

**FINAL MINUTES FOR 9th RECONSTITUTED EXPERT APPRAISAL COMMITTEE
(INDUSTRY) HELD DURING 10th June, 2013– 11th June, 2013**

VENUE: Scope Complex, Core 6, 5th Floor, IOCL Conference Room, Ministry of Petroleum and Natural Gas, Lodhi Road, New Delhi 110 003.

TIME 10.00 A.M.

9.0 Opening Remarks of the Chairman

9.1 Confirmation of the Minutes of the 8th Reconstituted Expert Appraisal Committee (Industry) held during 16th May 2013 – 17th May 2013.

10th June, 2013

9.2.0 Consideration of the Projects:

Environmental Clearance

9.2.1 Haridwar-Rishikesh-Dehradun Natural Gas Pipeline and its Branch Lines by M/s GAIL (India) Ltd.- regarding EC.

The project authorities and their consultant (M/s MECON 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 22nd Meeting of the Expert Appraisal Committee (Industry) held during 29th– 30th April, 2011 for preparation of EIA/EMP report. All Oil & Gas Transportation Pipeline (crude and refinery/petrochemical products) passing through national parks/sanctuaries/coral reefs/ecologically sensitive areas (including LNG Terminal) are listed at S.N. 6 (a) under category 'A' and appraised at Central level.

M/s GAIL (India) Ltd. have proposed for the Haridwar-Rishikesh-Dehradun Natural Gas Pipeline and its Branch Lines. The pipeline is designed to carry 2.7 mmscmd R- LNG from TOP to BNPL at Saharanpur. The 0.95 mmscmd gas will be delivered to Rishikesh/Dehradun spurline. Proposed pipeline traverses through Rajaji National Park in District Dehradun and also passes through Barkot Reserve Forest and Lachchiwala Reserve Forest under Dehradun Forest Division. Proposed pipeline does not pass through critically polluted area. The revised proposal of 7.222 ha forest land (including Rajaji National Park 0.482 ha) has been submitted to DFO, Haridwar & Dehradun. NHA has given clearance to lay pipeline parallel to NH-58. Compensatory afforestation will be done as per state forest department and MoEF. Total cost of the project is Rs. 133.54 Crores.

Following facilities have been considered for the pipeline network:

- 8" NBx30.0 km(approx..) pipeline from Haridwar to Rishikesh.
- 8"NBx 40.0 km pipeline from Tee point on Haridwar-Rishikesh P/L to Dehradun.
- Sectionalizing valve stations, dispatch/receiving stations, check metering facility at dispatch terminal & skid mounted receiving terminal for custody transfer at consumer end.

Pipeline facilities will be designed and constructed to meet the national/international standards as per ASMEB 31-8. The pipeline will be monitored through computerized

Supervisory Control and Data Acquisition (SCADA) and leak detection system. The pipeline will pass through National highways, railway line, river, major nala, canal, distributor hilly area. Spur line, top off points, gas dispatch terminals etc. will be installed.

Ambient air quality monitoring was carried out at 8 locations during September 2011 – November 2011 and submitted baseline data indicates that ranges of concentrations of PM₁₀ (40 µg/m³ to 92 µg/m³), SO₂ (4 µg/m³ to 14 µg/m³), NO_x (12 µg/m³ to 28 µg/m³) and CO (728 to 1208 µg/m³) respectively and the concentrations are within the NAAQS.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Uttarakhand Environment Protection & Pollution Control Board on 17th October, 2012. The issues raised during public hearing were impact of project on human life style etc and 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 along with other environmental conditions while considering the grant of environmental clearance:

- i. The project authority i.e. M/s GAIL shall ensure restoration of the Right of Way to preconstruction level as soon as construction activity completed. To ensure prevention of soil erosion, backfilled areas should be properly compacted.
- ii. The design, material of construction, assembly, inspection, testing and safety aspects of operation and maintenance of pipeline and transporting the natural gas should be governed by ASME/ANSI B 31.8/B31.4 and OISD standard 141.
- iii. Annual safety audit should be carried out for the initial three years by an independent agency and report submitted to this Ministry for ensuring the strict compliance of safety regulations on operation and maintenance.
- iv. The construction of pipeline particularly at the river and stream crossing should be done during dry seasons to avoid disturbance of breeding seasons and soil erosion. The riverbed, embankments and / dykes should be restored adequately after installation of crossings.
- v. Pipeline wall thickness and minimum depth of burial at river crossings and casings at rails, major road crossings should be in conformity with ANSI/ASME requirements.
- vi. The company should follow horizontal drilling technique for laying of pipeline while passing through major rivers.
- vii. The project authorities should install SCADA system with dedicated optical fiber based telecommunication link for safe operation of pipeline and Leak Detection System. Additional sectionalizing valves in the residential areas and sensitive location should be provided to prevent the leaking of gas going to the atmosphere in the event of pipeline failure. 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.
- viii. The project authorities should patrol and inspect the pipeline regularly for detection of faults as per OISD guidelines and continuous monitoring of pipeline operation by

adopting non-destructive method(s) of testing as envisaged in the EMP. Pearson survey and continuous potential survey should be carried out at regular intervals to ensure the adequacy of cathodic protection system.

- ix. All the recommendations mentioned in the risk assessment report should be implemented.
- x. All the issues raised during the public hearing/consultation meetings held on 17th October, 2012 should be satisfactorily implemented.
- xi. Necessary approvals from Chief Controller of Explosives must be obtained before commission of project. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.
- xii. The company should obtain all requisite clearances for fire safety and explosives and should comply with the stipulation made by the respective authorities.
- xiii. Occupational health surveillance of worker should be done on a regular basis and records maintained as per the Factory Act.
- xiv. The Company should harvest surface as well as rainwater from the rooftops of the buildings proposed in the project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.
- xv. Under Enterprise Social Commitment (ESC), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.

9.2.2 Grain/Molasses based Distillery (660 KLPD) with Co-generation Power Plant (20 MW) at Village Devadi, District Bhojpur, Bihar by **M/s Bihar Distillers & Bottlers (P) Ltd.- regarding EC**

The project authorities and their consultant (M/s J M Environet 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 36th Meeting of the Expert Appraisal Committee (Industry) held during 11th– 12th June, 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 Bihar Distillers & Bottlers (P) Ltd. have proposed for setting up of Grain/Molasses based Distillery (660 KLPD) with Co-generation Power Plant (20 MW) at Village Devadi, District Bhojpur, Bihar. Plot area is 18.21 ha (45 acres) of which greenbelt will be developed in 6.01 ha (14.8 acres). No National Parks/Biosphere sphere/Wild life sanctuaries are located within 10 km distance. Malhar River is located nearby to the site. Banas River is flowing at a distance of 2.5 Km. Total project cost is Rs. 150.00 Crores. Rs. 25 Crores and Rs. 2.5 Crore/annum are earmarked toward capital cost and recurring cost. Distillery will be operated for 330 days.

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 6 locations during March, 2012-May, 2012 and submitted baseline data indicates range of PM₁₀ (47.34–85.70 ug/m³), PM_{2.5} (22.65-41.51 ug/m³), SO₂

(6.81 – 9.18 $\mu\text{g}/\text{m}^3$) and NO_x (9.65-18.54 $\mu\text{g}/\text{m}^3$). The results of the modeling study indicate that the maximum increase of GLCs due to the proposed project is 1.7 $\mu\text{g}/\text{m}^3$ for SPM. The resultant GLCs are within the NAAQS.

ESP/bagfilter will be provided to rice husk/agro waste/biogas fired boiler (2 x 80 TPH). Total fresh water requirement from ground water source for grain based distillery will be 7420 m^3/day and fresh water requirement for molasses based will be 7920 m^3/day . Spent wash from molasses will be treated in anaerobic bio digester followed by MEE. Concentrated syrup will be mixed with rice husk/ agro waste for further burning in the boiler. The condensate from MEE will be recycled back to the process. The grain spent wash from the bottom of the mash degasser cum stripper column will be fed to decenter. Partly thin slop will be sent to recycled back to mash preparation section and remaining will be sent to bio-methanation section. Effluent from bio-methanation section will be evaporated. Concentrate from evaporator will be burnt in the boiler alongwith rice husk. DWGS will be sold as cattle feed. Used oil will be sent to authorized recyclers. Total power requirement (8.5 MW) will be sourced from CPP. DG sets (4x1100 KVA) will be installed as power back-up. D.G. sets will be provided with enclosures to control the noise.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Bihar State Pollution Control Board on 12th January, 2013. The issues raised were regarding local employment, electricity supply, compliance of stipulation/commitments made in the presentation etc. and have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

After deliberations, the Committee desired following additional information:

1. Whether coal will be used or not.
2. Action plan for handling fly ash.
3. CSR plan to be submitted.
4. Fresh layout map incorporating all the units to be submitted.
5. Availability of grain/molasses to be checked.
6. HC value to be checked.
7. Impact due to transportation
8. Explore the possibility of surface water.
9. Clearance from Central Ground Water to be furnished.
10. Details of rain water harvesting to be submitted.
11. Water balance chart to be corrected.

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

9.2.3 Expansion of Fertilizer Unit [Ammonia (2530 MTPD) and Urea (4430 MTPD)] and CPP (67 MW) at Panagarh Industrial Park, Mouza Kotachandipur, J.L. No. 80 & Pondli J.L. No. 86, Panagarh, Kanksa Block, Burdwan, West Bengal by M/s Matix Fertilizers and Chemicals Ltd.

The project authorities and their consultant (EQMS 'A' '38') 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 32nd Meeting of the Expert Appraisal Committee (Industry) held during 16th– 17th February,

2012 for preparation of EIA/EMP report. The Fertilizer Plant manufacturing Ammonia & Urea is listed at S.N. 5(a) under Category 'A' and appraised at the Central level.

M/s Matix Fertilisers and Chemicals Ltd have proposed for the expansion of Fertilizer Unit by adding [Ammonia (2530 MTPD) and Urea (4430 MTPD)] and CPP (67 MW) at Panagarh Industrial Park, Mouza Kotachandipur, J.L. No. 80 & Pondli J.L. No. 86, Panagarh, Kanksa Block, Burdwan, West Bengal. I will enhance the manufacturing capacity from 1.4 million metric tonnes per annum (MMTPA) to 3.0 MMTPA. Existing phase-I of fertilizer project involves Ammonia (2,200 MTPD), Urea (3,850 MTPD) and CPP (33 MW). Following will be carried out during Phase-II:

S.N.	Plant	Capacity
1	Ammonia Plant	2530 TPD
2	Urea Plant	4430 TPD
3	Captive Power Plant (Gas based)	67 MW
4	Gas receiving Station	4.36 MMSCMD
5	Product Storage and bagging plant	5760 MT
6	Railway siding for wagon loading (existing facility of phase-1 will be utilized)	
7	Cooling tower	
8	Air and nitrogen systems	
9	Various offsite utilities like water storage, water treatment, effluent treatment, fire water system.	

Total cost of project for expansion will be Rs. 4500 crore of which Rs. 150 crore has been earmarked for pollution control measures. Total plot area is 498.49 acres allotted by West Bengal Industrial Development Corporation (WBIDC). However, additional 80 acre land will be acquired for development of infrastructure for phase- II. Environmental clearance (phase-I) is obtained from the MoEF vide letter No.J-11011/1440/2009-IAII(I) dated 22nd April, 2010. 'Consent to Establish' has been accorded by the WBPCB vide letter dated 5th August, 2011. Durgapur and Burdwan are at 16 & 43 km. respectively. Damodar River is flowing at a distance of 7 km. No national park/sanctuary/corridor is located within 10 Km. Panagarh & Durgapur are located at a distance of 3Km & 15 km respectively.

Ambient air quality monitoring was carried out at 10 locations during December, 2011 to February, 2012 and submitted data indicates as PM₁₀ (20.2–75.1ug/m³), PM_{2.5} (8.2–44 ug/m³), SO₂ (4.0 – 8.6 ug/m³) and NO_x (6.8-26.9 ug/m³). Predicted value of ground level concentration due to proposed expansion is: SPM (16.88 ug/m³), SO_x (0.599 ug/m³), NO_x (19.068 ug/m³) and NH₃ (51.05 ug/m³). The resultant concentrations are within the NAAQS.

Plant will be based on natural gas/CBM/RLNG. Natural gas requirement (3.87 MMSCMD) will be met from Pata-Haldia GAIL Pipeline. Low NO_x burner will be provided to reduce oxides of nitrogen from the reformer stacks. The gas turbine and supplementary

burners in heat recovery unit and in auxiliary boiler will also be provided with low NOx burners. Flare stack will be provided to flare gases. Process dust of urea will be collected in cyclone separator followed by bagfilter and will be recycled in the process. The roads inside the plant will be paved to prevent dust emission; water sprinkling will be practiced during transport activities. The total fresh water requirement from River Damodar will be increased from 30800 m³/day to 66240 m³/day. The oil from ammonia plant will be removed by disk skimmer before it is sent to ETP. In ammonia plant, process condensate containing ammoniacal nitrogen will be stripped off with the help of steam in a process condensate stripper. The condensate will be polished in a condensate polisher and reused as boiler feed water. For urea plant, a hydrolyser stripper will be installed to reduce the level of ammoniacal and urea nitrogen in the condensate. Treated process condensate containing 2 ppm ammonia & 1 ppm urea is cooled and sent to the condensate polishing unit and thus reused as DM water. The cooling tower blow down and DM plant effluent will be routed through the ETP and Domestic (sewage) effluent will be treated in the STP. The treated effluent from STP will be partially used in green belt. ETP effluent will be discharged into water body. Spent catalyst and spent oil will be sent to authorized recycler/re-processor.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the West Bengal State Pollution Control Board on 8th February, 2013. The issues raised during public hearing were regarding pollution potential due to the proposed expansion, local employment, impact on nearby forest, ground water, CSR etc. In response, project proponent informed that in phase -I, out of total 2600 construction worker employees, 2000 people are from West Bengal. Out of which about 1700 persons are residents of Burdwan district. Project also made commitment that in phase –II project, local people and land donors will be given priority for employment for unskilled and semi skilled work. Ground water will not be used for phase-II without prior permission from Competent Authority. River water will be used for both construction & operation phase. Rainwater harvesting will be done by making harvesting pits along the storm water drainage network at a definite patch. It is reported that no notified forest is located within an aerial distance of 10 Km from project site. The periodic health checkup camp for local villagers will be included in the proposed Corporate Social Responsibility programme. Issues raised during public hearing 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 Eastern regional office, Bhubaneswar in the month of July, 2012. It is reported that so far 68 % of the construction activity was completed. The unit shall apply to the Ministry for permission to discharge 202 m³/hour treated effluent. Company is yet to execute an agreement with DVC for use of surface water. PM10 in the ambient air is exceeding the annual average standards. Domestic wastewater shall be treated in STP instead of septic tank. The project will not achieve the greenbelt of 190 acre as stipulated in environmental clearance of phase-I. In compliance, project proponent has informed that for discharge of effluent into River Damodar, matter is under consideration in the MoEF. Agreement with DVC is in the process of being executed. For additional water allotment, they have already applied to the DVRRRC. High PM10 levels may be due to highway. At construction site, they are undertaking dust suppression measures by water sprinkling. Regarding capacity of plant 2230 TPD, project proponent informed that capacity remains at 2200 MTPD as mentioned in the existing EC. Project proponent is regularly in touch with WBIDC for supporting the Rehabilitation and Resettlement scheme. Regarding greenbelt, project proponent informed that WBIDC has allotted 498.49 acres of land and considering 33% of

area as greenbelt, is estimated to be 165.21 acres land. The Committee was satisfied with the response of the project proponent.

After deliberations, the Committee desired following additional information:

- (i) Copy of permission of fresh water drawl from river.
- (ii) Gas linkage for the proposed expansion project.
- (iii) Cross check the ambient air quality data by collecting one month data.
- (iv) Methane and non-methane data to be cross checked.
- (v) Impact due to increased transportation to be incorporated.
- (vi) Details of railway siding for wagon loading to be shown in the map.
- (vii) Greenbelt plan for the existing unit and after expansion.
- (viii) Details of quantity of effluent generation and its water quality.
- (ix) Dilution study in respect of important parameters of water quality for enhanced effluent discharge to be conducted.

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

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

The project authorities and their consultant (CSIR-NEERI) 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 State Level Expert Appraisal Committee held on 24th January, 2012 for preparation of EIA/EMP report. Gas based thermal power plants < 500 MW listed in para 1(d) of schedule of EIA Notification, 2006 are covered under category 'B'. Since project is located in the existing petrochemical complex [listed in 5(c)] and integrated in nature, the proposal is treated as Category 'A' and appraised at Central level.

ONGC Petro Addition Ltd. (OPAL) have proposed for Gas based Captive Power Plant with installed steam & power capacity of 880 TPH & 195 MW at Dahej Petrochemical Complex, Village Ambhetha, Taluka Vagra, District Bharuch, Gujarat. The CPP project will be implemented within the already allocated plot of area of 503 ha of Dahej Petrochemical Complex, out of which greenbelt will be developed in 50 ha. Project is located at a distance of 7 Km from Sea coast and less than 1 Km distance from the river coast respectively. The project attracts CRZ notification, 2011. Total cost of the project for CPP is Rs. 1840 Crore, out of which Rs. 280 Crore and Rs. 35-50 Crore respectively, are earmarked towards capital cost and recurring cost per annum for pollution control measures. MoEF vide letter no J-11011/316/2006-IA II (I) dated 21st November, 2007 has issued environmental clearance to M/s ONGC Petro additions Ltd. for Dahej Petrocheical complex. Proposed captive power plant involves configuration of 2x220 TPH Utility Boiler (UB) + 2x30 MW STG + 4 x 33.75

GTGs + 4 x110 TPH HRSG and associated BOP. It is reported that no forest, natural park, wildlife sanctuary is located within 10 Km distance.

Ambient air quality monitoring was carried out at 12 locations during December 2011 – February 2012 and submitted baseline data indicates that ranges of concentrations of PM₁₀ (43 µg/m³ to 69 µg/m³), PM_{2.5} (20 µg/m³-48 µg/m³), SO₂ (10 µg/m³ to 21 µg/m³) and NO_x (19 µg/m³ to 33µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 14.3 µg/m³ with respect to NO_x. The resultant concentrations are within the NAAQS. Low NO_x burner will be installed. Stack height of 30 m will be provided to Gas Turbine Generator. Stack height of 80 m will be provided to heat recovery steam generator (80 m). Stack height of 30 m will be provided to DG set (8.3 MW). Water requirement will be met from the existing water allocated for petrochemical complex. Total fresh water requirement from GIDC/DSL will be 98,800 m³/day. Total wastewater generation will be 35520 m³/day out of which 31920 m³/day will be recycled for cooling tower make up water. High TDS effluent stream of 3600 m³/day will be discharged in Gulf of Cambay. Domestic effluent will be treated in STP/ETP. Tarry residues will be sent to authorized recycler/re-processors or sent to incineration. Spent catalyst, spent molecular sieves and spent oil will be sent to authorized recycler/re-processors. ETP sludge will be sent to SLF.

After deliberations, the Committee desired following additional 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.

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

9.2.5 Exploration Drilling of 10 Wells (On-shore) in NELP-VIII Block CB-ONN-2009/4 in Western Basin in Vadodara, District Gandhinagar, Gujarat by **M/s Oil and Natural Gas Corporation Ltd. (ONGCL) - regarding EC**

The project authorities and their Consultant (Kadam Environment Consultants) 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 20th Meeting of the Expert Appraisal Committee (Industry) held during 3rd-4th March, 2011 for preparation of EIA/EMP report. All the on-shore and offshore oil and gas projects belong to S.N. 1 (b) and are placed under Category 'A' and appraised at the Central level.

M/s Oil and Natural Gas Corporation Ltd. (ONGCL) have proposed for exploration drilling of 10 Wells (On-shore) in NELP-VIII Block CB-ONN-2009/4 in Western Basin in Vadodara, District Gandhinagar, Gujarat. However, TOR was awarded for 8 wells. Project

proponent informed that all 10 wells are proposed in same block and EIA report was prepared for the same. Block CB-ONN-2009/4 was awarded on 30th June, 2010 to a consortium of ONGC and GSPC under NELP-VIII and ONGC with operator. Total 8 exploratory wells will be drilled in Block CB-ONN-2009/4. Total area of the Block is 58 sq. km. Approximately 110 m x 110 m land will be acquired for one well. Total cost of the project is Rs. 36.00 Crores. The drilling depth will vary from 1200 m to 3000m. It was informed by project that No national park/wildlife sanctuary /eco sensitive area is located within 10 Km distance. No forest land is involved. Longitude and latitude measurements commencing at points A to L are given below:

CORNER POINTS	LONGITUDE			LATITUDE		
	DEG.	MIN.	SEC.	DEG.	MIN.	SEC.
A	72	37	35	23	34	18
B	72	38	47	23	34	18
C	72	42	55	23	27	03
D	72	40	16	23	25	53
E	72	39	17	23	27	30
F	72	41	00	23	27	30
G	72	41	00	23	28	14
H	72	40	18	23	28	14
I	72	39	11	23	28	07.5
J	72	39	11	23	28	36
K	72	39	15	23	29	59
L	72	37	35	23	31	15
A	72	37	35	23	34	18

Longitude and latitude of proposed wells are as given below:

Well No.	Latitude (N)	Longitude (E)	Location Details (Nearest Habitation)
1.	23°33'21.9"	72° 38'0.8"	Merali Vihar Village (Taluka kalol & District Gandhinagar) at 0.58 km in SE direction from well
2.	23° 32'19.6"	72° 38'39.23"	Vihar Village (Taluka Mansa' District Gandhinagar) at 0.76 km in E direction from well
3.	23° 31'10.61"	72° 38'32.59"	Bilodra Village (Taluka Mansa' District Gandhinagar) at 0.73 km in NE direction from well
4.	23° 30'49.44"	72° 38'21.87"	Bilodra Village (Taluka Mansa' District Gandhinagar) at 1.31km in NE direction from well
5.	23° 30'40.81"	72° 38'47.55"	Bilodra Village (Taluka Mansa' District Gandhinagar) at 1.08 km in NNE direction from well
6.	23° 30'7.37"	72° 39'57.92"	Dilwara Village (Taluka Mansa' District Gandhinagar) at 1.5 km in E direction from well
7.	23° 29' 24.3"	72° 39'59.46"	Charada Village (Taluka Mansa' District Gandhinagar) at 0.63 km in W direction from well
8.	23° 29'24.09"	72° 40'15.02"	Charada Village (Taluka Mansa' District Gandhinagar) at 1.05 km in W direction from well
9.	23° 7'50.83"	72° 41'11.85"	Ridrol Village (Taluka Mansa' District

			Gandhinagar) at 0.74 km in SW direction from well
10.	23° 27'6.4"	72° 41'15.53"	Ridrol Village (Taluka Mansa' District Gandhinagar) at 0.94 km in SW direction from well

PAs informed the Committee that ambient air quality monitoring was carried out at 8 locations during summer season 2012 and submitted data indicates PM₁₀ (24-97 ug/m³), PM_{2.5} (8-48 ug/m³), SO₂ (8-13.1 ug/m³) and NO_x (10.0- 37.7 ug/m³). Incremental concentration due to proposed project was estimated to be PM (0.07 ug/m³), SO₂ (0.03 ug/m³) and NO_x (13.38 ug/m³). Air emissions from D.G. sets will be dispersed by providing adequate stack height. Fresh water requirement will be 50 m³/day, which will be procured from tanker. Water based mud (WBM) and Synthetic based mud will be used. Total wastewater generation will be around 16 m³/day. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers. HSD (250 LPH) will be used as fuel in rig and D.G. sets during drilling period. DG sets (4 x 1250 KVA) will be installed. Blow out prevention techniques will be part of drilling rig unit. Blow out preventers (BOP) will be installed to control fluid from the formation gushing to the surface. In the event the well is unsuccessful, the well bore will be cement plugged.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 22nd January, 2013 for Gandhinagar District. The issues raised were regarding damage compensation, location of drilling, public awareness about the project etc. In response, project proponent informed that where damage was occurred, necessary actions had been taken. They informed that ONGC has paid Rs. 6,92,654/- for compensation against damage. Whenever drilling locations is finalized, land will be taken from the farmer with his due permission and compensation as per Company/Government policy will be given. All the issues have been satisfactorily responded by the project proponent and incorporated in the final EIA/EMP report.

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

- i. This EC is only for Exploratory Drilling. In case Development drilling is to be done in future, prior clearance must be obtained from the Ministry.
- ii. Ambient air quality should be monitored near the closest 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, methane & Non-methane HC etc.
- iii. Mercury should also be analyzed in air, water and drill cuttings twice during drilling period.
- iv. Approach road should be made pucca to minimize 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 should not exceed 50 m³/day 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. Good sanitation facility should be provided at the drilling site. Domestic sewage should be disposed off through septic tank/ soak pit.

- x. 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.
- xi. 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.
- xii. 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.
- xiii. 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.
- xiv. On completion of drilling, the company have to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.
- xv. 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.
- xvi. Emergency Response Plan (ERP) should be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xvii. 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.
- xviii. Abandoned well inventory and remediation plan shall be submitted within six months from the date of issue of letter.
- xix. Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xx. In case the commercial viability of the project is established, the Company should prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxi. Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bhopal.

- xxii. 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.
- xxiii. Under Enterprise Social Commitment (ESC), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxiv. An audit should be done to ensure that the Environment Management Plan is implemented in totality and report should be submitted to the Ministry's Regional Office.
- xxv. A social audit shall be carried out for the whole operation area with the help of reputed institute like Madras Institute of Social Science etc.
- xxvi. All personnel including those of contractors should be trained and made fully aware of the hazards, risks and controls in place.
- xxvii. Company should have own Environment Management Cell having qualified persons with proper background.
- xxviii. 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.

9.2.6 Expansion of Chemical Manufacturing Plant (from 15 MTPM to 500 MTPM) at Block No. 231 & 232, Village Ekalbara, Tehsil Padra, District Vadodara, Gujarat by **M/s Greenovat Organics Pvt. Ltd. regarding EC.**

The project authorities and their consultant (Right Source Industrial Solution 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 18th Meeting of the Expert Appraisal Committee (Industry) held during 20th-21st January, 2011 for preparation of EIA/EMP report. All Synthetic Organic Chemicals Industries located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'B'. However, general condition is applicable due to project location within interstate boundary; the proposal is treated as category 'A' and appraised by Expert Appraisal Committee (I).

