemicals on site.
19. Commitment for the use of WBM and synthetic oil based mud in special case.
20. Risk assessment and mitigation measures including whether any independent reviews of well design, construction and proper cementing and casing practices have been followed.
21. Handling of spent oils.
22. Handling of oil from well test operations.
23. Mud make up and mud and cuttings disposal procedures.
24. H2S emissions control plans, if required.
25. Details of all environment and safety related documentation within the company in the form of guidelines, manuals, monitoring programmes including Occupational Health Surveillance Programme etc.
26. Restoration plans and measures to be taken for decommissioning of the rig and restoration of on-shore support facilities on land.
27. Documentary proof for membership of common disposal facilities, if required.
28. Any litigation pending against the project or any directions/order passed by any Court of Law against the project. If so, details thereof.
29. Total capital and recurring cost for environmental pollution control measures.
30. A tabular chart with index for point-wise compliance of above TOR.

The following general points should be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

The Committee decided that the proponent should prepare EIA/EMP Report based on the above TORs. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The final EIA/EMP alongwith 'Certificate of Accreditation' issued by the QCI should be submitted to the Ministry for obtaining environmental clearance. The committee noted that public hearing is not required as project site is located in off-shore.

12.5.20 Drilling Operations for On-shore Oil & Gas Exploration at Cambay Basin, Block CB-ONN-2010/11 in Ahmedabad & Anand Districts, Gujarat by M/s Gail (India) Ltd.-regarding TORs.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP. All the projects related to offshore and onshore Oil and Gas exploration, development and production are listed in para 1(b) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level.

M/s Gail (India) Ltd. have proposed for Drilling Operations for On-shore Oil & Gas Exploration at Cambay Basin, Block CB-ONN-2010/11 in Ahmedabad & Anand Districts, Gujarat. It is proposed to drill 8 wells. Block area is 131 sq. km. Production sharing contract (PSC) was signed between the Government of India and GAIL (India) Ltd. on 28th March, 2012. The acquired block is situated in Ahmedabad and Anand Districts, Gujarat along the north-western coastal region of India. The block is surrounded by Dholi town in the North-West, Moti Boru in the South-West, Kenwal Talav in the South East and Khada in the North East. Sabarmati River passes through the block and flows from Northeast to South direction of the block. The block does not involve any forest land. The cost of project is Rs. 160 Crore. The block coordinates are as given below:

Point	Latitude	Longitude
A	72°20'54.00"	22°35'00"
B	72°29'1.83"	22°35'00"
C	72°28'58.00"	22°33'29"
D	72°26'50.00"	22°31'26"
E	72°27'8.00"	22°28'35"
F	72°21'40.00"	22°28'41"

Depth of drilling will be between 2000 m to 2500m. Estimated drilling period of each well will be 60 days. The exploration wells will be drilled using an electric land rig of 1000 HP, equipped with a rotary /top drive system. Water based fluid will be used for drilling. Water requirement for drilling will be 40 m³/day. Diesel consumption will be 4 kl/day. Waste water

Generation will be 8 m³/day/well. Spent Oil will be sent to authorized recyclers. Drill Cuttings generation will be 200MT per well.

After detailed deliberations, the Expert Appraisal Committee prescribed the following TORs for preparation of EIA/EMP:

1. Executive summary of a project
2. Project description, project objectives and project benefits.
3. Site details within 1 km of the each proposed well, any habitation, any other installation/activity, flora and fauna, approachability to site, other activities including agriculture/land, satellite imagery for 10 km area.
4. Details of forest land involved in the proposed project. A copy of forest clearance letter, if applicable.
5. Permission from the State Forest Department regarding the impact of the proposed plant on the surrounding National Park/Wild life Sanctuary /Reserve Forest/Eco sensitive area, if any. Approval obtained from the State/Central Government under Forest (Conservation Act, 1980 for the forestland should be submitted.
6. Distance from nearby critically/severely polluted area as per Notification dated 13th January, 2010, if applicable.
7. Does proposal involves rehabilitation and resettlement? If yes, details thereof.
8. Details of project cost.
9. Details of all the facilities including CGS, GGS, OCS, produced water treatment etc to be installed. If existing facilities, give details.
10. Environmental considerations in the selection of the drilling locations for which environmental clearance is being sought. Present any analysis suggested for minimizing the foot print giving details of drilling and development options considered.
11. Baseline data collection for air, water and soil for one season leaving the monsoon season in an area of 10 km radius with centre of Oil Field as its centre covering the area of all proposed drilling wells.
 - (i) Topography of the project site.
 - (ii) Ambient Air Quality monitoring at 8 locations for PM₁₀, SO₂, NO_x, VOCs, Methane and non-methane HC.
 - (iii) Soil sample analysis (physical and chemical properties) at the areas located at 5 locations.
 - (iv) Ground and surface water quality in the vicinity of the proposed wells site.
 - (v) Climatology and Meteorology including wind speed, wind direction, temperature rainfall relative humidity etc.
 - (vi) Measurement of Noise levels within 1 km radius of the proposed wells.
 - (vii) Vegetation and land use; Animal resources
12. Incremental GLC as a result of DG set operation.
13. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.

14. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, waster water generation and discharge.
15. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
16. Treatment and disposal of waste water.
17. Treatment and disposal of solid waste generation.
18. Disposal of spent oil and loose materials.
19. Storage of chemicals and diesel at site.
20. Commitment for the use of WBM only
21. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
22. Hazardous material usage, storage accounting and disposal.
23. Disposal of packaging waste from site.
24. Oil spill emergency plans in respect of recovery/ reclamation.
25. H₂S emissions control.
26. Produced oil handling and storage.
27. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
28. Details of control of air, water and noise pollution in oil collection system.
29. Disposal of produced/formation water.
30. Whether any burn pits being utilized for well test operations.
31. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.
32. Measures to protect ground water and shallow aquifers from contamination.
33. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.
34. Environmental management plan.
35. Documentary proof of membership of common disposal facilities, if any.
36. Details of environmental and safety related documentation within the company including documentation and proposed occupational health and safety Surveillance Safety Programme for all personnel at site. This should also include monitoring programme for the environmental.
37. Total capital and recurring cost for environmental control measures.

38. A copy of Corporate Environment Policy of the ONGC as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 available on the Ministry's website.
39. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
40. Any litigation pending against the project and or any direction/order passed by any court of law against the project. If so details thereof.
41. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- (v) A copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- (vi) The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues have been incorporated.
- (vii) Certificate of Accreditation' issued by the QCI to the environmental consultant should be included.

It was decided that TORs prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA/EMP report for the above mentioned project in addition to all the relevant information as per the Generic Structure of EIA given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report should be submitted to the State Pollution Control Board for separate public hearing to be conducted for all Districts. The issues emerged and response to the issues raised during public hearing should be incorporated in the EIA report.

12.5.21 Manufacturing Synthetic Organic Chemical at Plot.No. 769/6, Jhagadia Industrial Estate, Jhagadia District Bharuch, Gujarat by M/s AEIDAN Industries.- regarding TORs.

The proponent did not attend the meeting. The Committee decided to consider the proposal as and when requested by the project proponent.

12.5.22 Manufacturing Biaxially Oriented Polypropylene (BOPP) at AL-24/1,(SEZ Unit) Five Star Industrial area, MIDC Shendra Village Shendra, Aurangabad, Maharashtra by M/s COSMO films Ltd.-regarding TORs.

M/s COSMO films Ltd. have proposed for setting up of Biaxially Oriented Polypropylene (BOPP) Manufacturing Unit at AL-24/1,(SEZ Unit) Five Star Industrial area, MIDC Shendra Village Shendra, Aurangabad, Maharashtra. Project proponent informed that as per consent to establish received from Maharashtra Pollution Control Board, unit has to obtained environment clearance for further processing of the plant. But as per EIA Notification, 2006, product is not falling under any schedule in the notification. Further, the

project proponent requested to exempt the manufacturing of the said product from environmental clearance.

After detailed deliberation, the Committee desired following additional information:

- (a) Details of raw materials to be used.
- (b) Details of manufacturing process along with chemical reactions.
- (c) Details of all the associated units to be installed.
- (d) Since built up area of industrial building is 65000 m², view of construction project sector may be obtained.

The proposal is deferred till the desired information is submitted. The above information shall be provided with the uploading of minutes on the website.

12.5.23 Expansion of Agro Chemicals & Fine Chemical Manufacturing Unit (from 8.334 TPM to 30 TPM) at Plot No. 138 part, Village Kudikadu, Tehsil and District Cuddalore, Tamil Nadu **by M/s Indo International Fertilizer Ltd.- regarding TORs.**

The project authorities and their consultant (M/s Team Labs and Consultants) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Term of References for the preparation of EIA/EMP. All units producing technical grade pesticides are listed at S.N. 5(b) under category 'A' and appraised at Central level.

M/s Indo International Fertilizer Ltd. have proposed forexpansion of Agro Chemicals & Fine Chemical Manufacturing Unit (from 8.334 TPM to 30 TPM) at Plot No. 138 part, Village Kudikadu, Tehsil and District Cuddalore, Tamil Nadu. Total plot area is 1.38 acres. Cost of expansion project is Rs. 2.0 Crore. It is reported the no forest land is involved and proposal does not attract CRZ notification, Wildlife (Protection) Act and Forest (Conservation) Act. Project site is located 0.38 Km away from the Uppanar Stream. Following products will be manufactured:

S.N.	Name of the product	Category	Capacity (TPM)	
			Existing	After Expansion
1	DAAM (Di Acetone Acryl amide)	Chemical	8.334	8.334
2	4-HBAGE		1.25	--
3	CCDMPA Acid		0.25	--
4	Imazathapyr	Insecticide	--	10
5	Imidacloprid		--	20
6	Buprofezin		--	25
7	Acephate		--	30
8	Diclofop methyl		--	20
9	Propiconazole	Fungicide	--	20
10	Tricyclazole		--	30
11	Myclobutanil		--	10
12	Hexaconazole		--	10
13	Flucarbazone sodium	Herbicide	--	20
14	Pretilachlor		--	30
15	Amicarbazone		--	15

16	Glyphosate		--	15
17	Metribuzin		--	25
18	Endothall		--	10

Only one product will be manufactured on campaign basis. Maximum production capacity of 30 TPM with 1 to 3 products on campaign bases will be manufactured.

Scrubber will be provided to control process emissions viz. HCl and ammonia. Total water requirement will be increased from 34.75 m³/day to 48.3 m³/day after expansion. Out of 48.3 m³/day, fresh water requirement of 34.75 m³/day will be met from SIPCOT Water supply and remaining water quantity will be met from recycled water. Trade effluent generation will be 14.55 m³/day. Effluent will be segregated into High TDS/COD and Low TDS/COD effluent streams. High TDS/COD effluent stream will be treated through steam stripper followed by multiple effect evaporator (MEE) and agitated thin film drier (ATFD). Low TDS/COD effluent stream will be treated in effluent treatment plant (ETP) followed by RO. No effluent will be discharged outside the premises and 'Zero' effluent discharge concept will be adopted. Inorganic & evaporation salt and ETP sludge will be sent to Treatment Storage Disposal Facility (TSDf) for hazardous waste. Fly ash will be sold to brick manufacturers. Waste oil and used batteries will be sold to authorized recyclers/re-processors. Copy of land lease deed dated 9.01.2012 is submitted. Copy land transfer letter dated 29.10.2010 issued by SIPCOT is submitted.

After detailed deliberations, the Expert Appraisal Committee prescribed the following TORs for preparation of EIA/EMP:

1. Executive summary of the project
2. Justification of the project.
3. Promoters and their back ground.
4. Regulatory framework.
5. Plant layout alongwith details of facility.
6. A copy of Gazette Notification issued by the Govt. of Tamil Nadu indicating location of the project in notified SIPCOT should be included necessarily.
7. Copy of NOC (consents to establish) for existing unit
8. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB.
9. A certified copy of the report of the status of compliance of the conditions stipulated in the environmental clearance and Consent to Operate for the ongoing / existing operation of the project by the Regional Office of the Ministry of Environment and Forests and SPCB concerned.
10. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
11. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, compliance to the notice(s)
12. Infrastructure facilities including power sources.
13. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
14. Project site location alongwith photographs and site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
15. Present land use based on satellite imagery for the study area of 10 km radius.
16. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
17. Details of the total land and break-up of the land use for green belt and other uses.
18. List of products alongwith the production capacities.
19. Detailed list of raw material required and source, mode of storage and transportation.
20. Manufacturing process details alongwith the chemical reactions and process flow chart.

21. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
22. Ambient air quality monitoring at 6 locations within the study area of 5 km., aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
23. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM10, SO₂, NO_x, CO including HC and VOCs should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
24. Air pollution control measures proposed for the effective control of gaseous emissions within permissible limits.
25. Name of all the solvents to be used in the process and details of solvent recovery system.
26. Design details of ETP, incinerator, if any alongwith control of Dioxin & Furan, boiler, scrubbers/bag filters etc.
27. Details of water and air pollution and its mitigation plan
28. An action plan to control and monitor secondary fugitive emissions from all the sources.
29. Action plan for odour assessment and control to be submitted.
30. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. Air quality modelling for proposed plant.
31. Source and quantity of fresh water requirement. Water balance chart including quantity of effluent generated recycled and reused and discharged. Recycling /Reuse of treated effluent to the maximum extent.
32. Action plan for 'Zero' discharge of effluent should be included.
33. Ground water quality monitoring minimum at 6 locations should be carried out. Geological features and Geo-hydrological status of the study area and ecological status (Terrestrial and Aquatic).
34. The details of solid and hazardous wastes generation, storage, utilization and disposal particularly related to the hazardous waste calorific value of hazardous waste and detailed characteristic of the hazardous waste. Action plan for the management of fly ash generated from boiler should be included.
35. Precautions to be taken during storage and transportation of hazardous chemicals should be clearly mentioned and incorporated.
36. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they will utilized all the organic solid waste generated.
37. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF.
38. Risk assessment for storage for chemicals/solvents.
39. Material safety data sheet to be submitted. CAS No./RTECS No./DOT/UN etc to be mentioned against each chemicals.
40. An action plan to develop green belt in 33 % area. Layout map indicating greenbelt to be submitted.
41. Action plan for rainwater harvesting measures at plant site should be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
42. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Thresh Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.

- iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
43. Details of occupational health surveillance programme.
 44. Socio-economic development activities shall be in place.
 45. Note on compliance to the recommendations mentioned in the CREP guidelines.
 46. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure shall be provided.
 47. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
 48. Total capital cost and recurring cost/annum for environmental pollution control measures.
 49. Corporate Environmental Responsibility
 - (a) 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.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company have a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
 50. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
 51. A tabular chart with index for point wise compliance of above TORs.

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included.

It was decided that TORs prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of detailed report for the above mentioned project in addition to all the relevant information as per the Generic Structure of EIA given in Appendix III and IIIA in the EIA Notification, 2006. After detailed deliberations, the Committee exempted the public hearing as per Section 7 (i), III Stage (3), Para (i) (b) of EIA Notification 2006, subject to submission of authentic document from the State Govt. indicating that the project is located in the notified industrial area. The final EIA/EMP report shall be submitted to the Ministry for obtaining environmental clearance.

12.5.24 Expansion of Sugar (from 4500-12000 TCD), Molasses based Distillery (from 60KLPD to 160 KLPD) and Cogeneration Power Plant (from 22 MW to 50 MW) at Village Shetfalgade, Tehsil Indapur, District Pune, Maharashtra **by M/s Baramati Agro Ltd.- regarding TORs.**

M/s Baramati Agro Ltd. have proposed for expansion of Sugar (from 4500-12000 TCD), Molasses based Distillery (from 60KLPD to 160 KLPD) and Cogeneration Power Plant (from 22 MW to 50 MW) at Village Shetfalgade, Tehsil Indapur, District Pune, Maharashtra. Sugar unit was established in the year of 2006-07 with crushing capacity of 2500 TCD, which was expanded to 4500 TCD in the year 2010-11. Environmental Clearance was obtained on 15.04.2008 for distillery (60 KLPD). Sugar factory will be expanded from 4500 TCD to 12000 TCD by modernizing and adding new machineries. The cogen power plant of 28 MW will be added to cater the requirement of additional steam and power. Surplus will be fed to grid. Sugar Unit, Distillery and Cogeneration Power Plant will be operated for 160 days, 259 days and 270 days respectively. Total cost of expansion project is Rs. 385 Crore. Plot area is 110 acres. Water requirement distillery will be 1600 m³/day. Spent wash from distillery unit will be treated in biomethanation plant followed by MEE and bio-composting.

After deliberations, the Committee desired to obtain inspection report from the Regional Office. Inspection report shall include spent wash treatment system of the existing distillery unit. The proposal is deferred till the inspection report by the Regional Office is submitted.

12.5.25 Expansion of Sugar (from 4500 to 7000 TCD), Distillery (60KLPD) and Cogen Power (from 14.75MW to 30 MW) at Village Rai Kankavatinagar, Tehsil Kannad District Aurangabad, Maharashtra **by M/s Baramati Agro Ltd.-regarding TORs.**

M/s Baramati Agro Ltd. have proposed for expansion of Sugar (from 4500 to 7000 TCD), Distillery (60KLPD) and Cogen Power (from 14.75MW to 30 MW) at Village Rai Kankavatinagar, Tehsil Kannad District Aurangabad, Maharashtra. Total plot area is 161 acres. Total cost for expansion will be 221.55 Crore. Sugar unit will be expanded from 4500 TCD to 7000 TCD. The cogen power plant of 15.25 MW will be added to cater the requirement of additional steam and power. Surplus will be fed to grid. Molasses based Distillery (60 KLPD) will be operated for 270 days. The existing factory was closed after 31.10.2007 due to financial constraint. Water requirement for sugar, cogen and distillery will be 225 m³/day, 1765 m³/day and 600 m³/day respectively. Spent wash from distillery unit will be treated in biomethanation plant followed by MEE and bio-composting.

After deliberations, the Committee prescribed the following TORs for the preparation of draft EIA/EMP:

1. A separate chapter on status of compliance of Environmental Conditions granted by State/Centre to be provided. As per circular dated 30th May, 2012 issued by MoEF, a certified report by RO, MoEF on status of compliance of conditions on existing unit to be provided in EIA/EMP report.
2. Executive summary of the project.
3. Compliance of environmental conditions prescribed by the SPCB for the existing sugar & Distillery unit
4. Detailed breakup of the land area along with latest photograph of the area.
5. Present land use based on satellite imagery.
6. Details of site and information related to environmental setting within 10 km radius of the project site.

7. Location of National Park/Wild life sanctuary/Reserve forest within 10 km radius of the project.
8. Permission from the State Forest Department regarding the impact of the proposed plant on the surrounding reserve forest.
9. Environment clearance for the existing unit issued by the Ministry (reasons, if not obtained), Consent to Operate and Authorization accorded by the MPCB.
10. List of existing distillery units in the study area alongwith their capacity.
11. Number of working days of the sugar, distillery unit and CPP.
12. Total cost of the project along with total capital cost and recurring cost/annum for environmental pollution control measures.
13. Manufacturing process details of sugar plant, distillery and CPP alongwith process flow chart.
14. Details of raw materials and source of raw materials i.e. molasses, bagasse etc.
15. Sources and quantity of fuel (coal etc.) for the boiler. Measures to take care of SO₂ emission. A copy of Memorandum of Understanding (MoU) signed with the coal suppliers should be submitted, in case coal is used.
16. Action plan prepared by the SPCB to control ambient air quality as per NAAQES Standards for PM₁₀, PM_{2.5}, SO₂ and NO_x as per GSR 826(E) dated 16th November, 2009.
17. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM₁₀, SO₂, NO_x and HC (methane & non methane) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
18. Mathematical modeling for calculating the dispersion of air pollutants and ground level concentration along with emissions from the boiler.
19. An action plan to control and monitor secondary fugitive emissions from all the sources.
20. Details of boiler and its capacity. Details of the use of steam from the boiler.
21. Ground water quality around existing spent wash storage lagoon and the project area.
22. Details of water requirement, water balance chart for sugar, distillery and co-generation plant. Measures for conservation water by recycling and reuse to minimize the fresh water requirement.
23. Prior 'permission' from Competent Authority for the drawl of total fresh water. Details of source of water supply.
24. Hydro-geological study of the area for availability of ground water.
25. Proposed effluent treatment system for sugar unit and distillery as well as CPP and scheme for achieving 'zero' discharge.
26. Lagoon capacity for sugar unit and spent wash as well measures to be taken to control ground water contamination.
27. Details of solid waste management including management of boiler ash. Submit Ash management plan. MoU with cement plant for the use of fly ash.
28. Green belt development as per the CPCB guidelines.
29. List of flora and fauna in the study area.
30. Noise levels monitoring at five locations within the study area.
31. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure should be provided.
32. EMP should also include the concept of waste-minimization, recycle/reuse/ recover techniques, Energy conservation, and natural resource conservation.
33. Details of bagasse storage. Details of press mud requirement.

34. Action plan for rainwater harvesting measures at plant site should be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
35. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.
 - iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
 - viii) Details of socio-economic welfare activities to be provided.
36. Traffic study of the area for the proposed projects in respect of existing traffic, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
37. Action plan for post-project environmental monitoring.
- 38. Corporate Environmental Responsibility**
 - (a) 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.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company have a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
39. Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if so, details thereof.
40. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
41. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- vi. The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter and that raised in Public Hearing/consultation along with duly filled in Industry Sector questionnaire. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues and the issues raised in the Public hearing have been incorporated.
- vii. 'Certificate of accreditation' issued by QCI to the environmental consultant should be included.

The Committee decided that the proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the State Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns emerged during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP submitted to the Ministry for obtaining environmental clearance.

12.5.26 Proposed Molasses Based Distillery (45 KLPD) at Gat No.74 and 79 Village Mangrul, Tehsil Tuljapur, District-Osmanabad Maharashtra by M/s Kancheshwar Sugar Ltd.- regarding TORs.

The project authorities and their consultant gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All molasses based distillery are listed at S.N. 5(g) (i) under category 'A' and appraised at Central level.

M/s Kancheshwar Sugar Ltd. have proposed for setting up of Molasses Based Distillery (45 KLPD) at Gat No.74 and 79 Village Mangrul, Tehsil Tuljapur, District-Osmanabad Maharashtra. Distillery Unit will be installed in the existing sugar unit. Total plot area is 26 ha. of which greenbelt will be developed in 1.0 ha. Cost of the project is Rs. 26.94 Crore. No forest land is involved. Following products will be manufactured:

S.N.	Product	Quantity
1	Rectified Spirit (RS)	1350 KL/M
2	Extra Neutral Alcohol	1260 KL/M
3	Absolute Alcohol	1200 KL/M
By-product		
4	Fusel Oil	2.7 KL/M
5	Compost	24812 MTPA

ESP alongwith Stack (65 m) will be provided to boiler (85 TPH). Fresh water requirement from Harni River will be 452 m³/day. Spent wash generation will be 200 m³/day and treated in biomethanation plant followed by MEE and bio-composting. MEE condensate, spent lees, cooling tower blow down will be treated in ETP. Yeast sludge will be bio-composted.

After deliberations, the Committee prescribed the following TORs for the preparation of draft EIA/EMP:

1. Executive summary of the project.
2. Detailed break up of the land area alongwith latest photograph of the area.
3. Present land use based on satellite imagery.
4. Details of site and information related to environmental setting within 10 km radius of the project site. A copy of toposheet of the area indicating reserve forests, wildlife sanctuary, water bodies, barren land etc.
5. Information regarding eco-sensitive area such as national park / wildlife sanctuary / biosphere reserves within 10 km radius of project area.
6. Recommendations from the State Forest Department regarding the impact of the proposed plant on the surrounding reserve forest.
7. List of existing distillery units in the study area alongwith their capacity.
8. Number of working days of the distillery unit.
9. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.

10. Manufacturing process details of distillery plant and CPP alongwith process flow chart.
11. Details of raw materials and source of raw material including sugar cane/ molasses.
12. Sources and quantity of fuel (coal etc.) for the boiler. Measures to take care of SO₂ emission. A copy of Memorandum of Understanding (MoU) signed with the coal suppliers should be submitted.
13. Action plan to control ambient air quality as per NAAQES Standards for PM₁₀, PM_{2.5}, SO₂ and NO_x as per GSR 826(E) dated 16th November, 2009.
14. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM₁₀, PM_{2.5}, SO₂, NO_x and HC (methane & non methane) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
15. Mathematical modeling for calculating the dispersion of air pollutants and ground level concentration along with emissions from the boiler.
16. Details of boiler and its capacity. Details of the use of steam from the boiler.
17. Ground water quality around proposed spent wash storage lagoon and the project area.
18. Details of water requirement, water balance chart for Molasses based Distillery (45 KLPD), Co-generation plant (18 MW). Measures for conservation water by recycling and reuse to minimize the fresh water requirement.
19. Water requirement should not exceed 10 Kl/Kl of alcohol (i.e. 450 m³/day) for distillery unit. Source of water supply and prior 'permission' for the drawl of total fresh water from the Competent Authority should be obtained.
20. Hydro-geological study of the area for availability of ground water.
21. Spentwash generation should not exceed 8Kl/ Kl of alcohol production.
22. Proposed effluent treatment system for molasses based distillery (spent wash and spent lees) as well as CPP and scheme for achieving 'zero' discharge.
23. Lagoon capacity for sugar unit and spent wash.
24. Details of solid waste management including management of boiler ash. MoU with cement plant for the use of fly ash.
25. Composting plan shall be submitted as per CPCB guidelines.
26. Green belt development as per the CPCB guidelines.
27. List of flora and fauna in the study area.
28. Noise levels monitoring at five locations within the study area.
29. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure should be provided.
30. EMP should also include the concept of waste-minimization, recycle/reuse/ recover techniques, Energy conservation, and natural resource conservation.
31. Risk assessment for storage and handling of alcohol and mitigation measure due to fire and explosion and handling areas.
32. Alcohol storage and handling area fire fighting facility as per OISD norms.
33. Provision of Foam System for fire fighting to control fire from the alcohol storage tank.
34. Action plan for rainwater harvesting measures at plant site should be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
35. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.

- iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
36. Details of socio-economic welfare activities.
37. Traffic study of the area for the proposed projects in respect of existing traffic, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
38. Action plan for post-project environmental monitoring.
39. Corporate Environmental Responsibility
- (e) 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.
 - (f) Does the Environmental 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 report.
 - (g) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (h) Does the company have a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
40. Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if so, details thereof.
41. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
42. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- vi. The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter and that raised in Public Hearing/consultation alongwith duly filled in Industry Sector questionnaire. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues and the issues raised in the Public hearing have been incorporated.

The Committee decided that the proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the Maharashtra Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns emerged during the Public Hearing / Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP submitted to the Ministry for obtaining environmental clearance.

12.5.27 Expansion of Sugar Factory (from 2500 TCD to 5500 TCD) and Cogeneration Power Plant (from 12 MW to 32 MW) at Village

**NajikBabhulgaon, Tehsil Shevgaon, District Ahmednagar, Maharashtra by
M/s Gangamai Industries and Construction Ltd- regarding TORs.**

The project authorities and their consultant (Bhagavathi Ana Labs Ltd.) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken alongwith the draft Term of References for the preparation of EIA/EMP report. All thermal power plants (biomass or non-hazardous municipal solid waste as fuel) are listed at S.N. 1(d) under category 'A' and appraised at Central level. Sugar unit \geq 5000 TCD cane crushing is listed at 5 (J) under category 'B' and appraised at state level. Since project is integrated and capacity of the CPP is $>$ 15 MW (78 MW), the proposal is appraised at Central level.

