

F. No. J-11011/207/2013-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA-II Section)

Indira Paryavaran Bhawan
Jorbagh Road, New Delhi - 3

Dated: 30th August, 2018

To

M/s Oil and Natural Gas Corporation Ltd
11th Floor (E), CMDA Tower-I
Gandhi-Irwin Road, Egmore
Chennai - 8 (Tamil Nadu)

Sub: Exploratory drilling of 22 wells (onshore) in Ramanathapuram PML Block, District Ramanathapuram (Tamil Nadu) by M/s Oil and Natural Gas Corporation Ltd - Environmental Clearance - reg.

Sir,

This has reference to your proposal No. IA/TN/IND/19240/2013 and letter dated 6th June, 2018 submitting the EIA/EMP report with public consultation details on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for exploratory drilling of 22 wells (onshore) in Ramanathapuram PML Block in District Ramanathapuram (Tamil Nadu) by M/s Oil and Natural Gas Corporation Ltd).

3. The land area required for each well is about 4.5 acres which are taken on lease/hire basis. The estimated project cost is Rs. 440 crores. Total capital cost earmarked towards environmental pollution control measures is Rs 0.71 crores per well and the recurring cost (operation and maintenance) will be about Rs 0.06 crores per annum.

4. Sakkarakottai Bird Sanctuary, Therthangal Bird Sanctuary and Gulf of Mannar Marine National Park are located within 10 km from the project site. Vaigai river is flowing at a distance of 0.9 km in south direction. The Standing Committee of National Board for Wildlife (SC NBWL) in its meeting held on 13th June, 2018 has recommended the proposal from wildlife perspective subject to certain conditions and the wildlife mitigation measures stipulated by the State Chief Wildlife Warden. The Ministry has communicated the decision of the SC NBWL to the State Government vide letter dated 29th June, 2018.

5. Total water requirement is estimated to be 25 cum/day proposed to be met from authorized water tanker vehicles/surface water. All the generated effluent stored within the impermeable waste pit, shall be allowed for solar evaporation. In case of excess effluent, mobile ETP will be utilized for treatment. There will be no discharge of treated/untreated waste water from the unit, and thus ensuring Zero Liquid Discharge.

Power requirement will be met from three DG sets of 900 KW capacity and another DG set will be standby. Stack (height 6.6 m) will be provided as per CPCB norms to the DG sets.

Drill cuttings, drilling mud and wash water, kitchen waste and sewage, waste oil will be properly collected, stored, treated and disposed in accordance with the regulations and standards.

6. 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, 2006, and requires appraisal at central level by the sectoral Expert Appraisal Committee (EAC) in the Ministry.



7. The terms of reference (ToR) for the project was granted on 5th November, 2013 and public hearing was conducted by the Tamil Nadu State Pollution Control Board on 14th May, 2015.

8. The proposal for environmental clearance was considered by the EAC (Industry-2) in its meetings held on 26- 27 October, 2016, 26-29 December, 2016 and 25-27 July, 2018. The project proponent and their consultant M/s Arcadis India Pvt Ltd presented the EIA/EMP report. The Committee found the EIA/EMP report complying with the terms and conditions of the ToR, and recommended the proposal for environmental clearance to the project with certain conditions.

9. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **exploratory drilling of 22 wells (onshore) in Ramanathapuram PML Block** in District Ramanathapuram (Tamil Nadu) by M/s Oil and Natural Gas Corporation Ltd, under the provisions of the EIA Notification, 2006, read with subsequent amendments therein, subject to compliance of the terms and conditions as environmental safeguards, as under:-

- (i) All the conditions suggested by the Standing Committee of National Board for Wildlife (SC NBWL) shall be adhered to.
- (ii) 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.
- (iii) As proposed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged to any surface water body, sea and/or on land.
- (iv) 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.
- (v) 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.
- (vi) 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 PM₁₀, PM_{2.5}, SO₂, NO_x, CO, CH₄, HC, Non-methane HC etc.
- (vii) During exploration, production, storage and handling, the fugitive emission of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.
- (viii) The project proponent also to ensure trapping/storing of the CO₂ generated, if any, during the process and handling.
- (ix) Approach road shall be made pucca to minimize generation of suspended dust.
- (x) 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.
- (xi) Total fresh water requirement shall not exceed the proposed quantum of 25 cum/day proposed to be met from water tankers, and prior permission shall be obtained from the concerned regulatory authority.
- (xii) 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.
- (xiii) 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.

- (xiv) 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.
- (xv) The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.
- (xvi) 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.
- (xvii) 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.
- (xviii) 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.
- (xix) Emergency Response Plan shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- (xx) 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.
- (xxi) All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented.
- (xxii) 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.
- (xxiii) Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.
- (xxiv) Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office.
- (xxv) Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office.
- (xxvi) 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.
- (xxvii) Company shall have own Environment Management Cell having qualified persons with proper background.
- (xxviii) 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. Remote monitoring of site should be done.

(xxix) On completion of drilling, the company has to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.

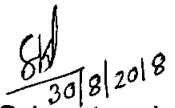
9.1 The grant of environmental clearance is subject to compliance of other general conditions, as under:-

- (i) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and 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 State Pollution Control Board (SPCB) and it shall be ensured that at least one station 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 followed.
- (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 use the same water for the process activities of the project to conserve fresh water.
- (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 also 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, and risk mitigation measures relating to the project shall be implemented.
- (ix) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.
- (x) The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (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



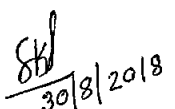
conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.

- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/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.
- (xvi) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
10. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.


(S. K. Srivastava)
Scientist E

Copy to: -

1. The Additional PCCF (C), MoEF&CC Regional Office (SEZ), 1st and 11nd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai –34
2. The Secretary, Environment and Forests Department, Government of Tamil Nadu, 7th Floor, Namakkal Kavignar Maligai, Secretariat, Fort St George, Chennai - 9
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 32
5. Guard File/Monitoring File/Website/Record File


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