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Corporate Health Safety & Environment  
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Ph. 011- 2240 6020, Fax 011 22406681

No. CHSE/ENV/EIA/EC/2014

11<sup>th</sup> Aug 2014

From: M C Das, Chief HSE, Corporate HSE, SCOPE Minar, New Delhi

To: ED- Basin Manager, KG- Basin, Chennai

Sub: Forwarding of Environment Clearance of Additional Exploratory Drilling of 8 wells in  
NELP- V I KG Offshore A.P.

The above proposal of KG Basin was considered by Expert Appraisal Committee (Industry II),  
Ministry of Environment Forests and Climate Change (M o E F C C) in its 16<sup>th</sup> meeting held during  
20<sup>th</sup> – 21<sup>st</sup> February, 2014.

M O E F C C has accorded EC to the said proposal. The original copy of the clearance letter is  
enclosed for your pursuance.

With regards,

*M C Das*

(M C Das)

GGM-Chief HSE

*P. K. K. 18/8/14*  
*HSE*  
*BLM-offshore*  
*HBMG.*

Basin Manager  
KG-PG, Chennai  
Dy. No: 7557  
Date (In)  
Date (Out) 14/8/14



Government of India  
Ministry of Environment and Forests

F. No. J-11011/541/2007-IA II (I)

Paryavaran Bhawan  
CGO Complex, Lodhi Road  
New Delhi – 110 003  
E-mail : [tchand2003@yahoo.co.uk](mailto:tchand2003@yahoo.co.uk)  
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Dated: 23<sup>rd</sup> July 2014

To  
The Chief Engineer (Civil)-HSE  
M/s ONGC  
Health Safety & Environment (HSE) Department  
Southern Sector CDMA Tower-II  
No. 1 Gandhi Irwin Road Egmore Chennai-600008  
E-mail: [hsechennai@ingc.co.in](mailto:hsechennai@ingc.co.in)

**Subject: Additional Exploratory Drilling of 8 Wells in NELP-VI Block of M/s ONGC, KG Offshore A.P. - Environmental Clearance reg.**

Sir,

This is with reference to your letter no ONGC/CHSE/EC/2013-14 dated 4<sup>th</sup> February, 2014 along with Form-1 and Pre feasibility Report regarding above mentioned subject.

2. The Ministry of Environment & Forests has examined your application. It is noted that proposal is for additional exploratory drilling of 8 wells in NELP-VI Block, KG Offshore A.P. by M/s Oil and Natural Gas Corporation Limited (ONGCL). MOEF has granted Environmental Clearance for drilling of eight wells in the said block vide F.No. J-11011/541/2007-IA II (I) dated 3<sup>rd</sup> June'2009 (Seven wells) and F.No. J-11011/218/2012-IA II (I) dated 2<sup>nd</sup> May'2013 (One well). Drilling of all eight exploratory wells were completed during phase-I minimum work programme (MWP) commitment.

3. The wells drilled in the block and the results there off are tabulated below:

S N	Well	Status	Brief Results
1	KGOSN041NACS#1	Gas	Q gas : 172000m <sup>3</sup> /d from object-1 Q gas : 127116m <sup>3</sup> /d from Object-II
2	KGOSN041NAAL#1	Gas	Q gas : 144780m <sup>3</sup> /d from Object:1
3	KGS041NASA#1	Gas	Q gas : 409453m <sup>3</sup> /d from Object-II Q gas : 315001m <sup>3</sup> /d from Object-IV
4	KGS041NANL#2	Gas	Q Gas : 150034m <sup>3</sup> /d from Object-I
5	KGS041NANL#1	Gas	Q gas : 261268m <sup>3</sup> /d from object-II+ 41 bopd of water
6	KGS041NARV#1	Gas Indication	Minor Gas in MDT
7	KGS041NANL#3	Gas	Q gas : 289190m <sup>3</sup> /d from Object-I
8	KGS041NAMA#1	Gas Indication	Q gas : 4921m <sup>3</sup> /d + QW: 43bopd

G. Karthikeyan  
HSE  
15/7/14

M/s ONGC has proposed for exploratory drilling of additional 8 wells in NELP –VI Block, KG-OSN-2004/1, KG offshore basin. The block KG-OSN-2004/1 awarded to ONGC and BGEPI under NELP-VI licensing round with ONGC being operator. Block KG-OSN-2004/1 covers an area of 1131 Km<sup>2</sup>. Total of 8 wells will be drilled and depth varies from 1930-2600 m. Water depth varies from 60 m to 322 m. Total cost of the project is Rs. 600 crores. Distance of the wells from the coastline varying between approx.. 17 to 28 Km. No eco-sensitive areas or forest or wild life sanctuaries are located within 10 km distance from the wells. During EAC meeting, M/s ONGC clarified that the proposed wells are away from CRZ area and does not require a clearance under CRZ Notification. The proposed drilling operations will require a four number of DG sets with the capacity of 1430 KVA to cater to the power requirement.

