

**MINUTES FOR 10th EXPERT APPRAISAL COMMITTEE (INDUSTRY-2) MEETING HELD
DURING 11th July, 2016**

VENUE: Bharamputra, First Floor, Vayu Wing At Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan Aliganj, Jorbagh Road, New Delhi -110003.

Time : Meeting to be held at 10: 00 AM

10.1 Opening Remarks of the Chairman

Time : 10: 00 - 10: 15 AM

11th July, 2016

1st Session: Time: 10.15 AM

10.2 Terms of Reference (TOR)

10.2.1 Ammonia-Urea Fertilizer Project (Ammonia-2200 MTPD; Urea 3850 MTPD) at Tehsil Gorakhpur, District Gorakhpur, Uttar Pradesh by M/s Fertilizer Corporation of India Limited (FCIL) – reg TOR.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Term of References for the preparation of EIA-EMP. All Chemical Fertilizer units are listed at S.N. 5(a) under category 'A' and appraised at Central level.

M/s Fertilizer Corporation of India Limited (FCIL) has proposed for setting up of new Ammonia-Urea Fertilizer Manufacturing Complex within the existing site of FCIL Gorakhpur at Tehsil Gorakhpur, District Gorakhpur, Uttar Pradesh. It was informed that operation of existing fertilizer unit was stopped in the year 2002. Now, it has been decided to revive the closed unit of Gorkhpur plant by establishing entire new plant.

It is reported that no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance. Bangin PF is situated at a distance of 2.5 km and Hitilkonia RF is situated at a distance of 8.5 km from the project site. Rohin River is flowing at a distance of 3.2 km and Rapti River is flowing at a distance of 8 km from the project site respectively.

Total plot area is 842 acres. Total cost of the project is Rs. 5458 Crores. The proposed project has an employment potential of 1960 person on directly and indirectly basis. Plant will work on 330 day/ annum. Feed stock will be natural gas. Following are the details of proposed products:

Details of the proposed production capacity

S. No.	Product	Capacity (MTPD)
1	Urea	2,200
2	Ammonia	3,850

Time schedule for completion of the plant will be 36 months.

Following are the details of storage facilities:

S. No.	Facility	Capacity
1	Ammonia Storage (Atm.)	(2x5000) MT
2	Silo	60000 MT
3	Empty Bag Storage	2.0 Million
4	Bagged Storage	1000 MT
5	Bagging Plant	(7+1) Slats of 60 MTPH each

The total requirement of raw water for the complex is envisaged to be around 30,360 m³/day. Water requirement will be made available from Chilwa Tal (lake) through pipeline. Chilwa Tal is connected by River rohini and Rapti. Wastewater will be treated in own ETP. PP informed that treated effluent will be recycled/reused within plant premises and Zero effluent discharge (ZLD) concept will be followed. PP also informed that location of prilling tower will be fixed considering the least impact on the surrounding and water reservoir.

Natural gas of 2.2 MMSCMD quantities will be used and sourced through Jagdishpur-Phulhpur-Haldia pipeline. Power requirement will be 25 MW and will be sourced from GTG/STG. GTG and STG will be installed to generate 15 MW and 10 MW power respectively. D.G. Set of capacity 2000 kVA will be installed. Now it is proposed to install GTG-HRSG which will operate on Co-Generation Cycle where almost 90% of Fuel RLNG is fired in GTG and its Exhaust Hot Flue Gas Generates Steam in the Heat Recovery Steam Generator (HRSG). PP did not mention the area covered as green belt. Committee suggested for developing 33 % area as greenbelt in periphery. Spent Catalyst, used Oil etc. shall be sold to authorized vendors. The Committee noted that PP has not prepared DPR for the project and work for its preparation to be awarded.

After detailed deliberations, the Committee prescribed the following Specific and Additional TOR in addition to Generic TOR provided at Annexure-I (Refer Ministry's website) for preparation of EIA-EMP report:

A. Specific TOR

1. Details on requirement of energy and water alongwith its source and authorization from the concerned department.
2. Energy conservation in ammonia synthesis for urea production and comparison with best technology.
3. Details of ammonia storage and risk assessment thereof.
4. Measures for control of urea dust emissions from prilling tower.
5. Measures for reduction of fresh water requirement.
6. Details of proposed source-specific pollution control schemes and equipments to meet the national standards for fertilizer.
7. Management plan for solid/hazardous waste including storage, utilization and disposal of bye products viz., spent catalyst etc.
8. Details on existing ambient air quality for PM10, PM2.5, Urea dust*, NH₃*, SO₂*, NO_x*, HF*, F*, Hydrocarbon (Methane and Non-Methane) etc., and expected, stack and fugitive emissions and evaluation of the adequacy of the proposed

pollution control devices to meet standards for point sources and to meet AAQ standards. (*as applicable).