M/s Gangamai Industries and Construction Ltd have proposed for expansion of Sugar Factory (from 2500 TCD to 5500 TCD) and Cogeneration Power Plant (from 12 MW to 32 MW) at Village NajikBabhulgaon, Tehsil Shevgaon, District Ahmednagar, Maharashtra. Total plot area of the existing unit is 27.06 ha. Proposed expansion will be carried out in the existing premises. Following products will be manufactured:

S.N.	Product	Existing	Additional	Capacity after expansion
1	Sugar	8250 MTPM	9900 MTPM	18150 MTPM
2	Co-generation	12 MW	20 MW	32 MW
By-product				
1	Molasses	3000 MTPM	3600 MTPM	6600 MTPM
2	Bagasse	22500 MTPM	27000 MTPM	49500 MTPM
3	Pressmud	3000 MTPM	3600 MTPM	6600 MTPM

ESP alongwith adequate stack height will be provided to bagasse fired boiler (30 TPH + 10 TPH). Water requirement for the existing unit is 951 m³/day. Out of which 331 m³/day will be taken from river and remaining 600 m³/day is sourced from condensate water. Water requirement for the proposed expansion will be 1113 m³/day. Out of which, 393 m³/day will be taken from river and remaining 720 m³/day will be sourced from condensate water. Industrial effluent generation will be increased from 270 m³/day to 590 m³/day after expansion. Industrial effluent will be treated in ETP. Treated effluent will be used for irrigation purpose. ETP sludge will be used as manure. Spent oil will be sent to authorized recycler/re-processor. Boiler ash will be used as filler material for spent was bio-composting process.

After deliberations, the Committee prescribed the following TORs for the preparation of draft EIA/EMP:

1. A separate chapter on status of compliance of Environmental Conditions granted by State/Centre to be provided. As per circular dated 30th May, 2012 issued by MoEF, a certified report by RO, MoEF on status of compliance of conditions on existing unit to be provided in EIA/EMP report.
2. Executive summary of the project.
3. Detailed breakup of the land area along with latest photograph of the area.
4. Present land use based on satellite imagery.
5. Details of site and information related to environmental setting within 10 km radius of the project site.
6. Location of National Park/Wild life sanctuary/Reserve forest within 10 km radius of the project.
7. Permission from the State Forest Department regarding the impact of the proposed plant on the surrounding reserve forest.
8. Environment clearance for the existing unit issued by the Ministry (reasons, if not obtained), Consent to Operate and Authorization accorded by the MPCB.

9. List of industrial units in the study area alongwith their capacity.
10. Number of working days of the sugar unit and CPP.
11. Total cost of the project along with total capital cost and recurring cost/annum for environmental pollution control measures.
12. Manufacturing process details of sugar plant and CPP alongwith process flow chart.
13. Details of raw materials and source of raw material.
14. Sources and quantity of fuel (coal etc.) for the boiler. Measures to take care of SO₂ emission. A copy of Memorandum of Understanding (MoU) signed with the coal suppliers should be submitted, in case coal is used.
15. Action plan prepared by the SPCB to control ambient air quality as per NAAQES Standards for PM₁₀, PM_{2.5}, SO₂ and NO_x as per GSR 826(E) dated 16th November, 2009.
16. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) for PM₁₀, SO₂, NO_x and HC (methane & non methane) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Data for water and noise monitoring should also be included.
17. Mathematical modeling for calculating the dispersion of air pollutants and ground level concentration along with emissions from the boiler.
18. An action plan to control and monitor secondary fugitive emissions from all the sources.
19. Details of boiler and its capacity. Details of the use of steam from the boiler.
20. Ground water quality around existing spent wash storage lagoon and the project area.
21. Details of water requirement, water balance chart for Sugar, distillery and Co-generation plant. Measures for conservation water by recycling and reuse to minimize the fresh water requirement.
22. Prior 'permission' from Competent Authority for the drawl of total fresh water. Details of source of water supply.
23. Hydro-geological study of the area for availability of ground water.
24. Proposed effluent treatment system for sugar unit as well as CPP and scheme for achieving 'zero' discharge.
25. Lagoon capacity for sugar unit as well measures to be taken to control ground water contamination.
26. Details of solid waste management including management of boiler ash. Submit Ash management plan. MoU with cement plant for the use of fly ash.
27. Green belt development as per the CPCB guidelines.
28. List of flora and fauna in the study area.
29. Noise levels monitoring at five locations within the study area.
30. Detailed Environment management Plan (EMP) with specific reference to details of air pollution control system, water & wastewater management, monitoring frequency, responsibility and time bound implementation plan for mitigation measure should be provided.
31. EMP should also include the concept of waste-minimization, recycle/reuse/ recover techniques, Energy conservation, and natural resource conservation.
32. Details of bagasse storage. Details of press mud requirement.
33. Action plan for rainwater harvesting measures at plant site should be included to harvest rainwater from the roof tops and storm water drains to recharge the ground water.
34. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.

- iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
 - viii) Details of socio-economic welfare activities to be provided.
35. Traffic study of the area for the proposed projects in respect of existing traffic, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
36. Action plan for post-project environmental monitoring.
- 37. Corporate Environmental Responsibility**
- (a) 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.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company have a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
38. Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if so, details thereof.
39. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
40. A tabular chart with index for point-wise compliance of above TORs.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should be also attached as an annexure to the final EIA-EMP Report.
- vi. The final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter and that raised in Public Hearing/consultation along with duly filled in Industry Sector questionnaire. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report where the above issues and the issues raised in the Public hearing have been incorporated.
- vii. 'Certificate of accreditation' issued by QCI to the environmental consultant should be included.

The Committee decided that the proponent should prepare EIA/EMP Report based on the above TORs and submit the same to the State Pollution Control Board for conducting public hearing/consultation. The EIA/EMP Report should be as per the generic structure given in Appendix-III of EIA Notification, 2006. The concerns emerged during the Public Hearing/ Consultation should be incorporated in the EIA/EMP Report and the final EIA/EMP submitted to the Ministry for obtaining environmental clearance.

12.6.1 **Proposed Coal Handling Plant, Coal based Gasification at District Jagatsinghpur, Orissa by Paradeep Phosphate Ltd. regarding TORs – Site Visit Report.**

INSPECTION NOTE ON THE M/s. PARADEEP PHOSPHATES LIMITED

M/s. Paradeep Phosphates Ltd. submitted Form-1 and Pre-feasibility Report for the proposed expansion of DAP and for new facilities for construction of coal handling plant, coal based gasification, ammonia, urea, nitric acid, ammonium nitrate, GSSP and Aluminium fluoride at Paradeep, Odisha. These facilities will be constructed in the existing plant premises of the fertilizer unit. The proposal was considered by EAC during its meeting on 5th April, 2013. The Committee deferred the consideration of the expansion proposal. It was decided to constitute a Sub-Committee of the EAC for visiting the proposed site to take a view on existing environmental conditions, likely change in SO₂ emission load due to proposed expansion and also due to other industries operating in the area and other environmental concerns including solid waste disposal problem.

A Sub-Committee headed by Dr. R.K. Garg, EAC Member, Dr. V.P. Upadhyay, MoEF, Dr. N.L.N.S. Prasad, Regional Office, MoEF, Bhubneshwar along with Regional Officer, State Pollution Control Board, Odisha visited the site on 19.08.2013. A discussion on the project was held with the project authorities on 18.08.2013 before making a visit to the existing operations and proposed site for new facilities. M/s. Paradeep Phosphates Ltd. has earlier been accorded environmental clearance by the Ministry of Environment & Forests, the details are given below:

S.No	EC DETAILS	FACILITIES
1.	Fertilizer Project (Phase-II) J-11011/17/86-IA.II dated 23.07.1990	4400 tonnes DAP with annual production of 1.1 MTPA
2.	Retrofitting from 750 MTPD to 1400 MTPD of Phosphoric Acid Plant and installation of additional train of 2000 MTPD Sulphuric Acid Plant. J-11011/251/2003-IA.II(I) dated 02.12.2004	DCDA technology for Sulphuric Acid Plant, Sulphur Muck and ETP Sludge to be used as filler material in DAP Plant. Gypsum (7000 TPD) to be disposed in Gypsum Pond and also will be sold to Cement Companies, used for soil reclamation and Gypsum Board.
2.	Expansion of fertilizer plant by retrofitting in existing plant for manufacture of Sulphuric Acid from 2000 to 2400 TPD and DAP from 2400 to 5000 TPD. J-11011/370/2009-IA.II(I) dated 05.10.2010	Ultimate capacity after expansion will be 2x1200 TPD for Sulphuric Acid, 4x1250 TPD for DAP. CPP of 2x16 MW based on waste heat. Total water requirement 15000 m ³ per day to be sourced from Taldanda Canal.

Paradeep region has recently been a preferred region for development of Industries. The Ministry of Environment & Forests has accorded environmental clearance to following development projects in Paradeep as per the information available in the regional office as well as on the website of the Ministry:

- (i) Integrated fishery harbor project at Paradeep PPT (J-16011/6/1988-IA dated 10.04.1989)
- (ii) Multipurpose cargo berth at Paradeep PPT (J-16011/14/1990-IA dated 01.07.1992)
- (iii) Two coal handling berths at Paradeep PPT (J-16011/15/1990-IA.III dated 04.10.1992)
- (iv) Extension of southquay at Paradeep PPT (J-16011/14/1990-IA.III dated 13.06.1990)

- (v) Oswal chemicals & fertilizers Ltd. Paradeep, IFFCO (J-11011/34/97-IA.II dated 31.07.1998)
- (vi) Retrofitting & installation of Phos. & Sulph. Plants, pplParadeep (J-11011/251/2003-IA.II(I) dated 12.02.2004)
- (vii) Fourtlaning of NH from Chandikhol to Paradeep M/s. Nhai (j-21012/9/2003-IA-II dated 16.03.2005)
- (viii) Setting up of captive minor port at Jatadhnarmohan creek hear Paradeep by M/s. POSCO India Pvt. Ltd., in District Jagarsinghpur (10-9/2006-IA-III dated 15.05.2007)
- (ix) Construction of g+6 floor dopple weather radar building by India meteorological department at Paradeep, Jagatsinghpur, District, Orissa (10-37/2007-IA-III ddated 31.12.2007)
- (x) Integrated steel plant (6.00 MTPA) at Paradeep, Jagatsinghpur, Orissa by M/s. Essar Steel Orissa Limited (J-11011/129/2007-IA-II(I) dated 29.05.2008)
- (xi) 4 MTPY integrated steel plant by M/s. POSCO India Ltd. (J-11011/285/2007-IA.II(I) dated 19.07.2007)
- (xii) 15 MTPA refinery along with SPM-II of Paradip refinery project (formerly known as eastern India refinery project of 9 MMTPA capacity) located at village Abhaychandrapur, Jagarsinghpur, Orissa by M/s. Indian Oil corporation Ltd. (J-11011-70/2007-IA.II(I) dated 06.07.2007)
- (xiii) 60 MW coal based captive thermal power project at village Bijaychandrapur in Jagatsinghpur district, Orissa by M/s. Essar Power Orissa Ltd.
- (xiv) Expansion of fertilizer plant by retrofitting in existing plant for manufacturing of Sulphuric acid (2000 TPD -2400 TPD) and DAP (2400 TPD-5000 TPD at PPL township, Paradeep, district Jagatsighpur, Orissa by M/s. Paradeep Phosphates Ltd.
- (xv) Construction of southern dock complex , multipurpose berth and oil jetty, Orissa by Paradeep Port Limited (11-117/2009-IA.III dated 13.07.2012)
- (xvi) Additional Tankage project at Paradeeplighterage terminal (10-39/2007-IA.III dated 12.09.2007)

Further, there is a proposal to develop this region under Petroleum Chemicals and Petrochemicals Investment Region (PCPIR) for establishing Petroleum Complex and other downstream industries. As per reports, Odisha will have PCPIR for which the Cabinet Committee on Economic Affairs (CCEA) has given its nod to set it up a PCPIR in Paradeep. The government expects to attract investments of Rs 2.78 trillion. Indian Oil Corporation Ltd (IOCL), which is building a three lakh barrels per day refinery at Paradeep , has been identified as the "anchor tenant" for the petrochemicals investment region.

The fertilizer plant was inspected on 18.08.2013 & 19.08.2013 to verify the operational status of different processes/ plants and pollution control measures adopted by the industry. Mr. Kiran Joshi, Vice President (Operation & Corporate Planning), Mr. Harish Doshi, GM (Production), Mr. P.K. Panda, GM (P&A), Mr. Ranjit Mishra, Sr. Manager (Corporate Planning) and Mr. SudamBarik, Sr. Manager (Env.) of the industry were present during the inspection. This industry is having production capacity of 4x1250 TPD of DAP & NP grade fertilizer with intermediate products i.e. Sulphuric Acid 2x1200 TPD and Phosphoric Acid 1400 TPD. The unit has also captive power plant of capacity 32 MW based on Waste Head Recovery Boiler of Sulphuric Acid Plant (2x8 MW) and Furnace Oil (16 MW). Consent to operate has been granted to the industry for production of following which was valid up to 31.03.2013.

1. Phosphatic Fertilizer (DAP) - 5000 TPD
2. Sulphuric Acid - 2400 TPD
3. Phosphoric Acid -1400 TPD
4. Electric Energy - 32 MW

5. Zypmite - 240 TPD
(Trial operation for production of 240 TPD (10 TPH) Zypmite had been granted by OSPCB which was valid up to 23.11.2012)

Operational Status and environmental compliance in existing unit:

During inspection, various process areas were visited. Various inspection reports of OSPCB and regional office Bhubaneswar were reviewed including the compliance report of M/s PPL. The status of compliance is as follows:

Sulphuric Acid Plant:

The Sulphuric acid plant consisting of two streams (2x1200 TPD) has adopted the following pollution control measures:

- (i) A common Alkali scrubber to both the streams to control SO₂ emission during startup/power failure time followed by two separate stack of height 120 meters each.
- (ii) 16 MW power generations through two Waste Heat Recovery Boiler of 53 TPH each in its CPP from the waste heat of SAPs.
- (iii) Sulphuric Acid plant is based on DDCA process and Vanadium Pentoxide is used as Catalyst. The amount of Vanadium Pentoxide(V₂O₅) has increased from 171 KL to 205 KL for higher conversion efficiency and low SO₂/SO₃emission.It was stated that by increasing the amount of catalyst, SO₂ emission is to be maintained less than 2 Kg SO₂ / MT of 100% H₂SO₄.
- (iv) The industry is using demister pad candle filter made up of Alloy in place of polygon filter, which is corrosion resistant and more efficient to retain Acid mist droplets.
- (v) Continuous SO₂ monitor in the stack has been installed.
- (vi) Hot water from the boiler blow down is recovered and reused in phosphoric acid plant to reduce the effluent load.
- (vii) Sulphur muck generated from SAP is being used as filler in DAP.
- (viii) Stack gas monitoring of SAP stream-I and the SO₂ concentration was found within the prescribed standard as per report of OSPCB.