M/s Greenovat Organics Pvt. Ltd. have proposed for expansion of Chemical Manufacturing Plant (from 15 MTPM to 500 MTPM) at Block No. 231 & 232, Village Ekalbara, Tehsil Padra, District Vadodara, Gujarat. Total plot area is 15,000 m². Total project cost is Rs. 4.00 Crore. Mahi River is flowing at a distance of 1.28 Km. Following are the proposed and existing products:

S. N.	Products	Production (MT PM)			Remarks
		Existing	Proposed	Total (After Expansion)	
1	C.P.C. Green – 7	15.0	135.0	150.0	Existing + Proposed product

2	Green – 36	--	5.0	5.0	New product
3	Alpha Blue	--	50.0	50.0	New product
4	Beta Blue	--	75.0	75.0	New product
By-products					
1	Aluminum Chloride solution	--	650.0	650.0	From mfr. of CPC-green-7 & Green 36
2	30% Hydrochloric acid	--	320.0	320.0	From scrubbing of HCl in water during mfr. of CPC-green-7 & Green 36
3	10% sodium bromide solution	--	30.0	30.0	From scrubbing of Chlorine in caustic saluting during mfr. Of CPC-green & Green 36
4	20% sodium bromide solution	--	4.0	4.0	From scrubbing of Br ₂ in caustic solution during mfr. Of Green 36
5	Spent sulphuric acid (60-70%)	--	455.0	455.0	From mfr. of Alpha blue

PAs informed the Committee that ambient air quality monitoring was carried out at 7 locations during 15th March, 2011 to 14th June, 2011 and submitted baseline data indicates ranges of concentrations of PM₁₀ (32 µg/m³ to 78 µg/m³), SO₂ (4 µg/m³ to 17 µg/m³) and NO_x (10 µg/m³ to 31 µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be 3.75 µg/m³, 0.137 and 0.062 µg/m³ with respect to PM, HCl and Cl₂. The resultant concentrations are within the NAAQS.

Multicyclone followed by dust collector alongwith stack of adequate height will be provided to coal/lignite/ agrowaste fired boiler. Two stage water scrubber followed by caustic scrubber will be provided to chlorination vessels and drowning vessels to control HCl and Cl₂ emissions. Two stage caustic scrubber will be provided to control Br₂ emissions. Fresh water requirement will be increased from 19 m³/day to 155 m³/day after expansion. Effluent generation will be increased from 17 m³/day to 67 m³/day after expansion. Effluent will be treated in Effluent treatment plant. Treated effluent will be sent to CETP of M/s EICL, Umraya for final treatment. E.T.P. Sludge will be sent to TSDF site. Used Oil will be sent to authorized recyclers/re-processors. Fly ash will be sold to brick manufacturers. 30% Hydrochloric acid, 10% Sodium hypochlorite solution, Spent Sulphuric Acid (60-70%), Aluminium Chloride solution and 20% Sodium bromide Solution will be sold to actual users. Discarded containers will be sold to GPCB authorized merchant.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting was conducted by the Gujarat Pollution Control Board on 24th August, 2012. The issues raised were regarding local employment, adequate fire station to be provided, ground water drawl, contamination of ground water, rain water harvesting, impact on agriculture, wastewater discharge etc.

After deliberations, the Committee desired following additional information:

- i) Recommendation on proposed expansion project from the Gujarat Pollution Control Board.
- ii) Compliance status report on the conditions stipulated in the existing CTE/CTO.
- iii) Point wise reply/commitment on the issues raised by the public in public hearing.

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

9.2.7 Exploratory Drilling of 182 Wells in 33 Blocks Western onshore Basin, Baroda, Ahmedabad, Gandhinagar, Mehsana, Anand and Kheda District Gujarat by M/s ONGC Ltd. - regarding EC

The project authorities 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 Reconstituted Expert Appraisal Committee (Industry) held during 8th–9th January, 2013 for preparation of EIA/EMP report. All the on-shore and offshore oil and gas projects belong to S.N. 1 (b) and are placed under Category 'A' and appraised at the Central level. Public hearing was exempted as per para 7 (ii) of EIA Notification, 2006.

M/s Oil and Natural Gas Corporation Ltd. (ONGCL) have proposed for exploratory drilling of 182 Wells in 33 Blocks Western onshore Basin, Baroda, Ahmedabad, Gandhinagar, Mehsana, Anand and Kheda District in Gujarat. ONGC has already drilled around 6000 wells in Cambay Basin and exploration and production activity are already reached its Zenith. It is proposed that new initiative for deeper exploration by ONGC in the 33 blocks of Cambay basin located in Mehsana, Ahmedabad, Gandhinagar, Kheda and Anand Districts. In support of the long term hydrocarbon exploration programme, ONGC intends to further drill 182 exploratory wells in the ML blocks in next 5 years. The proposed area of the project is spread over an area of 3048.166 Km². Targeted depths of well will be 600 m to 3500 m. Total cost of project is Rs. 1500 Crore. No ecologically important area (e.g. National Park, Sanctuary) is located within 10 Km distance. Details of 33 ML Blocks with 182 proposed Wells are given below:

Sl. No.	Name of ML Blocks	Area in Sq. Km.	No. of wells to be drilled
1	Ahmedabad-Bakrol	30.160	3
2	Ahmedabad Ext-I to V	85.980	6
3	Asmali	43.256	4
4	Balasar	12.000	3
5	Gamij and Gamij Ext.-I to III	252.013	9
6	Halisa	143.441	8
7	Hirapur	87.918	6
8	Kadi Ext-III to V	34.350	6
9	Kalol (Main) and Ext.-I to II	211.262	8
10	Kalol North-East	9.440	2
11	Kalol West & Ext.-I to II	61.530	8
12	Limbodra & Ext.-I	30.707	5
13	Lohar	8.910	1
14	Motera, Ext.-I & II	65.366	8
15	Nandej, Nandej East & Ext.-I	167.275	6
16	Nawagam & Ext.-I to III	145.658	7
17	Nawagam South Ext-I to III	128.530	6
18	Paliyad-Kalol-Limbodra	161.479	6
19	Rajpur & Ext-I	15.455	2
20	Rupal	14.060	4
21	Sanand & sanand Ext.-I to III	129.540	8
22	Wamaj & South Wamaj	38.730	6

23	Valod & Valod Ext.-I	118.580	8
24	Varsoda-Halisa & Ext-I	324.000	9
25	Viraj	17.490	3
26	Wadu & Wadu Ext-I	70.583	6
27	Kathana & Kathana Ext.-I	33.944	3
28	Cambay	2.600	1
29	Siswa	37.784	4
30	Akholjuni	81.250	6
31	Anklav Ext-I	61.000	5
32	Chaklasi-Rasnol & Ext-I	225.000	9
33	Vasad-Kathol & Ext.-I to III Part I, II & III	199.875	6
	TOTAL		182

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 13 locations during summer season 2012 and submitted data indicates PM₁₀ (24-97 ug/m³), PM_{2.5} (11-46 ug/m³), SO₂ (2.2-29.6 ug/m³) and NO_x (6.5- 29.6 ug/m³). Incremental concentration due to proposed project was estimated to be PM (0.21 ug/m³), SO₂ (0.12 ug/m³) and NO_x (46.65 ug/m³). Air emissions from D.G. sets will be dispersed by providing adequate stack height. Fresh water requirement will be 35 m³/day, which will be procured from tanker. Water based mud (WBM) will be used. Total wastewater generation will be around 3 m³/day. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers. DG sets (3 x 1240 KVA) will be installed. Blow out preventers (BOP) will be installed to control fluid from the formation gushing to the surface. In the event the well is unsuccessful the well bore will be cement plugged.

Public hearing was exempted as per para 7 (ii) of EIA Notification, 2006.

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

- i. This EC is only for Exploratory Drilling. In case Development drilling is to be done in future, prior clearance must be obtained from the Ministry.
- ii. No drilling shall be carried out within 10 Km distance from Thol Wildlife Sanctuary.
- iii. Ambient air quality should be monitored near the closest 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, methane & Non-methane HC etc.
- iv. Mercury should also be analyzed in air, water and drill cuttings twice during drilling period.
- v. Approach road should be made pucca to minimize generation of suspended dust.

- vi. 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.
- vii. Total water requirement should not exceed 50 m³/day and prior permission should be obtained from the concerned agency.
- viii. 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.
- ix. 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.
- 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. On completion of drilling, the company have to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.
- 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. Abandoned well inventory and remediation plan shall be submitted within six months from the date of issue of letter.
- xx. Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xxi. In case the commercial viability of the project is established, the Company should prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxii. Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bhopal.
- xxiii. 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.
- xxiv. Under Enterprise Social Commitment (ESC), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxv. An audit should be done to ensure that the Environment Management Plan is implemented in totality and report should be submitted to the Ministry's Regional Office.
- xxvi. A social audit shall be carried out for the whole operation area with the help of reputed institute like Madras Institute of Social Science etc.
- xxvii. All personnel including those of contractors should be trained and made fully aware of the hazards, risks and controls in place.
- xxviii. Company should have own Environment Management Cell having qualified persons with proper background.
- xxix. 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.

9.2.8 Drilling of Exploratory Wells (17 Nos.) at Onshore Block AA-ONN-2009/1 in Churachandpur, Tamenglong and Imphal East, Jiribam, Districts, Manipur by **M/s Jubilant Energy - regarding EC.**

The project authorities and their Consultant (Senes Consultants India 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 28th Meeting of the Expert Appraisal Committee (Industry-2) held during 20th-21st October, 2011 for preparation of EIA/EMP report. All the on-shore and offshore oil and gas projects belong to S.N. 1 (b) and are placed under Category 'A' and appraised at the Central level.

M/s Jubilant Energy have proposed for drilling of exploratory well (17 Nos.) at onshore Block AA-ONN-2009/1 in Churachandpur, Tamenglong and Imphal, East Jiribam Districts, Manipur. The company has been awarded the block AA-ONN-2009/01 located in the Assam-Arakan Basin under the NELP VIII. Production sharing contract with Govt. of India was signed on 30th June, 2010. The PEL was signed with State Government of Manipur on November 15, 2010. The block AA-ONN-2009/1 covers an area of 2217 km². All the tentative drill site are located on unclassified forest land. As per Forest (Conservation) Act 1980. Presently JOGPL has applied FC for drilling of one well at Parbung. There is no notified National Park, Wildlife sanctuary in the exploratory block. However, there is proposed Wildlife Sanctuary (Kailam WLS) in the exploratory block. All wells are located more than 10 Km from the proposed wildlife sanctuary as well as reserved forest. Each exploratory well will be drilled to a target depth in the range of of 2500-4500 m. The cost of the project is \$ 8 million. Following are the coordinates of proposed exploratory wells:

S.N.	Wells Nos.	Latitude	Longitude
1.	Well-1	24° 28' 54.23" N	93° 28' 13.58" E
2.	Well-2	24° 27' 1.21" N	93° 18' 42.54" E
3.	Well-3	24° 23' 4.34" N	93° 14' 28.59" E
4.	Well-4	24° 32' 56.39" N	93° 14' 30.34" E
5.	Well-5	24° 30' 39.65" N	93° 13' 16.34" E
6.	Well-6	24° 21' 15.62" N	93° 4' 22.21" E
7.	Well-7	24° 12' 13.37" N	93° 12' 56.83" E
8.	Well-8	24° 17' 49.5" N	93° 11' 10.71" E
9.	Well-9	24° 11' 30.18" N	93° 9' 15.35" E
10.	Well-10	24° 7' 5.35" N	93° 7' 53.89" E
11.	Well-11	24° 6' 14.33" N	93° 7' 43.01" E
12.	Well-12	24° 20' 25.97" N	93° 8' 23.09" E
13.	Well-13	24° 17' 24.69" N	93° 6' 48.97" E
14.	Well-14	24° 14' 50" N	93° 6' 26" E
15.	Well-15	24° 10' 41.95" N	93° 3' 20.89" E
16.	Well-16	24° 31' 58.66" N	93° 8' 15.19" E
17.	Well-17	24° 26' 21.27" N	93° 6' 23.89" E

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 3 locations in December 2011 and submitted data indicates PM₁₀ (33-61 ug/m³), PM_{2.5} (11-21 ug/m³), SO₂ (less than 4 ug/m³) and NO_x (less than 9 ug/m³). Incremental concentration due to proposed project was estimated to be PM (1.08 ug/m³), SO₂ (4.22 ug/m³) and NO_x (31.38 ug/m³). Air emissions from D.G. sets will be dispersed by providing adequate stack height. Total water requirement at site will be 75 m³/day, which will be met from surface water bodies. However, the Committee desired to restrict water consumption upto 20 m³/day. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well

designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers. DG sets (4 x 970 KVA) will be installed. Blow out preventers (BOP) will be installed to control fluid from the formation gushing to the surface. In the event the well is unsuccessful the well bore will be cement plugged and the area will be reclaimed and restored to original landuse.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Manipur Pollution Control Board on 30th July, 2012 for Imphal East. The issues raised during public hearing were benefit and disadvantage of the project, impact on flora and fauna etc and have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Manipur Pollution Control Board on 8th August, 2012 for Churachandpur. The issues raised during public hearing were consent of local people, effect on wildlife and organisms, compensation offered for the damage due to survey work, public awareness through NGOs etc. In response, project proponent informed that the Company is in investment mode for proposed exploratory activity and is yet to ascertain the presence of oil and gas. The Company will decide on long term contracts during production stage. At present Company is focusing on exploratory drilling. Drilling requires very limited land of 4-5 ha. (effective area) and has miniscule environmental impacts due to adopting international level control measures. The Committee was satisfied with the response of the project proponent and incorporated in the final EIA/EMP report.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Manipur Pollution Control Board on 7th November, 2012 for Tamlong. The issues raised during public hearing were permission from land owners, impact due to drilling, forest land, ground water etc and have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

After deliberations, the Committee desired following additional information:

- i) Map authenticated by wildlife warden indicating well locations and wildlife sanctuary.
- ii) Submit a copy of application for stage-1 forest clearance.
- iii) Revised water balance considering water requirement of 30 m³/day. No effluent shall be discharged.

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

9.2.9 Exploratory Drilling of 3 wells in On-shore NELP-VII Block PR-ONN-2005/1 of Cauvery Basin, Tamil Nadu by **M/s Oil & Natural Gas Corporation Ltd. - regarding EC**

The project authorities and their Consultant (Ramky Enviro Engineers Ltd., Hyderabad) 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 20th Meeting of the Expert Appraisal Committee (Industry) held during 3rd–4th March, 2011 for preparation of EIA/EMP report. All the on-shore and offshore oil and gas projects belong to S.N. 1 (b) and are placed under Category 'A' and appraised at the Central level.

M/s Oil and Natural Gas Corporation Ltd. (ONGCL) have proposed for exploratory drilling of 3 wells in On-shore NELP-VII Block PR-ONN-2005/1 of Cauvery Basin, Tamil Nadu. No wildlife sanctuary / national park is located within 10Km distance. The Pulliyar reserve forest is located under 1 Km radius from this well. No forest land is involved. Arani River is flowing at a distance of 5 Km. Bay of Bengal is located at a distance of 30 Km. The block is covering Chennai, Kanchipuram and Thiruvallur Districts of Tamil Nadu. However, proposed 3 wells are located in Thiruvallur District of Tamil Nadu.

NELP-VIII Block PR-ONN_2005/1 in the Palar Basin was awarded as joint venture i.e. ONGC (80%) and Tata Petrodyne Ltd. (TPL 20%) with ONGC as the 'Operator'. Pulicat lake is located at a distance of 17 Km from the proposed well. The on-land NELP Block covers an area of about 1,807 sq. km. The well will be drilled to a depth of 2000-2500 m. Total cost of the project is Rs. 29.25 Crore. Capital & recurring cost for environmental protection measures will be Rs. 1.03 Crores. Following are the co-ordinates of the proposed wells.

Particulars	NAAA	NAAB	NAAD
Geographical Positions	13°22'019.88N 80°2'47.298E	13°23'3.905N 80°0'10.382E	13°24'46.065N 80°2'47.298E
Village	Manali	Thevai Kandigai	Vaniamalli
Panchayat	Erukuvai	Thervai	Poovalam bedu
Block	Gummidipoondi	Gummidipoondi	Gummidipoondi
Taluk	Gummidipoondi	Gummidipoondi	Gummidipoondi
District	Thiruvallur	Thiruvallur	Thiruvallur

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 12 locations during March-May 2012 and submitted data indicates PM₁₀ (30.1-48.6 ug/m³), PM_{2.5} (10.5-22.4 ug/m³), SO₂ (6.3-13.9 ug/m³) and NO_x (16.5- 32.5 ug/m³). Incremental concentration due to proposed project was estimated to be PM (0.019 ug/m³), SO₂ (0.14 ug/m³) and NO_x (1.1 ug/m³). Air emissions from D.G. sets will be dispersed by providing adequate stack height. Fresh water requirement will be 25 m³/day, which will be procured from tanker. Water based mud (WBM) and Synthetic based mud will be used. Total wastewater generation will be around 8 m³/day. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers. HSD (6KLD) will be used as fuel in rig and D.G. sets during drilling period. DG sets will be installed.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the T N Pollution Control Board on 12th March, 2013. The issues raised were regarding extent of land to be acquired, safety, rate of compensation for damage of road etc. In response, project proponent informed they will not insist land owner, who do not want to give land and will select some other land. The land will be given back by restoring it if no oil is found. The Compensation will be provided in accordance with the decisions of the District Revenue Officer of the Concerned District. All the issues have been satisfactorily responded by the project proponent and incorporated in the final EIA/EMP report.

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

- i. This EC is only for Exploratory Drilling. In case Development drilling is to be done in future, prior clearance must be obtained from the Ministry.
- ii. Ambient air quality should be monitored near the closest 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, methane & Non-methane HC etc.
- iii. Mercury should also be analyzed in air, water and drill cuttings twice during drilling period.
- iv. Approach road should be made pucca to minimize 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 should not exceed 50 m³/day 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 Bangalore.
- ix. Good sanitation facility should be provided at the drilling site. Domestic sewage should be disposed off through septic tank/ soak pit.
- x. 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.
- xi. 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.
- xii. 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.

- xiii. 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.
- xiv. On completion of drilling, the company have to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.
- xv. 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.
- xvi. Emergency Response Plan (ERP) should be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xvii. 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.
- xviii. Abandoned well inventory and remediation plan shall be submitted within six months from the date of issue of letter.
- xix. Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xx. In case the commercial viability of the project is established, the Company should prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxi. Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bangalore.
- xxii. 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 Bangalore.
- xxiii. Under Enterprise Social Commitment (ESC), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxiv. An audit should be done to ensure that the Environment Management Plan is implemented in totality and report should be submitted to the Ministry's Regional Office.
- xxv. A social audit shall be carried out for the whole operation area with the help of reputed institute like Madras Institute of Social Science etc.

- xxvi. All personnel including those of contractors should be trained and made fully aware of the hazards, risks and controls in place.
- xxvii. Company should have own Environment Management Cell having qualified persons with proper background.
- xxviii.** 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.

9.2.10 Expansion of existing Methanol Plant (100 TPD) and Formaldehyde Plant (100 TPD) by installing Methanol Plant (500 TPD), Acetic Acid Plant (200 TPD) and Captive Power Plant (5 MW) at Plot 4, Patta No.7, Dag No.60(kha), Plot-72B-03K-00LS at Village Namrup, Tehsil Naharkatia, District Dibrugarh, Assam by M/s Assam Petrochemicals Ltd.- regarding EC.

The project authorities and their consultant (Team Labs and Consultant) 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 12th–13th January, 2012 for preparation of EIA/EMP report. All the Petrochemical Process Units viz Methanol and Formaldehyde plants are listed at S.N. 5(e) under Category 'A' and appraised at the Central level.

M/s Assam Petrochemicals Ltd. have proposed for the expansion in the existing Methanol Plant (100 TPD) and Formaldehyde Plant (100 TPD) by installing Methanol Plant (500 TPD), Acetic Acid Plant (200 TPD) and Captive Power Plant (5 MW) at Plot no. 4, Patta no. 7, Dag No. 60(kha), Plot 72B-03K-00LS at Village Namrup, Tehsil Naharkatia, District Dibrugarh, Assam. Captive Power Plant (5 MW) will be natural gas based plant. Existing total plot area is 84 acres (Plant in 30 acres and township in 54 acres). Total plot area after expansion will be 108 acres. Additional 24 acres of land is required for petrochemical unit alongwith power plant. Out of which, 9.538 acres has been earmarked for greenbelt. Total cost of the project is Rs. 1028 Crore. An amount of Rs. 9.0 crore and Rs. 40.0 Lakhs are earmarked towards capital cost and recurring cost per annum for pollution control measures. Dehing-Patkai Wild life Sanctuary is located at an aerial distance of 5 Km. Jaipur reserve forest is located at a distance of 2.5 Km. A copy of forwarding letter no. WL/FG.35/proposal expansion plant of petrochemical ltd of Principal Chief Conservator of Forests, Wildlife, Assam to the Government of Assam regarding clearance of the standing committee of National Board for Wildlife for expansion of Assam Petrochemical project is submitted. River Dilli is flowing at a distance of 4 Km. Following are the details of the existing and proposed plants:

S.N.	Items	Existing capacity	Proposed capacity	Capacity after expansion
1	Methanol Plant	100 TPD	500 TPD	600 TPD
2	Formaldehyde Plant	100 TPD	-	100 TPD
3	Acetic Acid Plant	-	200 TPD	200 TPD
4	Captive Power Plant	-	5 MW	5 MW

Natural gas is the main feed stock for both the products viz. Methanol and Acetic Acid which will be used as raw materials. Methanol and CO are the basic raw materials for the production of Acetic acid.

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 4 locations during October, 2011 to January, 2012 and submitted baseline data indicates that ranges of concentrations of PM₁₀ (53 µg/m³ to 82 µg/m³), PM_{2.5} (35 µg/m³ to 45 µg/m³), SO₂ (BDL to 5.8 µg/m³) and NO_x (16.5 µg/m³ to 32.5 µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be 2.55 µg/m³ with respect to NO_x. The resultant concentrations are within the NAAQS. Methanol vapour from tank will be scrubbed through a fresh methanol scrubbing system which will be recycled back into the system. Unconverted CO from the Carbonylation reactor will be sent to a scrubber. The scrubbed /wash column is recycled to the crude methanol tank. Stack height of 30 m will be provided to methanol plant. Low NO_x burner will be installed. Total water requirement for petro-chemical unit and power plant from River Dilli will be increased from 1200 m³/day to 4009 m³/day after expansion. Industrial effluent generation will be increased from 190.8 m³/day to 1443 m³/day after expansion. Industrial effluent will be treated in primary, secondary and tertiary treatment facilities. No effluent will be discharged outside the factory premises and zero effluent discharge concept will be maintained. Used catalyst/waste oil/used batteries will be sent to authorized recycler/re-processor. Natural gas will be sourced from M/s Oil India Ltd. (0.5 MMSCM) for petro-chemical unit

After deliberations, the Committee desired following additional information:

- i. Correct the statement at page 8 of EIA report, wherein it is mentioned that no sensitive area/sanctuaries/national park is located. However, during the presentation, it was informed that Patkai Wild life Sanctuary is located at an aerial distance of 5 Km.
- ii. An authenticated map of the study area by the Chief Wildlife Warden, Government of Assam showing the distance between the boundary of project site and the Wildlife sanctuaries.
- ii. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden, Government of Assam for conservation of Schedule I fauna.
- iii. Compliance report by the Assam Pollution Control Board to the conditions stipulated in the NOC/Consent to Operate for the existing unit.
- iv. Efforts to be made to reduce the water requirement. Details of water conservation plan.
- v. Details of Effluent Treatment Plant. Details of the purposes/activities for which treated effluent to be recycled/reused.
- vi. Details of ETP sludge to be checked.

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

9.2.11 Expansion of Dispensing Agents (190 TPM to 2576 TPM) at Plot No.2901, 2902, 1st Phase, J Type area, Notified Industrial Estate, GIDC, Vapi, District Valsad, Gujarat by **M/s Himadri Chemicals & Industries Ltd.- regarding EC.**

The project authorities and their consultant (Eco-Chem Sales & Service) 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 32nd Meeting of the Expert Appraisal Committee (Industry) held during 16th–17th February, 2012 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 Himadri Chemicals & Industries Ltd have proposed for the expansion of Dispensing Agents (190 TPM to 2576 TPM) at Plot No.2901, 2902, 1st Phase, J Type area, Notified Industrial Estate, GIDC, Vapi, District Valsad, Gujarat. Total project area is 1640 m². Dispensing agents will be based on naphthalene/phenol. Proposed expansion will be carried out in the existing plot only. No additional land will be required. River Damanganga is flowing at distance of 3 km. No national park or wildlife sanctuary is located within 10 Km distance. Consolidated consents and Authorization (CCA) is accorded by the GPCB vide letter dated 25th May, 2009. Following products will be manufactured:

S.N.	Products	Quantity TPM			Remark
		Existing	Proposed	Total	
1	Dispensing Agent Based on Naphthalene (liquid) (Beton SP 011 (V))	64	1936	2000	Expansion
2	Dispensing Agent Based on Naphthalene (Powder) (Beton SP 011 (V))	0	200	200	New product
3	Dispensing Agent Based on phenol (Chemosperse DNI Liquid)	126	0	126	Existing No change
4	Dispensing Agent Based on (Chemosperse DNI powder)	0	50	50	New product
5	Chemsonite SP 450 UM	0	50	50	New product
6	Chemsonite SP SP 450 XLB	0	50	50	New product
7	Chemsonite DNT liquid	0	50	50	New product
8	Chemsonite DNT Powder	0	50	50	New product
	Total	190	2386	2576	

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 6 locations during October, 2011 to December, 2012 and submitted baseline data indicates that ranges of concentrations of PM₁₀ (61.08 µg/m³ to 89.08 µg/m³), PM_{2.5} (36.54 µg/m³ to 52.62 µg/m³), SO₂ (24 µg/m³ to 37.16 µg/m³) and NO_x (20.00 µg/m³ to 28.54 µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be 0.066 µg/m³ and 0.007 µg/m³ with respect to SO₂ and NO_x. The resultant concentrations are within the NAAQS.