9. Details on water quality parameters in and around study area such as pH, Total Kjeldhal Nitrogen, Free Ammonical Nitrogen, free ammonia, Cyanide, Vanadium, Arsenic, Suspended Solids, Oil and Grease, *Cr as Cr⁺⁶, *Total Chromium, Fluoride, etc.

B. Additional TOR

- I. 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.
- II. Ambient air quality monitoring shall be done for all 12 parameters.
- III. Layout map indicating existing greenbelt and proposed greenbelt with different colour and details (in ha./m²). Green belt should be developed around periphery of the proposed fertilizer plant having atleast width of 30 m.
- IV. Number of existing trees to be cut.
- V. List of items in plant configuration indicating new and old to be utilized.
- VI. Efforts shall be made to bring down the water consumption upto 6 m³ per MT of urea production. Detailed plan for water conservation including reuse and recycling.
- VII. As agreed, Effluent management scheme based on zero effluent discharge concepts.
- VIII. Energy should be conserved by providing solar power unit for lighting of administrative building and street lighting.
- IX. Traffic management plan for transfer of raw materials as well as despatch of products.
- X. Action plan for disposal of existing stored hazardous waste e.g. chromium sludge etc, if any.
- XI. Management of construction and demolition waste generated from the existing unit as per Municipal Solid Waste Management Rules (SWM), 2016 and Hazardous Waste Management Rules, 2016.

It was recommended that '**TORs' along with Public Hearing** 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 State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

10.2.2 Ammonia-Urea Fertilizer Manufacturing Complex (Ammonia-2200 MTPD; Urea 3850 MTPD) at FCIL Sindri at Teshsil Jharia-Cum-Jorapokhar-Cum-Sindri, District Dhanbad, Jharkhand by M/s Fertilizer Corporation of India Limited (FCIL) – reg TOR.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Term of References for the preparation of EIA-EMP. All Chemical Fertilizer units are listed at S.N. 5(a) under category 'A' and appraised at Central level.

M/s Fertilizer Corporation of India Limited (FCIL) has proposed for setting up of a new Ammonia-Urea Fertilizer Manufacturing Complex at the existing site of FCIL Sindri at Teshsil Jharia-Cum-Jorapokhar-Cum-Sindri, District Dhanbad, Jharkhand. It is reported that no national parks, wildlife sanctuaries, Biosphere Reserves, Protected forest/ Reserved forest, Tiger/Elephant Reserves, and Wildlife Corridors etc. lies within 10 km distance. Damodar river is flowing at a distance of 2.0 Km. Total plot area is 5482 acres. Total cost of the project is Rs. 5456 Crores. The proposed project has an employment potential of 460 person on directly and indirectly basis. Plant will work on 330 day/ annum. Feedstock of the plant will be natural gas. Following are the details of proposed products:

Details of the proposed production capacity

S. No.	Product	Capacity (MTPD)
1	Urea	2,200
2	Ammonia	3,850

Time schedule for completion of the plant will be 36 months.

Following are the details of storage facilities:

S. No.	Facility	Capacity
1	Ammonia Storage (Atm.)	(2x5000) MT
2	Silo	60000 MT
3	Empty Bag Storage	2.0 Million
4	Bagged Storage	1000 MT
5	Bagging Plant	(7+1) Slats of 60 MTPH each

The total requirement of fresh water for the complex is envisaged to be around 30,360 m³/day. Water requirement will be made available from Damodar river. Effluent will be treated in ETP. It was informed that no treated effluent will be discharged outside the plant premises and 'Zero' effluent discharge will be followed.

