

**F.No. J-11011/20/2014-IA II (I)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

Indira Paryavaran Bhawan  
Jorbagh Road, New Delhi – 3  
Dated: 13<sup>th</sup> September, 2017

To,

M/s Oil and Natural Gas Corporation Ltd  
Assam & Assam Arakan Basin  
116, Luit Bhavan  
Cinnamara Complex,  
Jorhat -785 704, Assam

**Sub: Development Drilling of one well (BKDB)-A of M/s ONGC Ltd in Banaskandi PML Block of Cachar, A&AA Basin, District Cachar (Assam)-Environmental Clearance-reg**

**Ref.: Online proposal no. IA/AS/IND/21048/2013 dated 10<sup>th</sup> July, 2017.**

Sir,

This has reference to your online proposal no. IA/AS/IND/21048/2013 dated 10<sup>th</sup> July, 2017 along with project documents including Form I, Terms of References, Pre-feasibility Report, EIA/ EMP report along with Public hearing report regarding above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance for development drilling of one well, (BKDB)-A at Banaksnadi PML by M/s ONGC Ltd in an area of 1.5-2.0 ha in District Cachar (Assam). The coordinates of the drilling location is 24°44'47.0" N and 92°51'21.0"E.
3. Existing land area is 2.80 ha. The area required for drilling of well (BKDB-A) is 1.5-2.0 ha per location. Industry will develop greenbelt in an area of 33 % i.e., 0.92 ha out of 2.80 ha of area of the project.
4. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance of the project site. Barak river is flowing at a distance of 1.2 km in West direction.
5. The estimated project cost is Rs.30 Crore. Total capital cost earmarked towards environmental pollution control measures is Rs.60 Lakh. Total Employment will be 40 persons as direct & 35 persons indirect after expansion.
6. Ambient air quality monitoring was carried out at 08 locations during January 2015 to April 2015 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (40.6 - 83.4µg/m<sup>3</sup>), PM<sub>2.5</sub> (22.3- 48.7µg/m<sup>3</sup>), SO<sub>2</sub> (4.2- 9.9µg/m<sup>3</sup>) and NO<sub>2</sub> (18.3- 29.8 µg/m<sup>3</sup>) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after



the proposed project would be 83.4 µg/m<sup>3</sup>, 10.06 µg/m<sup>3</sup> and 34.86 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

7. Total water requirement is 25 m<sup>3</sup>/day of which fresh water requirement of 5 m<sup>3</sup>/day and shall be met from local water suppliers. Effluent shall be treated through mobile ETP.

8. Existing unit has 3 DG sets of 720 kW capacity, additionally 1 DG set is used as standby during power failure. Stack (height 6 m) shall be provided as per CPCB norms to the proposed DG sets of 3 in addition to the existing DG sets of which shall be used as standby during power failure.

9. Details of Process emissions generation and its management.

Sl. No.	Particulars	Unit	Flare stack*	DG set (1430 KVA)	DG set (250 KVA)	DG set (100 KVA)
1	Number of Stack	-	1	4	1	1
2	Fuel feed rate	m <sup>3</sup> /hr	2500 (natural gas)	0.2700 (HSD)	0.075 (HSD)	0.023 (HSD)
3	Stack Diameter	m	0.21	0.42	0.28	0.12
4	Stack Height	m	30	16	6	4.7
5	Stack Exit Temperature	°K	1273	815	524	510
6	Stack Exit Velocity	m/s	20	25	23	21
7	Actual Flow Rate	m <sup>3</sup> /s	0.69	3.5	1.32	0.26
8	Normal Flow Rate**	Nm <sup>3</sup> /s	0.15	1.5	0.42	0.1
9	Emission					
	PM	g/s	-	0.04	0.01	0.005

10. It is estimated that nearly about 250-300 m<sup>3</sup> of drill cuttings and 700 m<sup>3</sup> of drilling mud is likely to be generated from each well during drilling operation. HDPE lined impervious pits for storage of drilling cuttings and drilling mud shall be used respectively and their disposal in accordance with CPCB Oil & Extraction Industry standard-guideline for Disposal of Soil wastes. Further ONGC committed to use water based mud, the drilling cutting and drilling fluid generated is non-hazardous in nature.