Stack height of 11 m will be provided to LDO fired steam boiler and DG set (125 KVA). Acid followed by alkali scrubber will be provided to Sulphonator & Oleum Storage Tank. Carbon adsorption system will be provided to formaldehyde reactor. Fresh water requirement from GIDC, Vapi water supply will be increased from 6.15 m³/day to 38.38 m³/day. Industrial effluent generation will be increased from 0.5 m³/day to 2.25 m³/day. Effluent will be treated in ETP. Treated effluent will be recycled/reused in the process. No effluent will be discharged outside the plant premises. Wet scrubber sludge, used carbon from carbon absorber and ETP waste will be disposed off to TSDF, Vapi. Waste oil will be sold to authorized recyclers / re-processors. Out of 1640 m², 400 m² is earmarked for green belt development. Acoustic enclosures will be provided to control noise from D.G. sets. A copy of consent order no. AWH-45610 dated 16th February 2012 is submitted. Project proponent has submitted compliance report on condition stipulated by the SPCB. As per compliance report, generation of industrial effluent and domestic effluent is 0.5 KLD and 1.5 KLD respectively. Effluent is treated in ETP and treated effluent is discharge into underground effluent drainage line to CETP Vapi for further treatment. Results of stack monitoring were found to be within the prescribed limit.

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 should be provided to LDO fired boiler.
- ii) The levels of PM₁₀, SO₂, NO_x, CO and VOC should be monitored in ambient air.
- iii) Scrubber will be provided to oleum storage and sulphonator. 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. The emissions should conform to the limits imposed by GPCB.
- v) Prior permission for total fresh water requirement from GIDC water supply should be obtained. The water consumption should not exceed 38.8 m³/day. No ground water should be used.
- vi) Total industrial effluent generation should not exceed 2.25 m³/day. Effluent shall be treated in ETP. Treated effluent shall be recycled/reused in process. No effluent shall be discharged outside the plant.
- 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) Green belt should be developed in in 400 m² out of total plant area.
- ix) All the recommendations made in the risk assessment report should be satisfactorily implemented.

- x) Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.

9.2.12 Phenol Formaldehyde Resin, Melamine Formaldehyde Resin and other Synthetic Resin (1500 MTPM) at Block No. 418, Mouza Chiyada, Taluka Bavla, District Ahmedabad, Gujarat by **M/s Wonder Industries -regarding EC**

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 as per Draft Terms of References (TORs) awarded during the 32nd Meeting of the Expert Appraisal Committee (Industry) held during 16th- 17th February, 2012 for preparation of EIA/EMP report. All the Resin Plants located outside notified industrial area are listed at S.N. 5(f) under Category 'A' and appraised at the Central level.

M/s Wonder Industries Pvt. Ltd have proposed for setting up of Resin Manufacturing Unit at Block No.418, Mouza Chiyada, Taluka Bavla, District Ahmedabad, Gujarat. Laminate sheets (1,75,000 MTPM) are manufactured presently. Total plot area is 39559.75 sq.m of which greenbelt will be developed in 13251.75 m². Total cost of the project is Rs. 80.00 Lakhs. No national park/wildlife sanctuary is located within 10 Km distance. Following products will be manufactured:

S.N.	Name of the products	Quantity (MTPM)
1	Phenol Formaldehyde Resin	1200
2	Melamine Formaldehyde Resin	225
3	Urea Formaldehyde Resin/other resins	75

Ambient air quality monitoring was carried out at 7 locations march to may 2012 and submitted data indicates as PM₁₀ (19–92ug/m³), PM_{2.5} (11–52ug/m³), SO₂ (6.0 – 15.9 ug/m³) and NO_x (6.8-27.4ug/m³). Predicted value of ground level concentration due to proposed expansion is PM10 (0.3 ug/m³) and SO₂ (8.4 ug/m³). The resultant concentrations are within the NAAQS. Multicyclone dust collector will be provided to coal fired steam boiler/thermic fluid heater. D.G. set will be provided stack (9.1 m). Scrubber will be provided to methanol formaldehyde dryer and Phenol formaldehyde dryer (4 nos.). Total fresh water requirement will be 52.74 m³/day. Industrial effluent generation will be 15.37 m³/day and treated in ETP. Effluent will be collected in collection tank and transferred in a mixer to adjust pH, add FeSO₄.7H₂O, H₂O₂ and then transferred to oxidation vessel to follow Photo Fenton Process. Treated effluent will be evaporated in evaporator and 40 % evaporated condensed water will be reused into process so industry will maintain zero effluent discharge. No effluent will be discharged outside the premises and 'Zero' discharge will be adopted. Used / spent oil (40 l/m) will be sold to authorized recyclers / re-processors. ETP sludge will be sent to TSDF.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 8th March, 2013. The issues raised during public hearing were regarding steps taken to control air pollution, greenbelt, harmful effect on health, employment etc and have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

After deliberations, the Committee desired following additional information:

- 1 Point-wise TOR compliance table.

- 2 At page 2.9 of EIA report, plot area is mentioned as 39559.75 m². Whereas during presentation, it was informed that total area is 18400 m². Please clarify the actual figure.
- 3 At page 8.1 of EIA report, cost of project is mentioned as Rs. 15.0 Crore. Whereas during presentation, project proponent informed that project cost is Rs. 80 Lacs.
- 4 Copy of valid consent to operate of the existing unit (laminated sheet).

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.

9.2.13 API Bulk Drug Unit (1.455 TPM) at Plot No.A1/2110 & 2111, 3rd phase area, Notified Industrial Estate, Village GIDC Vapi, Tehsil Pardi, District Valsad, Gujarat by M/s Swati Spentose Pvt. Ltd. - regarding EC.

The project authorities and their consultant (Eco-Chem Sales & Service) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Draft Terms of Reference (TORs) awarded during the 35th Meeting of the Expert Appraisal Committee (Industry) held during 11th-12th May, 2012 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 Swati Spentose Pvt. Ltd. has proposed for setting up of API Bulk Drug Unit (1.455 TPM) at Plot No.A1/2110 & 2111, 3rd phase area, Notified Industrial Estate, Village GIDC Vapi, Tehsil Pardi, District Valsad, Gujarat. Total plot area is 5414 m² of which greenbelt will be developed in 1400 m². Project cost is Rs. 9.24 Crores. No forest land is involved. No national parks/wildlife sanctuary/biosphere reserve is located within 10 Km distance. Plant will be operated for 300 days. Following products will be manufactured:

S.N.	Products	Capacity (TPM)
1	Hormones	067
2	Steroids	0.785

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 6 locations during October, 2012 to December, 2012 and submitted baseline data indicates that ranges of concentrations of PM₁₀ (61.08 µg/m³ to 88.08 µg/m³), PM_{2.5} (36.54 µg/m³ to 52.54 µg/m³), SO₂ (24.00 µg/m³ to 37.54 µg/m³) and NO_x (20.00 µg/m³ to 28.54 µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be 0.70 µg/m³ and 0.42 µg/m³ with respect to SO₂ and NO_x. The resultant concentrations are within the NAAQS.

Adequate stack height will be provided to gas fired boiler. Process emissions will be passed through two stage alkali scrubber. Total fresh water requirement from GIDC water supply will be 33.7 m³/day. Industrial effluent generation will be 26.8 m³/day. Out of which effluent (16.5 m³/day) will be treated in the ETP comprising primary, secondary and tertiary treatment. Treated effluent will be discharged into underground GIDC effluent drainage line to CETP Vapi leading to the Arabian Sea. Balance concentrated effluent (10.3 m³/day) will be treated in proposed solvent stripper followed by MEE followed by Agitated thin film dryer. ETP sludge will be sent to TSDF. Distillation residue from the process and used charcoal & Hyflow from the process will be sent to CHWIF. Used oil will be sent to authorized recycler/re-processor. Total power requirement from DGVCL will be 200 KVA. DG set (125

KVA) will be installed. Natural gas (50 SCM/hr) will be procured from GSPC and HSD (15 LPH) from local market.

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 should be provided to gas fired boiler.
- ii) The levels of PM₁₀, SO₂, NO_x, CO and VOC should be monitored in ambient air.
- iii) Two stage alkali scrubber shall be provided to control process emissions.
- iv) Fugitive emissions in the work zone environment, product, raw materials storage area etc. should be regularly monitored. The emissions should conform to the limits imposed by GPCB.
- v) Prior permission for total fresh water requirement from GIDC water supply should be obtained. The water consumption should not exceed 33.7 m³/day. No ground water should be used.
- vi) Total industrial effluent generation shall not exceed 26.8 m³/day. Effluent (16.5 m³/day) shall be treated in the ETP comprising primary, secondary and tertiary treatment and treated effluent shall be discharged to CETP after conforming to the standards prescribed for the effluent discharge and obtaining permission from the GPCB. Balance concentrated effluent (10.3 m³/day) shall be treated in proposed solvent stripper followed by MEE followed by Agitated thin film dryer. No process effluent shall be discharged in and around the project site. Efforts shall be made to treat ammonical nitrogen in the effluent.
- vii) Treated effluent should be passed through guard pond. Online pH meter, flow meter and TOC analyzer should be installed. Efforts shall be also made to explore the possibility of recycling/reuse of the treated effluent.
- 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 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.
- ix) Green belt should be developed in in 1400 m² out of total plant area.
- x) All the recommendations made in the risk assessment report should be satisfactorily implemented.
- xi) Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.

9.2.14 Molasses based Distillery (45 KLD) unit alongwith Co-generation Power Plant (18 MW) at Village Udpudi, Taluk Ramdurg, District Belgaum, Karnataka by **M/s Shree Shivsagar & Agro Products Ltd. regarding EC.**

The project authorities and their consultant (M/s Ultra-Tech) 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 7th Meeting of the Expert Appraisal Committee (Industry) held during 15th- 16th January, 2010 for preparation of EIA/EMP report. All molasses based distilleries are listed at S.N. 5(g) (i) under Category 'A' and appraised at the Central level. Ministry vide letter dated 11th February, 2010 has issued TOR for EIA/EMP report preparation. As per Ministry's O.M. dated 22nd March, 2010, where TORs granted prior to the issue of this O.M., the EIA/EMP reports should be submitted after public consultation not later than four years from the date of grant of the TORs with primary data not older than three year. In this case TOR was granted prior to OM dated 22nd March, 2010.

M/s Shree Shivsagar & Agro Products Ltd. have proposed for setting up of Molasses based Distillery (45 KLD) unit alongwith Co-generation Power Plant (18 MW) at Village Udpudi, Taluk Ramdurg, District Belgaum, Karnataka. River Malaprabha is flowing at a distance of 14 Km. No national park/biosphere reserve/wildlife sanctuary/coral formation is located within 10 Km distance. Total plot area is 98 acres of which greenbelt will be developed in 40 acres of land. Total project cost is Rs. 125 Crore. Distillery will be operated for 330 days. Power plant will be operated for 180 days during season and 90 days during off season.

Molasses requirement will be 180 TPD and sourced from associated sugar unit and balance molasses requirement will be met from nearby sugar industries. Bagasse will be sourced from sugar mill. Imported coal will be used.

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 5 locations during February, 2012 to May, 2012 and submitted baseline data indicates that ranges of concentrations of PM₁₀ (26.3 µg/m³ to 69.1 µg/m³), PM_{2.5} (18.7 µg/m³ to 39.3 µg/m³), SO₂ (11.6 µg/m³ to 29.1 µg/m³) and NO_x (19.2 µg/m³ to 44.6 µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be 2.02 µg/m³ and 16.89 µg/m³ with respect to PM₁₀ and SO₂. The resultant concentrations are within the NAAQS.

ESP alongwith stack height of 75 m will be provided to bagasse/coal fired boilers (50 TPH & 70 TPH). Wet scrubber alongwith stack height of 45 m will be provided to bagasse/biogass/spent wash concentrate fired boiler (15 TPH). However, Committee advised them to install bagfilter instead of wet scrubber. Fresh water requirement from River Malaprabha will be 422 m³/day for distillery and 419 m³/day for cogen unit. Spent wash (360 m³/day) will be treated in bio-digester followed by Multi effect evaporation and concentrated spent wash will be burnt in the incineration boiler. Condensate water will be recycled/reused for the cooling tower make up water. Other effluent (206 m³/day) will be treated in ETP and treated effluent will be used for irrigation purpose. Fly ash from coal will be used for brick making and road formation. Fly ash from bagasse will be used for soil conditioner in agriculture lands. Yeast sludge from molasses based process will be used as bio-manure.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Karnataka State Pollution Control Board on 15th February, 2013. The issues raised during public hearing were local development, electricity, employment, effluent treatment, etc. 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. Distillery unit shall be based on molasses based only and no grain based distillery unit shall be operated.
- ii. As proposed, ESP alongwith stack of adequate height should be provided to bagasse/coal fired boilers (50 TPH & 70 TPH) to control particulate emission within 50 mg/Nm³. Bagfilter shall be provided to bagasse/biogass/spent wash concentrate fired boiler (15 TPH).
- iii. Company shall follow good management practices viz. collection of waste yeast sludge from fermentation section in a closed system and proper disposal, reduced volume of effluent by adopting strategic approaches, closed drains carrying spent wash to the treatment units; minimization of fugitive emissions from anaerobic treatment; proper collection & handling of excess sludge generated from the anaerobic & aerobic treatment units; minimum retention of treated & untreated spent wash in the lagoons; and green belt development with suitable plantation in and around the treatment units to mitigate odour from the distillery unit.
- iv. Pucca approach road to project site should be constructed prior to commencing construction activity of the main distillery to avoid fugitive emissions.
- v. Total fresh water requirement from ground water source should not exceed 422 m³/day for distillery and 419 m³/day for cogen unit and prior permission for drawl of water should be obtained from the competent authorities.
- vi. Spent wash generation from molasses based distillery should not exceed 8 KI/KI of alcohol. Spent wash from molasses based distillery should be concentration and incinerated in the incineration boiler to achieve zero discharge. Spentlees, effluent from utilities and cogeneration unit should be treated in effluent treatment plant (ETP) and water quality of treated effluent should meet the norms prescribed by CPCB/SPCB. Condensate shall be recycled/reused for cooling tower make up water.
- vii. Spent wash for molasses should be stored in impervious lagoon with HDPE lining as per CPCB guidelines and should be kept in proper condition to prevent ground water pollution. Storage capacity of spent wash lagoon should be for 10 days.
- viii. As proposed, no effluent from distillery and co-generation power plant should be discharged outside the premises and Zero discharge should be adopted.
- ix. Adequate numbers of ground water quality monitoring stations by providing piezometers around the project area should be set up. Sampling and trend analysis monitoring must be made on monthly a basis and report submitted to SPCB and this Ministry. The ground water quality monitoring for pH, BOD, COD, Chloride, Sulphate and total dissolved solids should be monitored.
- x. 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. Bagasse ash and coal ash should be stored separately.

- xi. Dedicated parking facility for loading and unloading of material should be provided in the factory premises. Unit should develop and implement good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.
- xii. All the commitment made regarding issues raised during the public hearing/consultation meeting held on 15th February, 2013 shall be satisfactorily implemented.
- xiii. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on public hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.
- xiv. The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/procedure to bring into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.
- xv. Green belt should be developed in 40 acres to mitigate the effects of fugitive emissions all around the plant as per CPCB guidelines in consultation with the local DFO. Thick green belt with suitable plant species should be developed around the proposed distillery to mitigate the odour problem.

9.2.15 Phenol Formaldehyde Resin, Melamine Formaldehyde Resin and Urea Formaldehyde Resin at Sy. No. 240, Behind Bhagyoday Hote, Sarkhej-Bavla Road, Village Changodar, Tehsil Sanand, District Ahmedabad, Gujarat by **M/s Siddhi Décor Pvt. Ltd.- regarding EC.**

The project authorities and their consultant (T R Associates/Prakruti Environmental Engineers, stay granted as per Hon'ble High Court dated 2nd May, 2013) 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 30th Meeting of the Expert Appraisal Committee (Industry) held during 15th- 16th December, 2011 for preparation of EIA/EMP report. All the Resin Plants located outside notified industrial area are listed at S.N. 5(f) under Category 'A' and appraised at the Central level.

Ministry vide letter dated 24th January, 2012 has issued TOR for preparation of EIA/EMP report for following products:

S.N.	Name of Products	Quantity	
1	Phenol Formaldehyde Resin	800 MTPM	Alternative Production
2	Melamine Formaldehyde Resin	300 MTPM	
3	Urea Formaldehyde Resin	600 MTPM	1700 MTPM

It is noted that as per Form-1, project proponent has informed that existing unit is engaged in manufacturing of laminated sheet and proposal is for setting up of resin

manufacturing unit in the existing unit. However, as per EIA/EMP report, following details of existing and proposed production capacity have been submitted:

S.N.	Name of Products	Existing Production Capacity	Proposed Production Capacity	Total Production Capacity
1	Phenol Formaldehyde Resin	123 MTPM	677 MTPM	800 MTPM
2	Melamine Formaldehyde Resin	105 MTPM	195 MTPM	300 MTPM
3	Urea Formaldehyde Resin	--	600 MTPM	600 MTPM
4	Laminated Sheets	1,75,000 Nos./Month	4,25,000 Nos./Month	6,00,000 MTPM

As per renewal consent order no. AWH-48406 dated 28th July, 2012, consent has been awarded for only manufacturing of decorative laminated sheet. No mention has been made about the resin manufacturing unit in the consent letter dated 28th July, 2012. GPCB vide their letter dated 29th March, 2012 also issued direction under section 33 A of the Water (Prevention and Control of Pollution) Act – 1974.

Therefore, the project proposal involves violation of the Environment (Protection) Act, 1986 or Environment Impact Assessment (EIA) Notification, 2006 will be considered as per Ministry's O. M no. J-11013/41/2006-IA II (I) dated 12th December, 2012 and 27th June, 2013. The Consultants were advised to provide factual information in the EIA report about the unit.

9.2.16 Bulk Drug Unit (8 MTPM) at Survey No. 125, Village Unchi Mandal, Taluka Morbi, District Rajkot, Gujarat by **M/s Krishanj Pharmaceuticals Industries - regarding EC**

The project authorities and their consultant (Pragathi Labs & Consultants 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 28th Meeting of the Expert Appraisal Committee (Industry) held during 20th – 21st October, 2011 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 Krishanj Pharmaceuticals Industries have proposed for setting up of Bulk Drug Unit (8 MTPM) at Survey No. 125, Village Unchi Mandal, Taluka Morbi, District Rajkot, Gujarat. Total plot area is 8094 m² of which greenbelt will be developed in 2935.92 m². Total cost of the project is Rs. 3.00 Crore. No national parks/ wildlife sanctuary are located within 10 km distance. However, Rampar sanctuary is located at a distance of 22 Km. Paneli reserve forest is located at a distance of 3.6 km. Following products will be manufactured:

S.N.	Product	Total Quantity Kg/Month
1	Pregabalin	2000.0
2	Pregabalin (I.P)	2000.0
3	Lamotrigine (I.P)	500.0
4	Ondansetron hydrochloride (I.P)	500.0
5	Ondansetron hydrochloride (E.P)	500.0
6	Ondansetron hydrochloride (U.S.P)	500.0

7	Phenyleprine hydrochloride	1000.0
8	Valdecobix	500.0
9	Tamsulosin hydrochloride	500.0

Ambient air quality monitoring was carried out at 7 locations during November 2011 – January, 2012 and submitted data indicates as PM₁₀ (48.7–84 ug/m³), PM_{2.5} (28.7–52.1 ug/m³), SO₂ (7.8 – 18 ug/m³) and NO_x (14.9-28.6 ug/m³). Predicted value of ground level concentration due to proposed expansion is PM10 (0.033 ug/m³) and SO₂ (0.935 ug/m³). The resultant concentrations are within the NAAQS. Multicyclone separator will be provided to coal fired boiler (1 TPH). Fresh water requirement from ground water source will be 16.82 m³/day. Industrial effluent generation will be 2.95 m³/day. Industrial wastewater 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). No effluent will be discharged outside the plant premises and 'Zero' effluent discharge concept will be adopted. MEE salt will be disposed off to TSDF. Used oil will be sold to registered recyclers. Power requirement from Gujarat Electricity Board will be 55.95 KVA. Coal requirement will be 25 TPM.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 10th January, 2013. The issues raised during public hearing were regarding local benefit from the proposed project, impact on the environment, permission for approach road etc and have satisfactorily been responded by the project proponent and incorporated in the final EIA/EMP report.

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

- i) Multi-cyclone followed by bag filter should be provided to the boilers to control particulate emissions within permissible limit. The gaseous emissions should be dispersed through stack of adequate height as per CPCB/APPCB guidelines.
- ii) The levels of PM₁₀, SO₂, NO_x and VOC should be monitored in ambient air.
- iii) Fugitive emissions in the work zone environment, product, raw materials storage area etc. should be regularly monitored. The emissions should conform to the limits imposed by SPCB.
- iv) Total fresh water requirement from ground water source should not exceed 16.82 m³/day and prior permission should be obtained from the CGWA/SGWA.
- v) Trade effluent should 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. Low TDS effluent stream should be treated in ETP. '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 should be sent to cement industries. ETP sludge, process inorganic & evaporation salt should be disposed off to the TSDF. The fly 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) Boiler 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.
- xiii) Green belt should be developed in 2935.92 m² out of total land 8094 m².
- xiv) Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.

9.2.17 Exploratory Drilling (2 Wells) in NELP VII Block PA-ONN-2005/1, Purnea Basin, West Bengal by M/s **ONGCLtd.** - regarding **EC**.

The project authorities and their Consultant (Pollution Control Research Institute, Haridwar) 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 27th Meeting of the Expert Appraisal Committee (Industry) held during 21st-22nd September, 2011 for preparation of EIA/EMP report. All the on-shore and offshore oil and gas projects belong to S.N. 1 (b) and are placed under Category 'A' and appraised at the Central level.

M/s Oil & Natural Gas Corporation Ltd have proposed for the exploratory drilling (2 wells) in NELP VII Block PA-ONN-2005/1, Purnea Basin, West Bengal. Total block area is

1096 Km². No forest land is located within 10 km. No eco-sensitive area and wildlife sanctuary is located within 10 km. ONGC has been awarded Block PA-ONN-2005/1 in Purnea Basin for exploration of hydrocarbons located in northern part of West Bengal and spreads over North Dinajpur and South Dinajpur districts. Total cost of the project is Rs. 60 Crore. Plot area for Drill site is 3.79 acres. Following are the details of the propose wells:

S.N.	Well No.	Depth of well	Latitude	Longitude
1	Ladhi-1	2400 m	26°09'43.31"	87°48'28.89"
2	Dangi-1	2000 m	26°01'56.05"	87°59'43.30"

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 8 locations during March-April 2012 and submitted data indicates PM₁₀ (30-88 ug/m³), PM_{2.5} (15-49 ug/m³), SO₂ (6-20 ug/m³) and NO_x (7- 24 ug/m³). Air emissions from D.G. sets will be dispersed by providing adequate stack height. Fresh water requirement will be 20 m³/day, which will be procured from tanker. Water based mud (WBM) and Synthetic based mud will be used. Total wastewater generation will be around 20 m³/day. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers. HSD (6KLD) will be used as fuel in rig and D.G. sets during drilling period. DG sets will be installed.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the West Bengal Pollution Control Board on 3rd April, 2013. The issues raised were regarding development of local infrastructure facilities, lack of drinking water, CSR, etc. All the issues have been satisfactorily responded by the project proponent and incorporated in the final EIA/EMP report.

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

- i. This EC is only for Exploratory Drilling. In case Development drilling is to be done in future, prior clearance must be obtained from the Ministry.
- ii. Ambient air quality should be monitored near the closest 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, methane & Non-methane HC etc.
- iii. Mercury should also be analyzed in air, water and drill cuttings twice during drilling period.
- iv. Approach road should be made pucca to minimize 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 should not exceed 20 m³/day 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 Bhubaneswar.
- ix. Good sanitation facility should be provided at the drilling site. Domestic sewage should be disposed off through septic tank/ soak pit.
- x. 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.
- xi. 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.
- xii. 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.
- xiii. 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.
- xiv. On completion of drilling, the company have to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.
- xv. 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.
- xvi. Emergency Response Plan (ERP) should be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xvii. 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.

- xviii. Abandoned well inventory and remediation plan shall be submitted within six months from the date of issue of letter.
- xix. Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xx. In case the commercial viability of the project is established, the Company should prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxi. Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bhubaneswar.
- xxii. 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 Bhubaneswar.
- xxiii. Under Enterprise Social Commitment (ESC), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxiv. An audit should be done to ensure that the Environment Management Plan is implemented in totality and report should be submitted to the Ministry's Regional Office.
- xxv. A social audit shall be carried out for the whole operation area with the help of reputed institute like Madras Institute of Social Science etc.
- xxvi. All personnel including those of contractors should be trained and made fully aware of the hazards, risks and controls in place.
- xxvii. Company should have own Environment Management Cell having qualified persons with proper background.
- xxviii.** 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.

Terms of Reference

9.2.18 Drilling of Exploratory Wells (9) in Kutch Offshore, NELP IX Blocks GK-OSN-2010/1 & GK-OSN-2010/2 in west coast of India 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 has proposed for drilling of exploratory wells (9) in Kutch Offshore, NELP IX Blocks GK-OSN-2010/1 & GK-OSN-2010/2 in west coast of India. NELP IX block GK-

OSN-2010/2 is located beyond 12 nautical miles in the Kuth Offshore, having an area of 1625 sq.km. The block was awarded with effective date 09.05.2012 to ONGC as operator. The participating interest of ONGC (90 %) and JV partner (GAIL) have a participating interest of 10 %. The cost of these nine wells will be Rs. 540 Crores. Following is the coordinates of block:

Pt.	Longitude			Latitude		
	Deg.	Min.	Sec.	Deg.	Min.	Sec.
A	67	48	34.37	22	35	00.00
B	68	15	00.00	22	37	00.00
C	68	15	00.00	22	30	00.00
D	68	13	05.00	22	30	00.00
E	68	13	05.00	22	23	11.00
F	68	21	45.00	22	23	11.00
G	68	21	45.00	22	27	00.00
H	68	25	11.53	22	27	00.00
I	68	25	11.53	22	15	10.00
J	68	03	40.00	22	15	10.00
K	68	03	00.00	22	16	53.00
L	67	56	31.00	22	31	32.00
M	67	50	53.00	22	20	41.00
N	67	46	49.00	22	24	54.00
O	67	46	18.00	22	29	44.00
A	67	48	34.37	22	35	00.00

Water requirement will be 40 m³/day. Diesel requirement will be 15 KLD. Drilling fluid used for drilling of wells will be recycled and reused to maximum possible extent. Each rig will be provided with 5 Nos. of DG sets for meeting power requirement (600 KW/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.