Natural gas (2.2 MMSCMD) will be used and sourced from Jagdishpur-Phulhpur-Haldia pipeline. Power requirement will be 25 MW and will be sourced from captive GTG/STG. GTG and STG will be installed to generate 15 MW and 10 MW power respectively. D.G. Set of capacity 2000 kVA will be installed. Now it is proposed to install GTG-HRSG which will operate on Co-Generation Cycle where almost 90% of Fuel RLNG is fired in GTG and its exhaust hot flue gas generates steam in the Heat Recovery Steam Generator (HRSG). PP did not mention the area covered as green belt. Committee suggested them to earmark 33% of plot area as greenbelt. Spent Catalyst, used Oil etc. shall be sold to authorized vendors. The Committee noted that PP has not prepared DPR for the project.

After detailed deliberations, the Committee prescribed the following Specific and Additional TOR in addition to Generic TOR provided at Annexure-I (Refer Ministry's website) for preparation of EIA-EMP report:

A. Specific TOR

1. Details on requirement of energy and water alongwith its source and authorization from the concerned department.
2. Energy conservation in ammonia synthesis for urea production and comparison with best technology.
3. Details of ammonia storage and risk assessment thereof.
4. Measures for control of urea dust emissions from prilling tower.
5. Measures for reduction of fresh water requirement.
6. Details of proposed source-specific pollution control schemes and equipments to meet the national standards for fertilizer.
7. Management plan for solid/hazardous waste including storage, utilization and disposal of bye products viz., spent catalyst etc.
8. Details on existing ambient air quality for PM10, PM2.5, Urea dust*, NH3*, SO2*, NOx*, HF*, F*, Hydrocarbon (Methane and Non-Methane) etc., and expected, stack and fugitive emissions and evaluation of the adequacy of the proposed pollution control devices to meet standards for point sources and to meet AAQ standards. (*as applicable).
9. Details on water quality parameters in and around study area such as pH, Total Kjeldhal Nitrogen, Free Ammonical Nitrogen, free ammonia, Cyanide, Vanadium, Arsenic, Suspended Solids, Oil and Grease, *Cr as Cr⁺⁶, *Total Chromium, Fluoride, etc.

B. Additional TOR

- I. 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.
- II. Ambient air quality monitoring shall be done for all 12 parameters.
- III. Layout map indicating existing greenbelt and proposed greenbelt with different colour and details (in ha./m²). Green belt should be developed around periphery of the proposed fertilizer plant having atleast width of 30 m.
- IV. Number of existing trees to be cut.
- V. Details of habitation around the proposed project.
- VI. List of items in plant configuration indicating new and old to be utilized.
- VII. Efforts shall be made to bring down the water consumption upto 6 m³ per MT of urea production. Detailed plan for water conservation including reuse and recycling.
- VIII. Traffic management plan for transfer of raw materials as well as despatch of products.
- IX. Copy of permission from Competent Authority for usage of water from Damodar River.
- X. Effluent management scheme based on zero effluent discharge concept.

- XI. Energy should be conserved by providing solar power unit for lighting of administrative building and street lighting.
- XII. Action plan for disposal of existing stored hazardous waste e.g. chromium sludge etc., if any.
- XIII. Management of construction and demolition waste generated from the existing unit as per Municipal Solid Waste Management Rules (SWM), 2016 and Hazardous Waste Management Rules, 2016.

It was recommended that '**TORs**' along with **Public Hearing** 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 State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

10.2.3 Molasses/Potatoes/Grain based Distillery Plant (100 KLD) along with 2.5 MW Co-gen Power Plant at Village Jalalabad, Tehsil Kannauj, District Kannauj, Uttar Pradesh by M/s Reekriti Distilleries Pvt. Ltd. – reg TOR.

The project authorities gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Term of References for the preparation of EIA-EMP. All molasses based distillery are listed at S. N. 5 (g) (i) and Grain based distillery (> 60 KLPD) are listed at S.N. 5(g) (ii) under category 'A' and appraised at Central level.

M/s Reekriti Distilleries Pvt. Ltd. has proposed for setting up of Molasses/Potatoes/Grain based Distillery Plant (100 KLD) along with 2.5 MW Co-gen Power Plant at Village Jalalabad, Tehsil Kannauj, District Kannauj, Uttar Pradesh. It is reported that as per Form I, no National Parks, Wildlife Sanctuaries, Tiger/ Elephant Reserves, Wildlife Corridors etc. falls within 10 km radius from the plant site. Ganga River is flowing at a distance of 7.84 km in North direction and Kaali Nadi is flowing at a distance of 2 km in North direction from the project site. The Committee noted that the proposed unit falls in the Ganga River Basin. After detailed discussion, the PP agreed to drop molasses route distillery plant. Now, the proposed distillery will be based on Potatoes/ Grain based.

