

F. No. J-11011/593/2010-IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
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New Delhi – 110 003

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Dated: 21st June, 2013

To

The Senior Manager (E&P)
M/s GAIL (India) Limited
A-14, PDIL Building,
1st floor, Sector 1,
Noida – 201301
Uttar Pradesh

Email: pulakneog@gail.co.in; Fax: 011-26185941

Subject : Drilling for On-shore Oil & Gas Exploration At Cauvery Basin Block-CY-ONN-2005/1 at Thanjavur, District Thiruvavur, Tamil Nadu by M/s GAIL (India) Limited - regarding Environmental Clearance

Sir,

This has reference to your letter No.GAIL/ND/EIA/CY-ONN-2005/1/2012 dated 14.09.2012 along with copies of EIA/EEMP report seeking environment clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined the application for the above project. It is noted that M/s GAIL (India) Limited has proposed for the drilling for On-shore Oil & Gas Exploration at Cauvery Basin Block-CY-ONN-2005/1 in Thanjavur and Thiruvavur district of Tamil Nadu. Total block area is 946 sq.km. The Production Sharing Contract for the block was signed on 22.12.2008 and the Petroleum Exploration License was made effective from 3.3.2010. As per the Product Sharing Contract (PSC), M/s GAIL (India) Limited will carry out drilling in 3 exploration wells in phase I and one exploratory well in phase II. Location of drilling wells will be finalized based on interpretation results from 3D seismic survey. Thiruvavur is at 22.7 km distance from the block. 11.6 sq. km of forest land exists within the Block. Udayamarthandapuram bird sanctuary and part of Mangrove Research Forests (part of point Calimere Wildlife & Bird Sanctuary – Ramsar site) are located within the block area. Total cost of the project is Rs.60 crores.

3. It is noted that exploratory drilling will be temporary and short duration activity and includes Drilling will be carried out for 90-120 days. The depth of the exploratory well will be 1000 m – 2200 m. The site, if abandoned will be restored in accordance with the regulation. Cell pit (2 x2 x 2.5m) will be installed for well head and Blow out Preventer (BOP). Electric land rig will be used. The power requirement will be met through 4 Captive DG sets of 500KVA each for the drilling activities and 1x100 KVA DG set will be used for the lightening and other emergency requirements. For this purpose HSD (4-5KLD) will be used.

4. It is noted that to minimize impact of emissions from DG sets, water sprinkling and periodic maintenance of equipment will be done. Provision of adequate stack height for DG sets & flare as per CPCB norms will be provided.

5. The total water requirement for drilling operations will be 40-50 m³/day. Waster based mud will be used as drilling operation. Domestic sewage will be treated in sewage treatment system. Wastewater generation would be 20 m³/day. This will be treated in mobile effluent treatment plant (ETP) and then recycled.

6. It is noted that the drill cuttings (300-400MT) will be generated during drilling. Drill cuttings will be water washed and disposed HDPE lined pit. Used oil will be sold to authorized recyclers / re-processors.

7. All the on-shore & offshore Oil and gas exploration, development & production plants are listed at S.N. 1(b) under Category 'A' of the Schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee (Industry) of MoEF.

8. The proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 4th meeting held during 8-9th January, 2013. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions. Public Hearing / Public Consultation meeting conducted by the Tamil Nadu State Pollution Control Board on 15.6.2012 at Pattukottai, Thanjavur district and on 27.6.2012 at Mannarkudi, Thiruvavur district.

9. Based on the information submitted by you, presentation made by you and your consultant M/s Senes Consultants India Private Limited, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS :

- i. No drilling shall be undertaken within 10 km radius of the Udayamarhandapuram bird sanctuary and Calimere wildlife & bird sanctuary.
- ii. Natural drainages/nallahs inside the block area should not be disturbed and waste water should not be discharged into any drainage or water body.
- iii. Approach road should be made pucca to mitigate generation of suspended dust.
- iv. Ambient air quality should 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.
- v. Mercury should be analyzed in air, water and drill cuttings twice during drilling period.
- vi. The company should make the arrangement for control of noise from the drilling activity. Acoustic enclosure should be provided to DG sets and proper stack height should be provided as per CPCB guidelines.
- vii. Total water requirement should not exceed 40 m³/day and prior permission should be obtained from the Competent Authority.
- viii. The company should 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 should be created for oil contaminated and non-oil contaminated. Effluent should be properly treated and treated wastewater should conform to CPCB standards.