9.2.19 Chemicals Manufacturing plant at Plot no. 916, Jhagadia GIDC, Village Vakhatpura, Taluka Jhagadia, District Bharuch, Gujarat by **M/s Sika India Pvt. Ltd.**

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 Sika India Pvt. Ltd. have proposed for setting up of chemicals manufacturing plant at Plot no. 916, Jhagadia GIDC, Village Vakhatpura, Taluka Jhagadia, District Bharuch, Gujarat. Total plot area is 62798.8 m². Total cost of project is Rs. 43.89 Crore. Unit is engaged in manufacturing of non EC products (1,65,000 MTPA). Now, it is proposed to manufacture following EC products (viz. polymer, membrane and sealant):

S.N.	Product	Production Capacity (MTPA)
1	Polymer MR (Medium Range Polymer)	1,250
2	Membrane (Liquid Applied Membrane Poly Urathrene, Poly Vinyl Chloride & Water Bar)	3,000
3	Sealant (Poly Sulphide)	1,500
	Total	5,750

HSD/Gas fired boiler is installed. HSD /natural gas fired Sand dryer will be installed. Water scrubber will be installed Polymer MR plant. Bagfilter will be installed in membrane plant. Carbon active filter will be installed in sealant plant to control HC. Water requirement will be increased from 109.5 m³/day to 111.5 m³/day. Wastewater generation will be 6.8 m³/day after expansion. Effluent will be treated in ETP. Treated effluent will be recycled/reused for on land irrigation. Used/spent oil will be sold to authorized Recycler/ re-processor. Contaminated aromatic, aliphatic or naphthenic solvents and process waste residue & sludge will be sent for incineration. Waste residue and flue gas cleaning residue chemical sludge will be sent to TSDF.

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 the existing and proposed plant area.
4. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB.
5. 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.
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. Promoters and their back ground.
8. Regulatory framework
9. A map indicating location of the project and distance from severely polluted area
10. Project location and plant layout.
11. Infrastructure facilities including power sources.
12. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
13. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
14. 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.
15. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
16. Permission, if any, from the State Forest Department
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 materials 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, PM_{2.5}, 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.
24. Air pollution control measures viz. Multi-cyclone and bag filter etc. Shall be proposed for the effective control of gaseous emissions within permissible limits.
25. Details of VOC monitoring system in the working zone environment, if any.
26. Name of all the solvents to be used in the process and details of solvent recovery system.
27. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
28. Details of water and air pollution and its mitigation plan.

29. Action plan to control ambient air quality as per NAAQES Standards notified by the Ministry on 16th September, 2009.
30. An action plan to control and monitor secondary fugitive emissions from all the sources.
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. Air quality modelling for proposed plant.
32. Source and permission for the drawl of 111.5 m³/day. Water balance chart including quantity of effluent generated recycled and reused and discharged.
33. Action plan for 'Zero' discharge of effluent shall be included.
34. Treatment of phenol in the effluent, if any.
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. 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.
40. A write up on "Safe Practice" followed for methanol handling, storage, transportation and unloading to be submitted.
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.
44. Details of occupational health surveillance programme.
45. Socio-economic development activities shall be in place.
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. 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.
49. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
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.

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.

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

9.2.20 Drilling another 10 Wells at Dandewala & Bagitibba Mining Lease Block of 250 sq km are in Village Tanot, Tehsil Ramgarh, District Jaisalmer, Rajasthan by **M/s Oil India 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 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 Limited have proposed for drilling another 10 Wells at Dandewala & Bagitibba Mining Lease Block of 250 sq km are in Village Tanot, Tehsil Ramgarh, District Jaisalmer in Rajasthan. This mining lease block name is Jaisal ML. Following are the details of proposed wells:

S.N.	Location	Latitude	Longitude	Size of project
1	RJBF	27°48'09.3"	70°08'34.2"	31850 m ²
2	RJBF	27°47'21.1"	70°08'42.6"	35050 m ²
3	RJBH	27°44'07.6"	70°08'31.7"	39850 m ²
4	RJBI	27°49'08.8"	70°08'54.1"	38250 m ²
5	RJBJ	27°46'08.4"	70°08'58.9"	31850 m ²
6	F-WDW	27°44'59.9"	70°08'05.3"	39850 m ²
7	RJBK	27°48'07"	70°08'00"	39850 m ²
8	RJBL	27°47'41"	70°07'05"	39850 m ²
9	RJBM	27°47'22"	70°08'05"	39850 m ²
10	RJBN	27°45'36"	70°07'56"	39850 m ²

The environmental clearance was granted vide MoEF letter no. J-11011/758/2008-IA II(I) dated 13th January, 2009 for drilling at location in Tanot, Dandewala and Bagitibba Mining Lease adjacent other mining lease areas. The Committee noted that the present proposal is for different mining lease. Therefore, the Committee recommended to conduct the public hearing in the present proposal.

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 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.
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. 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.
10. 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
11. Incremental GLC as a result of DG set operation.
 12. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
 13. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, wastewater generation and discharge.
 14. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
 15. Treatment and disposal of waste water.
 16. Treatment and disposal of solid waste generation.
 17. Disposal of spent oil and loose.
 18. Storage of chemicals and diesel at site.
 19. Commitment for the use of WBM only
 20. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
 21. Hazardous material usage, storage accounting and disposal.
 22. Disposal of packaging waste from site.
 23. Oil spill emergency plans in respect of recovery/ reclamation.
 24. H₂S emissions control.
 25. Produced oil handling and storage.
 26. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
 27. Details of control of air, water and noise pollution in oil collection system.
 28. Disposal of produced/formation water.
 29. Whether any burn pits being utilized for well test operations.
 30. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.
 31. Measures to protect ground water and shallow aquifers from contamination.

32. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.
33. Environmental management plan.
34. Documentary proof of membership of common disposal facilities, if any.
35. 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.
36. Total capital and recurring cost for environmental control measures.
37. 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.
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. 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. 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.

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

9.2.21 Drilling of 15 Exploratory Wells in Block CB-ONN-2009/7 in Ahmedabad, Mehsana and Gandhinagar District, Gujarat by **M/s Sintex oil and gas 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.

Sintex Oil and Gas Ltd. has proposed for exploratory drilling of 15 wells in block CB – ONN -2009/7 in Ahmedabad, Mehsana and Gandhinagar Districts in Gujarat. Total block area is 144 km². No well will be drilling in forest land. Thol lake bird Sanctuary is located at a distance of 7.06 km from the block. Well will be drilled upto depth of 2000m. Production sharing contract with Govt. of India was signed on 30.06.2010. PEL to start the activities was signed on 4.01.2011. Coordination of the block are as given below:-

Point	Latitude			Longitude		
	Deg.	Min.	Sec.	Deg.	Min.	Sec.
A	23	10	0.00	72	12	25.49
B	23	10	0.00	72	18	39.89
C	23	01	42.00	72	22	5.00
D	23	01	42.00	72	17	19.31

Water requirement will be 20m³/day, which will be sourced from tanker supply. Effluent generation will be 5m³/day. Drill cuttings will be separated from the mud. The wastewater alongwith spill over mud will be diverted to wastewater mud pit whose bottom would be lined with HDPE sheet. DG sets (2 x 1000 HP) will used for drilling operation. HSD (217 LPH) will be consumed.

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. An authenticated map of the study area by the Chief Wildlife Warden, Government of Forest showing the distance between the boundary of project site and the Thol Wildlife sanctuary.
6. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden, Government of Assam for conservation of Schedule I fauna.
7. A copy of application submitted for clearance from NBWL.
8. Distance from nearby critically/severely polluted area as per Notification dated 13th January, 2010, 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, 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 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. 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.

9.2.22 Construction of Storage Tanks and Associated Facilities at Mumbai Refinery – II, Village Anik, Tehsil & District Chembur, Maharashtra by **M/s HPCL -regarding TORs**

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken. All isolated storage & handling of hazardous chemicals are listed at S.N. 6(b) under category 'B' and appraised at state level. However, project is integral part of the adjoining existing refiner, the project proposal is treated under category 'A' project.

M/s HPCL have proposed for Construction of Storage Tanks and Associated Facilities at Mumbai Refinery – II, Village Anik, Tehsil & District Chembur, Maharashtra. Total plot area is 2,30,327m² (56.93 acres), which is a new plot has been acquired. It is plan to install Storage tanks for white oils namely MS, HSD, SKO, ATF & Naptha along with slop oil. The gross storage capacity of white oils is 478,000 KL. All types of product will be received from Mumbai Refinery through pipe line. Jetty transfer (Pir-Ponjetty) of MS and HSD has also been considered through 2 Nos. new 24" diameter underground pipelines. These pipe lines are also equipped to receive oil from Jetty to Storage tanks at MR-II. Laying of associated pipe line attracts CRZ Notification, 2011. No forest land is involved.

Water required will be met from Mumbai Refinery of HPCL and sea water for fire fighting. Effluent generated from tank area is almost negligible except of leakage and water drop of pipelines. The leakage is envisaged at the pump operation and manifold area. The effluent will be transferred to Refinery ETP at a flow rate of 100 m³/hr through gear operated pump (1w + 1s).

The Committee desired to conduct site visit by the Sub-committee of EAC to assess the feasibility of additional tankages in the existing site. Therefore the proposal is deferred till the site visit is conducted.

9.2.23 Drilling of Exploratory Wells (8) in Block RJ-ONN- 2005/1 in Jaisalmer District, Rajasthan by **M/s Hindustan Oil Exploration Company 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 Hindustan Oil Exploration Co. Ltd. has proposed for exploratory drilling 8 Wells in Block RJ-ONN- 2005/1 in Jaisalmer District, Rajasthan. Total block area is 1151 km². Block RJ-ONN/2005/1 has been awarded to Consortium led by HOEC and BPRC by Govt. of India under a production sharing contract (PSC) for exploration, development and production of hydrocarbon reserves the field. No forest land is involved. Drilling will be done upto 2500m – 3500m depth. International boundary is located at 1.5 km from block. Co-ordinates of block boundary is as given below:-

Point	Latitude	Longitude
F	27°39'30.00"N	70°10'00.00"E
G	27°47'54.00"N	70°16'12.00"E
H	27°50'9.8"N	70°15'32.264"E
I	27°57'39.134"N	70°25'34.986"E
J	27°57'45.821"N	70°32'51.514"E
K	27°54'23.121"N	70°35'47.955"E
L	27°51'16.584"N	70°36'9.7333"E
M	27°51'19.571"N	70°34'12.11"E
N	27°50'54.601"N	70°33'40.496"E
O	27°46'44.644"N	70°33'35.085"E
P	27°45'33.254"N	70°34'49.994"E
Q	27°45'28.757"N	70°38'55.094"E
R	27°40'2.885"N	70°44'18.783"E
S	27°39'1.083"N	70°45'50.914"E
F	27°39'30.00"N	70°10'00.00"E

Water requirement will be 20m²/day, which will be sourced form tanker supply. Effluent generation will be 5m³/day. Drill cuttings will be separated from the mud. The wastewater alongwith spill over mud will be diverted to wastewater mud pit whose bottom would be lined with HDPE sheet. HSD (150 LPH) will be consumed.

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 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.
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. 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.
10. 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.
 - (viii) Topography of the project site.
 - (ix) Ambient Air Quality monitoring at 8 locations for PM₁₀, SO₂, NO_x, VOCs, Methane and non-methane HC.
 - (x) Soil sample analysis (physical and chemical properties) at the areas located at 5 locations.
 - (xi) Ground and surface water quality in the vicinity of the proposed wells site.
 - (xii) Climatology and Meteorology including wind speed, wind direction, temperature rainfall relative humidity etc.
 - (xiii) Measurement of Noise levels within 1 km radius of the proposed wells.
 - (xiv) Vegetation and land use; Animal resources
11. Incremental GLC as a result of DG set operation.
12. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
13. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, wastewater generation and discharge.
14. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
15. Treatment and disposal of waste water.
16. Treatment and disposal of solid waste generation.
17. Disposal of spent oil and loose.
18. Storage of chemicals and diesel at site.
19. Commitment for the use of WBM only
20. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
21. Hazardous material usage, storage accounting and disposal.
22. Disposal of packaging waste from site.
23. Oil spill emergency plans in respect of recovery/ reclamation.

24. H₂S emissions control.
25. Produced oil handling and storage.
26. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
27. Details of control of air, water and noise pollution in oil collection system.
28. Disposal of produced/formation water.
29. Whether any burn pits being utilized for well test operations.
30. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.
31. Measures to protect ground water and shallow aquifers from contamination.
32. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.
33. Environmental management plan.
34. Documentary proof of membership of common disposal facilities, if any.
35. 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.
36. Total capital and recurring cost for environmental control measures.
37. 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.
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. 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. 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.

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

9.2.24 Expansion of Pesticide Manufacturing Unit at Plot No. 1, 15, & 16, GIDC Industrial Estate Nandesari, District Vadodara, Gujarat by M/s GSP Crop Science P Ltd - regarding TORs

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

9.2.25 Onshore Oil and Gas Exploration in Deomali PEL Block (113.5 Km²) in Tirap and Chaglang Districts of Arunachal Pradesh by 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.

Oil India Ltd. have proposed for exploratory drilling of five wells in Deomali PEL Block (113.5 Km²) in Tirap and Chaglang Districts of Arunachal Pradesh. Block area is 113.5 Km². Total cost of project is Rs. 25 Crore. Chatzo River, DEomali River, Namchucheng River and Chumphut Rivers are flowing within the block. Namsang social reserve forest & Changlang social reserve forest are located. Forest land is involved. No National park, wild life sanctuary and eco-sensitive area are located within the block. Following are the coordinates of the proposed wells:

S.N.	Locations	Latitude	Longitude
1	Deomali-1	27°07'43.2"	95°28'35.9"
2	Deomali-2	27°13'59.7"	95°44'05.3"
3	Deomali-3	27°06'20"	95°27'28"
4	Deomali-4	27°10'43"	95°36'23"
5	Deomali-5	27°12'17"	95°40'00"

Depth of well be vary from 3000 to 3500 m. Water requirement will be 50m²/day, which will be sourced from ground water source. Effluent generation will be 5m³/day. Drill cuttings will be separated from the mud. The wastewater alongwith spill over mud will be diverted to wastewater mud pit whose bottom would be lined with HDPE sheet.

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 stage –I forest clearance letter.
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. 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.
10. 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
11. Incremental GLC as a result of DG set operation.
12. Potential environmental impact envisages during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
13. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, waster water generation and discharge.
14. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions in case coastally located.
15. Treatment and disposal of waste water.
16. Treatment and disposal of solid waste generation.
17. Disposal of spent oil and loose materials.

18. Storage of chemicals and diesel at site.
19. Commitment for the use of WBM only
20. Mud make up and mud and cutting disposal – all options considered should be listed with selective option.
21. Hazardous material usage, storage accounting and disposal.
22. Disposal of packaging waste from site.
23. Oil spill emergency plans in respect of recovery/ reclamation.
24. H₂S emissions control.
25. Produced oil handling and storage.
26. Details of scheme for oil collection system alongwith process flow diagram and its capacity.
27. Details of control of air, water and noise pollution in oil collection system.
28. Disposal of produced/formation water.
29. Whether any burn pits being utilized for well test operations.
30. Restoration and decommissioning plans which should include mud pits and wastage restoration also and documentation and monitoring of site recovery.
31. Measures to protect ground water and shallow aquifers from contamination.
32. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out.
33. Environmental management plan.
34. Documentary proof of membership of common disposal facilities, if any.
35. 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.
36. Total capital and recurring cost for environmental control measures.
37. 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.
38. 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.

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. 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.

9.2.26 Setting up of Multi Solvent production plant (MSPP) at Village Mullakkadu Part 1, Tehsil & District Thoothukudi, Tamil Nadu by **M/s Heavy Water Plant - 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 Heavy Water Plant has proposed for setting up Multisolvant Production Plant (MSPP) at Village Mullakkadu Part 1, Tehsil & District Thoothukudi, Tamil Nadu. Total existing land is 8.5 ha. No additional land to be acquired. The total existing land available in HWPT is 8.5 ha. Land required for MSPP will be 0.35 ha within existing area. Total project cost is 1625 lakh. Total production capacity will be 20-30 MTPA for production of three solvents (viz. Mono Ethyl Hexyl Ester of Ethyl Hexy Phosphoric Acid , Di Hexyl Octanomide and Amy Phosphate. Project site is located at a distance of 3 Km away from Bay of Bengal. Tamirabarani River is flowing at a distance of 13 Km.

Process emissions viz. HCl will be neutralized by aq. Alkali in a packed bed HCl. Online HCl monitor and online Hydrocarbon monitors will be installed. Total water requirement will be 40 m³/day, which will be met from the existing availability of 3500 m³/day for Heavy Water Board from 20 MGD water supply line of Tamil Nadu Water Drainage Board (TWDB). Total effluent generation will be 1.2 m³/day. Effluent will be treated in ETP. No effluent will be discharged outside the unit. Power requirement from TNEB will be 0.875 MW. ETP sludge will be sent to secured landfill site. Existing greenbelt is around 2 ha.

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

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, 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.
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. An action plan to control and monitor secondary fugitive emissions from all the sources.
24. 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.

25. Source and permission for the drawl of 40 m³/day from the competent authority. Water balance chart including quantity of effluent generated recycled and reused and discharged.
26. Action plan for 'Zero' discharge of effluent should be included.
27. 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).
28. 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.
29. Precautions to be taken during storage and transportation of hazardous chemicals should be clearly mentioned and incorporated.
30. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they will utilized all the organic solid waste generated.
31. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
32. 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.
33. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
34. Risk assessment for storage for chemicals/solvents. Action plan for handling & safety system.
35. An action plan to develop green belt in 33 % area. Layout plan for green belt shall be provided.
36. 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.
37. 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.
38. Socio-economic development activities should be in place.
39. Note on compliance to the recommendations mentioned in the CREP guidelines.
40. 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.
41. EMP should include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
42. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof.
43. 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.
44. 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.

Environmental Clearance

9.2.27 Exploratory Drilling (on-land) in Cambay Oil and Gas Exploration (On-land) CB-ONN-2009/5 in Ahmedabad & Mehasana, Gujarat by M/s NTPC Ltd. - regarding EC.

The project authorities and their Consultant (Detox Corporation 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 16th Meeting of the Expert Appraisal Committee (Industry) held during 18th-19th November, 2010 for preparation of EIA/EMP report. All the on-shore and offshore oil and gas projects belong to S.N. 1 (b) and are placed under Category 'A' and appraised at the Central level.

M/s NTPC Ltd. have proposed for the Exploratory Drilling in Cambay Oil and Gas Exploration Onland-CB-ONN-2009/5 in Ahmedabad & Mehasana, Gujarat. M/s NTPC Limited has signed a 'Production Sharing Contract' (PSC) on 30th June, 2010 with the Govt. of India for the Cambay Onland-CB-ONN-2009/5 Oil and Gas exploration Block located in Mehsana and Ahmedabad, Gujarat. NTPC Limited is the 'Operator' of the block with 100% Partnership Internal (PI) and has proposed for exploration and drilling of 8 wells (1500-2500 m) during the initial 4 years exploration period. No ecologically sensitive area such as Biosphere reserve, national park and wildlife sanctuary is located within 10 Km distance from the block. No forest land is involved. Total block area is 165 Km². Total project cost is Rs. 70.00 Crores Latitude and longitude of the proposed drilling well locations as under:

S.N.	Well No.	Latitude	Longitude
1	Sadra	230 18' 48.2"N	720 15' 10.0"E
2	Sangpara	230 19' 27.6"N	72012' 34.0"E
3	Detroj	230 20' 09.3"N	72011" 21.9"E
4	Sadatpura	230 20' 02.3"N	720 07' 44.3"
5	Dekavada	230 20' 54.2"N	720 08' 54.6"E
6	Ughorj	230 21' 33.5"N	720 06' 06.2"E
7	Odhav	230 24' 29.2"N	720 07' 21.3"E
8	Dadhana	230 23' 33.1"N	720 04' 36.8"E

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 8 locations during December 2011-February 2012 and submitted data indicates PM₁₀ (67-73 ug/m³), PM_{2.5} (27-37 ug/m³), SO₂ (4.94-7.13 ug/m³) and NO_x (14-19.29 ug/m³). Predicted value of ground level concentration due to proposed expansion is PM₁₀ (3.11 ug/m³), NO_x (6.22 ug/m³) and SO₂ (0.95 ug/m³). The resultant concentrations are within the NAAQS. Ground flaring will be adopted. Air emissions from D.G. sets will be dispersed by providing adequate stack height. Fresh water requirement will be 23.4 m³/day, which will be procured from tanker. Water based mud (WBM) and Synthetic based mud will be used. Total wastewater generation will be around 5 m³/day. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers. HSD (20KLH) will be used as fuel in rig and D.G. sets during drilling period. DG sets (2 x 400 KVA) will be installed.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 19th March, 2013. The issues raised were regarding proper land compensation etc. All the issues have been satisfactorily responded by the project proponent and incorporated in the final EIA/EMP report.

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

- i. This EC is only for Exploratory Drilling. In case Development drilling is to be done in future, prior clearance must be obtained from the Ministry.
- ii. Ambient air quality should be monitored near the closest 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, methane & Non-methane HC etc.
- iii. Mercury should also be analyzed in air, water and drill cuttings twice during drilling period.
- iv. Approach road should be made pucca to minimize 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 should not exceed 20 m³/day 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. Good sanitation facility should be provided at the drilling site. Domestic sewage should be disposed off through septic tank/ soak pit.
- x. 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.
- xi. 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.
- xii. 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.
- xiii. 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.
- xiv. On completion of drilling, the company have to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.
- xv. 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.
- xvi. Emergency Response Plan (ERP) should be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xvii. 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.
- xviii. Abandoned well inventory and remediation plan shall be submitted within six months from the date of issue of letter.

- xix. Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xx. In case the commercial viability of the project is established, the Company should prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxi. Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bhopal.
- xxii. 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.
- xxiii. Under Enterprise Social Commitment (ESC), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxiv. An audit should be done to ensure that the Environment Management Plan is implemented in totality and report should be submitted to the Ministry's Regional Office.
- xxv. A social audit shall be carried out for the whole operation area with the help of reputed institute like Madras Institute of Social Science etc.
- xxvi. All personnel including those of contractors should be trained and made fully aware of the hazards, risks and controls in place.
- xxvii. Company should have own Environment Management Cell having qualified persons with proper background.
- xxviii.** 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.

9.3.0 Reconsideration

- 9.3.1 Grain based Distillery Unit (30 KLD) at Gat No. 105/1/1B, Village Sadgaon, Taluka Dhule, District Dhule, Maharashtra **by M/s Megi Agro Chem Ltd. - EC reg.**

Project proposal was considered in the 6th Reconstituted *Expert Appraisal Committee (Industry) meeting held during 5th -7th March, 2013 and the Committee desired following information:*

1. Quantity of fusel oil generation to be corrected.
2. Quantity of spent wash generation and its treatment scheme to be submitted.
3. Coal characteristics in terms of coal ash, calorific value and sulphur content to be submitted. Action plan for disposal of fly ash.

4. Status of construction of the proposed project and layout plan for greenbelt to be submitted. .

Project proponent vide letter dated 27th April, 2013 and 29th May, 2013 submitted the above mentioned additional information.

- i. Quantity of fusel oil generation will be 1.8 KLPD.
- ii. Spentwash further will be decanted for separation of solids. Thin slopes will be evaporated in MEE to form DWGS. DWGS will be dried to form DDGS.
- iii. MOU with coal supplier indicating ash content 5-8 %, sulphur content 0.25-1% and Calorific Value 5400 Kcal has been submitted.
- iv. It was informed that presently the access road development is in progress. Moreover, Masonry compound wall construction and implementation of greenbelt development is under progress.

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

- i. Distillery unit should be based on Grain based only and no Molasses based distillery unit should be operated.
- ii. Bag filter alongwith stack of adequate height should be provided to coal/rice husk fired boiler to control particulate emission within 50 mg/Nm³.
- iii. Pucca approach road to project site should be constructed prior to commencing construction activity of the main distillery so as to avoid fugitive emissions.
- iv. Total fresh water requirement from Dahayanedam should not exceed 300 m³/day for distillery and cogeneration unit and prior permission should be obtained from the Competent Authority.
- v. Water consumption should be reduced by adopting 3 R's (reduce, reuse and recycle) concept in the process.
- vi. Spent wash generation should not exceed 6 Kl/Kl of alcohol. Spent wash should be treated through decanter and concentrated in multi-effect evaporator (MEE) to form DWGS. DWGS will be sent to dryer to form DDGS. Spentlees, effluent from utilities and cogeneration unit should be treated in effluent treatment plant (ETP) and water quality of treated effluent should meet the norms prescribed by CPCB/SPCB and recycle/reuse.
- vii. As proposed no spent wash storage lagoon will be provided.
- viii. No effluent from distillery and co-generation power plant should be discharged outside the premises and Zero discharge should be adopted.
- ix. Adequate numbers of ground water quality monitoring stations by providing piezometers around the project area should be set up. Sampling and trend analysis monitoring must be made on monthly a basis and report submitted to SPCB and this Ministry. The ground water quality monitoring for pH, BOD, COD, Chloride, Sulphate and total dissolved solids should be monitored.

- x. No storage of wet cake should be done at site. An additional dryer should be installed so that at any time wet cake is not sold then wet cake should be converted into dry cake by operating additional dryer.
 - xi. Coal storage should be done in such a way that it does not get air borne or fly around due to wind.
 - xii. 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.
 - xiii. Occupational health surveillance programme should be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre should be strengthened and the regular medical test records of each employee should be maintained separately.
 - xiv. Dedicated parking facility for loading and unloading of material should be provided in the factory premises. Unit should develop and implement good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.
 - xv. As proposed, green belt should be developed in 6.9 ha out of 26 ha. and plantation shall be done as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around the proposed distillery to mitigate the odour problem.
 - xvi. All the commitment made regarding issues raised during the public hearing/consultation meeting held on 2nd December, 2011 shall be satisfactorily implemented.
 - xvii. 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.
 - xviii. The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/procedure to bring into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.
- 9.3.2 Expansion of Carbon Black Plant (12,500 MTPM to 18,750 MTPM) alongwith Power Plant (33.7 MW to 47 MW) at K-16, Phase-II, SIPCOT Village Pappankuppam, Gummidipoondi, District Thiruvallur, Tamil Nadu by **M/s High-Tech Carbon India (A Unit of Aditya Birla NUVO Limited) – Amendment in EC condition.**

Project proposal was considered also in the 6th Reconstituted *Expert Appraisal Committee (Industry) meeting held during 5th -7th March, 2013.*

The Committee desired to obtain compliance report on the conditions stipulated in the existing Unit and sulphur dioxide emissions load due to existing operation from State Pollution Control Board. The proposal was deferred till the desired information is submitted.

9.3.3 Revamp of FCCU Unit at Mathura Refinery for LPG Yield and Reliability improvement in Tehsil and District Mathura in U.P. by M/s Indian Oil Corporation Ltd. (IOCL).

