

F.No. J-11011/224/2015-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: 28th September, 2017

To,

M/s Oil and Natural Gas Corporation Ltd
HSE Division Assam & Assam Arakan Basin
Cinnamara Complex,
Jorhat -785704

Sub: Exploratory drilling of 10 Wells at Rudrasagar, Geleki, Lakwa, Namti, Mekeypore-Santak-Nazira PML Areas in District Sivasagar (Assam) by M/s ONGC Ltd – Environmental Clearance-reg

Ref.: Online proposal no. IA/AS/IND2/30289/2015 dated 18th July, 2017

Sir,

This has reference to your online proposal no. IA/AS/IND2/30289/2015 dated 18th 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 drilling of exploratory wells (10 Nos.) at Rudrasagar, Geleki, Lakwa, Namti, Mekeypore- Santak-Nazira PML Areas in District Sivasagar (Assam) by M/s ONGC Ltd.
3. The details of the proposed location for drilling of 10 exploratory wells in Sivasagar district, Assam are reported as under: -

Sr. No.	Proposed Location	Latitude	Longitude	District	Target Depth
1	RSAL	26° 58' 37.56" N	94° 34' 52.156" E	Sivasagar, Assam	3350 m
2	RSAM	26° 56' 54.44" N	94° 31' 07.15" E	Sivasagar, Assam	3350 m
3	RSAN	26° 56' 40.44" N	94° 32' 50.51" E	Sivasagar, Assam	3350 m
4	GKBU	26° 47' 23.87" N	94° 41' 41.86" E	Sivasagar, Assam	5010 m
5	GKBV	26° 47' 46.24" N	94° 39' 03.55" E	Sivasagar, Assam	3400m

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6	MKAE	26°50' 54.67" N	94°45' 53.28" E	Sivasagar, Assam	3200 m
7	MKAF	26°52' 32.80" N	94°45' 35.21" E	Sivasagar, Assam	3400 m
8	LKBC	26°59' 35.44" N	94°49' 09.75" E	Sivasagar, Assam	3050m
9	LKBD	26°59' 51.66" N	94°47' 57.28" E	Sivasagar, Assam	4875 m
10	KGAE	27°01'18.35" N	94°46'51.126' E	Sivasagar, Assam	4900 m

4. Land requirement for each well shall be of total average 1.5-2.25 ha. The estimated project cost is Rs 456.20 crores and 2% of total project cost earmarked towards environmental pollution control measures. Total employment shall be 30 persons as direct & 500-600 persons indirect after expansion. The 2.5% of total project cost is allocated towards Corporate Social Responsibility.

5. There are no National parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance of the project site.

6. Ambient air quality monitoring was carried out at 10 locations during September 2016 to November 2016 post-monsoon season and submitted baseline data indicates that ranges of concentrations of PM₁₀ (42.1 to 52.4 µg/m³), PM_{2.5} (11.3 to 19.5 µg/m³), SO₂ (9.5 to 19.8 µg/m³) and NO₂ (12.2 to 22.1 µg/m³) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.35 µg/m³, 4.05 µg/m³ and 9.4 µg/m³ with respect to PM₁₀, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

7. Total water requirement is 25 m³/day of which fresh water requirement of 10 m³/day. The water requirement shall be met from the local sources through water tankers. Suitable water transport arrangement shall be made to transfer water for both drilling and domestic purposes. Domestic waste water of 7KLD generated from the camps shall be discharged and treated in septic tanks. All wastewater streams except sewage shall be directed to a 1.5 mm HDPE lined pit.

8. *Process Wastewater:* Approximately 15-20 m³/day of wastewater shall be generated from the drilling operation including minor quantities from washing and cleaning of rig floor and other equipment. The wastewater shall be collected in lined pits and clarified wastewater shall be treated in packaged treatment plant located at the well sites to meet norms specified by CPCB and ASPCB for discharge to land and surface water bodies.

9. The total power requirement at the drilling site and camp site shall be 3000 kVA. The power requirement in the drilling site and the campsites shall be catered through Diesel Generator (DG) sets. The power requirement shall be met by 4 Nos of 750 kVA DG sets.

10. *Details of Process emissions generation and its management:* The incremental concentrations of SO₂ and oxides of N₂ due to the operation of DG sets and flaring shall be

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negligible. Appropriate management of DG sets to achieve fuel efficiency and therefore reduce emissions. Low sulphur diesel oil shall be used during drilling. Environmental monitoring during drilling and well testing shall be done to ensure compliance to the standards.

11. *Details of Solid waste/ Hazardous waste generation and its management:* Drill cuttings of approximately 408-430 m³ per well shall be collected in lined pits, stabilized and buried and restored with native soil. Used oil of approximately 150-200 liters/well shall be generated and disposed through ASPCB authorized waste recyclers.

12. 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).

13. The project proposal was considered by the EAC (Industry-2) in its 1st EAC meeting held during 30th November- 1st December, 2015 which recommended Terms of References (ToRs) for the Project. The ToR has been issued by Ministry vide letter dated 28th December, 2015. The public hearing was conducted by the State Pollution Control Board on 4th May, 2017 at Gaurinagar Central Public Hall, Gaurinagar.

14. The proposal was considered by the EAC (Industry-2) in its 27th meeting held during 28-29 August, 2017. Project Proponent and the accredited consultant M/s Vimta Labs Limited, have presented EIA / EMP report as per the ToR. EAC found the EIA / EMP Report to be 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 21st July, 2010 and amended from time to time shall be followed.
- (f) Total fresh water requirement shall not exceed the proposed and prior permission for the same shall be obtained from the concerned regulatory authority/CGWA.

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- (g) 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.
- (h) 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 30th August, 2005.
- (i) 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.
- (j) 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.
- (k) 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.
- (l) 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.
- (m) Emergency Response Plan (ERP) shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- (n) Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office.
- (o) Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office.
- (p) 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.
- (q) 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.
- (r) 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

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quantity of hydrocarbon is found a full abandonment plan shall be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations.

- (s) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (t) 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.
- (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 16th 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.

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- (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.
- (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 31st 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.

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28/9/2017
(S. K. Srivastava)
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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, Forest and Climate Change, **New Delhi**.
6. Guard File/Monitoring File/Record File.

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28/9/2017
(S. K. Srivastava)
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