Total project area is 15.0 acres, out of which 33% area will be developed as green belt. About 170 personals will be employed under this project. Total cost of the project is Rs. 160 Crores. cost earmarked for Distillery will be operated for 330 days in a year. Following product will be manufactured:

S. No.	Product	Capacity
1	Rectified Spirit /ENA / AA	100 KLPD
2	Co-Generation Power Plant	2.5 MW

Rice husk /coal fired boiler will be used. Water requirement from ground water source will be 900 m³/day. The Committee suggested them not to use ground water. Explore the possibility to use surface water from nearby river. Spent wash from potatoes/grain will be treated through decanter followed by evaporated through MEE.

Thin slop will be mixed with wet cake to form DWGS. DWGS will be dried to form DDGS. No effluent will be discharged outside the plant premises and 'Zero effluent discharge concept will be followed. DDGS will be sold as cattle feed/fish/prawn feed. Fly ash will be supply to brick kiln. Fermentor sludge will be used as manure. Potato/grain residue will be used in manufacturing of cattle feed. Employment generation will be 170 persons.

After detailed deliberations, the Committee prescribed the following Specific and Additional TOR in addition to Generic TOR provided at Annexure-I (Refer Ministry's website) for preparation of EIA-EMP report:

A. Specific TOR

1. List of existing distillery units in the study area along with their capacity and sourcing of raw material.
2. Number of working days of the distillery unit.
3. Details of raw materials such as potatoes/ rains, their source with availability.
4. Details of the use of steam from the boiler.
5. Surface and Ground water quality around proposed spent wash storage lagoon, and compost yard.
6. Plan to reduce spent wash generation within 6-8 KL/KL of alcohol produced.
7. Proposed effluent treatment system for potatoes/grain based distillery (spent wash, spent lees, condensate and utilities) as well as domestic sewage and scheme for achieving zero effluent discharge (ZLD).
8. Proposed action to restrict fresh water consumption within 10 KL/KL of alcohol production.
9. Details about capacity of spent wash holding tank, material used, design consideration. No. of peizometers to be proposed around spent wash holding tank.
10. Action plan to control ground water pollution.
11. Details of solid waste management including management of boiler ash, yeast, etc. Details of incinerated spent wash ash generation and its disposal.
12. Action plan to control odour pollution.
13. Arrangements for installation of continuous online monitoring system (24x7 monitoring device)

B. Additional TOR

- i. 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.
- ii. Commitment for not using Molasses as a feedstock for the proposed distillery.
- iii. No ground water to be used for proposed project. Scheme to be provided for drawing surface water for the proposed project.
- iv. Adequate process for different raw material route to be drawn with proper treatment scheme.

It was recommended that 'TORs' along with Public Hearing 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 State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

10.2.4 Resins manufacturing plant at Plot No C21 Focal Point, Tehsil Dera Bassi, District SAS Nagar, Punjab by M/s Surbhee Polymers Pvt. Ltd. – reg TOR.

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

M/s Surbhee Polymers Pvt. Ltd. has proposed setting up of resins manufacturing plant at Plot No C21 Focal Point, Tehsil Dera Bassi, District SAS Nagar, Punjab. Total plot area is 3135 m². Cost of project is Rs. 3.5 Crore. It is reported that no national parks, Reserve/ protected forest and Wildlife Sanctuaries lies within 10 km distance. Ghaggar River is flowing at a distance of 3km in west direction from proposed site. Following products will be manufactured:

No.	Name of Product	Quantity (MTD)
1	Formaldehyde (55%)	200
2	Urea Formaldehyde Resin	50

The Committee noted that there is mismatch of production capacity w.r.t proposed plot area wherein products, raw material, process, ETP to be installed. It is observed that production capacity seems to be in higher side. Therefore, the Committee recommended to furnish the following information:

- i. Detailed feasibility of production capacity in respect to area and plant machinery and all other features.
- ii. Plant layout indicating proposed plant, road, raw material storages, plant building, greenbelt etc. P & I diagram of the proposed plant.
- iii. Flowsheet of the manufacturing process of the proposed project.