Phosphoric Acid Plant :

- (i) To produce Phosphoric acid, Rock phosphate is taken into a reactor after wet grinding in ball mills through a conveying system. Rock phosphate reacts with H₂SO₄, to produce phosphoric acid and phospo-gypsum. Phosphoric acid is taken to the evaporator after filtration through belt filters followed by clarifier. Phosho-gypsum is taken to gypsum ponds as slurry after washing.
- (ii) Wet scrubber has been provided for control of fluoride emission followed by stack of 50 meters.
- (iii) For effective control of fugitive emission in grinding section, dust scrubbing frequency is once in a week.
- (iv) To scrub the fluoride compounds released from reactor, filter, Vacuum cooling Circulation (VCC) system and evaporator fumes scrubber with fluorine recovery unit is being installed. Commissioning is yet to be done.
- (v) The Agglomerated Dust Suppression (ADS) system at zero point is installed to control fugitive emission.
- (vi) Monitoring conducted by OSPCB at PAP stack after scrubber indicate that PM level is within the prescribed standard.

Di-Ammonium Phosphate Plant (DAP) :

The unit has adopted following pollution control measures :

- (i) Collection sumps are provided for collection of process effluent, spillage etc. & recycled it to process. Other wash water of plant is discharged to central effluent sump and pumped to ETP for treatment.
- (ii) Cyclone has been installed for higher load operation to recover the fertilizer dust from air and combustion gases up to 20 micron size.
- (iii) The dust liquor pump has been modified to improve dust scrubbing in ventury scrubbers.
- (iv) Additional fume fans are installed in Tail Gas (TG) scrubber to control the escape of the mist through stack of TG scrubber.
- (v) The Condensate recovery system has been installed.
- (vi) The Dilute sulphuric acid addition in TG scrubber to reduce NH₃ emission.
- (vii) The Water scrubbing is done in TG scrubber to reduce PM emission.
- (viii) Stack monitoring conducted by OSPCB at 3 stacks of DAP plant shows monitoring results within limit.

Zypmite Plant :

The unit was in operation during the visit. It is stated that it is a pilot plant. Noise level is very high and is a serious occupation hazard. People are also not using PPP devices which indicate lack of awareness among contract employees. Acoustic enclosure is needed. The following raw materials in TPD are used for manufacturing of Zypmite*:

S.No.	NAME OF RAW MATERIALS	QUANTITY IN TPD
1.	Gypsum	180.50
2.	Dolomite / Slag	24
3.	Bentonite	12
4.	Zinc Sulphate	21.5
5.	Borax pentahydrate	2

**Information from OSPCB*

The product will be used a nutrient amendment for agriculture crops.

Power Plant :

The unit has Captive Power Plant of power generation capacity 32 MW based on WHRB of SAP and Furnace Oil Boilers.

Effluent Treatment Plant (ETP)

All effluent drains are connecting to a central effluent collection sump where, the effluent is pumped to ETP for treatment. The treated effluent is stored in holding ponds and is being used for dust suppression and rest is periodically discharged to outside low lying areas joining the nearby creek. OSPCB collected water samples from different Test wells, storm water drains, stagnant water near east side of Gypsum pond, inlet to ETP, inlet to STP, outlet to STP etc. for analysis on 25.05.2013. The analysis report is attached. Fluoride level is very high in natural water bodies and storm water drain, thus needing immediate investigation

Sewage Treatment Plant (STP)

The STP is designed to treat 150 m³/hr of sewage, located at about 3 Km. from PPL township. The sewage is collected in a sump before treatment in STP, which consists of equalization tank, aeration tanks, primary and secondary clarifier and chlorination tank. The treated effluent is discharged to nearby low lying land. There is scope of reuse of treated STP water.

Gypsum Pond:

Phospho-Gypsum generated from the Phosphoric plant (@ 5.0 ton/ ton of product is pumped into Gypsum storage area having provisions for recycling of supernatant water.

The industry was issued Show Cause Notice by the Pollution Control Board vide letter dated 22.04.2013 for not adhering to various environmental norms particularly on account of leakage in the Gypsum Pipe line. In response to show cause notice, it was stated by Vice President, Paradeep Phosphates Ltd. that industry has undertaken following precautionary measures for up-gradation of Gypsum slurry pipeline and return water line to the Plant.

- (i) The Gypsum slurry line and return water line was adjacent to the plant boundary which has been relocated away from the boundary wall.
- (ii) The unit has provided alarm facilities to track discharge of pipe line in case of leakages.
- (iii) A new concrete bridge has been constructed over the Shamakotri Creek (Branch of Atharabanki Creek) replacing the old steel bridge in order to strengthen the support structures and pipe lines over the new bridge. Covering has been made over the bridge to prevent escaping gypsum slurry to the creek.
- (iv) The welding joints over the new bridge have been carried out using electro-fusion couplers to ensure leak proof conduit.
- (v) The unit has proposed to provide neutralization pit along the slurry pipe line at both end of the bridge to reclaim spill materials if any. Earth work has been started and the work will be completed before 31st December, 2013 as reported.
- (vi) The unit has also proposed to provide 04 numbers of surge breakers and 03 numbers of draining nozzles which are being provided in pipe line from plant to Gypsum pond and 03 numbers of surge breakers and 03 numbers of draining nozzles in pipeline from Gypsum pond to Plant. The job will be completed by end of December, 2013 as reported.
- (vii) Instructions have been given to the transporter to ensure proper loading of trucks, not to over speed to avoid any spillages during transportation of Gypsum from Gypsum Pond area to railway siding. Any Gypsum spills during transportation shall be removed immediately.
- (viii) MOP is stored in the recovered shed / silo. About 100 meters of retaining wall of height 2-3 feet has been provided along with drain connected from DAP Plant area to zero point area.

During the visit, it was observed that land development for installation additional train of 2000 TPD for SAP and civil work was going on. MECS Technology with heat recovery system has been selected and contract signed for license for basic engineering and supply of proprietary items. HRS system will result in significant reduction in CO₂ emissions. One new sulphuric acid storage tank of 10,000MT capacity along with transfer pumps has been constructed.

There is a proposal to construct new gypsum pond in an area of 50 ha and conceptual design of the pond has been made and submitted to the OSPCB for approval. The project plans to use Gypsum after neutralization as bed material of new Gypsum pond. This needs serious R&D study before allowing use of neutralized gypsum for development of new pond. The project authorities stated that they have good amount of data from world over to show, which was asked to be submitted.

The pollution control board has made following observations :

(a) Yet to achieve Compliance :

1. The industry has installed online AAQ monitoring at their time office for parameters No_x, SO₂, NH₃ and PM_{2.5} etc. and connected with server of the Board, but has delayed in installation of another 3 number of on line AAQ monitoring station and further connect them to the server of the Board.
2. Online SO₂ stack analyzer at SAP and online stack monitoring at DAP Stream-C has been installed, but not connected to the server of the Board. The online

stack monitoring at DAP plant was not working due to high moisture contain in flue gas as reported.

3. The online pH meter installed at outlet at ZERO point and online Fluoride meter installed at the outlet ETP should be connected with the server of the Board to transmit real time data.
4. The industry has not installed digital display Board at the factory gate to display the real time data from monitoring stations.
5. Murrate of Potash is now kept under a shed, but traces of material during handling is expected to spread on the ground. The industry is required to collect the runoff from this area and treat in settling tanks of adequate size and reuse the water without any discharge to outside.

(b) Complied:

1. The industry is utilizing treated water of ETP for dust suppression and gardening purpose through sprinkling system.
2. The industry has installed online ammonia detectors with alarming system at Ammonia storage tanks area (1 No.), Ship unloading point (1 No.), plant unloading point (1 No.) and at DAP Plant (2 Nos.).
3. The industry has developed hazardous waste landfill site in its premises.
4. The scrubbed liquid from SAP plant is pumped to ETP for treatment.
5. The peripheral dyke has been provided all around gypsum pond.
6. The wash water from cake washing & other units is discharged to Gypsum pond which is recycled.

Other observations:

The present day technology permits the phosphatic fertilizer plants to implement zero discharge. All the treated water from STP is being let out in spite of treatment. Further, treated water after ETP has also a discharge point. The industrial use of 'Taladanda canal' water has become an issue of major conflict between farmers and industries. The situation will worsen further in coming days as two major steel plants and one largest oil refinery are being established which will share the same water resource.

Therefore, it was suggested that project must Implement rain water harvesting and achieve 100% recycling of treated effluents. However, PAP plant of the unit runs is closed cycle. Although water balance has not been made scientifically yet it is seen that treated water from respectively STP and ETP is being discharged to the outside.

From the monitoring reports, the following observations require action for compliance:

- Housekeeping particularly in DAP section and recovery system for fluoride need improvement.
- Water auditing/budgeting should be carried out. Details on the total quantity of effluent generated and quantity of water recycled to be submitted
- Evt. Management Cell should be strengthened & headed with suitably qualified technical person.
- Rainwater harvesting to be carried out at the project site.
- Report on the occupational health surveillance to be submitted.
- Details on the activities and expenditure incurred on the CSR.

The unit was issued closure notice earlier under Section 5 of E (P) Act, 1986, by the OSPCB. The Orissa High Court has stayed the closure notice on a petition filed by PPL management. OSPCB has moved to Supreme Court challenging the order of High Court. The Hon'ble Supreme Court, in its order dated 07.07.2010, disposed the special leave Petition with the following observations; "*In view of the subsequent developments and various orders passed by this Court as well as the reports filed by the Central/State Pollution*

Control Board, we are of the view, that adjudication is require at this juncture by this Court. However, both the Central and State Pollution Board are permitted to monitor the performance of the respondents then and there”.

Further requirement for better environmental management

The industry, although has taken measures to improve the environment quality, there are still opportunities to implement various measures towards resource conservation and environmental management. This can be achieved only when industry has complete inventory of resources, wastes and energy in each operational area. While carrying out the inspection the Committee observed lack of data to make an assessment of environmental impact of existing operations. Following details have been requested :

- (i) A note on Phosphogypsum may be made and provided to the Committee which may include scenario of use of Phosphogypsum world over and in India and also about future prospect / recent technological developments. Gypsum sale data for the last two years with details of buyers with month-wise inventory of existing stock and sale.
- (ii) Prospects of use of Gypsum in soil correction especially on agriculture land and effort made by M/s. PPL in this direction so far.
- (iii) Zypmite Pilot Project details with design and product to be made and survey report from the market about prospects of Zypmite use in India.
- (iv) Online data of SO₂ emission with load based figures for the last two years or from the period the online SO₂ monitoring system was installed. Manual monitoring data of SO₂ and data obtained from Pollution Control Board should be compared to for the above period and submitted. New H₂SO₄ Plant must complied with the emission standard of SO₂ with 1 mg per ton of H₂SO₄ Produced.
- (v) Fluoride recovery unit design details and material balance with all information about recovery and conversion of fluoride into product and efficiency. Fluoride balance should be provided for the whole unit including the proposed expansion.

It is recommended that the non-compliance as observed by the Pollution Control Board and the regional office of Ministry of Environment & Forests should be complied by the industry. In addition, the suggestions / observations of the Sub-Committee as stated above should also be taken up for making action plan or achieving compliance.

Based on the observations of the Sub Committee during the visit, the Committee recommended the project for award of TOR for preparation of EIA/EMP report alongwith additional TOR based on observations/suggestions made by the Committee. After detailed deliberations, the Committee prescribed following TORs for undertaking detailed EIA/EMP study:

1. Executive summary of the project
2. Coal linkage documents alongwith coal characteristics.
3. Photographs of the proposed plant area
4. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP report.
5. A separate chapter on status of compliance of Environmental Conditions granted by State/Centre to be provided. As per circular dated 30th May, 2012 issued by MoEF, a certified report by RO, MoEF on status of compliance of conditions on existing unit to be provided in EIA/EMP report.
6. Environment clearance for the existing unit issued by the Ministry (reasons, if not obtained), Consent to Operate and Authorization accorded by the SPCB.

7. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, compliance to the notice(s)
8. Data for the stack emissions, fugitive emissions; water requirement and water balance chart; wastewater generation, treated effluent quality, re-utilization and disposal of solid/hazardous waste for the existing unit.
9. A site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. A photograph of the site should also be included.
10. Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
11. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
12. Location of national parks/wildlife sanctuary/reserve forests within 10 km. radius should specifically be mentioned. A map showing land use/land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
13. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
14. Coordinates of the plant site as well as ash pond with topo sheet co-ordinates should also be included.
15. Details and classification of total land (identified and acquired) should be included.
16. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
17. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department.
18. A list of industries containing name and type in 25 km radius should be incorporated.
19. List of raw material required, analysis of all the raw materials and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
20. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. coal etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per I30-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.), if applicable, should also be included.
21. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the amount present in it and hence future risk involved while using it and management plan.
22. Action plan for excavation and muck disposal during construction phase.
23. Studies for fly ash, muck, slurry, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.

