

**MINUTES OF THE 3rd EXPERT APPRAISAL COMMITTEE (INDUSTRY-2) MEETING HELD
on 11th February, 2019**

**Venue: Teesta Hall, Vayu block, Ministry of Environment, Forest and Climate Change,
Indira Paryavaran Bhawan, JorBagh Road, New Delhi - 3**

3.1 Opening Remarks by the Chairman

3.2 Environmental Clearance

Agenda No.3.2.1

Exploration in Mumbai Offshore by M/s Oil and Natural Gas Corporation (ONGC) at Block MB-OSN-2005/1 (NELP-VII), West Coast - Environment Clearance

[IA/MH/IND2/73142/2018, IA-J-11011/67/2018-IA-II(I)]

3.2.1.1 During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project for Offshore Exploration of oil & gas wells (4 nos.) by M/s Oil and Natural Gas Corporation (ONGC) in MB-OSN-2005/1 (NELP-VII) block at Mumbai West Coast.

The project/activity is covered under category A of item 1(b) 'Offshore and onshore oil and gas exploration, development & production' of schedule to the Environment Impact Assessment (EIA) Notification under category 'A' and requires appraisal at central level by sectoral Expert Appraisal Committee (EAC) in the Ministry.

Four exploratory wells will be drilled to evaluate the prospects in this block. The exploratory drilling in this project is at a distance of 27-53 Km (beyond 12 nautical miles). The estimated project cost is Rs.260 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs.0.23 Crores and the Recurring cost (operation and maintenance) will be about Rs.4.12 Crores.

There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves and Wild life Corridors etc within 10 km distance from the project site.

The standard ToR for the project was granted on 5th April, 2018. Public Hearing for the proposed project is not applicable as it is an offshore project.

Total water requirement is 40 m³/day/well proposed to be met from Nhava supply base of ONGC.

Waste water generated on drilling rigs will be treated as per MARPOL and CPCB guidelines, before disposal to the sea. Domestic effluent will be treated through Modular treatment plants.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components.

The expenditure towards CER for the project would be 1.5% of the project cost as committed by the project proponent.

3.2.1.2 The Committee, after deliberations, recommended *the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board as required.*
- *Waste water generated on drilling rigs shall be treated as per MARPOL and CPCB guidelines, before disposal to the sea.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to, if applicable.*
- *Ambient air quality shall be monitored at the nearest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 for THC, Non-methane HC, Methane HC and H₂S etc.*
- *During exploration, production, storage and handling, the fugitive emission of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.*
- *The project proponent also to ensure trapping/storing of the CO₂ generated, if any, during the process and handling.*
- *The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.*
- *Total fresh water requirement shall not exceed the proposed quantum of 40 cum/day proposed to be met from Nhava supply base of ONGC. Prior permission shall be obtained from the concerned regulatory authority.*
- *Separate drainage system shall be created for oil contaminated and non-oil contaminated.*
- *Drill cuttings, thoroughly washed and separated from WBM, shall be discharged to the sea intermittently as per the norms.*
- *Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/ contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.*
- *The Company shall take necessary measures to prevent fire hazards and oil spill.*
- *The company shall develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H₂S detectors in locations of high risk of exposure along with self containing breathing apparatus.*
- *Blow Out Preventer system shall be installed to prevent well blowouts during drilling operations. BOP measures during drilling shall focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.*
- *Emergency Response Plan shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.*
- *The company shall take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be restored the area in original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan shall be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations.*

- *At least 1.5% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.*
- *Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.*
- *Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office.*
- *Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office.*
- *An audit shall be done to ensure that the Environment Management Plan is implemented in totality and report shall be submitted to the Ministry's Regional Office.*
- *Company shall have own Environment Management Cell having qualified persons with proper background.*
- *Company shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and measures to be taken for protection. One set of environmental manual shall be made available at the drilling site/ project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office.*
- *On completion of drilling, the company has to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.*

Agenda No.3.2.2

Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with Polymer units by M/s Indian Oil Corporation Limited at Barauni (Bihar)- Environment Clearance

[IA/BR/IND2/68030/2017, IA-J-11011/468/2017-IA-II(I)]

3.2.2.1 The project proponent and the accredited Consultant M/s Envirotech East Pvt Ltd, made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project for expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with Polymer units at Barauni (Bihar) by M/s Indian Oil Corporation Limited.