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

10.2.5 Expansion of Synthetic organic chemicals Manufacturing Unit (from 1946 MTPA to 7800 MTPA) at Plot no. 377&379, Village Luna, Maitri Marg, Canal Road, Taluka Padra, District Vadodara, Gujarat by M/s Kumar Organic Products Limited- reg TOR.

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 along with the draft Term of References for the preparation of EIA-EMP. All Synthetic Organic Chemicals Industry (Bulk Drugs & Intermediates) located outside the notified industrial area/estate are listed at S.N. 5(f) under category 'A' and appraised by Expert Appraisal Committee (I).

M/s Kumar Organic Products Limited has proposed for expansion of Synthetic organic chemicals Manufacturing Unit (from 1946 MTPA to 7800 MTPA) at Plot no. 377&379, Village Luna, Maitri Marg, Canal Road, Taluka Padra, District Vadodara, Gujarat.

MoEF&CC vide letter no J-11011/118/2009 IA II (I) dated 28th October, 2009 has granted the environmental clearance for the existing unit.

Total plot area is 12170 m². Cost of project is Rs. 30 Crore. It is reported that no national parks, wildlife sanctuaries, Reserve Forest (RF)/ Protected Forests (PF), Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance. Sarasvani Lake is situated at a distance of 7.4 km from the project site. Mahi River is flowing at a distance of 2.2 Km. About 100 persons will be employed. Following are the details of products of existing and proposed expansion:

S. No.	List of Products	Existing capacity (MTPA)	Additional capacity (MTPA)	Total Capacity (MTPA)
1	Zinc pyrethion 100%	1200	1200	2400
2	Copper pyrethion 100%	350	250	600
3	Sodium acetate	216	0	216
4	(Potassium, Sodium. Calcium, Ammonium) thio Glycolate 100%	180	540	720
5	PCMX (Para chloro meta xylanol) Brown	0	2004	2004
6	Thione	0	1560	1560
7	Sodium pyrethione	0	300	300
	Total	1946	5854	7800

Furnace oil fired boiler will be used. Fresh water requirement from ground water source will be increased from 93.4 m³/day to 224.4 m³/day. The Committee suggested them not to use ground water. Surface water shall be used to meet the water requirement. The wastewater generation will be increased from 98.15 m³/day to 136.7 m³/day. Wastewater will be segregated into two streams as High TDS (HTDS) and Low TDS (LTDS). HTDS Effluent stream after neutralization, filtration will be sent to MEE. LTDS effluent will be treated in the ETP and treated effluent will be discharged to CETP for further treatment.

Inorganic waste, MEE salt, ETP sludge will be sent to TSDF for final disposal. The Committee suggested them that organic waste, spent carbon and solvent distillation residue shall be sent to co processing in cement industry. Used oil and lead acid battery will be sold to the authorized dealer.

After detailed deliberations, the Committee prescribed the following Specific and Additional TOR in addition to Generic TOR provided at Annexure (Refer Ministry's web site) for preparation of EIA-EMP report:

A. Specific TOR:

1. Details on solvents to be used, measures for solvent recovery and for emissions control.

2. Details of process emissions from the proposed unit and its arrangement to control.
3. Ambient air quality data should include VOC, etc.,
4. Work zone monitoring arrangements for hazardous chemicals.
5. Detailed effluent treatment scheme including segregation of effluent streams for units adopting 'Zero' liquid discharge.
6. Action plan for odour control to be submitted.
7. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
8. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
9. Action plan for utilization of MEE/dryers salts.
10. Material Safety Data Sheet for all the Chemicals are being used/will be used.
11. Authorization/Membership for the disposal of solid/hazardous waste in TSDF are being used/will be used.
12. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
13. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
14. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials

B. Additional TOR

- i. 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.
- ii. A separate chapter on status of compliance of Environmental Conditions granted by 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.
- iii. No ground water shall be used for the existing as well as proposed project.
- iv. Industrial effluent treatment shall be based on segregation of effluent stream into high TDS effluent stream and Low TDS effluent stream. Plant should be based on Zero Liquid Discharge concept and treatment scheme should be designed accordingly.
- v. Odour control plan.