24. Manufacturing process details alongwith the chemical reactions and process flow chart of all plants.
25. Mass balance for the raw material and products should be included.
26. Energy balance data for all the components of fertilizer plant including proposed power plant should be incorporated.
27. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
28. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
29. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
30. Ambient air quality monitoring and stack emission data for the relevant parameters including PM₁₀, PM_{2.5}, SO₂, NO_x, CO, NH₃, HC (Methane and Non-methane) and VOCs.
31. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
32. Air quality modelling for the proposed project for specific pollutants needs to be done.
33. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.
34. Ambient air quality modelling along with cumulative impact should be included for the day (24 hrs) for maximum GLC along with following :
 - i. Emissions (g/second) with and without the air pollution control measures
 - ii. Meteorological inputs (wind speed, m/s), wind direction, ambient air temperature, cloud cover, relative humidity & mixing height) on hourly basis
 - iii. Model input options for terrain, plume rise, deposition etc.
 - iv. Print-out of model input and output on hourly and daily average basis
 - v. A graph of daily averaged concentration (MGLC scenario) with downwind distance at every 500 m interval covering the exact location of GLC.
 - vi. Details of air pollution control methods used with percentage efficiency that are used for emission rate estimation with respect to each pollutant
 - vii. Applicable air quality standards as per LULC covered in the study area and % contribution of the proposed plant to the applicable Air quality standard. In case of expansion project, the contribution should be inclusive of both existing and expanded capacity.
 - viii. No. I-VII are to be repeated for fugitive emissions and any other source type relevant and used for industry
 - ix. Graphs of monthly average daily concentration with down-wind distance
 - x. Specify when and where the ambient air quality standards are exceeded either due to the proposed plant alone or when the plant contribution is added to the background air quality.
 - xi. Fugitive dust protection or dust reduction technology for workers within 30 m of the plant active areas.
35. Air pollution control measures proposed for the effective control of gaseous emissions within permissible limits.
36. Plant-wise air pollution control measures proposed for the control of emissions from all the sources particularly uncontrolled NO_x emission and method to control NO_x.

37. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
38. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided. The alternate method of raw material and end product transportation should also be studied and details included.
39. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
40. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity, drainage and distance from project site should also be included. Information regarding surface hydrology and water regime should be included.
41. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
42. Ground water modelling showing the pathways of the pollutants should be included
43. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
44. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
45. Permission for the drawl of water from the State Irrigation Department or concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
46. A note on the impact of drawl of water on the nearby River during lean season.
47. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
48. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean River discharge as well as flood occurrence frequency.
49. Details of water requirement for proposed project. Water balance chart for proposed project including water intake, effluent generated, recycled and reused and discharged is to be provided.
50. Action plan to reduce fresh water requirement. Methods adopted/to be adopted for the water conservation should be included.
51. Design details of the ETP and STP as well as air pollution control equipments (Bag filters/ wet scrubber etc.). Installation of Continuous TOC analyzer to holding tank before discharge of effluent.
52. Action plan for 'Zero' discharge of effluent should be included.
53. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
54. The pathways for pollution via seepages, evaporation, residual remains are to be studied for surface water (drainage, rivers, ponds,

- and lakes), sub-surface and ground water with a monitoring and management plans.
55. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital.
 56. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources, middlings/rejects and fly ash. Copies of MOU regarding utilization of ash should also be included.
 57. Detailed ash management including characterization, leachability study, stability and suitability for backfilling in mine out area and alternate use of ash.
 58. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
 59. Details of phenol recovery unit and tarry waste management.
 60. Odour control management if any.
 61. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. should be included. The green belt should be around the project boundary and a scheme for greening of the travelling roads should also be incorporated. All rooftops/terraces should have some green cover.
 62. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
 63. Occupational health:
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Thresh Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.
 - iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
 - vii) Details of occupational health surveillance programme.
 64. 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 should be detailed in the EIA report.
 65. 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.

66. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure needs to be constructed and the agency responsible for the same with time frame.
67. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures should be included.
68. Plan for the implementation of the recommendations made for the Fertilizer plants in the CREP guidelines must be prepared.
69. Full Quantitative Risk Assessment & Disaster Management Plan should include:
 - i. Identification of hazards
 - ii. Consequence Analysis
 - iii. Determination of Individual Risk and Societal Risk
 - iv. Proposed measures for risk reduction.
 - v. Petroleum vapour intrusion impact study.
70. A note on Phosphogypsum may be made and provided to the Committee which may include scenario of use of Phosphogypsum world over and in India and also about future prospect / recent technological developments. Gypsum sale data for the last two years with details of buyers with month-wise inventory of existing stock and sale.
71. Prospects of use of Gypsum in soil correction especially on agriculture land and effort made by M/s. PPL in this direction so far.
72. Zypmite Pilot Project details with design and product to be made and survey report from the market about prospects of Zypmite use in India.
73. Online data of SO₂ emission with load based figures for the last two years or from the period the online SO₂ monitoring system was installed. Manual monitoring data of SO₂ and data obtained from Pollution Control Board should be compared to for the above period and submitted. New H₂SO₄ Plant must comply with the emission standard of SO₂ with 1 mg per ton of H₂SO₄ Produced.
74. Fluoride recovery unit design details and material balance with all information about recovery and conversion of fluoride into product and efficiency. Fluoride balance should be provided for the whole unit including the proposed expansion.
75. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
76. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart.
77. A note on identification and implementation of Carbon Credit project should be included.
78. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof should also be included.

The following general points should be noted:

- i. All documents should be properly indexed, page numbered.
- ii. Period/date of data collection should be clearly indicated.
- iii. Authenticated English translation of all material in Regional languages should be provided.

- iv. The letter/application for environmental clearance should quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry should 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. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc.

It was decided that 'TORs' prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation should be provided. The draft EIA/EMP report shall be submitted to the Odisha Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

12.6.2 Expansion of Hazira Fertilizer Complex (Ammonia 6.1 to 6.6 Lakh MTPA and Urea 10.56 to 11.55 Lakh MTPA) at District Surat, Gujarat by M/s Krishak Bharati Cooperative Limited- Amendment in Environmental Clearance reg.

Project proposal was considered in the 9th Reconstituted Expert Appraisal Committee (Industry) meeting held during 10th June, 2013–11th June, 2013 and the Committee desired following information in the form of comparative statement w.r.t capacity mentioned existing EC before taking decision on the matter:

- a). Status of air emissions viz. urea dust
- b). Water consumption quantity.
- c). Effluent generation and its treatment schemes.
- d). There is no additional land requirement.
- e). Generation of solid waste such as spent catalyst, spent resins, activated carbon, ETP sludge etc.
- f). Any additional land requirement.
- g). Any change in energy requirement.

Project proponent vide letter dated 13th August, 2013 has submitted following information :

a) Status of Air Emission viz Urea Dust:

Air Emissions from Prilling Tower (Kg/hr):

S.N.	Particulars	EC Granted (3500 MTPD Urea)	Amendment Requested (3850 MTPD Urea)
1	Particulate Matter	46.00 Kg/hr	47.50 Kg/hr
2	Ammonia	76.56 Kg/hr	79.20 Kg/hr

Gaseous Emissions - NO_x (Kg/hr)

S.N.	Particulars	EC Granted (3500 MTPD Urea)	Amendment Requested (3850 MTPD Urea)
1	NO _x	166.64 Kg/hr	165.60 Kg/hr

There will be a marginal increase in Air Emission from Prilling tower vis a vis the EC granted earlier.

All parameters will be kept well within the stipulated norms.

The emission levels may vary slightly depending upon final selection of the technology.

b) Water consumption quantity of the fertilizer complex (M³/day)

S.N.	Particulars	EC Granted (3500 MTPD Urea)	Amendment Requested (3850 MTPD Urea)
1	Water consumption	1 51,600 M ³ /day	Existing Plant: 341120 M ³ /day Expansion Proj: 19,500 M ³ /day Total: 53,620 M ³ /day Recycling by RO: (-) 5,610 M ³ /day Net requirement: 48,010 M ³ /day

- Over the years, KRIBHCO has reduced its water consumption by adopting various schemes. KRIBHCO is now planning to re-use /re-cycle the effluent generated by its existing plant as well as Hazira Expansion Project by installing Reverse Osmosis technology. About 5,610 M³/day effluent treated through RO will be re-used.
- Due to this, the water consumption for the whole fertilizer complex will decrease from 51,600 m³/day as indicated in the EC granted to 48,010 M³/day.
- KRIBHCO has contract with Gujarat Irrigation Department for 54,545 M³/day (12MGD) from Kakrapar dam through a dedicated pipeline. Therefore we will not tap ground water for the project.

c) Effluent generation and its treatment schemes

S.N.	Particulars	EC Granted (3500 MTPD Urea)	Amendment Requested (3850 MTPD Urea)
1	Existing plant	3,885 M ³ /day	3,885 M ³ /day
	Expansion Project	2,455 M ³ /day	2,776 M ³ /day
	Less recycling through RO	NIL	(-) 5,610 M ³ /day
	Net effluent generation	6,340 M ³ /day	1,000 M ³ /day

- Effluent generation of existing plant (3,885 M³/day) + proposed expansion (2,776 M³/day) will be around 6600 M³/day. Generated Liquid effluent will be treated by adopting Reverse Osmosis (RO) technology. Approximate recovery @ 85% is envisaged.
- Thus, out of 6,600 M³/day, approximately 5,610M³/day effluent will be recovered as RO permeate. RO permeate will be utilised as cooling tower make up. RO reject @15% of effluent [i.e. approx. 1000 M³/day) will be total effluent generate from the existing + proposed expansion. In totality, effluent generation will be about1000M³/day, including existing plant + proposed expansion.

d) Domestic sewage generation (M³/day)

S.N.	Particulars	EC Granted (3500 MTPD Urea)	Amendment Requested (3850 MTPD Urea)
1	Domestic Sewage	4,300 M ³ /day	4,300 M ³ /day

- STP of 5,000 M³/day followed by Tertiary treatment will be installed. The treated water is used as cooling water make-up. Sludge is dried & used for horticulture.

- There is no change in domestic Sewage Generation vis a vis EC already granted.

e) Land requirement

- As the expansion project is proposed within the boundaries of existing fertiliser complex, no additional land is required.
- No change in land cover/topography etc. is envisaged.

f) Generation of solid waste such as spent catalyst, spent resins, activated carbon, ETP

Sludge etc.

- Spent Catalyst will be disposed off as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008. The catalyst volume will not increase in same proportion as capacity increase. Final catalyst volume will be available after technology selection.
- Spent oils generated from the proposed expansion will be disposed off as per Hazardous Waste Management, Handling & Trans boundary Movement) Rules,2008. CC&AfromGPCBhas granted 80 MTPYfor Spent Oil. Newer plants compressorhave dry gas seals so spent oil is much less.

g) Any other land requirement: no

h) Any change in energy requirement

S.N.	Particulars	EC Granted (3500 MTPD Urea)	Amendment Requested (3850 MTPD Urea)
1	Natural Gas	2.2 MMSCMD	2.2 MMSCMD
	Total Energy	18,700 GCal/Day	18,700 GCal/Day
	Urea Energy/MT	5.34 GCal/MT	4.85 GCal/MT

- Technological changes have taken place and now 2200 MTPD Ammonia/ 3850 MTPD Urea plant complex is more efficient in terms of energy requirement per MT of Urea produced.
- The new plants are more energy efficient and energy per MT of Urea is 4.85 Gcalagainst 5.34Gcal/MT for earlier plants.
- As such the natural gas requirement for 3850 MTPD Urea complex is same as 3500MTPD Urea complex. Thus there is no additional requirement of Natural gas/energy for increasing the above capacity.

After detailed deliberations, the Committee found the additional information adequate and recommended for the amendment in the EC for as referred above subject to the specific and general environmental conditions.

12.6.3 Storage Capacity Realignment at the existing Salwas Depot near Jodhpur (Rajasthan) to receive product from Mundra Delhi Pipeline by M/s HPCL– regarding Amendment in EC.

Project proposal was considered in the 10th Reconstituted Expert Appraisal Committee (Industry) meeting held during 29th July, 2013 to 31st July, 2013 and the Committee desired following information in the form of comparative statement w.r.t capacity mentioned existing EC before taking decision on the matter:

1. Risk assessment report for Salawas Depot and proposed pipeline.
2. Disaster Management Plan.
3. Safety plan for the proposed modification.
4. Action plan on MB Lal Committee's recommendation on installation of Oil Storages.
5. Environmental management plan for Salawas Depot

Project proponent vide letter dated 17th September, 2013 has submitted the above information:

After detailed deliberations, the Committee found the additional information adequate and recommended for the amendment in the EC for as referred above subject to the specific and general environmental conditions. However, other statutory clearances under the Air and Water Act, Forest Conservation Act as may be required in this case shall be obtained. All the necessary safety precautions should be adopted during implementation of project.

12.6.4 Additional Exploratory Drilling of 20 Wells in KG Offshore (IA, IB & IG, IE and IF) Block in Andhra Pradesh by M/s Oil and Natural Gas Corporation Ltd. (ONGCL) – regarding EC.

Project proposal was considered in the 9th Reconstituted Expert Appraisal Committee (Industry) meeting held during 10th June, 2013– 11th June, 2013 and the Committee desired following information:

- i. Copy of CRZ map prepared by one of the authorized agencies by the MoEF for carrying out the CRZ demarcation, on which the project boundary and facilities/well locations are superimposed.
- ii. Status of proposal of CRZ from SCZMA of AP.

Project proponent vide letter no. ONGC/CHSE/EC-KG-2013 dated 2nd September, 2013 has submitted CRZ map prepared by ISRO Ahmedabad. It was informed that the proposed exploratory drilling locations in these block are 1.7 to 21 Km away from the nearest coast and not falling in the inter tidal zone (HTL-LTL) of the coast. No permanent construction will be undertaken at the locations taken up for exploratory drilling. The committee noted that public hearing was not required as project site is located in off-shore.

