

F. No. J-11011/183/2011-IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

HOEC
Received

17 OCT 2011

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Dated 12th October, 2011

To,

Shri Manish Maheshwari
Joint Managing Director
M/s Hindustan Oil Exploration Company Limited
'Lakshmi Chambers', 192, St.Mary's Road, Alwarpet,
Chennai - 600 018, Tamil Nadu

E-mail : contact@hoec.com/mbalaji@hoec.com/manish@hoec.com; FaxNo.:044-66229012

Subject : Drilling of One Infill Development Well in Offshore Block PY-1, Cauvery Basin, Off the Coast of Tamil Nadu by M/s Hindustan Oil Exploration Company Limited - Environmental Clearance reg.

Ref. : Your letter no. HOEC/PY1/ENV/2011309 dated 15th March, 2011.

Sir,

Kindly refer your letter dated 15th March, 2011 alongwith project documents including Form I, Terms of References, Pre-feasibility Report and subsequent submission of additional information vide letter dated 22nd May, 2011 regarding above mentioned project.

2.0 The Ministry of Environment & Forests has examined your application. It is noted that proposal is for the drilling of one infill development well in offshore Block PY-1, Cauvery Basin, off the coast of Tamil Nadu. Main aim of drilling is to reach upto gas production capacity because there is reduction in gas production from the existing 3 production wells in the PY-1 field due to natural depletion. Environmental clearance was accorded by the Ministry vide letter no. J-11011/368/2005-IA(II)(I) dated 29th May, 2006 for offshore drilling of 2 exploratory and 3 development wells for oil and gas exploration. So far, only 3 development wells have been drilled and 2 exploratory wells are yet to be drilled. Therefore, one exploratory well will be converted into in-fill development well because same drilling process is involved in the both type of well. Proposed infill producer well lies within 12 nautical miles of the HTL. Surface coordinates of the proposed well is Latitude: 11° 30' 06.038" N, Longitude: 79° 56' 03.092 E. Coordinates of the block are:

3.0

Point	Latitude	Longitude
A	11° 31'16" N	79° 52'51" E
B	11° 33'31" N	79° 55'05" E
C	11° 29'53" N	80° 00'00" E
D	11° 26'48" N	79° 57'20" E

Existing drilling platform will be used for drilling and additional well will be drilled by using horizontal directional drilling techniques. No additional offshore footprint other than sub-sea drilling will be installed. Environmental clearance for installation of PY-1 platform, pipeline, gas processing (90 MMSCFD) and oil condensate processing unit (1600 BPD) was accorded vide Ministry's letter.

no.J-11011/98/2007-IA(II) (I) dated 6th July, 2007. CRZ clearance for laying of a pipeline from PY-1 offshore platform to the onshore gas processing plant at Village Pilliaperumalnattur, District Nagapattinam, Tamil Nadu was also accorded vide Ministry's letter no. 11-103/2009-IA-III dated 1st April, 2010. Total project cost is Rs. 189.00 Crores.

4.0 Air emissions from D.G. sets will be controlled by providing adequate stack height. Total water requirement from sea water source through desalination plant at rig for drilling mud preparation will be 69.15 m³/day. Water based mud (WBM) will be used for the drilling at top and reservoir sections. Drill cuttings will be separated from mud and washed drill cutting will be discharged as per MoEF's Notification issued by G.S.R 546 (E) dated 30th August, 2005. Domestic sewage will be treated in sewage treatment plant (STP). The waste oil and oily waste generated from the equipments on board will be brought onshore and sent to authorized recycler/re-processor.

5.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 24th meetings held during 22nd – 23rd June, 2011.

6.0 All the projects related to offshore and onshore Oil and Gas exploration, development and production are listed in para 1(b) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at centre level.

7.0 EIA/EMP report preparation and public hearing were exempted as per para 7 (ii) of EIA Notification, 2006.

8.0 Since the proposal involves drilling of one in-fill development well instead exploratory well, the Ministry has no objection for of conversion of one exploratory well into in-fill development well subject to strict compliance of the following specific and general conditions:

A. SPECIFIC CONDITIONS :

- i. All the specific conditions and general conditions specified in the environmental clearance accorded vide Ministry's letter no. J-11011/368/2005-IA-II(I) dated 29th May, 2006, J-11011/98/2007-IA-II(I) dated 6th July, 2007 and CRZ clearance vide Ministry's letter no. J-11011/103/2009-IA-II(I) dated 1st April, 2009 shall be implemented.
- ii. Company shall obtain No Objection Certificate (NOC) from the Tamil Nadu Pollution Control Board (TNPCB) prior to start the drilling activity and a copy shall be submitted to the Regional Office of the MOEF.
- iii. As proposed, direction well method technique shall be used for drilling. The infill development well shall be drilled from the existing platform.
- iv. Only high efficiency DG set with adequate stack height and modern emission control equipment and low sulphur clean diesel should be used. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.
- v. Total water requirement from sea water source shall not exceed 69.15 m³/day and prior permission shall be obtained from the Competent Authority for the drawl of water. Only water based mud system shall be used. No Chromium based fluid shall be used as the drilling fluid.
- vi. No spent synthetic based mud and material will be discharged into sea. Water based drilling mud (WBM, 150 m³/well) shall be discharged to the sea after proper dilution as per E(P) Rules vide G.S.R 546(E) dated 30th August, 2005. ✓