It was recommended that '**TORs**' along with **Public Hearing** 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 State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

10.2.6 Extension Drilling & Testing of Hydrocarbons at 7 (seven) locations under Dibru-Saikhowa National Park Area, North-West of Baghjan PML, District Tinsukia, Assam by M/s Oil India Ltd.- reg TOR.

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

M/s Oil India Ltd. has proposed for exploratory drilling of 7 (seven) wells locations under Dibru-Saikhowa National Park Area, North-West of Baghjan PML, District Tinsukia, Assam. PP informed that the block was originally a part of Tinsukia PEL (1665 Sq. Km). Prospective 257 sq. Km area of the block was relinquished in 2004, consequent upon declaration of Dibru – Saikhowa as a National Park. 75 sq. km granted as Baghjan PML since, 2004. OIL proposes to extract hydrocarbon by drilling seven wells beneath ‘Dibru-Saikhowa National Park using modern state of art technology like ‘Extended Reach Drilling’. The drill pads for the same will be placed at a distance more than 1 Km from the Forest Boundary. Drill pads will be placed in the existing three well plinths for which EC are already obtained. The Well will be drilled at depth of 3800-4000 m beneath forest surface. PP informed that the Hon’ble Supreme Court of India vide its order dated 10.05.2016 advised SC-NBWL to consider the proposal-which also being recommended by CEC vide its report dated 09.05.2016. Coordinates of seven ERD locations are as given below:

Loc A: Lat :27°36'11.88", Long: 95°21'58.73" (TD 3925m)

Loc B: Lat :27°36'20.55", Long: 95°22'28.36" (TD 3900m)

Loc C: Lat::27°36'46.68", Long: 95°22'25.91" (TD: 3950m)

Loc D: Lat: 27°36'48.51",Long: 95°22'59.14" (TD: 3900m)

Loc E: Lat: 27°37'07.95", Long: 95°23'07.08" (TD: 3950m)

Loc F: Lat: 27°37'05.19", Long: 95°23'30.09" (TD: 3900m)

Loc G: Lat: 27°37'17.99", Long:95°24'06.01" (TD: 3950 m)

After detailed deliberations, the Committee prescribed the following Specific and Additional TOR in addition to Generic TOR provided at Annexure (Refer Ministry’s web site) for preparation of EIA-EMP report:

A. Standard TOR

1. Executive summary of a project.
2. Project description, project objectives and project benefits.
3. Cost of project and period of completion.
4. Site details within 1 km of the each proposed well, any habitation, any other installation/activity, flora and fauna, approachability to site, other activities including agriculture/land, satellite imagery for 10 km area. All the geological details shall be mentioned in the Topo sheet of 1:40000 scale, superimposing the well locations and other structures of the projects. Topography of the project site.
5. Details of sensitive areas such as National Park, Wildlife sanctuary and any other eco-sensitive area alongwith map indicating distance.
6. Approval for the forest land from the State/Central Govt. under Forest (Conservation) Act, 1980 as project involves forest land.
7. Distance from nearby critically/severely polluted area as per Notification, if applicable. Status of moratorium imposed on the area.
8. Does proposal involve rehabilitation and resettlement? If yes, details thereof.
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.
11. Climatology and Meteorology including wind speed, wind direction, temperature rainfall relative humidity etc.
12. Details of Ambient Air Quality monitoring at 8 locations for PM_{2.5}, PM₁₀, SO₂, NO_x, CO, VOCs, Methane and non-methane HC.
13. Soil sample analysis (physical and chemical properties) at the areas located at 5 locations.
14. Ground and surface water quality in the vicinity of the proposed wells site.
15. Measurement of Noise levels within 1 km radius of the proposed wells.
16. Vegetation and land use; flora/fauna in the block area with details of endangered species, if any.
17. Incremental GLC as a result of DG set operation, flaring etc.
18. Potential environmental impact envisaged during various stages of project activities such as site activation, development, operation/ maintenance and decommissioning.
19. Actual source of water and 'Permission' for the drawl of water from the Competent Authority. Detailed water balance, wastewater generation and discharge.
20. Noise abatement measures and measures to minimize disturbance due to light and visual intrusions.
21. Details on wastewater generation, treatment and utilization /discharge for produced water/ formation water, cooling waters, other wastewaters, etc. during all project phases.
22. Details on solid waste management for drill cuttings, drilling mud and oil sludge, produced sand, radio active materials, other hazardous materials, etc. including its disposal options during all project phases.
23. Disposal of spent oil and lube.
24. Storage of chemicals and diesel at site. Hazardous material usage, storage and accounting.
25. Commitment for the use of water based mud (WBM) only
26. Oil spill emergency plans for recovery/ reclamation.
27. H₂S emissions control.
28. Produced oil/gas handling, processing and storage/transportation.
29. Details of control of air, water and noise pollution during production phase.
30. Measures to protect ground water and shallow aquifers from contamination.
31. Whether any burn pits being utilised for well test operations.
32. Risk assessment and disaster management plan for independent reviews of well designed construction etc. for prevention of blow out. Blowout preventer installation.
33. Environmental management plan.
34. Total capital and recurring cost for environmental control measures.
35. Emergency preparedness plan.
36. Decommissioning and restoration plans.
37. Documentary proof of membership of common disposal facilities, if any.
38. 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 shall also include monitoring programme for the environmental.
39. A copy of Corporate Environment Policy of the company as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 available on the Ministry's website.
40. Any litigation pending against the project and or any direction/order passed by any court of law against the project. If so details thereof.