Site Visit Report

Subject : (i) Revamp of FCCU Unit at Mathura Refinery for LPG Yield and Reliability improvement in Tehsil and District Mathura in U.P. ” at Mathura Refinery by M/s Indian Oil Corporation Ltd. – Amendment in EC regarding.

(ii) Residue Up-gradation and Distillate Yield Improvement Project with 11.0 MMTPA Crude Processing” at Mathura Refinery by M/s Indian Oil Corporation Ltd.- TOR reg.

As per the recommendation of the Expert Appraisal Committee (Industry -2) in its 34th meeting held during 13th -14th April 2012, a sub-committee comprising EAC members and representative of the Ministry visited the project site to assess the existing environmental scenario and suggest additional measures to improve the environmental status.

Site visit was conducted by the subcommittee on 27th October, 2012 and following officials were present:

(A) From IOCL Refinery

	IOC representative	EIL (EIA Consultant) Representative
1	M K Padia (ED)	J K Joshi (DGM-Env)
2	C Shankar (GM-HSE)	R S Prasad (Manager)
3	Sanjib Kumar (GM-Technical)	
4	B V K Ramagopal (GM-Technical Services)	
5	W Manoharan (DGM-Maintenance)	
6	P K Vidyadhar (DGM-HSE)	
7	N K Panda (DGM-PN)	
8	Kabi Das Mandal (DGM-TS)	
9	B V Raju (CITM)	
10	S Khan (CPNM)	
11	Hari Shankar (SPNM)	
12	M W Beg (SPNM)	
13	I B Patel (CM-HSE)	
14	J Pradhan (GM-HR)	

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

- a). Shri R.K. Garg
- b). Shri Niranjana Raghunath Raju

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

1. A. N Singh, Dy. Director

Revamp of FCCU Unit at Mathura Refinery for LPG Yield:

Representatives from M/s IOCL welcomed the Sub-committee. They made a short power point presentation before the field visit. They informed about the project proposal regarding proposed product mix change in FCCU revamp of Mathura Refinery for LPG Yield and reliability improvement. The objective of proposal is to maximize the production of valuable products like LPG, Gasoline. For FCCU revamp, IOCL has already obtained prior EC from the MoEF vide letter no. J-11011/283/2006-IA II(I) dated 22nd March, 2007. The proposed facility with minor modification will achieve revised product mix scenario in order to maximize the separation of value added product propylene, a component of LPG produced under FCCU revamp. Hence no design changes are envisaged in the originally envisaged FCCU facilities. In the product mix change proposal, no new process heater is envisaged. Hence no additional fuel is required. The overall electrical energy requirement for the product mix change is estimated as 3.5 MW. The proposed project requires additional water of 56 m³/hr (1344 m³/day), which will be sourced from the treated wastewater of the existing facility. The only change from the earlier EC is increase in recovery of propylene & corresponding reduction in LPG production.

Residue Up-gradation and Distillate Yield Improvement Project :

They informed about the project proposal regarding Residue Up-gradation and Distillate Yield Improvement Project with 11.0 MMTPA Crude Processing". The benefits from the project are i) facilitate crude processing from 8 MMTPA to 11 MMTPA; ii) Processing of high sulfur crude will be maximized; iii) Up-gradation of bottom of barrel to maximize distillate yield from HS crude; iv) Production of euro-IV MS and diesel will be maximized. Following new process units are proposed under expansion project

S.N	Process units	Capacity
1	Crude Capacity (from 8 MMTPA to)	11 MMTPA
2	Resid Hydrocracking unit	2.3 MMTPA
3	Hydrocracker unit	2.0 MMTPA
4	Hydrogen unit	110 TMTPA
5	Sulphur Recovery Unit (SRU) with TGTU	3x300 TPD
6	VDU	2.5 MMTPA
7	DHDT revamp (from 1.8 to)	2.4 MMTPA
8	Sour Water Stripper (SWS)	50 TPH
9	Amine Regeneration unit	600 TPH
10	Nitrogen unit	1200 Nm ³ /hr

After presentation, the subcommittee went round the plants and specifically visited the following sections:

Effluent Treatment Plant:

Detailed process was explained to the Sub-committee members and necessary clarifications were given. Industrial effluent and contaminated rain water is treated in the effluent treatment plant comprising primary, secondary and tertiary treatment facilities. Treated effluent (250 m³/hr) is passed through guard pond and discharged outside the unit.

Guard/polishing Pond:

Sub-committee were taken to the place where the final effluent alongwith overflow from the polishing pond is discharged to drain. It was observed that many water birds have made nest on the trees around the guard ponds. It was informed that thousand of migratory birds visit this park every year between October – February. As per Bombay Natural History

Society, there are 87 species of birds –including 30 species of migratory birds in the park indicating richness of life in the ecosystem. Visually water quality seems to be good. Capacity of polishing pond is $5 \times 7000 \text{ m}^3$ ($175\text{M} \times 40\text{M} \times 1\text{M}$ each) = $35,000 \text{ m}^3$

Eco Park:

Mathura Refinery has a well developed Eco Park with an area of around 4.45 acres.

Bioremediation Site:

Area of bioremediation site is $2 \times 1000 \text{ M}^2$. Bioremediation site is made of PCC with HDPE lining. In the Bioremediation process, sludge is disposed of by natural biological process through an indigenous technology named as 'Olivorous- S' developed jointly by the Research & Development Centre of Indian Oil Corporation Ltd. and The Energy and Resources Institute (TERI), Delhi.

Online Stack Monitoring:

It was informed that SO_2 emission is being monitored online in all stacks and NO_x emissions in some of the stacks. Calibration process of online stack monitoring system was demonstrated.

Sulphur Recovery Unit Area:

Sulphur Recovery Unit of 60 TPD has been installed and commissioned on 18th June, 2011.

OBSERVATIONS:

During site visit following observations were made:

1. While going round the plant the Committee found the housekeeping quite good.
2. General air environment in and around the plant (Refinery) did not show any visible pollution problem.
3. It was informed that in the existing unit, SO_2 emission rate of less than 450 Kg/hr is maintained, which is achieved through use of natural gas; use of low sulphur fuel oil; Sulphur recovery unit with TGTU unit; adoption of new technologies like hydrocracker; Use of low sulphur feed in FCCU.
4. During product mix change, no new process heater is envisaged. Hence there is no additional SO_2 emissions. SO_2 emission of 0.07 Kg/hr is envisaged from the product mix change. The SO_2 emission will remain less than stipulated limit of 450 Kg/hr.
5. The total fresh water requirement in the existing Mathura Refinery is $815 \text{ m}^3/\text{hr}$ (after recycling), which is met from River Yamuna (with permitted quantity $390 \text{ m}^3/\text{hr}$) and Keetham Lake ($1550 \text{ m}^3/\text{hr}$). Additional water requirement will be $56 \text{ m}^3/\text{hr}$ after product mix change. Additional water will be required for cooling tower make up. The Committee was informed that additional water requirement will be met from treated wastewater.
6. During visit in the ETP, it was found that some improvement is needed in ETP and drains. Content of oil was observed in some surface drains of the ETP area. Effluent ($27 \text{ m}^3/\text{hr}$) generation was envisaged in FCC revamp. Additional effluent ($17 \text{ m}^3/\text{hr}$) will be generated from blow down of cooling tower. It was informed that the existing ETP has sufficient capacity to treat the extra effluent. Tertiary treatment facilities such as DMF, ACF followed by RO have been installed. Part of treated effluent is recycled/reused for cooling tower and DM water.

7. In the existing environment clearance, there is provision for 4 x 2500 m³ LPG mounded bullets (MB) and one propylene. But after product mix change, it is proposed for 3 x 2500 m³ LPG mounded bullets and 2 x 2500 m³ Propylene mounded bullets. It was confirmed that the 2nd Propylene bullet will have adequate safety margin.

RECOMMENDATIONS:

1.0 Based on the observations of the Committee during the visit, the Sub-Committee recommends project for amendment in environmental clearance for change in product mix of FCCU revamp project subject to the following conditions:

- i. M/s IOCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008.
- ii. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored Sensors for detecting HC leakage shall be provided at strategic locations. Leak Detection and Repair programme shall be implemented to control HC/VOC emissions.
- iii. SO₂ emissions after product mix from the plant shall not exceed 450 kg/hr and further efforts shall be made for reduction of SO₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H₂S emissions.
- iv. As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.
- v. Total fresh water requirement from River Yamuna and Keetham Lake after expansion shall not exceed 815 m³/hr and prior permission shall be obtained from the competent authority. Additional water requirement shall be met from recycled water. Industrial effluent generation will be 44 m³/hr and treated in the effluent treatment plant. Treated effluent shall be recycled/reused within the factory premises to the maximum extent and remaining treated effluent will be discharged into nallah. Domestic sewage shall be treated in sewage treatment plant (STP).
- vi. All the effluents after treatment shall be routed to a properly lined guard pond for equalization and final control. In the guard pond, automatic monitoring system for flowrate, pH and TOC shall be provided.

2.0 Based on the observations of the Committee during the visit, the Sub-Committee recommends the project for award of TOR for Residue Up-gradation and Distillate Yield Improvement Project alongwith 11.0 MMTPA Crude Processing with following additional TORs:

1. Details of Sulphur balance in the existing refinery unit.

2. Additional SO₂ emissions due to the proposed product mix and additional crude processing.
3. A note on how SO₂ and NO_x will be controlled at the existing level leading to no increase in pollution load.
4. Prediction of impact of air emissions in TTZ region Agra by conducting air quality modeling.
5. Water balance chart of the existing unit and after proposed expansion.
6. Adequacy report of the existing ETP. Details of augmentation in existing ETP to cater enhanced effluent load.
7. Reduce fresh water requirement for the proposed expansion. Explore the feasibility for zero effluent discharge plant by recycling/reuse of 100 % treated effluent.
8. Detailed layout plan indicating existing facilities and proposed onsite and offsite facilities as per oil safety guidelines.
9. Risk Assessment & Disaster Management Plan
 - a. Identification of hazards
 - b. Consequence Analysis
 - c. Risk assessment should also include leakages and impact on location near to refinery & proposed measures for risk reduction.

The Committee discussed the site visit report as well as additional information submitted by the project proponent and accepted the recommendations and suggested to stipulate above specific conditions alongwith other environmental conditions while considering the proposal for amendment in environmental clearance for “change in product mix of FCCU revamp project” and award of additional TOR for “Residue Up-gradation and Distillate Yield Improvement Project with 11.0 MTPA Crude Processing”.

9.3.4 Formaldehyde Plant (150 TPD) at Plot No.34 (d), Phase-III, Tehsil Sitarganj, District U.S. Nagar, Uttarakhand by M/s Balaji Action Buildwell. – reg.

Project proposal was considered in the 36th EAC (I-2) meeting held during 11th-12th June, 2012 and 1st Reconstituted *Expert Appraisal Committee (Industry) meeting held during 24th -25th September, 201* and the Committee recommended the project proposal for award of TOR for preparation of EIA/EMP report. The public hearing was exempted as per section 7 (i), III Stage (3), Para (i) (b) of EIA Notification, 2006. Copy of Notification dated 3rd June, 2006 of Government of Uttarakhand regarding land for establishment of industrial estate was issued prior to EIA Notification, 2006. Therefore, the Committee recommended the proposal for public hearing exemption under section 7 (i), III Stage (3), Para (i) (b) of EIA Notification, 2006. Thereafter project will become category ‘B’ and will be transferred to the SEIAA, Uttarakhand.

9.3.5 Grain based Distillery Unit (60 KLPD) alongwith Captive Power Plant (3 MW) at Plot No. 10, 11 & part of 9, Khairatigaon Boregaon Industrial Area, Village Boregaon, Tehsil Sausar, District Chhindwara, Madhya Pradesh by M/s Gulshan Polyols Ltd.– reg.

Project proposal was considered in the 3rd Reconstituted *Expert Appraisal Committee (Industry) meeting held during 3rd-5th December, 2012* and the Committee recommended the project proposal for environmental clearance. The public hearing was exempted under section 7 (i), III Stage (3), Para (i) (b) of EIA Notification, 2006 as project being located in notified Boregaon Industrial Area. Copy of Notification dated 17th January, 2012 of Government of Madhya Pradesh regarding list of notified industrial area is submitted. Madhya Pradesh Audhyogik Kendra Vikas Nigam (J) Ltd. vide letter no. MPAKVN (J) Ltd./Khairi-Bor/DEv./13/159 dated 24th May, 2013 has confirmed that the Khairitigaon-

Borgaon Industrial Growth Centre was formed in 3rd September, 1986. Therefore, the Committee recommended the proposal for public hearing exemption under section 7 (i), III Stage (3), Para (i) (b) of EIA Notification, 2006.

9.3.6 Drugs Manufacturing Unit (7 MTPM/84MTPA) at Plot No.439 & 440, Village Mahuakhera Ganj, Tehsil Kashipur, District Udham Singh Nagar, Uttarakhand by M/s Solitaire Drugs & Pharma Pvt. Ltd.- reg.

Project proposal was considered in the 1st Reconstituted *Expert Appraisal Committee (Industry) meeting held during 24th-25th September, 2012 and the Committee recommended the project proposal for environmental clearance. The public hearing was exempted under section 7 (i), III Stage (3), Para (i) (b) of EIA Notification, 2006. Copy of Notification dated 20th December, 2006 of Government of Uttarakhand regarding land for establishment of industrial estate. The Committee noted that the notification issued after EIA Notification, 2006 came into force. Therefore, the Committee revised the earlier recommendation and recommended the project to conduct public hearing. The EIA/EMP report as per TORs should be submitted to the Chairman, State Pollution Control Board, (SPCB) for public consultation. The SPCB shall conduct the public hearing/public consultation as per the provisions of EIA notification, 2006.*

9.3.6 Expansion of P.F.Resin (240 MTM to 750 MTM), M.F.Resin (80 MTM to 250 MTM) & Laminated sheets (2.5 lakh PM) at Survey No.355, village Dalpur, Tehsil Prantij, District Sabarkantha, Gujarat by M/s Airolam Ltd.- reg TOR

Project proposal was considered in the 36th *Expert Appraisal Committee (Industry-2) meeting held during 11th -12th June, 2012 and the Committee desired that expansion of the resin unit will be considered only after submission of consent to operate for the existing resin unit.*

Now, project proponent vide letter dated 23rd October, 2012 has submitted a copy of consent order no. AW-32565 dated 04.04.2009. No mention has been made about the resin manufacturing unit in the consent dated 04.04.2009.

Therefore, the project proposal involves violation of the Environment (Protection) Act, 1986 or Environment Impact Assessment (EIA) Notification, 2006 will be considered as per Ministry's O. M no. J-11013/41/2006-IA II (I) dated 12th December, 2012 and 27th June, 2013.

9.3.7 Manufacturing of Polyamide Resin (500 MT/M) at Plot/Survey No. 109/4, Village Ravi Industrial Estate, Bileshwarpura, Tehsil Kalol, District Gandhinagar, Gujarat by M/s Bright Resin Pvt. Ltd. –TOR regarding

Project proposal was considered in the 36th *Expert Appraisal Committee (Industry-2) meeting held during 11th -12th June, 2012 and the Committee desired to submit the details of various industries, surface water bodies, forests etc. Now, project proponent vide letter dated 21st September, 2012 has submitted addl. information.*

After deliberations, the Committee found addl. information satisfactory and 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 the existing and proposed plant area.
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. Permission, if any, from the State Forest Department
14. Details of the total land and break-up of the land use for green belt and other uses.
15. List of products alongwith the production capacities.
16. Detailed list of raw materials required and source, mode of storage and transportation.
17. Manufacturing process details alongwith the chemical reactions and process flow chart.
18. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
19. 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.
20. 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 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.
21. Air pollution control measures viz. Multi-cyclone and bag filter etc. Shall be proposed for the effective control of gaseous emissions within permissible limits.
22. Control methanol emission from drying section.
23. Details of VOC monitoring system in the working zone environment, if any.
24. Name of all the solvents to be used in the process and details of solvent recovery system.
25. Design details of ETP, incinerator, boiler, scrubbers/bag filters etc.
26. Details of water and air pollution and its mitigation plan.
27. Action plan to control ambient air quality as per NAAQES Standards notified by the Ministry on 16th September, 2009.
28. An action plan to control and monitor secondary fugitive emissions from all the sources.
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. Air quality modelling for proposed plant.
30. Source and permission for the drawl of water from the Competent Authority. Water balance chart including quantity of effluent generated recycled and reused and discharged.
31. Action plan for 'Zero' discharge of effluent shall be included.
32. Treatment of phenol in the effluent, if any.
33. 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).

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 disposal of fly ash generated from boiler shall be included.
35. Explore the possibility to use fuel other than wood.
36. Precautions to be taken during storage and transportation of hazardous chemicals shall be clearly mentioned and incorporated.
37. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
38. List of hazardous chemicals (as per MSIHC rule) with toxicity levels.
39. A write up on "Safe Practice" followed for methanol handling, storage, transportation and unloading to be submitted.
40. A write up on "Treatment of workers affected by accidental spillage of methanol/phenol".
41. Locating the plant in open area instead of covered to be reviewed in view of safety consideration.
42. An action plan to develop green belt in 33 % area
43. 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.
44. 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.
45. Details of occupational health surveillance programme.
46. Socio-economic development activities shall be in place.
47. 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.
48. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
49. 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.
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. 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.
52. 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.

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

9.4.0 Any other item

- 9.4.1 Clarification on Applicability of EIA Notification, 2006, for the Pumping Station Up gradation Project of the Pipeline Department of **M/s Oil India Ltd.**

M/s Oil India Ltd. has requested for clarification on applicability of EIA Notification, 2006, for the Pumping Station Up gradation Project of the Pipeline Department. The Committee desired following addl. information:

- i. Pipeline route map with landuse clearly showing locations of facilities proposed to be upgraded.
- ii. Distance between facilities to be upgraded and eco-sensitive area/national park/wildlife sanctuary.

The proposal was deferred till the desired information is submitted.

- 9.4.2 150 KLPD Molasses Based Distillery & 6 MW Co-generation Project at MIDC Tembhurni Village, Taluka Madha District solapur in Maharashtra State by **M/s Khandoba Distilleries Ltd.- Extension of validity of EC**

MoEF vide letter no. J-11011/773/2007-IA-II(I) dated 16th January, 2008 has accorded environmental clearance to M/s Khandoba Distilleries Ltd. for 150 KLPD Molasses Based Distillery & 6 MW Co-generation Project

Project proponent informed that project was got delayed due to financial issues. Now, project proponent has requested for extension EC validity.

The Committee recommended the project proposal to extend the validity of EC for another 1 year.

9.4.3 Expansion by adding Chloromethanes Plant at Sy. No. 61, 62 B, 63 Village Gondiparla, Mandal Kurnool, District Kurnool, Andhra Pradesh **by M/s Sree Rayalaseema Alkalies and Allied Chemicals Ltd.- Amendment in EC**

Environmental clearance was issued vide MoEF's letter no. J-11011/619/2009-IA II (I) dated 14th February, 2012 for expansion of Chloromethanes Plant. Following specific condition was stipulated at S.N. (viii):

a) Carbon tetra chloride produced as waste gas shall be incinerated.

Now, project proponent has requested for amendment in condition to sell Carbon tetra chloride to the users instead of incineration.

After deliberation, the Committee desired following addl. Information:

- i. Certificate from Ozone Cell regarding sale of Carbon tetra chloride to the users.
- ii. Details of safety measures to be undertaken in storage and dispatch of the product to the users.

The Committee deferred the project proposal till addl. Information is submitted.

9.4.4 Expansion of fertilizer Plant (Ammonia Plant 1,910 MTPD to 4110 MTPD) and Urea Plant (3,250 MTPD to 7,100 MTPD) at Jagdishpur Industrial Area, Kamrauli, Musaffirkhana, District Sultanpur, UP by **M/s Indo Gulf Fertilizers – Amendment in EC condition**

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

9.4.5 Clarification on applicability of EC in respect of bulk drugs component for Integrated Vaccines Complex (IVC) project at Chengalpattu, Chennai, Tamil Nadu.

M/s HBL biotech Limited vide letter no. HBL/Projects/IVC/MoEF/2013-14 dated 30th April, 2013 has requested for clarification on applicability of EC for construction of Integrated Vaccines Complex project at Chengalpattu, Chennai, Tamil Nadu. The Committee desired following:

- i. Whether vaccine manufacturing process involves organic synthesis reactions? Information to be obtained from M/s HBL biotech Limited.
- ii. Matter may be transferred to GEAC for their part.
- iii. Information may be obtained from infrastructure sector regarding applicability of EC in respect of building construction project.

The proposal is deferred till the desired information is submitted.

9.4.6 Proposed Expansion of Organic Chemicals Manufacturing Unit at Block No. 1834/1&2, Chikhali Vandsa Road, At & PO Alipore, Taluka Chikhali, District Navsari, Gujarat by **M/s Windson Chemical Pvt. Ltd. (Earlier known as M/s Raj Chemicals)- Amendment in EC.**

Environmental clearance was issued vide MoEF's letter no. J-11011/125/2009-IA II (I) dated 13th May, 2009 for expansion of organic chemicals manufacturing unit. Further vide MoEF's letter of even no. dated 15th November, 2011EC was transferred to M/s Windson Chemical Pvt. Ltd. EC was granted to manufacture following products:

S.N.	Product	Existing	Proposed	Total (As per existing EC)
1	Phenylene Diamines	10 MTPM	0	10 MTPM
2	Formaldehyde (37 %)	0	2200 KLPM	2200 KLPM
3	Formaldehyde Based Resin	0	300 MTPM	300 MTPM

Now, project proponent requested to manufacture liquid formaldehyde based resin 900 (MTPM) instead of dry powder based formaldehyde resin (300 MTPM). It was also informed that liquid resin is an intermediate stage of dry formaldehyde resin.

After deliberation, the Committee recommended the project proposal for amendment.

9.4.7 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.**

Environmental clearance was issued vide MoEF's letter no. J-11011/503/2009-IA II (I) dated 4th October, 2010 for Expansion of Hazira Fertilizer Complex (Ammonia 6.1 to 6.6 Lakh MTPA and Urea 10.56 to 11.55 Lakh MTPA). Now, Project proponent has requested for following amendment :

S.N.	Product	As per EC	Amendment
1	Ammonia	2000 MTPD	2200 MTPD
2	Urea	3500 MTPD	3850 MTPD
3	Power	25 MW	25 MW

Project proponent has informed that Government of India approved the new investment policy-2012 on 2nd January, 2013 in order to facilitate fresh investment in urea sector. The capacity of the proposed expansion project based on the latest eco-friendly technologies available with low specific consumption of the raw materials in 2200 MTPD ammonia and 3850 MTPD Urea. 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 viz. urea dust
- Water consumption quantity.
- Effluent generation and its treatment schemes.
- 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.

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

11th June, 2013

9.5.0 Consideration of the Projects:

Environmental Clearance

9.5.1 Ferro Alloys Plant (2x9 MVA; SAF Fe-Mn 36,960 TPA and /or Si-Mn 26,400 TPA or Fe-Si 13,200 TPA) at J.L.No. 24, Plot no. 2672-2674,2679, Plasto Steel Park, WBIDC, Mouza Ghutgoria, P.S. Barjora, District Bankura, West Bengal by **M/s Lalwani Industries Limited - regarding Environment Clearance.**

The project authorities and their consultant M/s Environ India, Kolkata gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per the Terms of Reference (ToRs) awarded during the 5th meeting of the Expert Appraisal Committee (Industry) held on 24-25th November, 2009 for preparation of EIA/EMP report. The ToR was awarded by MoEF vide F.No. J-11011/555/2009-IA.II(I) dated 9.12.2009 for preparation of EIA/EMP report. The proponent submitted the final EIA/EMP report vide letter no. Nil dated 21.1.2013 after conducting Public Hearing 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.

M/s Lalwani Industries Limited have proposed to set up an Ferro Alloys Plant (2x9 MVA; SAF Fe-Mn 36,960 TPA and /or Si-Mn 26,400 TPA or Fe-Si 13,200 TPA) at J.L.No. 24, Plot no. 2672-2674, 2679, Plasto Steel Park, West Bengal Industrial Development Corporation(WBIDC), Mouza Ghutgoria, P.S. Barjora, District Bankura, West Bengal. Total project area is 4.40 acres. No R&R issues are involved. The project site is located in an Industrial Area (Plasto Steel Park) but has not been notified by the State Government. Proponent has submitted a copy of letter dated 15th December, 2006 of the West Bengal Industrial Development Corporation Limited handing over the possession of 4.40 acres of land. 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. The longitude and latitude of the project site is 87°14' 38.52" E and 23° 26'11.29" N respectively. Baliator PF and Govindpur PF are located at a distance of 1.5 km and 9 km respectively. River Damodar is located at 6 km. Total cost of the project is Rs. 2,923.83 Lakhs. Rs. 830.00 Lakhs and Rs. 64.00 Lakhs will be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.

Following are the details of facilities to be installed and products to be manufactured:

Facility	Plant configuration	Product	Capacity
Submerged Arc Furnace	2x9 MVA	Ferro Manganese	36,960 TPA
		Silico Manganese	26,400 TPA
		Ferro Silicon	13,200 TPA

Mn ore (99,991 TPA from Dongri Buzurg), Dolomite (13,868 TPA from Gomtu, Bhutan), coke breeze (22,795 TPA from Dhanbad, Jharkhand), quartz (22,890 TPA from Bishnupur, West Bengal), Petcoke (7603 TPA from West Bengal) and Mill scale (7050 TPA from Durgapur) will be used as raw materials. The raw materials and finished product will be transported by road/rail. The power requirement is 18.25 MVA which will be sourced from Damodar Valley Corporation.

Ambient air quality monitoring has been carried out at 8 locations during October – December, 2009 and the data submitted indicated: PM (132-208 $\mu\text{g}/\text{m}^3$), PM_{10} (34-67 $\mu\text{g}/\text{m}^3$), SO_2 (4-6 $\mu\text{g}/\text{m}^3$) and NO_x (18-36 $\mu\text{g}/\text{m}^3$). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs would be 7.6 $\mu\text{g}/\text{m}^3$, 1.6 $\mu\text{g}/\text{m}^3$ and 1.4 $\mu\text{g}/\text{m}^3$ with respect to PM, PM_{10} and $\text{PM}_{2.5}$ respectively. To control source emissions from SAF, bag filters will be installed. Stack of adequate height will be provided. Dry fog system will be installed to reduce fugitive emissions in the raw materials handling area, transfer points and work zone area.