(ii) The ToR has been issued by Ministry vide letter No.J-11011/468/2017-IA-II(I); dated 16/11/2017.

(iii) All project/activity are listed at S.N. 4(a), 5(c) and 5(e) of Schedule of Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) Ministry had issued EC earlier vide letter no. J-11011/15/2015/IA II (I).; dated 06/03/2017 to the existing project MS Quality Up-gradation and HSD Quality Up-gradation at Barauni Refinery in favour of M/s. Indian Oil Corporation Limited.

(v) Existing land area is 3592921sqm, no additional land will be used for proposed expansion.

(vi) Industry has already developed greenbelt in an area of 26% i.e. 933124 m² out of total area of the project.

(vii) The estimated project cost is Rs.8287 Crores. Total Employment will be 140 persons as direct & approximately 500 persons indirect after expansion. Industry proposes to allocate Rs 20.72 Crores @ 0.25 % towards Corporate Environment Responsibility.

(viii) There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance from the project site. River/ water body Ganga is flowing at a distance of 8 Km in South.

(ix) Ambient air quality monitoring was carried out at 8 locations during Feb'18 to April'18 and the baseline data indicates the ranges of concentrations as PM_{10} (68.7-80 $\mu g/m^3$), $PM_{2.5}$ (28.1-33.9 $\mu g/m^3$), SO_2 (9-15.4 $\mu g/m^3$) and NO_2 (20.6 - 26.6 $\mu g/m^3$). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be (-)2.45 $\mu g/m^3$, 11.56 $\mu g/m^3$ and 3.89 $\mu g/m^3$ with respect to PM_{10} , SO_x and NO_x . The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(x) Total water requirement is 52104 m^3/day of which fresh water requirement of 24000 m^3/day will be met from ground water through artesian wells.

(xi) Effluent of 28104 m^3/day quantity will be treated through Effluent Treatment Plant. The plant will be based on Zero Liquid discharge system.

(xii) Power requirement after expansion will be 139000 KVA including existing 76500 KVA and will be met from Bihar State Power transmission Company Limited (BSPTCL). Existing unit has 1(one) DG sets of 625 KVA capacity. No DG sets proposed.

(xiii) Existing unit has 525 TPH 6 nos. of fired boiler. Additionally, 150 TPH 1 fired boiler will be installed. Multi cyclone separator/ bag filter with a stack of height of (Will be decided during detail engineering phase) m will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm^3 for the proposed boilers.

(xiv) Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 05/10/2018. The main issues raised during the public hearing are related to employment to local people and pollution control measures.

(xv) Status of Litigation Pending against the proposal, if any - **None**

(xvi) The details of products and capacity as under:

S. No.	Product Details	Existing (TMTPA)	Proposed(TMTPA)	Total (TMTPA)
1	LPG	318	169.1	487.1
2	Poly Propylene	0	203	203
3	Naphtha	83.4	35.3	118.7
4	MS (BS-VI)	1351.6	372.4	1724.0
5	ATF	204.0	(-)0.8	203.2
6	SKO	370.0	0	370.0
7	HSD (BS-VI)	2787.1	1833.9	4621.0
8	FO	46.9	(-) 45.9	1.0
9	Bitumen	74.0	0	74.0
10	CBFS	0	0	0
11	RPC (LS)	154.0	(-) 30.0	124.0
12	RPC (HS)	0	184.0	184.0
13	Sulfur	21.7	34.3	56.0
14	Fuel & Loss	591	243.0	834
Total		6000	3000	9000

3.2.2.2 During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project for expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited in a total area of 3592921sqm at Barauni (Bihar).

The project/activity is covered under category A of item 4(a) 'Petroleum refining industry', 5(e) 'Petrochemical products and petrochemical based processing', 5(c) 'Petro-chemical complexes' of the schedule to the Environment Impact Assessment (EIA) Notification under category 'A' and requires appraisal at central level by sectoral Expert Appraisal Committee (EAC).

The ToR for the project was granted by the Ministry vide letter dated on 16th November, 2017 and public hearing was conducted by SPCB on 5th October, 2018. The main issues raised during the public hearing are related to employment to local people and pollution control measures.

Total water requirement is 52104 cum/day of which fresh water requirement of 24000 cum/day will be met from ground water through artesian wells.

Effluent of 28104 cum/day quantity will be treated through Effluent Treatment Plant. There will be no discharge of treated/untreated waste water from the unit, and thus ensuring Zero Liquid Discharge.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. Issues raised during the public hearing have been duly addressed by the project proponent.