4. Air emissions from D.G. sets will be controlled by providing adequate stack height. Gas production during testing will be flared. Total water requirement will be 30 m<sup>3</sup>/day/well. Water based mud system will be used for drilling of these wells. However, in case of specific down hole problems, low toxic Synthetic Oil Base Mud (SOBM) having aromaticity of <1% will be used. Thoroughly washed drill cuttings will be discharged to sea with proper dilution @ 50 bbl/hr. intermittently as per GSR 546(E) dated 30<sup>th</sup> August, 2005 guidelines. All the drilling mud additives will be having low toxicity and bio-degradable. All the safety guidelines issued by the OISD, MOEF will be followed. Domestic effluent will be treated in sewage treatment plant (STP) provided at the rig. Waste oil and grease will be collected in barrels and trash and will be brought to shore and handed over to authorized recyclers.

5. The proposal was considered by the Expert Appraisal Committee (Industry) in its meetings held during 28<sup>th</sup> -30<sup>th</sup> April, 2014. M/s ONGC has presented EIA / EMP report as per the TOR. EAC has found the submitted information to be adequate and in full consonance with the presented TORs. The Committee recommended the proposal for environmental clearance.

6. 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 Central level.


7. EIA-EMP report preparation and Public Hearing was exempted under 7 (ii) of EIA Notification, 2006.


8. The Ministry of Environment and Forests hereby accords environmental clearance to the above project subject to strict compliance of the following specific and general conditions:

**A. SPECIFIC CONDITIONS :**

- i. Only high efficiency DG set with adequate stack height and modern emission control equipment and low sulphur clean diesel shall be used. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.
- ii. Gas produced during testing shall be flared with appropriate flaring booms.
- iii. 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 MOEF/CPCB guidelines.



- iv. Total water requirement shall not exceed 30 m<sup>3</sup>/day/well and prior permission shall be obtained from the Competent Authority for the drawl of water. Only water based mud system shall be used.
  - v. Water based drilling mud shall be discharged to the sea after proper dilution as per E(P) Rules vide G.S.R 546(E) dated 30<sup>th</sup> August, 2005.
  - vi. 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 undertake conservation measures to protect the marine animals/biota in the region. The company shall monitor the petroleum hydrocarbons and heavy metals concentration in the marine fish species regularly and submit report to the Ministry.
  - vii. Treated wastewater (produced water or formation water) shall comply with the marine disposal standards notified under the Environment (Protection) Act, 1986. Sewage treatment on board of the rig as per MARPOL regulation. Residual chlorine shall not exceed 1 mg/l before disposal.
  - viii. 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.
  - ix. 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 30<sup>th</sup> August, 2005. Different types of wastes shall be kept segregated.
  - x. 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.
  - xi. Good book keeping practices shall be put in place to manage wastes such as waste tracking program i.e. identify where and when the waste generated, the type of waste and its volume, the disposal method and its location, and the personnel responsible for the waste management.
  - xii. A waste minimisation plan shall be developed and followed through proper inventory management following best practices in drilling operations, good housekeeping practices and optimised equipment maintenance schedules.
  - xiii. 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.
  - xiv. 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 Transboundary Movement) Rules 2008. No waste oil shall be disposed off into sea. Waste/used oil shall be brought on-shore and sold to MOEF/CPCB authorized recyclers/re-processors only.
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- xv. 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 within 500 meters shall be provided.
  - xvi. 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 shall abide by any direction he may issue regarding ensuring the safety of navigation in the area.
  - 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. The Company shall take necessary measures to reduce noise levels such as proper casing at the drill site and meet DG set norms notified by the MOEF. Height of all the stacks/vents shall be provided as per the CPCB guidelines.
  - xix. 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.
  - xx. The project proponent shall also comply with the environmental protection measures and safeguards recommended in the EIA /EMP/RA/NIO report.
  - xxi. 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's Regional Office within 3 months of the issue of environment clearance.
  - xxii. On completion of activities, the well shall be either plugged and suspended (if the well evaluation indicates 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 shall be communicated in detail to the Ministry indicating the steps taken i.e. whether all the wells are plugged or abandoned and necessary precautions taken.
  - xxiii. 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 respective Regional Office at Bangalore.
  - xxiv. Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008 of OISD shall be strictly adhered to.
  - xxv. Recommendations mentioned in the Risk Assessment & Consequence Analysis and Disaster Management Plan shall be followed.
  - xxvi. 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
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Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.

- xxvii. Petroleum and Natural Gas (safety in Offshore Operations) Rules 2008 of OISD shall be strictly adhered to.


**B. GENERAL CONDITIONS:**

- i. The project authorities must strictly adhere to the stipulations made by the Andhra Pradesh Pollution Control Board (APPCB), 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 Regional Office of the MOEF, the respective Zonal Office of CPCB and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub>, 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 APPCB. The Regional Office of this Ministry / CPCB / APPCB shall monitor the stipulated conditions.
- ix. The environmental statement for each financial year ending 31<sup>st</sup> 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 APPCB 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.
- 2.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- 3.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- 4.0 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, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

  
(Dr. T. Chandini)  
Director

Copy to :

1. The Principal Secretary, Department of Environment, Forest, Science & Technology, Government of Andhra Pradesh, Hyderabad, A.P.
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, Andhra Pradesh Pollution Control Board, Paryavaran Bhawan, A-III, Industrial Estate, Sanath Nagar, Hyderabad - A.P.
5. Joint Secretary, 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.