The water requirement is 40 KLD which will be sourced from bore wells and rain water harvesting pond. The water requirement is mainly for cooling & domestic purposes. The plant will be based on zero liquid effluent discharge with maximum recycling of wastewater in dust suppression and greenbelt development. To reduce fresh water consumption 2605 m^3 of rain water will be harvested annually in the rainwater harvesting pond of capacity 860 m^3 within the plant premises.

Fines (1000 TPA) collected at cyclone with bag filter will be recycled in the process. Slag (32,520 TPA) produced in Fe-Mn will be reused to produce Si-Mn. Slag (29,043 TPA) from Sin-Mn production will be used as boulders in land, road, area development/manufacturing of insulated bricks/colored glass. Fe-Si slag (727 TPA) will be utilized in Cupola Furnace as raw material. Green belt will be developed in an area of 1.5 acres. The proponent has given commitment that no Ferro chrome will be manufactured without prior approval of the Ministry.

The Committee deliberated on the issues raised during Public Hearing/Public Consultation conducted by West Bengal Pollution Control Board on 8.8.2012, under the chairmanship of Shri Amit Datta, Additional District Magistrate, Zilla parishad, Bankura District. The issues raised by the public are improvement of the roads, supply of water to the locality, improvement of the local environment, priority for employment for technical / non-technical jobs, arrangement of drinking water for the locality and CSR activities etc. The proponent assured that employment will be provided to the local people. Development of road, area, local schools have been considered as a part of the CSR. Bag Filters and Dry Fogging System will be installed to control emissions from the proposed project. Road development and drinking water have been considered in the CSR programme.

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 reductant. Coke breeze (or) pet coke shall be used 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/Nm^3 .
- 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 Bhubaneswar, SPCB and CPCB.
 - vi. The total water requirement shall not exceed 40 KLD. The water requirement shall be met from bore well. The unit shall obtain necessary water drawl permission from Central Ground Water Authority. '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). Slag from Si-Mn production will be used as boulders in land, road, area development/manufacturing of insulated bricks/colored glass. Fe-Si slag will be utilized in Cupola Furnace as raw material.
 - ix. No Ferro Chrome shall be manufactured without prior approval from the Ministry of Environment and 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 Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.
 - xi. As proposed, green belt should be developed in at least 33 % of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
 - xii. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 8.8.2012 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.
 - xiii. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.
 - xiv. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.
 - xv. 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.
- 9.5.2 Proposed Integrated Steel Plant (Iron Ore Beneficiation Plant -14,00,000 TPA, Iron Ore Pellet Plant – 12,00,000 TPA, Sponge Iron (DRI) Plant - 4x350 TPD = 4,35,000 TPA, Tunnel Kiln - 8 x100 TPD =2,64,000 TPA, Induction Furnace – 4 x30T –

4,35,000 TPA, Ladle Furnace-2x30 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) at Village Parakheda, Tehsil Sihora, District Jabalpur in Madhya Pradesh by **M/s Pacific Iron Manufacturing Limited – regarding Environment Clearance**

The aforesaid proposal was considered in the 3rd meeting of the Reconstituted Expert Appraisal Committee (Industry) held during 3-5th December, 2012 wherein the Committee noted that EIA/EMP report was prepared by M/s Techno Analytical Kolkata, who is a non-accredited consultant as on date. Therefore, Committee advised the proponent to validate EIA/EMP report first by the QCI/NABET accredited consultant and submitted to the Ministry for consideration of environmental clearance. The proposal was deferred till EIA/EMP report validated by the QCI/NABET accredited consultant is submitted.

The proponent vide letter no. Nil dated 7.2.2013 submitted the EIA/EMP report through the QCI/NABET accredited consultant – M/s Envirotech East Private Limited (EEPL), Kolkata.

The project authorities and their consultant M/s. Envirotech East Private Limited (EEPL), Kolkata 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-11011/441/2011-IA.II(I) dated 14.10.2011 for preparation of EIA/EMP report. All the Integrated Steel Plants are listed at S.No. 3(a) under category 'A' of the schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry) in Ministry.

M/s. Pacific Iron Manufacturing Limited have proposed to set up an Integrated Steel Plant (Iron Ore Beneficiation Plant -14,00,000 TPA, Iron Ore Pellet Plant – 12,00,000 TPA, Sponge Iron (DRI) Plant - 4x350 TPD = 4,35,000 TPA, Tunnel Kiln - 8 x100 TPD =2,64,000 TPA, Induction Furnace – 4 x30T – 4,35,000 TPA, Ladle Furnace-2x30 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, District Jabalpur in Madhya Pradesh. As per the original proposal of M/s. Pacific Iron Manufacturing Limited, the land requirement is 205 acres. However, the proponent has reduced the land requirement from 250 acres to 125 acres. Out of the 125 acres, the proponent has already acquired 95 acres of the land. Out of the total project land, a portion of the land belonged to the tribes, which has been purchased the proponent by paying them proper compensation as per the applicable Government Rules. 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. The longitude and latitude of the project site is 80°11' 27.27" E and 23° 22'33.33.62" N respectively. There is no major river in the study area. Sihora town is located at a distance of 15km from the project site. Total cost of the project is Rs. 1874 Crores. Capital cost and recurring cost / annum for the environment protection measures would be Rs. 93.7 Crores and 16.0 Crores respectively. No litigation/court case is pending against the proposed project. Rs. 93.7 crores have earmarked towards the Enterprise Social Commitment based on public hearing issues.

Following are the details of facilities to be installed and products to be manufactured:

S.No.	UNITS	PROPOSED CAPACITY	PRODUCT
1.	Iron Ore Beneficiation Plant	14,00,000 TPA	Iron Ore Concentrate

S.No.	UNITS	PROPOSED CAPACITY	PRODUCT
2.	Iron Ore Pelletisation Plant	12,00,000 TPA	Pellet
3.	Sponge Iron (DRI) Plant (4x350 TPD)	4,35,000 TPA	Sponge Iron
4.	Tunnel Kiln (8x100 TPD)	2,64,000 TPA	Sponge Iron
5.	Induction Furnace (4x30 T)	4,35,000 TPA	Liquid Steel
6.	LRF (2x30 T)	4,35,000 TPA	Liquid Steel
7.	Billet/Bloom Cluster	4,22,000 TPA	Billet/Bloom
8.	Rolling Mill	2,90,000 TPA	Wire Rods & TMT Bars
9.	Captive Power Plant (70 MW)	Turbo-Generator 2 x 35 MW = 70 MW (WHR Boilers-4 X 35 TPH & CFBC Boiler-1 X 130 TPH)	Power

The raw materials required are Iron ore fines (18,22,240 TPA), imported coal (DRI kilns - 3,60,000 TPA, Tunnel kiln – 1,85,000 TPA, Captive Power Plant – 20,000 TPA), middlings (2,20,000 TPA), bentonite (12000 TPA), lime stone (38,400 TPA), dolomite (30,000 TPA), coke fines (19,500 TPA) and pig iron (97,680 TPA). The iron ore fines will be sourced from nearby captive mines by road. As per the MoU submitted, the imported coal will be sourced from Indonesia. The ash and sulphur content in the coal will be 4-8% and 0.3-0.5% respectively. The gross calorific value of the coal will be 6000 kcal/kg. Raw materials will be received at plant site by rail/ road. The power requirement is 70 MW which will be met from captive power plant and State Grid.

Ambient air quality monitoring has been carried out at 10 locations during December 2011 to February 2012 and the data submitted indicated: PM₁₀ (50.3-68.9 µg/m³), PM_{2.5} (28.6-39.8 µg/m³), SO₂ (9.1-14 µg/m³) and NO_x (10.3-14.4 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs would be 3.39 µg/m³, 16.06 µg/m³ and 6.16 µg/m³ with respect to PM, SO₂ and NO_x respectively. Adequate air pollution control measures like installation of Bag Filters, Dust Suppression System, Electrostatic Precipitator with 99.98% efficiency will be installed to control emissions within 50 mg/Nm³. Dust Extraction / Dust Suppression Systems / Foggy Dust Arresters will be provided to control fugitive emissions from raw material handling section and various other facilities inside the plant area.

The makeup water requirement is 13,368 KLD (557 m³/hr) which will be sourced from bore wells. The plant will be designed as a zero discharge plant as far as the process effluents are concerned. The water will be recirculated through cooling and treatment. No plant effluent will be discharged outside the plant premises. The entire wastewater will be recycled for various purposes inside the plant. Wastewater contaminated with oil will be collected from areas where there will be possibilities of contamination by oil (transformer yard, fuel & lubricating oil storage areas, and workshop). Such wastewater as collected will be routed through an Oil Water Separator.

Tailings from beneficiation plant (1,80,000 TPA), Dolochar from DRI plant (1,50,000 TPA), slag from induction furnace (63,900 TPA), mill scale and scrap from rolling mill (6000

TPA), fly ash from CFBC boiler (1,27,000 TPA) and bottom ash generation from the CFBC boiler will be 32,000 TPA. The tailings from the beneficiation plant will be used for brick making and land filling. The dolo-char will be used in the CFBC boiler. The slag and the bottom ash from the CFBC boiler will be used for land filling and road construction purpose. The fly ash will be utilized by the M/s Hill Cement Company Limited.

The Committee deliberated on the issues raised during Public Hearing/Public Consultation conducted by Madhya Pradesh Pollution Control Board on 18.5.2012 at village Parakheda, Tehsil Sihora, District Jabalpur under the chairmanship of Shri Vishesh Garphale, Additional District Magistrate, Jabalpur District.

After detailed deliberations, the Committee sought the following additional information 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.

9.5.3 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/2013/60 dated 3.6.2013 expressed their inability to attend the meeting due to some unavoidable circumstances. The Committee decided to consider the proposal as and when requested by the project proponent.

9.5.4 Expansion of Sponge Iron Plant (1x350 TPD) into integrated Steel Plant at village Godwall & Bastali Biran, Tahsil Devassar & Chitarangi, District, Singrauli, Madhya Pradesh by **M/s Triumula Industries Limited-regarding Environment Clearance**

The aforesaid proposal was considered in the 3rd meeting of the Reconstituted Expert Appraisal Committee (Industry) held during 3-5th December, 2012 wherein the Committee noted that EIA/EMP report was prepared by M/s In Situ Enviro Care, Bhopal, who is a non-accredited consultant as on date. Therefore, Ministry vide letter dated 1.3.2013 requested the proponent to validate EIA/EMP report first by the QCI/NABET accredited consultant and submitted to the Ministry for consideration of environmental clearance. The proposal was deferred till EIA/EMP report validated by the QCI/NABET accredited consultant is submitted.

The proponent vide letter no. Nil dated 16.4.2013 submitted the EIA/EMP report through the QCI/NABET accredited consultant – M/s. Pollution and Ecology Control Services (PECS), Nagpur. The said EIA/EMP report was placed before the EAC for consideration.

The Committee deferred the consideration of the proposal as the EIA/EMP report submitted by the proponent was incomplete in several technical aspects including the compliance to the ToR conditions were not matching. The Committee asked the consultant (M/s. PECS, Nagpur) to conduct one month fresh AAQ monitoring to verify the data provided by the M/s In Situ Enviro Care, Bhopal. Further, the Committee asked the proponent to incorporate compliance to all the conditions stipulated in the Terms of Reference and submit the revised complete EIA/EMP report along with the certified compliance report of the existing unit from the Regional Office of MoEF at Bhopal.

Terms of Reference

9.5.5 E.C. for proposed Expansion with backward integration by the addition of 3.2 MTPA iron ore beneficiation plant, 1.2 MTPA iron ore pelletization plant and 3x6500m³ coal gasification plant to the existing 0.5 MTPA Integrated Steel Plant, located at village Kukurjangha, District-Jharsuguda, Odisha by **M/s Concast Steel and Power Limited (Formerly M/s. SPS Steel and Power Limited) - regarding ToRs.**

The project authorities along with their consultant (M/s Global Experts, Bhubaneswar) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Terms of Reference for preparation of EIA/EMP report. The integrated 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 committee noted that existing plant got environmental clearance from the Ministry vide F.No.J-11011/189/2007-IA.II(I) dated 7.8.2007 in the name of M/s. SPS Steel and Power Limited. The proponent has submitted to the Committee that the name of the company has changed from M/s SPS Steel and Power Limited to M/s Concast Steel and Power Limited with effect from 30.3.2011. To this effect, the proponent has submitted the Fresh Certificate of Incorporation Consequent upon change of name (U51909WB1995PLC072045) issued by the Registrar of Companies, West Bengal, Government of India, Ministry of Corporate Affairs. The Committee asked the proponent to separately apply to the Ministry for the transfer the EC from M/s SPS Steel and Power Limited to M/s Concast Steel and Power Limited.

M/s Concast Steel and Power Limited have proposed to expand the steel plant by installation of 3.2 MTPA iron ore beneficiation plant, 1.2 MTPA iron ore pelletization plant and 3x6500m³ coal gasification plant at Kukurjangha, district Jharsuguda, Odisha. The land requirement for the proposed expansion is 72.13 acres. No Forest land is involved. No national park/wild life sanctuary/ecologically sensitive area is located within 10 km radius. The latitude and longitude of the project site is 21° 48' 30 N and 84° 00' 30"E respectively. The raw materials required are iron ore fines (32,00,000 MTPA), bentonite (44 MTPA),

limestone (22000 MTPA) and coal (1,08,000 MTPA). The raw materials will be transported to the plant site by rail/road. The water requirement is 2400 KLD which will be met from Hirakud reservoir. The total power requirement is 14.5 MW. Total cost of the project is Rs. 724.77 Crores.

To control the air emissions, adequate dust extraction measure at different raw material handling sites will be provided. Adequate capacity ESP & Bag houses at different point source emissions of Pelletisation plant and producer gas unit will be provided. Dust suppression system will be provided all around raw material stock yard. All domestic and industrial effluent will be treated, recycled and reused within the plant premises itself and no effluent will be discharged outside the plant premises. Tailings (12,00,000 TPA) will be disposed as cake using filter press technology. Used oil will be sold to registered recyclers.

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

1. Executive summary of the project
2. Iron ore/Coal linkage documents
3. Photographs of the existing and proposed plant area
4. Compliance to the conditions stipulated in the Environmental Clearance / NOC granted by the SPCB.
5. 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.
6. Recent monitoring report from SPCB, which shall include data on AAQ, water quality, solid waste etc. shall be submitted.
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. A line diagram/flow sheet for the process and EMP
9. The earlier questionnaire for industry sector should be submitted while submitting EIA/EMP.
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. A photograph of the site should also be included.
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 10 Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
12. 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.
13. 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.
14. 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.

15. Coordinates of the plant site with topo sheet co-ordinates of the plant site should be included.
16. Details and classification of total land (identified and acquired) 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 from the tribals, if tribal land has also to be acquired along with details of the compensation plan.
19. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department. .
20. A list of industries containing name and type in 25 km radius should be incorporated.
21. Residential colony should be located in upwind direction.
22. 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".
23. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. ores, minerals, rock, soil, coal, iron, dolomite quartz etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per I30-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.), if applicable, should also be included..
24. Petrography, grain size analysis and Major element analysis of raw material and soil from project site and raw material should be done on the same parameters along with analysis for SiO₂, Al₂O₃, MgO, MnO, K₂O, CaO, FeO, Fe₂O₃, P₂O₅, H₂O, CO₂.
25. 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.
26. Action plan for excavation and muck disposal during construction phase.
27. Studies for fly ash, muck, slurry, tailings, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.
28. Manufacturing process details for all the plants should be included.
29. Mass balance for the raw material and products should be included.
30. Energy balance data for all the components of steel plant including proposed power plant should be incorporated.
31. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
32. Data generated in the last three years i.e. air, water, raw material properties and analysis (major, trace and heavy metals), ground water table, seismic history, flood hazard history etc.
33. 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.
34. 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.

35. 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.
36. 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.
37. Air quality modelling for steel plant for specific pollutants needs to be done. APCS for the control of emissions from the kiln and WHRB should also be included to control emissions within 50 mg/Nm³.
38. 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.
39. Ambient air quality monitoring 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.
40. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
41. 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.
42. One season data for gaseous emissions other than monsoon season is necessary.
43. 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.
44. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
45. 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.
46. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 47. Ground water modelling showing the pathways of the pollutants should be included
 48. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
 49. 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.
 50. 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.
 51. A note on the impact of drawl of water on the nearby River during lean season.
 52. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
 53. 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.
 54. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
 55. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
 56. 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.
 57. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
 58. 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.
 59. 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.
 60. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly tailings, ash from all the sources. Copies of MOU regarding utilization of tailings and ash should also be included.
 61. Details of evacuation of ash, details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. need to be addressed.
 62. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of tailings.
 63. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
 64. 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.
65. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
 66. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
 67. 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.
 68. 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.
 69. 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.
 70. 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.
 71. 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.
 72. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines must be prepared.
 73. 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.

74. 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.
75. A note on identification and implementation of Carbon Credit project should be included.
76. 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. 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 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 reports along with Public Hearing Proceedings.

9.5.6 Proposed expansion of Iron Ore Pelletizing Plant (0.6 MTPA to 2.1 MTPA) by addition of Iron Ore Washery (3.0 MTPA), DRI Plant (1.2 MTPA), SMS (1.2 MTPA), Rolling Mill (1.2 MTPA) along with Power Plant (100 MW) at village phuljhar, Block-Bansapal, Tehsil Telkoi, District Keonjhar, Odisha. **M/s Ardent Steel Limited - regarding ToRs**

The Committee deferred the consideration of the proposal as the proponent has already established and operating 0.6 MTPA iron ore pelletization plant without obtaining prior environmental clearance from the Ministry. The CTE and CTO were issued by the Odisha Pollution Control Board on 17.11.2008 and 10.4.2014 respectively.

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

9.5.7 Installation of 2 units of Iron Nugget producing plant of production capacity 0.5 million tonnes per annum each, based on IT mk3 technology by SAIL-KOBE Iron India Private Limited (SKIILP) at Alloy Steel Plant (ASP), Durgapur, West Bengal, **M/s SAIL-Kobe Iron India Limited - regarding ToRs**

The project authorities along with their consultant (M/s. Mecon 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 References for the preparation of EIA/EMP report. The proposed 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 SAIL-Kobe Iron India Private Limited (A joint venture of SAIL & Kobe Steel Limited, Japan) have proposed to set up a 2x 0.5 MTPA units of Iron Nugget producing plant at village/tehsil Durgapur, district Bardawan, West Bengal. The land requirement for the proposed project is 180 acres which is located within the existing premises of M/s. Alloy Steel Plant. The latitude and longitude of the project site is 23° 30' 46 N and 87° 17' 30"E respectively. 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. The raw materials required are iron ore fines (18,00,000 TPA), coal grade B (6,40,000 TPA), coal grade F(10,80,000 TPA), limestone (1,60,000 TPA) and dolomite (38,000 TPA) etc. The power requirement is 83 MW which will be met from Damodar Valley Corporation. The water requirement is 1300 m³/hour which will be met from Damodar Valley Corporation. The project cost is Rs.1526 crores.

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. Details and classification of total land (identified and acquired) should be included.
12. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land 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 and recommendations of the State Forest Department regarding impact of proposed expansion on the surrounding reserve forests, if applicable, should be included.
15. A list of industries containing name and type in 10 km radius shall be incorporated.
16. Residential colony should be located in upwind direction.
17. 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".
18. 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.
19. Manufacturing process details for all the process units should be included.
20. Possibility of installation of WHRB will be explored and details included
21. Mass balance for the raw material and products should be included.
22. Energy balance data for all the components should be incorporated.
23. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
24. 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.
25. 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.
26. Vehicular pollution control and its management plan should be submitted.
27. 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.
28. Ambient air quality at 8 locations (PM₁₀, PM_{2.5}, SO₂, NO_x, VOCs, Methane and non-methane HC) within the study area of 10 km aerial coverage from project site with one AAQMS in downwind direction should be carried out.
29. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
30. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
31. Air quality modeling for all the plants proposed for specific pollutants needs to be done. APCS for the control of emissions within 50 mg/Nm³ should be included. Cumulative impacts of ASP plant and iron nugget plant on the ambient air quality shall be assessed.
32. 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.
33. 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.
34. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
 35. One season data for gaseous emissions other than monsoon season is necessary.
 36. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
 37. 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.
 38. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 39. Ground water modelling showing the pathways of the pollutants should be included
 40. Column leachate study for all types of stockpiles or waste disposal sites, at 20 °C-50 °C should be conducted and included.
 41. 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.
 42. 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.
 43. A note on the impact of drawl of water on the nearby River during lean season.
 44. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.

45. 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.
46. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
47. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
48. 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.
49. 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.
50. 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.
51. 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.
52. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
53. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
54. 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.
55. Disaster Management Plan including risk assessment & damage control needs to be addressed and included.
56. 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.
57. 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.

58. 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.
59. A note on identification and implementation of Carbon Credit project should be included.
60. Total capital cost and recurring cost/annum for environmental pollution control measures.
61. 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.
62. 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 West Bengal 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.

9.5.8 1x6 MVA Submerged Arc Furnace & 1x8 T Induction Furnace (Expansion Project) at Mouza, Village: Maheshpur, P.O. & P.S. Salanpur, District Burdwan, West Bengal by **M/s Jagdamba Ispat Pvt. Ltd - regarding ToRs**

The project authorities and their consultant M/s. Environ India, Kolkata gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft TORs for preparation of EIA/EMP report. All the Ferro Alloy Plants are listed at S.No. 3(a) in Primary Metallurgical Industries

under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

M/s Jagdamba Ispat Private Limited have proposed to expand the existing Induction Furnace by addition of 1x 8T Induction Furnace and 1x6 MVA Submerged Arc Furnace at Mouza, Village: Maheshpur, P.O. & P.S. Salanpur, District Burdwan, West Bengal. The land requirement for the proposed expansion is 4.50 acres. The existing plant got Consent To Establish and Consent To Operate (Renewal) from West Bengal Pollution Control Board on 23.12.2004 and 19.12.2011 respectively. The latitude and longitude of the project site is 23° 47' 8.63" N and 86° 50' 16.59"E respectively. 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. The raw materials required are manganese ore, Fe-Mn slag, coke breeze, quartz, dolomite, iron scrap, pet coke, sponge iron, steel scrap and ferro alloys etc. The power requirement is 13 MW (Existing: 4MW; Expansion:9 MW] which will be met from Damodar Valley Corporation. The water requirement is 22KLD (Existing: 7 KLD; Expansion: 15 KLD) which will be drawn from bore wells/rainwater harvesting pond. The cost of the project is Rs.27.8 crores. Rs. 1.5 crores and Rs.18 lakhs/annum is earmarked towards the capital cost and recurring cost towards the environmental pollution control measures.

Following are the existing proposed product details:

	Plant	Existing	Additional
Main Plant	Induction Furnace	1 X 7 T	1 X 8 T
	Submerged Arc Furnace	-	1 X 6 MVA
Product	M.S. Ingot	25,200 TPA	26,400 TPA
	Ferro Manganese	-	4,357 TPA
	Silico Manganese	-	3,325 TPA
	Ferro Silicon	-	1,404 TPA

To control air emissions, bag filter will be provided to the Submerged Arc Furnace and Induction furnace. Dry fogging system including water sprinkling will be provided to the raw material handling yard. Wastewater generated from the plant will be recycled in the process and reused in greenbelt development & dust suppression. Fines collected at Bag Filter from Submerged Arc Furnace & Induction Furnace (500 TPA) will be recycled in the respective process. Fe-Mn Slag (3,773 TPA) will be used in Si-Mn production. Si-Mn Slag (3,657 TPA) will be used in road / area / land development, manufacturing of insulation bricks / coloured glass & Induction Furnace Slag (2,112 TPA) will be used in road / area / land development. Fe-Si Slag (78 TPA) will be used in Cupola Furnace as raw material.

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

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 /CTE/CTO 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 coal linkage documents
10. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
11. 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.
12. 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.
13. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing landuse/landcover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc in 10 km of the project site.
14. A list of industries within 10 km radius of the plant area.
15. Details and classification of total land (identified and acquired) should be included.
16. Project site layout plan showing raw materials and other storage plans, bore well or water storage, aquifers (within 1 km.) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site should be included.
17. 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".
18. Quantification & Characterization of solid /hazardous waste & its action plan for management should be included.
19. Mass balance for the raw material and products should be included.
20. Energy balance data for all the components of ferro alloy plant should be incorporated.
21. Design details of Ferro Alloy Plant and manufacturing process details should be included.
22. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall is necessary.
23. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out including cumulative Impact of the surrounding industries.
24. 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.
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.
26. Air quality modeling for ferro alloy plant for specific pollutants needs to be done. APCS for the control of emissions should also be included to control emissions within 50 mg/Nm³.
27. Ambient air quality as per National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.

28. Ambient air quality monitoring 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
 - 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.
29. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
30. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
31. Presence of aquifer/aquifers within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
32. 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.
33. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
34. 'Permission' for the drawl of water should be obtained. Water balance data must be provided.
35. A note on the impact of drawl of water on the nearby River during lean season.
36. Action plan for rainwater harvesting measures.
37. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
38. 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.
39. Pretreatment of raw water, treatment plant for waste water should be described in detail. Design specifications may be included.
40. 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.
41. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources should also be included.
42. Identification and details of land to be used for all type of slag disposal in the secured land fill as per CPCB guidelines should be included.

43. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of slag.
44. Provision of Toxic Chemical Leachability Potential (TCLP) test for the slag and its end use should be included.
45. Action plan for chrome recovery and its solid waste management plan.
46. Action plan for the green belt development plan in 33 % area should be included.
47. Chrome water treatment/management plan
48. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
49. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
50. 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.
51. 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.
52. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on public hearing needs and item-wise details along with time bound action plan should be included. Socio-economic development activities need to be elaborated upon.
53. Total capital cost and recurring cost/annum for environmental pollution control measures should also be included.
54. 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.
55. 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 draft EIA/EMP report shall be submitted to the West Bengal Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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

9.5.9 Proposed Expansion of integrated cement plant (Clinker from 10.4 MMTPA to 11.2 MMTPA and Waste Heat Recovery Power: 45 MW to 60 MW) near Village Ras, Tehsil Jaitaran, District Pali, Rajasthan by **M/s Shree Cement Ltd – Terms of Reference regarding**

The project authorities and their consultant (M/s Enkay Enviro Services Private Limited, Jaipur) 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. All the Cement Plants (≥ 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.

Environmental Clearance (EC) to the original proposal was accorded by MoEF vide letter no. J-11011/400/2010-IA.II(I) dated 27.08.2012.

Following are the details of the existing units and proposed expansion.