B. Additional TOR

1. 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.
2. A separate chapter on status of compliance of Environmental Conditions granted by 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.

It was recommended that 'TORs' alongwith Public Hearing 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.

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

1. **Executive Summary**
2. **Introduction**
 - i. Details of the EIA Consultant including NABET accreditation
 - ii. Information about the project proponent
 - iii. Importance and benefits of the project
3. **Project Description**
 - i. Cost of project and time of completion.
 - ii. Products with capacities for the proposed project.
 - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
 - iv. List of raw materials required and their source along with mode of transportation.
 - v. Other chemicals and materials required with quantities and storage capacities
 - vi. Details of Emission, effluents, hazardous waste generation and their management.
 - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
 - viii. Process description along with major equipments and machineries, process flow sheet (quantities) from raw material to products to be provided
 - ix. Hazard identification and details of proposed safety systems.
 - x. Expansion/modernization proposals:
 - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB shall be attached with the EIA-EMP report.
 - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. **Site Details**
 - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
 - ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
 - iii. Details w.r.t. option analysis for selection of site
 - iv. Co-ordinates (lat-long) of all four corners of the site.
 - v. Google map-Earth downloaded of the project site.
 - vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.

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

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

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

6. **Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO₂, NO_x, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species.

If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

- xi. Socio-economic status of the study area.

7. Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling – in case of discharge in water body
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. Occupational health

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same.

- Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of 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,
 - iv. Annual report of health status of workers with special reference to Occupational Health and Safety.
- 9. Corporate Environment Policy**
- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
 - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
 - iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
11. Enterprise Social Commitment (ESC)
- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.
12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
13. 'A tabular chart with index for point wise compliance of above TORs.
14. The TORs prescribed shall be valid for a period of three years for submission of the EIA-EMP reports.

The following general points shall be noted:

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

would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

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

LIST OF PARTICIPANTS OF EAC (Industry-2) IN 10th MEETING OF EAC (INDUSTRY-2)
HELD ON 11th JULY , 2016

S.N.	Name	Designation	Attendance
1	<u>Dr. J. P. Gupta</u>	Chairman	P
2	<u>Sh. R. K. Singh</u>	Member	A
3	<u>Dr. Ahmed Kamal</u>	Member	A
4	<u>Prof. J.R. Mudakavi</u>	Member	P
5	<u>Dr. Ajay Gairola</u>	Member	A
6	<u>Dr. N. Nandini</u>	Member	A
7	<u>Prof. (Dr.) H.R. V Reddy</u>	Member	A
8	<u>Dr. Shashank Shekhar</u>	Member	P
9	<u>Ms. Saloni Goel</u>	Member	A
10.	<u>Shri Suhas RamchandraPharande</u>	Member	A
11.	<u>Shri G. C. Pati</u>	Member	P
12	<u>Dr. S. K. Peshin</u>	Member	P
MOEF Representatives			
13.	Shri Lalit Bokolia	Additional Director & MS Industry-(2)	P
14.	Shri A.N.Singh	Joint Director	P