- ix. Drilling wastewater including drill cuttings wash water should be collected in disposal pit lined with HDPE lining evaporated or treated and should comply with the notified standards for on-shore disposal. The membership of common TSDF should be obtained for the disposal of drill cuttings and hazardous waste. Otherwise, secured land fill should be created at the site as per the design approved by the CPCB and obtain authorization from the SPCB. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bangalore.
- x. Good sanitation facility should be provided at the drilling site. Domestic sewage should be disposed off through septic tank/ soak pit.
- xi. Oil spillage prevention scheme should be prepared. In case of oil spillage/contamination, action plan should be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil should be disposed of to the authorized recyclers.
- xii. The company should 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.
- xiii. The Company should take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare should be explored. At the place of ground flaring, the overhead flaring stack with knockout drums should be installed to minimize gaseous emissions during operation.
- xiv. The company should develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers should be provided with personal H₂S detectors in locations of high risk of exposure along with self containing breathing apparatus.
- xv. The Company should carry out long term subsidence study by collecting base line data before initiating drilling operation till the project lasts. The data so collected should be submitted six monthly to the Ministry and its Regional Office at Bangalore.
- xvi. Blow Out Preventer (BOP) system should be installed to prevent well blowouts during drilling operations. BOP measures during drilling should focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.
- xvii. Emergency Response Plan (ERP) should be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xviii. The company should take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site should be restored to the original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan should be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations.

- xix. Occupational health surveillance of the workers should be carried out as per the prevailing Acts and Rules.
- xx. In case the commercial viability of the project is established, the Company should prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxi. Restoration of the project site should be carried out satisfactorily and report should be sent to the Ministry's Regional Office at Bangalore.
- xxii. Oil content in the drill cuttings should be monitored by some Authorized agency and report should be sent to the Ministry's Regional Office at Bangalore.
- xxiii. Under Corporate Social Responsibility (CSR), sufficient budgetary provision should be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxiv. Company should have own Environment Management Cell having qualified persons with proper background.
- xxv. Company should prepare and circulate the environmental policy.
- xxvi. Company should prepare operating manual in respect of all activities. It should cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental manual should be made available at the drilling site/ project site. Awareness should be created at each level of the management. All the schedules and results of environmental monitoring should be available at the project site office.
- xxvii. The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Tamil Nadu Pollution Control Board and the State Government.
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.
- iii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM₁₀, SO₂ and NO_x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bangalore and the SPCB/CPCB once in six months.
- iv. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st

December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

- v. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vii. The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
- viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
- ix. Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bangalore. The funds so provided shall not be diverted for any other purpose.
- x. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- xi. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF at Bangalore. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- xii. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bangalore / CPCB / SPCB shall monitor the stipulated conditions.
- xiii. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent 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 conditions and shall also be sent to the respective Regional Office of the MOEF at Bangalore by e-mail.

xiv. 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 and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.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 should be forwarded to the Regional office at Bangalore.

xv. 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 commencing the land development work.

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

11. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

12. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

13. This issues with the prior approval of the Competent Authority.


(Dr.V.P.Upadhyay)
Director(S)

Copy to:-

1. The Principal Secretary, Department of Environment, Ground Floor, Panagal Buildings 1, Jeenias Road, Saidapet, Chennai - 600 015.
2. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
3. The Chairman, Tamil Nadu Pollution Control Board, Corporate Office, 76, Anna Salai, Guindy, Chennai - 600 032.
4. The Chief Conservator of Forests, Regional Office (Southern Zone, Bangalore) Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File / Record File/Monitoring file.


(Dr.V.P.Upadhyay)
Director(S)