S.No.	Unit	Production capacities approved as per the EC dated 27.8.2012	Proposed expansion	Total production capacity
1.	Clinker Production (MMTPA)	10.4 (6 units x 1.2 = 7.2 and 2 units x 1.6 = 3.2)	0.8 (2 units of 2.0 = 4.0 in place of 2 units x 1.6 = 3.2)	11.2
2.	Cement Production(MMTPA)	8.8	Nil	8.8
3.	Thermal Power Generation (MW)	180	Nil	180
4.	Waste heat recovery Power Generation (MW)	45	15	60
5.	Nimbeti Limestone Mining (MMTPA)	17.2	2.4	19.6

The Committee noted that for the expansion of Nimbeti Limestone Mine, M/s Shree Cement Limited has obtained Terms of Reference from MoEF [EAC – Mining sector] on 20.3.2013 and the EIA study for the project was started on March 2013.

M/s. Shree Cement Limited have proposed to expand the integrated cement plant (Clinker from 10.4 MMTPA to 11.2 MMTPA and Waste Heat Recovery Power: 45 MW to 60 MW) near Village Ras, Tehsil Jaitaran, District Pali, Rajasthan. The proposed expansion will be carried out in the existing plant premises of 227.56 ha (Plant area: 187.56 ha; Residential: 40 ha). No Forest land is involved. No National Park, Wildlife Sanctuary is located within 10 km radius of the project site. No court cases/litigation is pending against the project. The raw materials required are limestone (19.6 MMTPA), petcoke/coal (1.12 MMTPA), laterite (or) lead zinc slag (0.504 MMTPA), gypsum (0.6 MMTPA) and fly ash (3 MMTPA). The power requirement after the proposed expansion is 107.6 MW which will be met from captive power plant and WHRB. The water consumption after the proposed expansion is 3940 KLD (Existing: 3790 KLD; Expansion: 150 KLD) which will be met from ground water and rain water harvesting. Total cost of the project is Rs.1375 crores (Existing: Rs.1230 crores; Expansion: Rs.145 crores).

The Committee noted that baseline data collected during March – May 2013 for the limestone mining expansion project will be used for the preparation of EIA/EMP report.

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 /CTE/CTO 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 site location map on Indian map of 1:10, 00,000 scale followed by 1:50,000/1:25,000 scale on an A3/A2 sheet with at least next 10 Kms of terrains i.e. circle of 10 kms and further 10 kms on A3/A2 sheets with proper longitude/latitude/heights with min. 100/200 m. contours should be included. 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
10. Present land use should be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10Km radius area from proposed site. The same should be used for land used/land-cover mapping of the area.
11. Location of national parks / wildlife sanctuary / reserve forests within 10 km. radius should specifically be mentioned. A map showing land use / land cover, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc. in 10 km of the project site.
12. Project site layout plan 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.
13. Details and classification of total land (identified and acquired) should be included.
14. Proposal should be submitted to the Ministry for environment clearance only after acquiring total land. Necessary documents indicating acquisition of land should be included.
15. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
16. Permission and approval for the use of forest land and recommendations of the State Forest Department regarding impact of proposed expansion on the surrounding reserve forests, if applicable, should be included.
17. A list of industries containing name and type in 10 km radius shall be incorporated.
18. Residential colony should be located in upwind direction.
19. List of raw material required and source along with mode of transportation should be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
20. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. ores, minerals, rock, soil, coal, iron, dolomite quartz etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per I30-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.).
21. Petrography, grain size analysis and Major element analysis of raw material and soil from project site and raw material should be done on the same parameters along with analysis for SiO₂, Al₂O₃, MgO, MnO, K₂O, CaO, FeO, Fe₂O₃, P₂O₅, H₂O, CO₂.
22. If the rocks, ores, raw material has trace elements their petrography, ore microscopy, XRD, elemental mapping EPMA, XRF is required to quantify the

- amount present in it and hence future risk involved while using it and management plan.
23. Studies for fly ash, muck disposal, slurry, sludge material and solid waste generated should also be included, if the raw materials used has trace elements and a management plan.
 24. Manufacturing process details for all the cement plant, captive power plant and mine should be included.
 25. Possibility of installation of WHRB will be explored and details included
 26. Mass balance for the raw material and products should be included.
 27. Energy balance data for all the components including proposed power plant should be incorporated.
 28. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
 29. Sources of secondary emissions, its control and monitoring as per the CPCB guidelines should be included. A full chapter on fugitive emissions and control technologies should be provided.
 30. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
 31. Vehicular pollution control and its management plan should be submitted.
 32. A write up on use of high calorific hazardous wastes from all the sources in kiln and commitment regarding use of hazardous waste should be included.
 33. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
 34. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
 35. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
 36. Air quality modeling for all the plants proposed including mine for specific pollutants needs to be done. APCS for the control of emissions within 50 mg/Nm³ should be included. Cumulative impacts of cement plant, Captive Power Plant and mines on the ambient air quality shall be assessed.
 37. Action plan to follow National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be included.
 38. 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.
39. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
 40. One season data for gaseous emissions other than monsoon season is necessary.
 41. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
 42. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used 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.
 43. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 44. Ground water modelling showing the pathways of the pollutants should be included
 45. Column leachate study for all types of stockpiles or waste disposal sites, at 20 °C-50 °C should be conducted and included.
 46. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
 47. Permission for the drawl of water from the concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
 48. A note on the impact of drawl of water on the nearby River during lean season.
 49. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
 50. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean river discharge as well as flood occurrence frequency.
 51. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
 52. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
 53. If the water is mixed with solid particulates, proposal for sediment pond before further transport should be included. The sediment pond capacity should be 100 times the transport capacity.
 54. 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.
 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. A note on the treatment, storage and disposal of all type of solid waste should be included. End use of solid waste viz. fly ash etc. and its composition should be covered.
57. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
58. 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.
59. Detailed description of the flora and fauna (terrestrial and aquatic) should be given with special reference to rare, endemic and endangered species.
60. Disaster Management Plan including risk assessment & damage control needs to be addressed and included. Landslide hazard map and mitigation plan, Earthquake history and management plan should be submitted.
61. 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.
62. Plan for the implementation of the recommendations made for the cement plant in the CREP guidelines must be prepared.
63. 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.
64. 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.
65. A note on identification and implementation of Carbon Credit project should be included.
66. Total capital cost and recurring cost/annum for environmental pollution control measures.

67. Public hearing issues raised and commitments made by the project proponent on the same should be included separately in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
68. 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 Rajasthan 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.

- 9.5.10 Application for Environmental Clearance for modification cum expansion form existing 75,000 TPA Integrates Steel Plant and 14 MW Power Plant to 500,000 TPA Integrated Steel Plant and 84 MW Power Plant by **M/s OCL Iron and Steel Limited.**

The Committee noted that the proponent vide letter no.OISL-D/Exp-Env/02 dated 8.6.2013 expressed their inability to attend the meeting and requested to consider in the next EAC meeting. The Committee decided to consider the proposal in the next EAC meeting.

- 9.5.11 Exploratory Drilling of 3 Wells in Andman Offshore NELP VII Block AN-DWN-2005/1 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 has proposed for drilling of exploratory wells (3) in Andman Offshore NELP VII Block AN-DWN-2005/1. The block AN-DWN-2005/1 of Adman basin awarded in NELP is located in deep to ultra deep waters (80 – 1300 m water depth) of Bay Bengal. The area lies east of the ANDman Island in the back of subbasin of Andman. Total block area is 11837 sq. Km. Cost of project is Rs. US \$ 60,000,000. Following is the coordinates of block:

Pt.	Longitude			Latitude		
	Deg.	Min.	Sec.	Deg.	Min.	Sec.
A	93	12	00	11	00	00
B	93	12	00	10	20	00
C	92	50	00	10	20	00
D	92	50	00	09	40	00
E	93	45	00	09	40	00
F	93	45	00	11	00	00
A	93	12	00	11	00	00
O	67	46	18.00	22	29	44.00
A	67	48	34.37	22	35	00.00

Water requirement will be 30 m³/day. Diesel requirement will be 10 KLD. Drilling fluid used for drilling of wells will be recycled and reused to maximum possible extent. Each rig will be provided with 4 Nos. of DG sets (4 x 900 KW) for meeting power requirement.

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.

9.5.12 Development of Jharia CBM Block, Jharkhand 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 has proposed for development of Jharia CBM Block in Jharkhand. Total block area is 84.55 sq. km which includes Sector 'A' measuring 20.873 sq. km, sector 'B' measuring 59.127 sq. km Sector C measuring 3.926 sq. km and Sector 'D' measuring 0.624 sq. km. total cost of project is Rs. 1136 Crore. Total 77 wells will be drilled. The Jharia CBMM block was awarded to ONGC-CIL in January, 2002 and PEL was granted by Govt. of Jharkhand w.e.f 28.08.2003. No forest land will be involved. Water requirement will be 800 m³/well.

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

1. Executive summary of the project.
2. Details of existing land use pattern within the proposed CBM block. (Cropping pattern, forest, agriculture land, wasteland etc, flora and fauna etc.)
3. Details of land acquisition w.r.t. private land, Govt. land, agriculture land, mode of compensation for land losers due to land acquisition and R & R etc.
4. Information regarding eco-sensitive area such as national park/wildlife sanctuary/ biosphere reserves within 10 km radius of project 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 drilling on the surrounding reserve forests, if applicable.
7. Environment clearance for the existing unit issued by the Ministry (reasons, if not obtained), Consent to Operate and Authorization accorded by the JSPCB.
8. Confirmation with documentary support indicating allocation of the Block solely to M/s ONGC.
9. Is the block allocated for mining also? If yes, name of the company.
10. Comprehensive proposal covering surface facilities, pipeline/gas collection system, utilities etc.
11. Design details of all the facilities including CGS, GGS, pipe network, utilities and technology to be used for CBM project.
12. Location of core holes outside the forest area. The well sites shall be selected at more than 1.5 km away from the habitation. Forest and revenue land shall be avoided as far as possible.
13. 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 CBM Field as its centre covering the area of all proposed drilling wells. It includes;
 - (i) Topography of the project site.
 - (ii) Ambient Air Quality monitoring at 10 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 (day and night both) within 1 km radius of the proposed wells.
 - (vii) Vegetation and land use; Animal resources
14. Action plan to control ambient air quality as per NAAQES Standards for PM₁₀, PM_{2.5}, SO₂, CO and NO_x as per GSR 826(E) dated 16th November, 2009.
15. Actual source and 'Permission' for the drawl of water from the concerned authority.
16. Action plan for management of produced water.
17. Details of wastewater treatment method should be included.
18. Reuse of produced water for drinking after treatment / pisciculture / ground water recharge / irrigation / coal washing/power generation etc.
19. Extent and duration of flaring of methane gas during exploration.

20. Analysis of gas w.r.t. H₂S.
 21. Noise monitoring should be carried out at the nearest villages.
 22. Measures to control noise pollution.
 23. Assessment of generation of solid and hazardous waste and its characteristics from the operator.
 24. Proposed measures for treatment and disposal of solid and hazardous waste.
 25. Storage of chemicals at the site, proposed preventive measures for spillage and accidents.
 26. Developing emergency response plan and disaster management plan.
 27. Capping of core holes in case of emergency.
 28. Statistical data of accident occurred so far during CBM exploration.
 29. Identification of hazard prone operations and assess the damage.
 30. The post project closures plan, if the project is not economically viable.
 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. Details of occupational health surveillance programme.
 33. Social impact assessment should be carried out.
 34. Action plan for post-project environmental monitoring.
- 35. 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.
36. 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.
 37. 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 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.

These 'TORs' should be considered for the preparation of EIA / EMP report for development of Jharia CBM Block in Jharkhand by M/s ONGC Ltd. in addition to all the relevant information as per the 'General Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The EIA/EMP as per TORs should be submitted to the Chairman, Jharkhand State Pollution Control Board, (JSPCB) for public consultation. The JSPCB shall conduct the public hearing/public consultation as per the provisions of EIA notification, 2006.

9.5.13 Revamp of INDMAX Unit at Guwahati Refinery, Guwahati **by M/s Indian Oil Corporation 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. All the Petroleum Refinery Plants are listed at S.N. 4(a) under Category 'A' and appraised at the Central level.

M/s Indian Oil Corporation Ltd. has proposed for revamping of INDMAX Unit at Guwahati Refinery, Guwahati. INDMAX is an indigenous technology developed by IOCL R & D for de-sulfurization of Gasoline/Diesel. Product sulfur meets Euro IV/Euro V standards. This is a demonstration unit at IOCL, Guwahati Refinery for production of Gasoline of BS-IV quality by de-sulphurization of Heavy Gasoline from INDMAX Unit. Existing Indmax unit capacity is 0.1 MMTPA. Proposed capacity of Indmax unit will be 0.15 MMTPA. Total plot area of Guwahati Refinery is 490 acres. Land required for the proposed project will be 5200m². No forest land is involved. Total cost of project is Rs 123.1 crore. No court case is pending against the project.

SO_x in combustion flue gas will be removed by scrubbing with caustic & CO₂ would be purged to flare. Source of water supply will be River Brahmaputra. Water requirement for cooling water will be increased from 870m³/hr to 1085 m³/hr after revamp. Effluent generation will be increased from 3.3m³/hr to 3.5 m³/hr. Effluent will be treated in the existing ETP. Power requirement will be increased from 2.5 MWF to 2.6 MHW.

The Committee noted that public hearing for the proposed 'INDAdept' unit project conducted on 10th January, 2013. The Committee exempted the public hearing under 7 (ii) of the EIA Notification, 2006 as there is no significant increase in pollution load.

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

1. Executive summary of the project.
2. Project Description and Project Benefits.
3. Copy of environmental clearance accorded for all the existing projects alongwith point-wise compliance report.
4. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
5. Details of the total land and break-up of the land use for green belt and other uses.
6. List of products alongwith the production capacities.
7. Manufacturing process details alongwith the chemical reactions and process flow diagram for the proposed project.
8. Is there additional storage required for the proposed products mix, if yes details thereof.
9. Baseline data collection for air, water and soil for last one year.
10. Ambient air quality monitoring for PM_{2.5}, PM₁₀, SO₂, NO_x, (methane & non-methane HC) and VOCs.
11. Existing status of stack emission, raw water requirement, treated effluent quantity & quality data, noise pollution and solid waste management in the existing units.
12. Status of stack emission, raw water requirement, treated effluent quantity & quality data, noise pollution and solid waste management after proposed product mix.
13. Details of Sulphur balance in the existing refinery unit.
14. Additional SO₂ emissions due to the proposed product mix.
15. A note on how SO₂ and NO_x will be controlled at the existing level leading to no increase in pollution load.
16. Unit-wise air pollution control devices to be installed. For the proposed units.
17. Source and permission of water supply.
18. Water balance chart for proposed project. Measures for conservation water by recycling and reuse to minimize the fresh water requirement.
19. Detailed solid waste generation, collection, segregation, its recycling and reuse, treatment and disposal.
20. Details of membership of TSDF for hazardous waste disposal.
21. Details of proposed preventive measures for leakages and accident.
22. Environmental Management Plan
23. Risk Assessment & Disaster Management Plan
 - a. Identification of hazards
 - b. Consequence Analysis
 - c. Risk assessment should also include leakages and location near to refinery & proposed measures for risk reduction.
24. Total capital cost and recurring cost/annum for environmental pollution control measures.
25. Environmental Monitoring programme.
26. 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 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.

These 'TORs' should be considered for the preparation of EIA / EMP report for Revamp of INDMAX Unit. in addition to all the relevant information as per the 'General Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The Committee exempted the public hearing under 7 (ii) of the EIA Notification, 2006 as there is no significant increase in pollution load.

9.5.14 Proposed IND Adept Project at Guwahati Refinery IOCL, Assam by **M/s Indian Oil Corporation Ltd.- Environmental Clearance reg.**

The project authorities and their consultant (EIA Project, Gauhati University) 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 34th Meeting of the Expert Appraisal Committee (Industry) held during 13th -14th April 2012 for preparation of EIA/EMP report. All the Petroleum Refinery Plants are listed at S.N. 4(a) under Category 'A' and appraised at the Central level.

M/s Indian Oil Corporation Ltd has proposed to install INDAdapt^G technology (35 TMPTA) at Guwahati Refinery IOCL, Assam. The original crude oil processing capacity of 0.75 MMTPA has been subsequently increased to 1.00 MMTPA. Besides various processing units, Guwahati Refinery has a captive thermal power station (TPS) inside the Refinery that generates and supplies electric power and process steam. TPS consist of two chains of DM plant, boilers (4x20 TPH, 1 x 40 TPH and 2x 50 TPH) as well as TGs (2 x 8 MW) and other (1x 12 MW). Guwahati Refinery is having 74 storage tanks for storing of crude oil, intermediate products and finished product tanks. There are two FPG mounded bullet of 750 m³ capacity each, two LPG Horton sphere of 400 m³ capacity each and two LPG bullet of 100 m³. LPG is dispatched through tank truck lorries. Total cost of project is Rs. 75.00 Crores. In the South bank, the Amchang Wildlife Sanctuary located to the East of the Guwahati Refinery and extending in a South-Easterly direction along the periphery of the 10 Km buffer is the largest patch of natural forest. Reserve Forests namely Khanapara RF, South Amchang RF and Amchang RF are located.

INDAdaptG technology has been developed by Indian Oil R & D for desulphurization of cracked gasoline feed stocks. The technology employs fixed bed low – pressure reactive adsorption process based on proprietary adsorbent for removal of sulphur under hydrogen environment. The process consumes less hydrogen in comparison to other commercial processes and octane loss due to olefins saturation is 2 units, which is comparable with other commercial process like prime G. The SO₂ will removed by scrubbing in the caustic to converted to sulphur through Claus process. The main advantage of INDAdaptG technology is that it can reduce sulphur content in treated gasoline below 10 ppm level with lower consumption (30-40%) of hydrogen in comparison to competitor technology (Prime G). The technology uses low cost proprietary adsorbent developed by Indian Oil R & D. Old redundant KTU will be dismantled. Proposed project will be located in the existing refinery and no additional land is required. Total plot area is 1450 m².

Additionally, PAs informed the Committee that ambient air quality monitoring was carried out at 8 locations during November 2011-February 2012 and submitted data indicates PM₁₀ (24.8-136.2 ug/m³), PM_{2.5} (21.4-82.6 ug/m³), SO₂ (2.1-7.6 ug/m³) and NO₂ (2.6- 14.6 ug/m³). Process emission will be controlled by providing caustic scrubber. Water requirement will be met from River Brahmaputra. Total water requirement will be increased from 500 m³/day to 503 m³/day after expansion. Out of which, fresh water requirement will be increased from 330 m³/hr to 331 m³/hr after expansion. Industrial effluent generation will be increased from 180 m³/hr to 183 m³/hr. Treated effluent (172 m³/hr) will be reused for cooling tower make up and coke cutting water. Effluent (65 m³/hr) will be discharged to River Brahmaputra through a 26 Km long underground pipeline. Oily sludge is generated during the cleaning of crude oil tanks, products storage tanks and regular withdrawal of sludge from API separator bottom will be treated via bioremediation process.

The Committee deliberated upon the issues raised during the Public Hearing / Public Consultation meeting conducted by the Assam Pollution Control Board on 10th January, 2013. The issues raised were regarding no impact on water environment and aquatic animal, emissions of SO₂, project completion time, local employment etc. All the issues have been satisfactorily 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 regional office, Shillong on 9th April, 2013. Ministry vide letter no. J-11011/1/2000-IA II (I) dated 24th April, 2000 has issued environmental clearance to Guwahati Refinery for ISOSIV & INDMAX Units. Ministry vide letter no. J-11011/215/2007-IA II (I) dated 7th February, 2008 has issued environmental clearance to Guwahati Refinery for MS Quality Improvement Project. It is reported that Gaseous emissions for SO₂, NO_x and HC are continuously, monitored by the refinery. Four ambient air quality monitoring stations have been established. One continuous ambient air quality monitoring station has been established. Online stack monitoring equipment have been installed for monitoring for measurement of SO₂, NO_x and HC in INDMAX and other units and same was found to be operational during monitoring. The liquid effluent is treated through physical, chemical and biological process in modernized ETP. At present, 84 % of total effluent is recycled/reused while rest is discharged into River Brahmaputra. Compliance reports seem to be satisfactory.

After deliberations, the Committee desired following additional information:

- i) Map authenticated by wildlife warden indicating Refinery and Amchang Wildlife Sanctuary.
- ii) SO₂ and NO_x emission load (TPD) from the refinery before and after the proposed project.

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

9.5.15 Expansion of Fertilizer Unit at Village Gunjkhedha, Pulgaon Town, Tehsil Deoli, District Wardha in Maharashtra by **M/s BEC Fertilizers (Pulgaon Unit)- 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 fertilizer plant except single super phosphate plant is listed at S.N. 5(a) under category 'A' and appraised at Central level under category 'A' and appraised at Central level.

M/s BEC Fertilizers (Pulgaon Unit) have proposed for expansion of Fertilizer Unit at Village Gunjkhedra, Pulgaon Town, Tehsil Deoli, District Wardha in Maharashtra. Total plot area is 50 acres of which greenbelt will be developed in 16.99 acres. Project cost is Rs. 10.00 Crore. River Wardha is flowing at a distance of 2.7 Km. Following products will be manufactured:

S.N.	Products	Existing CAP (MT PA)	After Expansion (MT PA)
1	Sulphuric Acid	33000	50,000
2 A	Single Super Phosphate	66,000	1,50,000
B	Triple Super Phosphate	-	1,00,000
C	Boronated Single Super Phosphate	-	55,000
3	Granulated Fertilizer (SSP/TSP/NPK/Customized Fert)	60,000	2,00,000

Cyclone separator, multi stage scrubbing system with venturi and spraying towers are installed in SSP plant. Alkali scrubber, demister and mist-eliminators will be provided to acid plant. Water requirement will be increased from 335 m³/day to 536 m³/day after expansion. Power requirement will be increased from 0.75 MW to 1.5 MW and sourced from Maharashtra Electricity Distribution Company Ltd. Turbine generator (955 KVA) is installed. DG sets (1x380 KVA + 1 x 125 KVA) are installed. ETP sludge will be utilized in SSP plant. Catalyst will be sent to authorized recyclers.

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. Promoters and their back ground.
5. Regulatory framework.
6. Environment clearance for the existing unit issued by the Ministry (reasons, if not obtained), Consent to Operate and Authorization accorded by the Chhattisgarh Pollution Control Board.
7. 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.
8. A map indicating location of the project and distance from severely polluted area
9. Project location and plant layout.
10. Infrastructure facilities including power sources.
11. Total cost of the project alongwith total capital cost and recurring cost/annum for environmental pollution control measures.
12. Project site location alongwith site map of 10 km area and site details providing various industries, surface water bodies, forests etc.
13. Present land use based on satellite imagery for the study area of 10 km radius.
14. Location of National Park/Wild life sanctuary/Reserve Forest within 10 km radius of the project.
15. Details of the total land and break-up of the land use for green belt and other uses.

16. List of products alongwith the production capacities and list of solvents and its recovery plan.
17. Detailed list of raw materials required and source, mode of storage and transportation.
18. Manufacturing process details alongwith the chemical reactions and process flow chart of each products.
19. Action plan for the transportation of raw materials and products.
20. Ambient air quality monitoring at 6 locations within the study area of 10 km., aerial coverage from project site as per NAAQES notified on 16th September, 2009. Location of one AAQMS in downwind direction.
21. 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, CO, NH₃, Fluoride, Benzene including VOCs should be collected. The monitoring stations should take into account the predominant wind direction, population zone and sensitive receptors including reserved forests. Data for surface and ground water and noise monitoring should also be included.
22. Air pollution control measures proposed for the effective control of gaseous emissions within permissible limits. Control of fluorine emissions at source.
23. 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.
24. Details of water and air pollution and its mitigation plan.
25. Action plan to control ambient air quality as per NAAQES Standards notified by the Ministry on 16th September, 2009.
26. 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.
27. Details of water requirement for the proposed and expansion project. Water balance chart including water intake, effluent generated, recycled and reused and discharged is to be provided.
28. Reduce fresh water requirement. Methods adopted/to be adopted for the water conservation should be included.
29. Source and 'Permission' for the drawl of proposed water from the Competent authority.
30. Design details of the ETP and STP as well as air pollution control equipments (Bag filters/ wet scrubber etc.).
31. Action plan for Zero Discharge of effluent as proposed should be included.
32. Ground water 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).
33. Baseline data for fluoride levels in surface water, ground water, soil in and around plant site.
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 disposal 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. Plan for the implementation of the recommendations made for the fertilizer plants in the CREP guidelines must be prepared and included.
37. Action plan for regular monitoring of worker and population for fluoride in the working area and population within 1 Km.
38. Details of captive landfill alongwith design details as per CPCB guidelines. Location of secured land fill/TSDF.
39. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.

40. An action plan to develop green belt in 33 % area
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 should 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 should be provided.
46. EMP should include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
- 47. 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.
48. 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.
49. 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 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.

These 'TORs' should be considered for the preparation of EIA / EMP report for Expansion of Fertilizer Unit. in addition to all the relevant information as per the 'General Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The EIA/EMP as per TORs should be submitted to the Chairman, Maharashtra Pollution Control Board, (MPCB) for public consultation. The MPCB shall conduct the public hearing/public consultation as per the provisions of EIA notification, 2006.

9.5.16 Agrochemical Manufacturing Unit (4000 MTPA) at Plot No. Z-12/1 (SEZ-Part-1), Survey No. : 402/p, 407/p, 486/p, 487/p, 488, 489, 490, 491, 492/p, Dahej SEZ Bharuch, Gujarat by **M/s Indofil Industries Limited - 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. All units producing technical grade pesticides are listed at S.N. 5(b) under category 'A' and appraised at Central level.