The expenditure towards CER for the proposed expansion would be 0.25% of the project cost as committed by the project proponent.

The details of earlier ECs granted by the Ministry are as under:-

Catalytic reformer at Barauni Refinery	25 th July, 1989
Augmentation of Crude Processing Capacity of Barauni Refinery from 3.3 to 4.2MMTPA	17 th May, 1996
Expansion of Barauni Refinery to 6MMTPA with matching secondary processing facilities	8 th March, 1999
MS quality upgradation, HSD quality up gradation and High Sulphur Crude Maximization Project	18 th March, 2003
MS Quality Up-gradation and HSD Quality Up-gradation at Barauni Refinery	6 th March, 2013

Monitoring report on compliance status of the conditions stipulated in the above ECs, has been forwarded by the Regional Office of this Ministry forwarded vide letter dated 1st August, 2017. As mentioned therein and also informed by the project proponent during the meeting, crude processing for the last 15 years, is reported to be as under:

Crude Processing at Barauni Refinery for last 15 years (TMTPA)			
S. No.	Year	Design	Actual
1	2003-04	6000	4305
2	2004-05	6000	5083

3	2005-06	6000	5553
4	2006-07	6000	5469
5	2007-08	6000	5634
6	2008-09	6000	5940
7	2009-10	6000	6184
8	2010-11	6000	6207
9	2011-12	6000	5730
10	2012-13	6000	6345
11	2013-14	6000	6478
12	2014-15	6000	5944
13	2015-16	6000	6545
14	2016-17	6000	6526
15	2017-18	6000	5819
Average for 15 years			5851

3.2.2.3 *The EAC, in first instance, observed that the crude processing at Barauni Refinery has been more than the sanctioned capacity (6000 TMTA) during the period 2009-10, 2010-11, 2012-13, 2013-14, 2015-16 & 2016-17, which amounts to non-compliance of the ECs granted earlier, and thus violation of the EIA Notification, 2006. On this front, the Committee desired that the Ministry may take a view vis-à-vis the extant norms/guidelines to deal with such proposals.*

The Committee also desired for third party assessment of the environmental damage, if any, and differential impacts on environmental parameters due to the excess production during the said periods, preferably by NEERI or as decided by the Ministry, to be completed in a fixed time frame. The Committee was of the view that findings of such an assessment would finally decide the course of action for the reported violation and also the appropriate channel to take the proposal forward.

Meanwhile, as an interim arrangement and considering the proposal vis-à-vis the environmental parameters/concerns, and to meet the uninterrupted supply of petroleum products, recommended the project for grant of environmental clearance for a period of one year, subject to compliance of terms and conditions as under: -

- *Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board as required.*
- *As already committed by the project proponent, Zero Liquid Discharge shall be ensured and nowaste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed with different stacks to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stacks of adequate height as per CPCB/SPCB guidelines.*
- *The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R.186(E) dated 18th March, 2008 and G.S.R.595(E) dated 21st August, 2009 as amended from time to time shall be followed.*
- *The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R.820 (E) dated 9th November, 2012 as amended time to time shall be followed.*

- Total fresh water requirement shall not exceed 24000 cum/day to be met from ground water through artesian wells. Necessary permission in this regard shall be obtained from the concerned regulatory authority.
- Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- Regular VOC monitoring to be done at vulnerable points.
- The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.
- Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of the Ministry. Outcome from the report to be implemented for conservation scheme.
- Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.
- The company shall undertake waste minimization measures as below:-
 - (a) Metering and control of quantities of active ingredients to minimize waste.
 - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - (c) Use of automated filling to minimize spillage.
 - (d) Use of Close Feed system into batch reactors.
 - (e) Venting equipment through vapour recovery system.
 - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented.
- At least 0.25% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.

- *Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*
- *Process safety and risk assessment studies shall be carried out using advanced models, and the mitigating measures shall be undertaken accordingly.*

EAC (Industry-2) members present during the meeting

S. No.	Name and Address	Designation
1.	Dr. J. P. Gupta	Chairman
2.	Dr. Tudilndrasen Reddy	Member
3.	Dr. J S Sharma	Member
4.	Dr. T K Joshi	Member
5.	Shri Sanjay Bisht	Member
6.	Shri S.K. Srivastava	Member Secretary