- vii. The Company shall ensure that there shall be no impact on flora fauna due to drilling of wells in the offshore sea. The company shall monitor the petroleum hydrocarbons and heavy metals concentration in the marine fish species regularly and submit report to the Ministry.
- viii. Treated wastewater (produced water or formation water or sanitary sewage) shall comply with the marine disposal standards notified under the Environment (Protection) Act, 1986. Residual Chlorine shall not exceed 1 mg/l before disposal.
- ix. The drill cutting (DC) wash water shall be treated to conform to limits notified under the Environment (Protection) Act, 1986 before disposal into sea. The treated effluent shall be monitored regularly.
- x. All the guidelines shall be followed for the disposal of solid waste, drill cutting and drilling fluids for onshore and offshore drilling operation notified vide GSR.546(E) dated 30th August, 2005. Different types of wastes shall be kept segregated.
- xi. High efficiency equipment shall be used to separate solids, hydrocarbons and water such as shale shakers with improved capacity to filter smaller solids, low shear pumps for use in produced water shall be employed.
- xii. Good book keeping practices shall be put in place to manage wastes such as waste tracking program viz. identify where and when the waste was generated, the type of waste and its volume, the disposal method and its location, and the personnel responsible for the waste management.
- xiii. A waste minimization plan shall be prepared and followed through proper inventory management following best practices in drilling operations, good house keeping practices and optimized equipment maintenance schedules.
- xiv. Only essential rig personnel shall be on board the rig. Emergency Response Plan and health, safety and environment (HSE) system shall be installed. Geo-hazard and geotechnical studies shall be carried out to ensure safe drilling operations.
- xv. All the hazardous waste generated at the rig/offshore facility shall be properly treated, transported to on shore and disposed of in accordance with the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008. No waste oil shall be disposed off into sea. Waste/used oil shall be sold to MoEF/CPCB authorized recyclers/re-processors only.
- xvi. The company shall also undertake conservation measures to protect the marine animals/biota in the region.
- xvii. The International 'Good Practices' adopted by the Petroleum Industry viz International norms to safeguard the coastal and marine biodiversity shall be implemented by the company.
- xviii. Requisite infrastructure facilities shall be provided near the offshore installations so that booms and skimmers/chemical dispersants could be deployed immediately in case of oil leakage from the installations. Efforts shall be made to curtail the oil slick within 500 meters of the installation and accordingly, action plan and facilities to check the oil slick beyond 500 meters should be provided. ✓

- xix. Approval from DG Shipping under the Merchant Shipping Act prior to commencement of the drilling operations shall be obtained. At least 30 days prior to the commencement of drilling, the exact location shall be intimated to the Director General of Shipping and the Company should abide by any direction he may issue regarding ensuring the safety of navigation in the area.
- xx. The flare system shall be designed as per good oil field practices and oil industry Safety Directorate (OISD) guidelines. The stack height shall be provided as per the regulatory requirements and emissions from stacks will meet the standards stipulated by MOEF/CPCB.
- xxi. The design, material of construction, assembly, inspection, testing and safety aspects of operation and maintenance of pipeline and transporting the natural gas/oil shall be governed by ASME/ANSI B 31.8/B31.4 and OISD standard 141.
- xxii. The project authorities shall install SCADA system with dedicated optical fibre based telecommunication link for safe operation of pipeline and Leak Detection System. Intelligent pigging facility shall be provided for the entire pipeline system for internal corrosion monitoring. Coating and impressed current cathodic protection system shall be provided to prevent external corrosion.
- xxiii. The project proponent shall also comply with the environmental protection measures and safeguards recommended in the EIA/EMP/RA/NIO report.
- xxiv. On completion of activities, the well shall be either plugged and suspended (if the well evaluation indicate commercial quantities of hydrocarbon) or killed and permanently abandoned with mechanical plugs and well cap. If well is suspended, it shall be filled with a brine solution containing small quantities of inhibitors to protect the well. The position at the end of the activities should be communicated in detail to the Ministry indicating the steps taken i.e. whether all the wells are plugged or abandoned and precautions taken.
- xxv. Recommendations mentioned in the Risk Assessment & Consequence Analysis and Disaster Management Plan shall be followed.
- xxvi. Full drawings and details of Blow Out Preventor to encounter well kick due to high formation presence, if encountered, shall be submitted to the Ministry within 3 months of the issue of environment clearance.
- xxvii. Petroleum & Natural Gas (Safety in Offshore Operations) Rules, 2008 of OISD shall be strictly adhered during drilling/production.
- xxviii. Adequate funds both recurring and non-recurring shall be earmarked to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government alongwith the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.
- xxix. A brief report on environmental status & safety related information generated and measures taken as well as frequency of such reporting to the higher Authority shall be submitted to this Ministry and its Regional Office at Bangalore.
- xxx. Company shall prepare project specific environmental manual and a copy should be made available at the drilling site for the compliance. ✓

xxxi. Company shall adopt Corporate Environment Policy as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 and implemented.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Tamil Nadu Pollution Control Board (TNPCB), State Government and any other statutory authority.
- ii. No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. 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 project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.
- iv. 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 EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
- v. A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- vi. 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.
- vii. 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 respective Regional Office of the MOEF, the respective Zonal Office of CPCB and the TNPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x, HC (Methane & Non-methane), VOCs (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.
- viii. 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 TNPCB. The Regional Office of this Ministry / CPCB / TNPCB shall monitor the stipulated conditions.
- ix. 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 alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail. ✓

- x. 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 TNPCB 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 shall be forwarded to the Regional office.
- xi. 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.

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

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

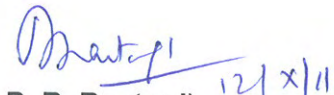
11.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules



(Dr. P. B. Rastogi)
Director

Copy to:

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



(Dr. P. B. Rastogi)
Director