After detailed deliberations, the Committee found the additional information and final EIA/EMP report adequate and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i. Total water requirement should not exceed 35 m³/day/well. Only water based mud should be used.
- ii. Water based drilling mud should be discharged to the sea after proper dilution as per E(P) Rules vide G.S.R 546(E) dated 30th August, 2005.
- iii. The Company should ensure that there should be no impact on flora fauna due to drilling of wells in the offshore sea. The company should monitor the petroleum hydrocarbons and heavy metals concentration in the marine fish species regularly and submit report to the Ministry.
- iv. Only high efficiency DG set with adequate stack height and modern emission control equipment and low sulphur clean diesel should be used. Acoustic enclosure should be provided to the DG sets to mitigate the noise pollution.
- v. Treated wastewater (produced water or formation water) should comply with the marine disposal standards notified under the Environment (Protection) Act, 1986. Sewage treatment on board of the rig as per MARPOL regulation. Residual chlorine should not exceed 1 mg/l before disposal.
- vi. The drill cutting (DC) wash water should be treated to conform to limits notified under the Environment (Protection) Act, 1986, before disposal into sea. The treated effluent should be monitored regularly.
- vii. All the guidelines should be followed for the disposal of solid waste, drill cutting and drilling fluids for onshore and offshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.

- viii. All the hazardous waste generated at the rig/offshore facility should be properly treated, transported to on shore and disposed of in accordance with the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. No waste oil should be disposed off into sea. Waste/Used oil should be brought on-shore and sold to MoEF/CPCB authorized recyclers/reprocessors only.
- ix. The company should undertake conservation measures to protect the marine animals/biota in the region.
- x. The International 'Good Practices' adopted by the Petroleum Industry viz International norms to safeguard the coastal and marine biodiversity should be implemented by the company.
- xi. Requisite infrastructure facilities should be provided near the offshore installations so that booms and skimmers/chemical dispersants could be deployed immediately in case of oil leakage from the installations. Efforts should be made to curtail the oil slick within 500 meters of the installation and accordingly, action plan and facilities to check the oil slick beyond 500 meters should be provided.
- xii. Approval from DG Shipping under the Merchant Shipping Act prior to commencement of the drilling operations should be obtained. At least 30 days prior to the commencement of drilling, the exact location should be intimated to the Director General of Shipping and the Company should abide by any direction he may issue regarding ensuring the safety of navigation in the area.
- xiii. The Company should take necessary measures to reduce noise levels such as proper casing at the drill site and meet DG set norms notified by the MoEF. Height of all the stacks/vents should be provided as per the CPCB guidelines.
- xiv. Gas produced during testing should be flared with appropriate flaring booms.
- xv. The flare system should be designed as per good oil field practices and oil industry Safety Directorate (OISD) guidelines. The stack height should be provided as per the regulatory requirements and emissions from stacks will meet the MOEF/CPCB guidelines.
- xvi. The design, material of construction, assembly, inspection, testing and safety aspects of operation and maintenance of pipeline and transporting the natural gas/oil should be governed by ASME/ANSI B 31.8/B31.4 and OISD standard 141.
- xvii. The project authorities should install SCADA system with dedicated optical fibre based telecommunication link for safe operation of pipeline and Leak Detection System. Intelligent pigging facility should be provided for the entire pipeline system for internal corrosion monitoring. Coating and impressed current cathodic protection system should be provided to prevent external corrosion.
- xviii. The project proponent should also comply with the environmental protection measures and safeguards recommended in the EIA /EMP /RA/NIO report.
- xix. On completion of activities, the well should be either plugged and suspended (if the well evaluation indicate commercial quantities of hydrocarbon) or killed and permanently abandoned with mechanical plugs and well cap. If well is suspended, it should be filled with a brine solution containing small quantities of inhibitors to protect the well.
- xx. Recommendations mentioned in the Risk Assessment & Consequence Analysis and Disaster Management Plan should be followed.
- xxi. Adequate funds both recurring and non-recurring should be earmarked to implement the conditions stipulated by the Ministry of Environment and Forests

as well as the State Government alongwith the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.

- xxii. A brief report on environmental status & safety related information in what form it is generated and measures taken as well as frequency of such reporting to the higher Authority should be submitted to this Ministry and its respective Regional Office.
- xxiii. Petroleum and Natural Gas (safety in Offshore Operations) Rules 2008 of OISD should be strictly adhered to.

12.6.5 Bulk Drug Unit at Sy. No. 544-546, Village & Mandal Bikanoor, District Nizamabad, Andhra Pradesh by M/s Virupaksha Organics Pvt. Ltd- regarding EC.

Project proposal was considered in the 7th Reconstituted Expert Appraisal Committee (Industry) meeting held during 4th April, 2013– 5th April, 2013 and the Committee desired following information:

- vi. Revised water balance chart in respect of boiler feed water and cooling tower make up water. Quantity of total water requirement and its break up in respect of fresh water requirement and recycled water.
- vii. Action plan for disposal of fly ash.
- viii. Rain water harvesting plan to be provided.
- ix. Commitment to send hazardous waste to TSDF.
- x. Analysis report of coal quality w.r.t sulphur, ash and calorific value.
- xi. CSR plan to be submitted.

Project proponent vide letter dated 3rd July, 2013 has submitted following information:

- i. Total water requirement will be 346 m³/day, out of which fresh water requirement from ground water source will be 114 m³/day and remaining water consumption will be met from 132 m³/day.
- ii. Fly ash will be sent to brick manufacturers.
- iii. Rain water harvesting facility will be provided.
- iv. It was informed that no TSDF will be established within plant premises. Hazardous waste will be sent to TSDF
- v. Coal characteristics report is submitted.
- vi. CSR plan for Rs 378 Lakhs has been submitted.

After detailed deliberations, the Committee found EIA/EMP report and additional information satisfactory and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i) Bag filter shall be provided to the coal fired boiler to control particulate emissions within permissible limit. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/KSPCB guidelines.
- ii) Two stage chilled water/caustic scrubber should be provided to process vents to control HCl. Two stage scrubber with caustic lye media solution should be provided to process vents to control SO₂. Two stage scrubber with chilled water media should be provided to process vents to control NH₃. The scrubbing media should be sent to effluent treatment plant (ETP) for treatment. Efficiency of scrubber should be monitored regularly and maintained properly. At no time, the emission levels should go beyond the prescribed standards.

- iii) Fugitive emissions in the work zone environment, product, raw materials storage area etc. should be regularly monitored.
- iv) Total fresh water requirement from ground water source shall not exceed 114 m³/day and prior permission shall be obtained from the CGWA/SGWA.
- v) Trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD should be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream should be treated in ETP and then passed through RO system. Condensate and recover water will be recycled/reused for cooling tower make up and process. 'Zero' effluent discharge should be adopted and no effluent will be discharged outside the premises.
- vi) All the solvent storage tanks should be connected with vent condensers with chilled brine circulation.
- vii) As proposed, process organic residue and spent carbon shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt should be disposed off to the TSDF. The ash from boiler should be sold to brick manufacturers/cement industry.
- viii) The company should obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from APPCB should be obtained for disposal of solid / hazardous waste in the TSDF. Measures should be taken for fire-fighting facilities in case of emergency.
- ix) Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing alongwith the storm water. Direct exposure of workers to fly ash & dust should be avoided.
- x) Solvent management should be as follows :
 - Reactor should be connected to chilled brine condenser system
 - Reactor and solvent handling pump should have mechanical seals to prevent leakages.
 - The condensers should be provided with sufficient HTA and residence time so as to achieve more than 95% recovery
 - Solvents should be stored in a separate space specified with all safety measures.
 - Proper earthing should be provided in all the electrical equipment wherever solvent handling is done.
 - Entire plant where solvents are used should be flame proof. The solvent storage tanks should be provided with breather valve to prevent losses.
- xi) All the commitment made regarding issues raised during the public hearing/consultation meeting held on 6th June, 2012 shall be satisfactorily implemented.
- xii) At least 5 % of the total cost of the project should be earmarked towards the Enterprise social responsibility based on public hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.

12.6.6 Gas based Captive Power Plant with installed steam & power capacity of 880 TPH & 195 MW at Dahej Petrochemical Complex, Village Ambhetha, TalukaVagra, district Bharuch, Gujarat by **ONGC Petro Addition Ltd. (OPAL)- regarding EC.**

Project proposal was considered in the 9th Reconstituted Expert Appraisal Committee (Industry) meeting held during 10th June, 2013– 11th June, 2013 and the Committee desired following information:

- i) Copy of CRZ map prepared by one of the agencies authorized by the MoEF for carrying out the CRZ demarcation, on which the project boundary and facilities are superimposed.
- ii) CRZ clearance/ recommendation from State Coastal Zone Management Authority.
- iii) Gas linkage for the proposed expansion project.
- iv) A certified report by RO, MoEF on status of compliance of conditions on existing unit to be provided.

Project proponent vide letter dated 14th August, 2013 has submitted following information :

- i) Copy of CRZ map is submitted. Map indicates that some portion of land attracts CRZ clearance.
- ii) OPAL submitted application to obtain CRZ clearance /recommendation from State Coastal Zone Management Authority and accordingly presented the date on 8th July, 2013 to the Committee and awaiting the CRZ clearance/recommendation from GCZMA. Project proponent also informed that as per the CRZ map in SE portion 10556.510 m² area falls under CRZ area from total plot area 5030043.074 m² and OPAL submitted a legal undertaking on INR 100/- stamp paper to GCZMA that it will not plan and carry out any prohibited activity as per CRZ Notification dated 6th June, 2011 in this area. In future also only permissible activity as per CRZ regulation will be carried out with prior intimation and approval of the Competent Authority.
- iii) Natural Gas will be sources based on the competitive bidding among M/s Gujarat State Petroleum Corporation Ltd., M/s Gail (India) Ltd. and M/s Petronet LNG Ltd.
- iv) A certified report by RO, MoEF, Bhopal has been submitted. It is reported that the project has achieved 76.8 % progress against schedule progress of 93.90%.

The Committee noted that Public hearing / consultation was exempted due to project being located in SEZ as per stage Section 7 (i), III Stage (3), Para (i)(b) of EIA Notification 2006.

After detailed deliberations, the Committee found EIA/EMP report and additional information satisfactory and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i) CRZ clearance shall be obtained.
- ii) A stack of adequate height shall be provided. Exit velocity of flue gases shall not be less than 22 m/sec.
- iii) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.
- iv) Well designed acoustic enclosures for the DG sets and noise emitting equipments to achieve the desirable insertion loss viz. 25 dB(A) should be provided.

- v) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises
- vi) ESR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. Company shall provide separate budget for community development activities and income generating programmes.
- vii) An Environmental Cell comprising of atleast one expert in environmental science / engineering, occupational health and social scientist, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

12.6.7 Expansion of Nirma Chemical Complex at Sy No. 478/P, 447-453, 455-457, Village Kalatalav, Tehsil Bhavnagar, District Bhavnagar, Gujarat by M/s Nirma Limited-**Site Visit regarding.**

Site Visit Report

Subject : Expansion of Nirma Chemical Complex at Sy No. 478/P, 447-453, 455-457, Village Kalatalav, Tehsil Bhavnagar, District Bhavnagar, Gujarat by M/s Nirma Limited-**Site Visit regarding.**

As per recommendations of the Reconstituted Expert Appraisal Committee (Industry) in its 8th Meeting held during 16th– 17th May, 2013, a sub-committee comprising Dr. S.K. Dave, Prof. C.S. Dubey, Dr. Prem Shankar Dubey, Members, EAC and Shri A. N. Singh, Dy. Director, MoEF will visit the above mentioned projects to assess the existing environmental scenario and recommend additional environmental protection measures to be undertaken by the above mentioned projects during expansion. However, Dr. Prem Shankar Dubey, Member could not join the visit due to some unavoidable reasons.

Site visit was made by the Sub-Committee on 7th September, 2013 and following officials were present:

(A) From M/s Nirma Limited

1. Shri G J Adroja, Vice President
2. Shri D G Jakhade, G M (Process)
3. Shri R A Joshi, A G M Caustic Plant
4. DR. K. C Pathak, Sr. Manager,
5. Shri Tejalben Patel, Dy. Manager
6. Shri Gautam Patel, Dy. Manager

(B) From GPCB

1. Smt. Diptiben Shah, Unit Head, GPCB
2. Shri G B Bhatt, EE, GPCB, Bhavnagar
3. Shri M Pancholi, SO, GPCB, Bhavnagar

(C) From Regional Office, MoEF

1. Dr. A Mehrotra, Director

(D) From Expert Appriaisal Committee (I), MoEF

1. Prof. C.S. Dubey, member
2. Dr. S.K. Dave, member

(E) From MoEF

1. Shri A N Singh, Dy. Director

At the outset, M/s Nirma Limited briefed the Sub-Committee about the production facilities, effluent management system, control of air emissions, fire & safety management, mangroves plantation etc. Existing unit comprises of Soda Ash Plant, Caustic soda plant, Captive Power Plant, other plant facilities such as toilet soap, detergent cake etc. It was informed that expansion will be done in the existing products such as soda ash, caustic soda plant, CPP etc. The Sub-Committee visited the pump house area including mangroves plantation, caustic soda plant, soda ash plant, CPP area, chlorine storage area as well as had general round of the plant. During site visit, following observations were made:

- i. In the whole, plant area housekeeping was found good except coal storage area and truck parking area. At present, coal storage area is partly covered. Therefore, unit has to create covered coal storage yard in the expansion project alongwith facilities of garland drain around coal handling area which leads to a settling pit.
- ii. It was informed that existing greenbelt area covers 70 acres of land. Since 2000, a total of 91969 saplings were planted of which 48352 saplings have survived with survival rate 53 %. It is informed that additional greenbelt will be developed in 80 acres. It was also observed that they have to carry out gap plantation in areas which suffered mortalities.
- iii. Total plant area is 555 acres. It was informed that no additional land will be acquired.
- iv. It was informed that mangroves plantation programme has been carried out in an area of 153 ha. in consultation with District Forest Department as directed in Coastal Regulation Zone Clearance in the vicinity of sea water intake system and Malclm Channel. Committee visited sonarai creek area and found mangrove plantation of species namely *Avicennia marina*. The plantation area of sonarai creek is 55.99 ha.
- v. No where smell of chlorine was observed in the plant.
- vi. Caustic soda cells are all membrane type with a total production of 240 TPD. This is an automatic plant based on distributed control system (DCS). 12 Chlorine sensors have been installed in the cell house with detection limit of 0.5 ppm.
- vii. The data of the whole plant is available in the control room and system for automatic shut down of vulnerable system are provided. Alarm for chlorine leakage if any in the liquid chlorine storage area is provided alongwith automatic start of the scrubbing system. All these were demonstrated in the visit.
- viii. 3 Nos. Chlorine storage tanks with a capacity of 93 Tonnes alongwith 1 empty tank (for emergency purpose) have been provided.
- ix. Filling area has been provided alongwith a hood connected to a flexible hose to the duct with suction arrangement and scrubber. Self breathing apparatus have been located in all chlorine handling areas.
- x. In the HCl production area, there are 1 furnace (20 Ton per day) for HCl production alongwith primary and secondary HCl absorbers followed by a tail gas tower with double cap. The HCl concentration at the vent of the tail gas tower (TGT) was reported to be in the range 2.0 -3.0 mg/Nm³.
- xi. Soda ash process based on Akzo-Dry Lime process is divided into the various sections such as brine preparation, ammoniation of brine, carbonation of ammoniated brine, filtration, calcination of ammonia by distillation and burning of limestone. At present capacity is 1800 TPD and same will be enhanced to 2000 TPD by debottlenecking.