11. All Offshore and onshore oil and gas exploration, development & production are listed at S.N.1(b) of Schedule of Environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

12. The project proposal was considered by the EAC (Industry-2) in its 16<sup>th</sup> meeting held during 20-21 February, 2014 which recommended Terms of References (ToRs) for the project. The ToR was issued by Ministry on 23<sup>rd</sup> April, 2014. ONGC had requested for extension of ToR vide letter dated 19.04.2017 and accordingly the same was considered in 23<sup>rd</sup> EAC (Industry-2) meeting held on 3-5 May, 2017. The committee recommended for extension of ToR validity for a period of one year i.e from 22.04.2017 to 22.04.2018.

13. Public Hearing for the proposed project has been conducted by the Assam State Pollution Control Board on 30.01.2017.

14. The proposal was considered by the EAC (Industry-2) in its 27<sup>th</sup> meeting held during 28-29 August, 2017. Project Proponent and the accredited consultant M/s SGS India Private Limited, have presented EIA / EMP report as per the ToR. EAC found the EIA / EMP Report to be

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satisfactory and in consonance with the presented ToR. The Committee has recommended the proposal for grant of environmental clearance.

15. Based on the information submitted by the project proponent and recommendation of EAC (Industry-2), the Ministry of Environment, Forest and Climate change hereby accords environmental clearance to above project under the provisions of EIA Notification, 2006, subject to the compliance of the Terms and Conditions as below:

- (a) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (b) As proposed by the project proponent, zero liquid discharge shall be ensured and no waste/treated water shall be discharged to any surface waterbody, sea and/or on land. Domestic sewage shall be disposed off through septic tank/ soak pit.
- (c) 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.
- (d) 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.
- (e) National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.
- (f) Continuous online (24 x7) monitoring system for emissions and effluent generation shall be installed for flow/discharge measurement and the pollutants concentration within the plant. Data shall be uploaded on company's website and provided to the respective Regional Office of MoEF&CC, CPCB and SPCB.
- (g) Total fresh water requirement shall not exceed 5 m<sup>3</sup>/day, which will be sourced from local water suppliers. Prior permission for the same shall be obtained from the concerned regulatory authority/CGWA.
- (h) The company shall 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 shall be created for oil contaminated and non-oil contaminated. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.
- (i) Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to HWMH Rules, 2016. No effluent/drilling mud/drill cutting shall be discharged/disposed off into nearby surface water bodies. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30<sup>th</sup> August, 2005.
- (j) 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.



- (k) The company shall develop a contingency plan for H<sub>2</sub>S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H<sub>2</sub>S detectors in locations of high risk of exposure along with self containing breathing apparatus.
- (l) The Company shall carry out long term subsidence study by collecting base line data before initiating drilling operation till the project lasts. The data so collected shall be submitted six monthly to the Ministry and Regional Office.
- (m) Blow Out Preventer (BOP) 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.
- (n) Emergency Response Plan (ERP) shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- (o) Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office.
- (p) Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office.
- (q) At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) and used for installation of RO plant for drinking water supply and solar panels in nearby villages. Implementation of such program shall be ensured accordingly in a time bound manner.
- (r) Company shall prepare operating manual in respect of all activities. It shall cover all safety & environment related issues and system. 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. Remote monitoring of site should be done.
- (s) 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.
- (t) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (u) 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.

**15.1.** The grant of Environmental Clearance is further subject to compliance of other generic conditions as under: -

- (i) The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/ or any other statutory authority.

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- (ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the SPCB and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- (iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be complied with.
- (v) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (vi) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.
- (vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- (viii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.
- (ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.
- (x) A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.


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- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (xiv) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional offices of MoEF&CC by e-mail.
- (xv) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <http://moef.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional office of the Ministry.

16. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

17. The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

18. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


  
13/9/2017  
(S. K. Srivastava)  
Scientist E

**Copy to:-**

1. The Principal Chief Conservator of Forest, Department of Environment and Forests, Government of Assam, Panjabari, **Guwahati** – 781 037 (Assam)
2. The Chief Conservator of Forests (North Eastern Zone), Ministry of Environment, Forest and Climate Change, Regional Office, Law-U- Sib, Lumbatngen, Near MTC Workshop, **Shillong**

793021 (Meghalaya)

3. The Chairman, Central Pollution Control Board Parivesh Bhavan, East Arjun Nagar, **Delhi** - 32.
4. The Member Secretary, Pollution Control Board Assam, Bamunimaidam, **Guwahati** - 21 (Assam)
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, **New Delhi**.
6. Guard File/Monitoring File/Record File.

  
13/9/2017  
**(S. K. Srivastava)**  
**Scientist E**