M/s Indofil Industries Limited have proposed for setting up of Agrochemical Manufacturing Unit (4000 MTPA) at Plot No. Z-12/1 (SEZ-Part-1), Survey No. : 402/p, 407/p, 486/p, 487/p, 488, 489, 490, 491, 492/p, Dahej SEZ Bharuch, Gujarat. Total plot area is 50,000m² of which greenbelt will be developed in 16500m². No forest land is involved. No court case/litigation is pending against the project. Total cast of project is Rs.90 Crore. No National Park/Reserved forest is located within 10 km of the project site. Following product will be manufacturing:-

S.N.	Product	Quantity (MTPA)
A.	All or some of these products shall be produced simultaneously.	
1.	Tricyclazole and / or its intermediates: HMBT	1000
2.	Myclobutanil	135
3.	Metalaxyl	125
4.	Cymoxanil	300
5.	Dodine	150
6.	Hexaconazole	200
7.	Propiconazole	300
8.	Propargite	400
9.	Difenturon	200
10.	Tebuconazole	300
11.	Difenconazole	200
12.	Thifluzamide	200
13.	Bispyribac	65
	Sub Total of These above 13 Products	3,575
B.	Out of following 10 products, only 1 product shall be made at a time	Quantity (MTPA)
14.	Thiamethoxam	
15.	Epoxyconazole	
16.	Prothioconazole	

17.	Fluazinam	225
18.	Azoxystrobin	
19.	Pyraclostrobin	
20.	Boscalid	
21.	Cyazofamid	
22.	Penconazole	
23.	Cyproconazole	
	Sub Total (B) of these above 10 Product	225
C.	Out of following 5 products , Only 1 product shall be made at a time	Quantity (MTPA)
24.	Spirodiclofen	200
25.	Spiromesifen	
26.	Tolfenpyrod	
27.	Clodinfop	
28.	Pretilachlor	
C	Sub Total (C) of these above 5 Products	200
	Grand Total (A+B+C)	4,000

B) PRODUCTION CAPACITY OF FORMULATION PRODUCTS:10,000 (MTPA)

- a. Powder Formulation-8000 TPA
- b. Liquid Formulation-2000 TPA

S.N.	By- Product	Quantity	Disposal
1	Spent Sulphuric Acid	2 MTPM	Collection, storage and sold to end users
2	Aq.Hydrochloric Acid	120 MTPM	
3	Aq. Sodium Bromide (conc.: 17%)	150 MTPM	
4	Aq.Potassium Bromide (cono.:16% to 29%)	175 MTPM	
5	Aq.Hydrobromic Acid (conc.:30%)	50 MTPM	
6	Formic Acid (conc.:50%)	100 MTPM	
7	Aq.NaSH(conc.:20% to 25%)	25 MTPM	
8	Aq Sodium Sulphite	50 MTPM	

Total water requirement will be 928m³/day. Out of which fresh water requirement from GIDC water supply will be 415 m³/day. Balance will be from recycled water. Effluent generation will be 268 m³/day. Which will be segregated into High COD and low COD effluent streams. Low COD will be treated in ETP followed by RO. Treated effluent will be recycled/ reused in process. High COD effluent stream will be passed through stripper followed by MEE and ATFD. Stripped gas will be incinerated. Water scrubber followed by alkali scrubber connected to alkali venture scrubber will be provided to control process emissions. Coal fired boiler, NG/FO fired thermopark unit, DG Set (2 X 500 KVA) and incinerator (2 Nos) will be installed. Coal (100 TPD), HSD(110 LPH) and Natural gas (100m³/hr) will be consumed as fuel.

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 Gujarat indicating location of the project in notified SEZ should be included necessarily.
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 photographs and 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, Br₂ 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, if any alongwith control of Dioxin & Furan, boiler, scrubbers/bag filters etc.
22. Details of water and air pollution and its mitigation plan
23. An action plan to control and monitor secondary fugitive emissions from all the sources.
24. Action plan for odour assessment and control to be submitted.
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 quantity of fresh water requirement. Water balance chart including quantity of effluent generated recycled and reused and discharged.
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. Action plan for the management of fly ash generated from boiler should be included.

30. Precautions to be taken during storage and transportation of hazardous chemicals should be clearly mentioned and incorporated.
31. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they will utilize all the organic solid waste generated.
32. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF.
33. Risk assessment for storage of chemicals/solvents. Risk assessment for Cyanide.
34. Material safety data sheet to be submitted. CAS No./RTECS No./DOT/UN etc to be mentioned against each chemical.
35. An action plan to develop green belt in 33 % area. Layout map indicating greenbelt to be submitted.
36. 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.
37. 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.
38. Details of occupational health surveillance programme.
39. Socio-economic development activities shall be in place.
40. Note on compliance to the recommendations mentioned in the CREP guidelines.
41. 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. Toxic substance monitoring plan.
42. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
43. Total capital cost and recurring cost/annum for environmental pollution control measures.
- 44. 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.
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. 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. Project proponent informed that unit is located in Dahej SEZ Ltd. Environmental clearance was granted to Dahej SEZ Ltd. vide MoEF's letter no. 21-1084/2007-IA.III dated 17th March, 2010. Public hearing of SEZ was conducted on 17th August, 2007. 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.

9.5.17 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**

The project authorities and their consultant (Asian Consulting Engineers Pvt. Ltd.) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken. 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.

TOR was awarded by the Ministry vide letter no. J-11011/70/2011-IA II(I) dated 29th March, 2011 for additional exploratory drilling in 27 wells in KG Offshore block. Environmental clearance was granted to ONGC on 4th September, 2012 for 7 wells. Now, M/s Oil and Natural Gas Corporation Ltd. (ONGCL) have proposed for Additional Exploratory Drilling of 20 Wells in KG Offshore (IA, IB & IG, IE and IF) Block in Andhra Pradesh. Block area is 820.5 sq. Km. The cost of project is Rs. 2150 Crore. Well will be drilled upto depth of 1800 – 5300 m. the block IA awarded to ONGC falls in the Bay of Bengal off the East Coast of India in East Godavari and West Godavari District in Andhra Pradesh. It is shallow water block with water depth varying between 0 and 10 m. In block IE, water depth varies from 0 and 190 m. IB and IG blocks are located into shallow water to deep water offshore region. Proposed well coordinates are as given below:

S.N.	Proposed Well Locations	Longitude			Latitude			Distance from Coastline (in KM)
		Deg	Min	Sec.	Deg.	Min	Sec.	
1	IA1	16	16	54.90	81	44	03.99	3.4
2	IA2	16	17	52.44	81	41	53.44	1.7

3	IA3	16	17	32.29	81	43	17.50	2
4	IE1	16	39	08.48	82	22	52.56	10.5
5	IE2	16	34	17.88	82	20	19.10	4.4
6	IE3	16	34	18.48	82	24	13.41	12.0
7	IF1	16	23	14.34	82	01	21.22	4.7
8	IF2	16	20	37.20	82	02	28.91	10
9	IF3	16	26	09.34	82	03	42.03	2.2
10	IF4	16	22	13.87	82	02	26.33	7.35
11	IF5	16	16	30.12	81	52	39.65	11
12	IB1	16	27	43.73	82	21	59.94	16.0
13	IB2	16	30	37.44	82	21	45.95	11.5
14	IB3	16	30	35.29	82	24	32.94	16.0
15	IB4	16	28	48.14	82	22	59.46	15.5
16	IG1	16	33	28.30	82	28	20.82	21.0
17	IG2	16	30	52.96	82	27	23.32	20.0
18	IG3	16	32	33.60	82	26	48.26	18.0
19	IG4	16	34	54.33	82	25	26.89	13.0
20	IG5	16	36	35.39	82	26	21.85	13.0

DG sets will be operated during the drilling period. Gas will be flared during testing of wells. Sewage will be treated on –board rig as per MARPOL regulations. Residual chlorine of treated sewage shall not exceed 1 mg/L before disposal. Oil trap will be provided on the board to trap oil water before disposing to sea. Water based mud/synthetic based mud will be recycled to the maximum extent. Unusable will be recycled at the maximum extent. Unusable portion of WBM/SBM will be discharged offshore into sea intermittently at an average rate of 50 bbl/hr/well from platform so as to have proper dilution and dispersion without any adverse impact on marine environment. Now, the Committee recommended the extension of validity of TOR and decided that the project may be placed before the EAC after following information is submitted by the project proponent:

- 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.

9.6.0 Any Other Item

9.6.1 Expansion of Submerged Arc Furnace from 2x16.5 MVA to 4x16.5 MVA and Ferrochrome from 59,400 TPA to 1,20,000 TPA at Village Ananthapur, Tehsil Athagarh, District Cuttack, Odisha by **M/s T.S. Alloys Limited-regarding extension of validity of TORs**

Terms of Reference (ToRs) to the above proposal was accorded by MoEF vide letter no. J-11011/43/2011-IA II (I) dated 13.4.2011. The Project Proponent (PP) vide letter No. TSAL/MD/002/13 dated 17.1.2013 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/EMP report was prepared and submitted to Odisha Pollution Control Board on 13.7.2011 for conducting Public Hearing.

- ii. Public Hearing was scheduled on 30.3.2012, but could not be conducted due to some unavoidable reasons.
- iii. Public Hearing was rescheduled and supposed to be held on 10.11.2012. The rescheduled Public Hearing could not be conducted due to some unavoidable reasons.
- iv. Public Hearing was again rescheduled and conducted successfully on 30.3.2013 within the validity period of ToR.

Further, the proponent submitted that the final EIA/EMP report was submitted to the Ministry on 30.5.2013. However, the ToRs prescribed to M/s T.S. Alloys Limited is valid for a period of two years only i.e up to 12.4.2013 for submission of the EIA/EMP report including public hearing proceedings.

After detailed deliberations, the committee recommended for the extension of validity of TOR for a period of one year with effect from 12.4.2013.

9.6.2 Expansion of Cement Plant (1.5 MTPA to 3.0 MTPA), with Captive Thermal Plant (50 MW) and Five Captive Limestone Mines (1012.08 Ha) and Residential Colony at Village Bahrat, Tehsil Mandrael, District Karauli Rajasthan **by M/s J.K Cement Ltd- regarding extension of validity of TORs.**

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

9.6.3 Proposed Greenfield Steel Plant at Village Baigatola, Nawagaon, Kakrailm Mahubabhata & Baghera Tehsil & District Rajanandgaon in Chhattisgarh by **M/s Godavari Power & Ispat Limited- regarding extension of validity of TORs.**

Terms of Reference (ToRs) to the above proposal was accorded by MoEF vide letter no. J-11011/58/2011-IA II (I) dated 13.4.2011. The Project Proponent (PP) vide letter No. B-10/13/183 dated 2.3.2013 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. PP is yet to obtain the complete possession of the land (563.43 acres) as the application for allotment of 433.53 acres of private land is pending with the State Investment Promotion Board, Government of Chhattisgarh
- ii. Firm coal linkage for the DRI unit and Captive Power Plant is yet to be obtained by the PP as the application for the same is pending with the Ministry of Coal
- iii. PP is yet to obtain the permission for water drawl as the proposal for water allocation is under active consideration by the Water Resources Department, Government of Chhattisgarh

After detailed deliberations, the committee recommended for the extension of validity of TOR for a period of one year with effect from 12.4.2013.

9.6.4 Proposed 60 TPD stand alone clinker grinding unit by M/s Cement Industries at Plot No. G-96-97, RIICO Industrial Area, Deeg, Tehsil Deeg, District Bharatpur in Rajasthan **by M/s Jai Cement Industries - regarding amendment in ToRs**

Terms of Reference (ToRs) to the above proposal was accorded by MoEF vide letter no. J-11011/269/2012-IA II (I) dated 25.2.2013 along with a stipulation of condition that the Project Proponent (PP) shall conduct the Public Hearing. The PP vide letter No. Nil dated

16.1.2013 and 21.2.2013 requested MoEF for exemption from conducting Public Hearing as the project site under consideration falls under the Rajasthan State Industrial Development and Investment Corporation (RIICO) area. The PP also made a presentation before the Committee.

The PP submitted a certificate and layout plan obtained from RIICO on 9.1.2013 in which plot no G-96-97, industrial area deeg (Government land of 15.82 Ha) was allotted to M/s. Jai Cement Industries. It is mentioned in the certificate that the possession of the land was obtained from revenue authorities on 26.10.1978. Further, the PP informed the Committee that no gazette notification of the State Government is available declaring the area under consideration as a notified industrial area.

After detailed deliberations, the committee recommended that the proposal may be exempted from conducting Public Hearing.

9.6.5 Integrated Steel Plant (6.0 MTPA) and Captive Power Plant (1,000 MW) at Balkudra, Pataru, Hazaribagh, Jharkhand by **M/s Jindal Steel & Power Limited - regarding amendment in Environmental Clearance in respect of CSR Expenditure.**

Environmental Clearance (EC) to the above proposal was accorded by MoEF vide letter no. J-11011/77/2007-IA II (I) dated 22.9.2008. Thereafter, the EC was amended on 1.3.2012 for the capacity of the Captive Power Plant from 1320 MW (2x660 MW) to 1000 MW. As per the EC amendment letter issued on 1.3.2012, it was stipulated that 5% of the total project cost shall be earmarked towards enterprise social commitment. The Project Proponent (PP) vide letter No. Nil dated 18.2.2013 requested MoEF for amendment in the EC in respect of CSR expenditure.

The committee observed that cost earmarked towards enterprise social commitment (ESC) based on local needs is entirely different from the expenditure towards the Corporate Social Responsibility (CSR). After detailed deliberations, the Committee recommended that the condition may be reviewed by the Ministry in respect of expenditure earmarked towards ESC.

9.6.6 Expansion of the Cement Plant (Cement 0.8 MTPA to 2.85 MTPA; Clinker 0.8 MTPA to 2.00 MTPA) and installation of Captive Power Plant (1x18 MW) at Village Shripatnagar, Tehsil Mavli, District Udaipur, Rajasthan by **M/s Udaipur Cement Works Ltd. – regarding extension of validity of Environmental clearance.**

Environmental Clearance (EC) to the above proposal was accorded by MoEF vide letter no. J-11011/807/2007-IA II (I) dated 9.1.2008. The Project Proponent (PP) vide letter No. UCWL/EC/2008 dated 12.6.2012 and subsequent communication no. UCWL/EC/2008-2012 dated 18.9.2012 requested MoEF for extension of validity of EC. The PP also made a presentation before the Committee.

It was submitted by the proponent following are the progress made in the implementation of the project:

- i. Cement grinding section of the project is almost ready for commissioning by end of June 2013.
- ii. Work on kiln sections and power plant is yet to be started for which design/engineering is under progress.

It was submitted by the proponent that the proposed project could not be established within validity period of the granted Environmental Clearance mainly because of:-

- i. Application was given to the Board for Industrial and Financial Reconstruction (BIFR) for their approval on 29.12.2008.
- ii. Final approval of BIFR was granted after four years vide letter no. 381/2012 dated 16.1.2012. After the approval of BIFR, the actual work on the project was started on September 2012.

After detailed deliberations, the committee recommended for the extension of validity of EC by a period of five years with effect from 8.1.2013 subject to environmental safeguards.

9.6.7 Expansion of Alumina Refinery Plant (1.0 MTPA to 1.5 MTPA) and Captive Power Plant (75 MW to 90 MW) at village Kansariguda, District Rayagada in Odisha by **M/s Aditya Aluminium (A Division of Hindalco Industries Limited) - regarding ToRs**

Terms of Reference (ToRs) for the aforesaid proposal was accorded by MoEF vide F.No.J-11011/983/2008-IA.II(I) dated 5.3.2009. The proponent vide letter no. IR/AAP/ENV/1241 dated 27.2.2013 and subsequent communication dated 30.5.2013 requested MoEF for extension of validity of ToR for additional two years (or) approval of fresh ToR. The proponent also enclosed the revised Form I and Pre-feasibility project report.

The Committee noted that as per the Ministry's O.M. No. J-11011/41/2006-IA.II(I) dated 22.3.2010, the validity of the aforesaid ToR was expired on 4.3.2013. As the maximum validity of the ToR was expired, the Committee considered the proposal for fresh award of ToR.

M/s Aditya Aluminium (A Division of Hindalco Industries Limited) have proposed for the expansion of Alumina Refinery Plant (1.0 MTPA to 1.5 MTPA) and Captive Power Plant (75 MW to 90 MW) at Village Kansariguda, Tehsil Kashipur, District Rayagada, Odisha. The latitude and longitude of the project site is 19° 07' 30" N and 83° 05' 00"E respectively. Environmental clearance for the existing plant was accorded by MoEF vide letter no. J-11011/141/2004/IA-II(I) dated 16.3.2006. Total project area is 866.88 ha. The proponent has already acquired the area of 694.197 Ha and balance land of 172.683 ha to be acquired. Out of 172.683 ha, Forest land (49.899 ha) 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. Lakshmipur Alias Nalachuan RF (8.6 km SSE), Kendri Padar RF (2.0 km E), Leliguma RF (7.9 km NE), Titigurha RF (2.9 km. NE), Chambi RF(7.6 km SW), Karinga PF (1.2 km S), Rayaslli PF (9.9 km S), Sargighati PF (4.4 km, E), Dhamanagansa PF(7.9 km E), Kutli PF (7.6 km E), Barigumap PF(4.2 km E), Shankarah PF (5.4 km NE), Balikharha PF(8.4 km NE), Masimandi PF(4.9 km NW) are located within 10 km radius of the project site. The water bodies exists in the study area are – Jhanjabadi nadi (9.9 km S), Barha nadi (7.4 km NE), Gundargarha Nala (9.1km NNW) and Patagarha Nala (4.9 km W). Total cost of the project is Rs. 6,724.27 Crores. Rs. 150.00 Crores and Rs. 15.00 Crores will be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.

Bauxite (45,00,000 MTPA) from Kodingamali mine, caustic soda (68,000 MTPA, Import), Lime (70% Cao), coal (1,020,000 MTPA from Ib valley Collieries), Synthetic Flocculant (400 MTPA, Import) will be used as raw material. Caustic lye will be transported from Vizag. PAs informed to the Committee that bauxite mine is a captive mine for which Environmental Clearance have been accorded by the Ministry vide letter no. J-11015/439/2007-IA.II(M) dated 28.5.2008. Ore from the captive mine will be transported by the conveyor belts to the plan site.

Electrostatic precipitator (ESPs) will be provided to control emissions from calciner plant and Co-generation plant. Bag filters will be provided to control fugitive emissions from transfer points of conveyors for Bauxite, coal, alumina and lime. Bag filters and scrubbers will be provided in Lime handling area. Dust suppression by water sprinklers will be provided in Coal and Bauxite handling area. Total water requirement from Pathagarha River will be 25,500 m³/day. The alkaline effluents are neutralized and recycled in the process. All the acidic effluents will be sent to the equalization tank. Blow down water will be reused for dust suppression.

Thickened red mud (260 TPH) will be sent to the red mud pond at RP Guda village at a distance of 3km from plant site through thickened slurry disposal system and alkaline water recycled. Life of the red mud pond will be 23 years. Red mud will be dry stacked and red mud disposal pond will be properly lined to prevent ground water contamination. The coal ash slurry (507 TPH) will be dumped in ash pond at Singaram & Biriguda village at a distance of 2.5 km and water recycled back. Life of the ash pond is 9 years. The sludge from the process tank cleaning will be dumped in Red Mud pond. Used oil, grease and batteries will be provided to 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. Photographs of the existing and proposed plant area
3. Compliance to the conditions stipulated in the Environmental Clearance /CTE/CTO 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. Process Flow sheet and EMP
10. Documentary proof of coal linkage and fuel supply.
11. Copy of agreement for land acquisition signed with land oustees.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
 17. Coordinates of the plant site as well as ash pond with topo sheet co-ordinates of the plant site as well as ash pond with topo sheet should also be included.
 18. Details and classification of total land (identified and acquired) should be included.
 19. Rehabilitation & Resettlement (R & R) should be as per policy of the State Govt. and a detailed action plan should be included.
 20. Permission from the tribals, if tribal land has also to be acquired along with details of the compensation plan.
 21. Permission and approval for the use of forest land, if any, and recommendations of the State Forest Department. .
 22. A list of industries containing name and type in 25 km radius should be incorporated.
 23. Residential colony should be located in upwind direction.
 24. 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".
 25. Petrological and Chemical analysis and other chemical properties of raw materials used (with GPS location of source of raw material) i.e. ores, minerals, rock, soil, coal, iron, dolomite quartz etc. using high definition and precision instruments mentioning their detection range and methodology such Digital Analyzers, AAS with Graphite furnace, ICPMS, MICRO-WDXRF, EPMA, XRD, Nano studies or at least as per I30-10500 and WHO norms. These analysis should include trace element and metal studies like Cr (vi) Ni, Fe, As, Pb, Zn, Hg, Se, S etc. Presence of radioactive elements (U, Th etc.), if applicable, should also be included..
 26. Petrography, grain size analysis and Major element analysis of raw material and soil from project site and raw material should be done on the same parameters along with analysis for SiO₂, Al₂O₃, MgO, MnO, K₂O, CaO, FeO, Fe₂O₃, P₂O₅, H₂O, CO₂.
 27. 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.
 28. Action plan for excavation and muck disposal during construction phase.
 29. Studies for fly ash, muck, slurry, sludge material disposal and solid waste generated, if the raw materials used has trace elements and a management plan should also be included.
 30. Manufacturing process details for all the plants should be included.
 31. Mass balance for the raw material and products should be included.
 32. Energy balance data for all the components of alumina refinery including proposed power plant should be incorporated.
 33. Site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
 34. Data generated in the last three years i.e. air, water, raw material properties and analysis (major, trace and heavy metals), ground water table, seismic history, flood hazard history etc.
 35. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) should be collected. The monitoring stations should take into account

- the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
36. Ambient air quality at 8 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
 37. The suspended particulate matter present in the ambient air must be analyzed for the presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction. Chemical characterization of RSPM and incorporating of RSPM data.
 38. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features.
 39. Air quality modelling for alumina refinery for specific pollutants needs to be done. APCS for the control of emissions from the kiln and WHRB should also be included to control emissions within 50 mg/Nm³.
 40. 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.
 41. Ambient air quality monitoring 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.
 42. A plan for the utilization of waste/fuel gases in the WHRB for generating power have to be set out.
 43. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided. The alternate method of raw material and end product transportation should also be studied and details included.
 44. One season data for gaseous emissions other than monsoon season is necessary.
 45. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
 46. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer should be included.
 47. Source of surface/ground water level, site (GPS), cation, anion (Ion Chromatograph), metal trace element (as above) chemical analysis for water to be used. If surface water is used from river, rainfall, discharge rate, quantity,

- drainage and distance from project site should also be included. Information regarding surface hydrology and water regime should be included.
48. Ground water analysis with bore well data, litho-logs, drawdown and recovery tests to quantify the area and volume of aquifer and its management.
 49. Ground water modelling showing the pathways of the pollutants should be included
 50. Column leachate study for all types of stockpiles or waste disposal sites at 20°C-50°C should be conducted and included.
 51. Action plan for rainwater harvesting measures at plant site should be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.
 52. Permission for the drawl of water from the State Irrigation Department or concerned authority and water balance data including quantity of effluent generated, recycled and reused and discharged is to be provided. Methods adopted/to be adopted for the water conservation should be included.
 53. A note on the impact of drawl of water on the nearby River during lean season.
 54. Surface water quality of nearby River (60 m upstream and downstream) and other surface drains at eight locations must be ascertained.
 55. If the site is within 10 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean River discharge as well as flood occurrence frequency.
 56. A note on treatment of wastewater from different plants, recycle and reuse for different purposes should be included.
 57. Provision of traps and treatment plants are to be made, if water is getting mixed with oil, grease and cleaning agents.
 58. 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.
 59. Wastewater characteristics (heavy metals, anions and cations, trace metals, PAH) from any other source should be included.
 60. 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.
 61. 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.
 62. Action plan for solid/hazardous waste generation, storage, utilization and disposal particularly slag from all the sources, char and fly ash. Copies of MOU regarding utilization of ash should also be included.
 63. Details of evacuation of ash, details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. need to be addressed.
 64. A note on the treatment, storage and disposal of all type of solid waste should be included. Identification and details of land to be used for red mud/ coal ash disposal should be included. Details of secured land fill as per CPCB guidelines should also be included. R&D plan to explore use of Red Mud may be submitted.
 65. End use of solid waste and its composition should be covered. Toxic metal content in the waste material and its composition should also be incorporated particularly of red mud.
 66. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.

67. 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.
68. Primary fresh data on flora and fauna (terrestrial and aquatic) exists in the study area should be given with special reference to rare, endemic and endangered species.
69. Disaster Management Plan including risk assessment and damage control needs to be addressed and included.
70. 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.
71. 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
72. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
73. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure needs to be constructed and the agency responsible for the same with time frame.
74. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures should be included.
75. 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. 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 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 reports along with Public Hearing Proceedings.

9.6.8 Applicability of EIA Notification, 2006 for establishment of Cold Roll Mill, galvanized, Zinc – Al alloy coated products – **Clarifications regarding**

A. *Proposal of Expansion of Cold Rolling Mill from 0.3 MTPA to 0.8 MTPA capacity at Bara Village Jamshedpur, District East Singhbhum, Jharkhand by M/s Tata Steel Ltd.*

The aforesaid proposal was considered in the 8th meeting of the Reconstituted Expert Appraisal Committee held during 16-17th May, 2013 wherein the Committee deliberated on the technical aspects of the Cold Roll Mill. The Committee decided to further reconsider the proposal in the next EAC meeting without calling the project proponent. Accordingly, the

proposal was reconsidered by the REAC. After detailed discussions, the Committee recommended the following:-

- i. All stand-alone Cold Roll Mills fall under Category 'B', schedule 3(a) of the EIA Notification, 2006 and require environmental clearance.
- ii. All Cold Roll Mills which are part of the Integrated Steel Plant under Category 'A', schedule 3(a) of the EIA Notification, 2006 require environmental clearance.

B. Cold Roll Milling and Coating Complex for production of 0.6 million tonnes cold rolled, galvanized, Zinc-Al alloy coated products as well as color coated products by M/s Asian Color Coated Private Limited

The aforesaid proposal was considered in the 8th meeting of the Reconstituted Expert Appraisal Committee held during 16-17th May, 2013 wherein the Committee deliberated on the technical aspects of the Cold Roll Milling and Coating Complex. The Committee decided to further reconsider the proposal in the next EAC meeting without calling the project proponent. After detailed discussions, the Committee recommended the following:-

- i. All stand-alone Cold Roll Milling and Coating Complex fall under Category 'B', schedule 3(a) of the EIA Notification, 2006 and require environmental clearance.

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
f	Dr. Prem Shankar Dubey	Member	P
5.	Dr. R.M. Mathur	Member	P
6.	Dr. S. K. Dave	Member	P
7.	Dr. B.Sengupta	Member	P
8.	Shri Rajat Roy Choudhary	Member	A
9.	Dr. S.D. Attri	Member	P
10.	Dr. Antony Gnanamuthu	Member	A
11.	Prof. C. S. Dubey	Member	P
12.	Shri Niranjana Raghunath Raje	Member	P
MOEF Officials :			
13.	Dr. V.P.Upadhyay	Member Secretary	
14.	Shri A.N. Singh	Scientist 'C' (10 th June, 2013)	
15.	Shri Sundar Ramanathan	Scientist 'C' (11 th June, 2013)	