- xii. Air pollution control devices such as water scrubbers (3 Nos) are installed in ammonia recovery system to control process emissions viz. ammonia. Bag scrubber is installed in lime grinding system. Scrubbers are installed in calcination vessel (2 nos.) and densification.
- xiii. Greenfield project of Bromine plant will be established in the complex with capacity of 10 TPD.
- xiv. They have existing coal fired boiler (4 x 100 TPH and 1x 200 TPH). It was informed that coal fired boiler (200 TPH) will be added. ESP has been provided to boiler to control particulate emissions.
- xv. It was informed that unit is purchasing imported coal from M/s Adani Enterprise Ltd and M/s Global trading Ltd. A copy of MoU with coal supplier has been submitted.
- xvi. It was informed that Madhia reserve forest is located at distance of 8.2 km from the plant site. Isopleth superimposed on vicinity map indicates that there is no impact on RF Mandiya due to existing and proposed activity of Nirma Chemicals complex.
- xvii. Total water requirement will be increased from 645.561 MLD to 942.292 MLD. The total quantity of water will be drawn from sea. For boiler /process/washing purpose, water will be used after treated through RO/DM plant.
- xviii. Effluent generation from soda ash plant is 6.5 m³/ton of production. Effluent from the Soda Ash plant is passed through primary settling ponds. Treated effluent is reused in the existing salt works to recover additional salt and gypsum. Effluent from caustic plant and cooling blow down is treated with HCl/NaOH to ensure complete neutralization. The treated effluent is sent to salt work. It was informed that no effluent is discharged outside the plant and zero effluent discharge concept is being followed.
- xix. It was informed that fly ash is being utilized in brick manufacturing, bund preparation and strengthening, construction of road, back filling. Brine sludge and settling pond sludge is used for filling the low lying areas.
- xx. They have developed rain water harvesting pond of capacity 20 lakh m³. Area of rain water harvesting pond is 9.5 lakh m².
- xxi. CSR activities in nearby three villages having total population nearly 1800 was not visible. The roads connecting the villages were kucha and difficult to move. On education side there was Government Schools upto 6th standards. No attempts were visible to enhance education in these schools. Water available to these villages was having poor drinking quality. No attempts were visible to enhance to protect and promote health of the villagers
- xxii. They have fire hydrant system with working pressure of 7 Kg/cm³. However, no safety signs of any kind were seen. Nothing was displayed to protect and promote the health of workers.
- xxiii. As per the information gathered from contract workers, it was observed that all of them hardly served for their health problems. There was feeling of negligence amongst them. Only clinical examinations were carried out as per prevailing act. Few of them were evaluated for CBC and ECG. The workers were exposed to dust and noise but were not evaluated by either spirometry or audiometry. Health records were maintained in such a way so that at the time of need they cannot be used. Register maintaining health records was not available. Considering the total strength of workers, staff was absolute inadequate including medical and paramedical people. For all practical purpose the working population including contract workers was dependent on Bhavnagar City which is nearly 15 kilometers. In emergency by the time victim will reach Bhavnagar, his injury will enhance and make him morbid and difficult to treat. Central and state Government conducting various health and welfare scheme. However on inquiring it was observed that no attempts were made at least

to disseminate information of such scheme. PPEs were inadequate in quality and quantity. Merely such measures were adequately ignored. Similarly measures to promote the health & safety of workers were missing.

Based on the observations at the project site, Sub-committee recommends the following:

1. Unit shall create covered coal storage yard in the expansion project alongwith facilities of garland drain around coal handling area which leads to a settling pit. Pucca road shall be created in and around coal storage area and parking area.
2. As proposed, additional greenbelt shall be developed in 80 acres. Unit shall carry out gap plantation in areas which suffered mortalities.
3. One no. of continuous ambient air quality monitoring station shall be installed.
4. The levels of PM₁₀, SO₂, NO_x, Cl₂, HCl, NH₃, CO and HC (Methane and Non-methane) in ambient air and emissions from the stacks shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.
5. Proper hood alongwith suction facility and scrubbing arrangement should be provided in the chlorine storage area. Alarm for chlorine leakage if any in the liquid chlorine storage area shall be provided alongwith automatic start of the scrubbing system.
6. ESR plan shall include (i) Drinking water through water tankers must be supplied to protect the workers water born diseases; Pukka road must be constructed connecting the villagers near by road sate road and major location; Children studying in near by three villages should be fully sponsored for education in the schools nearby as well as promoting their education upto graduate levels in nearby city ; Out of three villages each village at least once a week should be visited by full fledged medical and paramedical team with equipments and medicine; The health disorders which can not be treated by health care delivery system of company should be referred to near by hospital for proper adequate care including financial support; Full fledged mobile health care delivery van with all essential equipments, consumable and medicine is the need of our of the company as its location is in isolation.
7. Personal protective equipments shall be provided to all employees. More messages regarding safety and environment conservation shall be provided for more awareness on safety aspects.
8. Company shall provide the details of other associated units located in the plant premises alongwith its environmental management plan.

The site visit report was discussed by the EAC (I) meeting and the Committee decided that M/s Nirma shall prepare time bound action plan to implement the aforesaid observations/suggestions/recommendations of the Sub-committee. Time bound action plan shall be discussed in the EAC meeting. The proposal was deferred till the desired information is submitted. The above information shall be provided with the uploading of minutes on the website.

12.6.8 Construction of Storage Tanks and Associated Facilities at Mumbai Refinery – II, Village Anik, Tehsil & District Chembur, Maharashtra by M/s HPCL- **Site visit reg.**

Site Visit Report

Subject : Construction of Storage Tanks and Associated Facilities at Mumbai Refinery – II, Village Anik, Tehsil & District Ch embur, Maharashtra by M/s HPCL - Site visit reg.

As per the recommendation of the Expert Appraisal Committee (Industry) in its 9th meeting held during 10th June, 2013– 11th June, 2013, a sub-committee comprising EAC members and representative of the Ministry visited the project site unit to assess the feasibility of additional tankages in the proposed site.

Site visit was conducted by the subcommittee on 03.09.2013 and following officials were present:

(A) From HPCL-Mumbai Refinery

- | | | |
|-------------------------|---|---|
| 1. Shri N S J Rao | = | Executive Director, Mumbai refinery |
| 2. Shri M Rambabu | = | GM (Operation) |
| 3. Shri S K Kulkarni | = | GM (Materials) |
| 4. Shri M D Pawde | = | GM(Operations) |
| 5. Shri A R Tamankar | = | DGM (Technical) |
| 6. ShriShajildicula | = | DGM(Materials) |
| 7. Shri V A Katne | = | DGM(HR) |
| 8. Shri S SAVabhrat | = | DGM(CES) |
| 9. Shri Singh Karan Vir | = | Chief Manager(Fire and Safety) |
| 10. Shri S M Phadke | = | chief Manager (Information System) |
| 11. Shri Kumar Ashok | = | Senior Manager, Technical (Environment) |
| 12. Shri Sanjay Patil | = | Manager, Project Process |

(B) From Expert Appraisal Committee (Industry), MoEF

- a). Shri M Raman
- b). Shri R.K. Garg

(C) From Ministry of Environment & Forests, Govt. of India

- 1. A. N Singh, Dy. Director

Representatives from M/s Hindustan Petroleum Corporation Limited welcomed the Sub-committee. They made a short power point presentation before the field visit. They informed the subcommittee about the growth of the HPCL's Mumbai Refinery. Existing refinery capacity is 7.75 MMTPA. They are producing various products such as LPG, gasoline, naphtha, aviation turbo fuel, kerosene, high speed diesel, light diesel oil, fuel oil/LSHS, bitumen, neutral oils, industrial oils, bright stock etc. Sub-committee was also informed about existing environment management scenario of the plant. To reduce Sulphur dioxide (SO₂) emissions, measures have been taken such as treated fuel gas firing in fired equipment, sulphur recovery unit with 99 % efficiency; flare gas recovery system; fuel gas desulphurization unit. To control Nitrogen di-oxide (NOx), low NOx burners have been installed for heaters and boilers. In order to control emissions of Volatile Organic Compounds, measures were taken such as floating roof tanks with secondary seals for light hydrocarbon services; VOC containment system at effluent treatment plant and product transfer through cross-country pipelines. It was informed that the purpose of proposed tankages at MR-II are (i) Shifting of storage facilities from MR to MR-II to decongest and create space at Mumbai Refinery; (ii) to achieve higher pumping rates/industry parcel size (25 TMT) due to restriction of 24 hours available at jetty (Jetty congestion).

After presentation, the subcommittee went round the site, where tanks are supposed to be located; some of the area around the site and the existing refinery.

OBSERVATIONS:

During site visit following observations were made:

- i. M/s HPCL plan to construct product storage facilities at newly acquired plot of 57 acres area located North East of the existing refinery to augment existing storage facilities.
- ii. Creation of facilities will not add additional pollution load.
- iii. It is situated adjacent to the existing refinery. Between the proposed project site and the refinery there is an access road to Vishnu nagar and some of industries and Gathkari Mines.
- iv. Part of the boundary Northern hill abutting hill.
- v. This plot is belong to earlier Calico unit.
- vi. Another side of land is belonging to OSWAL Chemicals (Earlier Union Carbide), which proposed to be converted into residential area. Against the said proposal of M/s OSWAL Chemicals, HPCL contested the matter in the high court and obtained a favourable order. Against this order, appealed has been filed and matter is pending before the Hon'ble Supreme Court.
- vii. On the other side of the main road is BPCL refinery.
- viii. The Committee was informed that the land will be utilized for only storage of products.
- ix. Taken into consideration fact, products will be sent through pipeline. They have to send sequential. They need total storage of about 20 to 25 days.
- x. The main consideration in locating these storage tankages and layout will have to be safety of the surrounding areas.
- xi. Subcommittee, therefore suggested HPCL to carry out risk analysis study and ensure that the damage distance in case of any accident remains within boundary of the plot. If this study shows any change in layout or the quantity of the product to be stored this will have to be incorporated in the proposal.
- xii. While going to the existing refinery the sub-committee took a round of the refinery and in particular the existing storage tanks which will be either removed or will be used as intermediate storage. Visit was made in some of the process areas, one of the continuous AAQMS, stack monitoring station (attached to CCR), the ETP area, five AAQM stations area.

RECOMMENDATIONS:

- i. The environmental status of the existing refinery appears to be satisfactory. The Committee was informed that they have installed hydrocarbon removal system based on activated carbon adsorption system in the ETP.

- ii. The Committee observed that they have HC monitoring system for gas going to the carbon adsorption which reads LEL but there is no monitoring of exhaust going out to the environment. The Committee suggested that they should put HC detector which reads value in ppm both at inlet and outlet sections.
- iii. Location of the tank in the namely acquired area does not have any major environmental impact. However, the safety implication for the surrounding public has to be taken into consideration.
- iv. The Company informed the Committee that various court cases have been disposed off. Two cases out of which one by BPCL and Govt. of Maharashtra already been disposed off. (Other HPCL & OSWAL is pending in the Supreme Court, which is still to be decided).
- v. HPCL to carry out risk analysis study and ensure that the damage distance in case of any accident remains within boundary of the plot. If this study shows any change in layout or the quantity of the product to be stored this will have to be incorporated in the proposal.

Shri Pravin V Patil, Subregional Officer, Mumbai III, Maharashtra Pollution Control Board also attended the EAC (I) meeting. The site visit report was discussed by the EAC (I). After deliberations, the Committee prescribed the following TORs for the preparation of EIA/EMP report:

1. A certified copy of the report of the status of compliance of the conditions stipulated in the environmental clearance and Consent to Operate for the ongoing / existing operation of the project by the Regional Office of the Ministry of Environment and Forests and SPCB.
2. Executive summary of the project.
3. Project description and project benefits.
4. CRZ clearance/ recommendation from State Coastal Zone Management Authority, if applicable.
5. Land use details of the site based on satellite imagery.
6. Process details and design details of all the tanks.
7. A list of industries within 10 km radius of the project.
8. List of villages/residential colonies and population within 5 Km.
9. Layout plan with provision of trucks parking area. Earmarking of area for parking of Lorries at a remote location to avoid congestion.
10. Details of the storage and technical specifications with safety aspects & standards
11. Site details including satellite imagery for 5 km around the site.
12. Land use along with maps & cropping pattern, vegetation, ecology, flora & fauna
13. Demography & socio-economics of the area.
14. Baseline data collection for air, water and soil for:
 - i. Ambient air quality monitoring for PM₁₀, SO₂ and NO_x.
 - ii. Background levels of hydrocarbons (methane & non-methane HC) and VOCs.
 - iii. Soil sample analysis.
 - iv. Base line underground and surface water quality in the vicinity of project.
 - v. Climatology & meteorology including wind speed, wind direction, temperature, rainfall etc.
 - vi. Measurement of noise levels
14. Details of water consumption and source of water supply, waste water generation, treatment and utilization of treated water generated from the facilities and effluent disposal and measures for release of effluent in case of fire.
15. Storm water system should have provision to prevent any unintended oil in the drain to flow out with storm water and should take care of the highest rainfall care. Details of oil water separator.

16. Detailed solid waste generation, collection, segregation, its recycling and reuse, treatment and disposal.
17. Assessment of impact on air, water, soil, solid/hazardous waste and noise levels.
18. Details of proposed preventive measures for leakages and accident.
19. Details of Vapour Recovery System for the storage tanks and lorries.
20. Adequate width of approach road to avoid congestion and to have safe exit in emergencies.
21. Type of seismic zone.
22. Environmental Management Plan
23. Risk Assessment & Disaster Management Plan
 - i. Identification of hazards
 - ii. Consequence Analysis
 - iii. Preventive measures.
 - iv. Risk assessment should also include leakages during storage, handling, transportation and proposed measures for risk reduction.
 - v. Company shall ensure that the damage distance in case of any accident remains within boundary of the plot. If this study shows any change in layout or the quantity of the product to be stored this will have to be incorporated in the proposal.
 - vi. Fire and explosion hazard.
24. Risk Assessment should also include follow up/compliance to safety & hazardous material management facilities; possibility of fire and explosion accident; Risk assessment for accidents at site and its impact on adjoining area, risk mitigation measures, disaster management plan; on-site & off-site emergency plan.
25. Details of fire fighting facilities.
26. Details of occupational health programme.
 - i) To which chemicals, workers are exposed directly or indirectly.
 - ii) Whether these chemicals are within Threshold Limit Values (TLV)/ Permissible Exposure Levels as per ACGIH recommendation.
 - iii) What measures company have taken to keep these chemicals within PEL/TLV.
 - iv) How the workers are evaluated concerning their exposure to chemicals during pre-placement and periodical medical monitoring.
 - v) What are onsite and offsite emergency plan during chemical disaster.
 - vi) Liver function tests (LFT) during pre-placement and periodical examination.
27. Environmental Monitoring programme.
- 28. Corporate Environmental Responsibility**
 - (a) 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.
 - (b) Does the Environmental 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 report.
 - (c) What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions. Details of this system may be given.
 - (d) Does the company have a system of reporting of non compliance / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
29. Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if so, details thereof.
30. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
31. A tabular chart with index for point wise compliance of above TORs.

The following general points should be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material provided in Regional languages.
- iv. The letter/application for EC 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 final EIA-EMP report submitted to the Ministry must incorporate the issues in this letter. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report.
- vii. Certificate of Accreditation issued by the QCI to the environmental consultant shall be included

It was decided that TORs prescribed by the Expert Appraisal Committee (Industry) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the Generic Structure of EIA given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report should be submitted to the Maharashtra Pollution Control Board for public hearing. The issues emerged and response to the issues raised during should be incorporated in the EIA report. The final EIA/EMP Report alongwith Certificate of Accreditation issued by the QCI should be submitted to the Ministry for obtaining environmental clearance.

12.6.9 Development of On-shore Block CB-ONN-2003/1 (Part A & B) for the production of on-land Crude Oil (upto 20,000 bopd) and Natural Gas (1 MMSCMD) at Cambay Basin, Gujarat **by M/s Reliance Industries Ltd. - regarding EC.**

Project proposal was considered in the 4th Reconstituted Expert Appraisal Committee (Industry) meeting held during 8th – 9th January, 2013 and the Committee desired following information:

1. Revalidate baseline data.
2. Copy of recent public hearing report conducted for Ahmedabad District.
3. Certified compliance report from the Ministry's Regional office at Bhopal for the existing environmental clearance.

Project proponent vide letter dated 16th August, 2013 has submitted above mentioned information. The Committee deliberated on the certified compliance report dated 16th July, 2013 (received in the MoEF on 9th September, 2013) and found satisfactorily. Project proponent informed that they will not carry out any development activities in the block area falling in Ahmedabad district. They confirmed that they dropped the proposal for development activities in the block area falling in Ahmedabad district.

After detailed deliberations, the Committee found the additional information and final EIA/EMP report adequate and suggested to stipulate following specific conditions alongwith other environmental conditions while considering for accord of environmental clearance:

- i. As proposed, no development activities will be carried out in the block area falling Ahmedabad District. In case any development activities in the block area falling Ahmedabad District, separate environmental clearance shall be obtained.
- ii. Ambient air quality should be monitored at the nearest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R.

No. 826(E) dated 16th November, 2009 for PM₁₀, PM_{2.5}, SO₂, NO_x, CO, CH₄, HC, Non-methane HC etc.

- iii. Mercury should be analyzed in air, water and drill cuttings twice during drilling period.
- iv. Approach road should be made pucca to mitigate generation of suspended dust.
- v. The company should make the arrangement for control of noise from the drilling activity. Acoustic enclosure should be provided to DG sets and proper stack height should be provided as per CPCB guidelines.
- vi. Total water requirement for drilling should not exceed 20 m³/day/well and prior permission should be obtained from the concerned agency.
- vii. The company should construct the garland drain all around the drilling site to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system should be created for oil contaminated and non-oil contaminated. Effluent should be properly treated and treated wastewater should conform to CPCB standards.
- viii. Drilling wastewater including drill cuttings wash water should be collected in disposal pit lined with HDPE lining evaporated or treated and should comply with the notified standards for on-shore disposal. The membership of common TSDF should be obtained for the disposal of drill cuttings and hazardous waste. Otherwise, secured land fill should be created at the site as per the design approved by the CPCB and obtain authorization from the SPCB. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bhopal.
- ix. Produced water (3000 m³/day) shall be treated in ETP. Treated produced water shall be disposed off through injection well as per CPCB/MoEF guidelines.
- x. Good sanitation facility should be provided at the drilling site. Domestic sewage should be disposed off through septic tank/ soak pit.
- xi. Oil spillage prevention scheme should be prepared. In case of oil spillage/contamination, action plan should be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil should be disposed of to the authorized recyclers.
- xii. The Company should comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.
- xiii. The Company should take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare should be explored. At the place of ground flaring, the overhead flaring stack with knockout drums should be installed to minimize gaseous emissions during operation.
- xiv. The company should develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers should be provided with personal H₂S detectors in locations of high risk of exposure along with self containing breathing apparatus.
- xv. The Company should carry out long term subsidence study by collecting base line data before initiating drilling operation till the project lasts. The data so collected should be submitted six monthly to the Ministry and its Regional Office at Bhopal.

- xvi.** Blow Out Preventer (BOP) system should be installed to prevent well blowouts during drilling operations. BOP measures during drilling should focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.
- xvii.** Emergency Response Plan (ERP) should be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xviii.** The company should take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site should be restored to the original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan should be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations.
- xix.** Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xx.** Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bhopal.
- xxi.** Oil content in the drill cuttings should be monitored by some Authorized agency and report should be sent to the Ministry's Regional Office at Bhopal.
- xxii.** All the commitments made to the public during public hearing/public consultation meeting held on 11th October, 2012 for Anand district shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- xxiii.** At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.
- xxiv.** Company should have own Environment Management Cell having qualified persons with proper background.
- xxv.** Company should prepare operating manual in respect of all activities. It should cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental manual should be made available at the drilling site/ project site. Awareness should be created at each level of the management. All the schedules and results of environmental monitoring should be available at the project site office.

12.7.0 Any Other :

- 12.7.1** Development Drilling in the oil fields at Ankleshwar Asset in Gujarat State & expansion of GGSs, CTF, CPF by ONGC Ltd.-**regarding Extension of TORs validity.**

MoEF vide letter no. J-11011/151/2010-IA –II dated 9th July 2010 has issued TOR for the above mentioned project. Further, MoEF vide letter dated 27th June, 2013 has extended the validity of TOR till 8.08.2013.

Now, project proponent vide letter dated 26th July, 2013 has requested for extension of validity of TOR for one more year as public hearing has to be conducted in 4 districts.

After detailed deliberations, the committee recommended for the extension of validity of TOR for a period of one year with effect from 8.8.2013.

12.7.2 Drilling in Cauvery Basin in 7 Blocks (on-shore) Nannilam-II ML Block, Kali & Kali #6 ML Block, Kuthanallur ML Block, KreaterKavikalpal Tamil Nadu by ONGC Ltd. regarding Extension of TOR Validity.

MoEF vide letter no. J-11011/250/2011-IA –II dated 25th July 2011 has issued TOR for the above mentioned project.

Now, project proponent vide letter dated 10th July, 2013 has requested for extension of validity of TOR for one more year as public hearing has to be conducted.

After detailed deliberations, the committee recommended for the extension of validity of TOR for a period of one year with effect from 25.07.2013.

12.7.3 Proposed Capacity augmentation of existing DAP/NPK Plant at Village Sikka, District Jamnagar, Gujarat by M/s Gujarat State Fertilizers & Chemicals Ltd.- Amendment in TOR.

MoEF vide letter no. J-11011/17/2013-IA –II dated 25th April 2011 has issued TOR for the following product mix:

S.N.	Product details	Existing Capacity MTPA	Proposed Capacity MTPA	Total MTPA
1.	DAP/NPK	9.846 Lakhs	5.4 Lakhs	15.246 Lakhs
2.	Phosphoric Acid	--	1.65 Lakhs	1.65 Lakhs
3.	Sulfuric Acid	--	6.00 Lakhs	6.00 Lakhs
4.	SSP	--	1.00 Lakhs	1.00 Lakhs
5.	WHRB – power plant	--	16.5 MW	16.5 MW

Now, project proponent vide letter dated 5th August, 2013 has revised their proposal and informed the

- Phosphoric acid
- Sulphuric acid
- Single Super Phosphate

The Committee noted the reduced scope of work and recommended same TOR for EIA/EMP report preparation.

12.7.4 Exploratory drilling in Onshore PEL Block L-II of Cauvery Basin at Nagapattinam, Tamil Nadu by ONGCLtd. - Validation of TOR regarding.

MoEF vide letter no. J-11011/2/2011-IA –II dated 24th May 2011 has issued TOR for the 25 wells. Further, they have informed that they have conducted EIA/EMP report for 24 wells and dropped one well. Accordingly EC was granted for 24 wells. Now, project proponent vide letter no. ONGC/CHSE/ENV/TOR/2013-14 dated 13th July, 2013 has requested to validate the TOR for one well.

After detailed deliberations, the committee recommended for the extension of validity of TOR for a period of one year with effect from 24.05.2013.

12.7.5 Expansion of Refinery Capacity from 9.0 MMTPA to 60 MMTPA with Petrochemical Complex at Khabalia, Jamnagar, Gujarat by M/s Essar Oil Ltd. – **extension of validity of EC**

MoEF vide letter no. J-11011/320/2006-IA –II dated 20th July 2007 has issued environmental clearance for the above mentioned project. Further environmental clearance was bifurcated for refinery and power plant on 16th September, and super cedes the earlier environmental clearance.

Now, project proponent vide letters no. EOL/MoEF/Extension of EC/2013/294 dated 17th March, 2012 and EOL/MoEF/Extension of EC/2013/380 dated 5th June, 2013 has requested to extend the validity of EC. Project proponent informed that under the expansion plan, the capacity of the refinery has been revamped up and currently operating at 20 MMTPA. Reason for delay in completion of all the phases of the project was economic recession across the globe struck the Company also. Basic engineering all the phases have been completed. Work order and majority of the equipments were placed alongwith advance payments.

After detailed deliberations, the committee recommended for the extension of validity of EC for a period of five years.

12.7.6 Expansion of Kochi Refinery (from 9.5 MMTPA to 15.5 MMTPA) at Sy. No. 206, Village Puthencruz, TalukaKunnathanadu, Ambalamugal, District Ernakulam, Kerala by **M/s Bharat Petroleum Corporation Limited – Amendment in Environmental clearance regarding.**

MoEF vide letter no. J-11011/341/2011-IA –II dated 22nd November, 2012 has issued environmental clearance for the above mentioned project. Now project proponent has requested for amendment in EC for following modifications:

S.N.	Description	As per existing EC	Change required
1	Gas Turbine	2x33 MW	3 x 34.5
2	HRSG	2x110 TPH	3x110 TPH
3	Boiler	3x 230 TPH	2 x 250 TPH
4	STG	2 x 27	Nil
5	GT- Built Own Operate mode	-	20 MW
6	Hydrogen Generation Unit	0.09 MMTPA	0.1312 MMTPA

The Committee desired following information in the form of comparative statement w.r.t capacity mentioned existing EC before taking decision on the matter:

- Status of air emissions
- Air quality modelling for the GLC.
- Water consumption quantity.
- Effluent generation and its treatment schemes.
- Generation of solid waste such as spent catalyst, spent resins, activated carbon, ETP sludge etc.
- Any additional land requirement.
- Any change in energy requirement.

The proposal was deferred till the desired information is submitted. The reply will be discussed internally without calling project proponent.

LIST OF PARTICIPANTS

Expert Appraisal Committee (Industry) :			
1.	Shri M. Raman	Chairman	P
2.	Shri R.K. Garg	Vice-Chairman	P
3.	Prof. R.C. Gupta	Member	P
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	P
9.	Dr. S.D. Attri	Member	P
10.	Dr. Antony Gnanamuthu	Member	A
11.	Prof. C. S. Dubey	Member	P
12.	Shri Niranjan Raghunath Raje	Member	A
MOEF Officials :			
13.	Dr. V.P.Upadhyay	Member Secretary	
14.	Shri A.N. Singh	Scientist 'C' – 1.10.2013	
15.	Shri Sundar Ramanathan	Scientist 'C' – 30.9.2013	
