

**Government of India
Ministry of Environment & Forests
(IA Division)**

**Paryavaran Bhawan
CGO Complex, Lodhi Road
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Dated : June 24, 2009

F. No. J-11011/147/2008-IA-II(I)

To
The Block Manager,
M/s ONGC Limited
South Assam Shelf Block,
1st Floor, Luit Bhawan,
Chinnamara Complex,
Jorhat – 785704, Assam

Sub: Exploratory drilling of 30 wells in PEL/ML Blocks of South Assam Shelf Block (Golaghat, Jorhat, Nagaon, Morigaon, North Cachar, Darrang and Sonitpur Districts) at District Jorhat Assam By M/s ONGC Limited – Environmental Clearance reg.

Sir,

This has reference to your application No. CHSE/CHSE/ENV/2007-08 dated 7th February, 2008 alongwith Form-1 and prefeasibility report seeking environmental clearance under EIA Notification 2006 subsequent submission the hydrocarbon content of methane and non-methane monitoring report to the Ministry vide letter dated 17.01.2009 and circulated to Expert Appraisal Committee (Industry) during 93rd meeting of the Expert Appraisal Committee (Industry) held on 14th – 16th April, 2009.

2. The Ministry of Environment and Forests has examined the application. It is noted that the proposal is for environmental clearance for Onshore Exploratory drilling of 30 wells in PEL/ML Blocks of South Assam Shelf Block (Golaghat, Jorhat,

Nagaon, Morigaon, North Cachar, Darrang and Sonitpur Districts) at District Jorhat Assam By M/s ONGC Limited. The South Assam Shelf Block a part of Assam and AssamArakan Basin, consists broadly of the Titabar, Borholla , Mekrang , Merapani, Kalyanpur, Kasomarigaon, East Lakhibari, Khoraghat and Nambar, areas within the State of Assam. This proposal is for environmental clearance for exploratory drilling of 30 wells in various PEL's and ML's within Golaghat District and Jorhat districts except Karbi Anglong PEL area which falls in the Karbi Anglong district and Kopili Valley PEL area which extends across the Karbi Anglong, Nagaon, Morigaon, North Cachar, Darrang and Sonitpur districts of Assam. Out of 30 new locations, 4 locations KHG, TBAA, CJAA and BRAI are released and remaining 26 new locations will be added on the basis of ongoing R & D studies. The areas lie between 25° 38' and 26°32' North latitude and between 92°15' and 94° 16' East longitude and have an average elevation of around 100 metres above mean sea level. Total area of PEL/ML block is about 727 sq km, but area of each drill site would be approx. 1.80 hectare and will be acquired on lease. The oil and gas reservoirs in the above said hydrocarbon prospective area occur at depths ranging from 2000 to 3000 m below surface except a few shallow gas reservoirs in the depth range of 400 to 1500 mts. Total cost of project for drilling of the 30 wells will be approx. Rs. 400 Crores. The area-wise distribution of proposed locations for Environmental Clearance is as under:-

Areas	PEL / MLs Name	Districts	Total Area (Sq Km)	Locations proposed
Titabar, Borholla Mekrang	Titabar PEL, Borholla ML, Mekrang ML	Jorhat	149	10
Merapani ,Kalyanpur Kasomarigaon, East Lakhibari	Merapani PEL, East Lakhibari ML, Golaghat Extn IIA PEL (North)	Golaghat	252	10
Khoraghat, Nambar	Golaghat Extn IIA PEL (South), Golaghat Dist PEL, Khoraghat Extn ML, Khoraghat ML, Nambar ML	Golaghat	327	10
	Total		727	30

3. It is noted that only water based drilling fluid will be used. The water requirement will be approx. 25 m³/day and will be met from deep tube wells. The quantity of waste water produced will be approx. 15 m³/day in a well. About 150 to 250 m³/well of drill cuttings will be generated and the cuttings including wash water shall be collected in HDPE lined disposal pit. The effluent/ waste water will be treated

by a Mobile ETP and the water will be reused / recycled as technical water. The Drilled cuttings about 150-250 m³/well will be generated as solid waste. The cuttings will be disposed off as per MOEF guideline. Two DG sets are used at a time. Exhaust height attached to DG sets shall be as per EPA and rules. For captive Gen-sets 4 KL/day of diesel per well will be required.

4. All the onshore and offshore oil and gas exploration, development and production activities are listed at 1(b) under 'A' category in the Schedule of EIA Notification, 2006. The proposal appraised in 83rd meeting of the Expert appraisal Committee (Industry) held during 14th -16th July 2008 and reconsidered during 93rd meeting held on 14th -16th April, 2009 at central level. Public hearing/public consultation was exempted as per para 7(ii) of the EIA Notification, 2006.

4. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification, 2006 subject to compliance of the following Specific and General Conditions.

A. SPECIFIC CONDITIONS:

- i. Compensation for the land acquisition to the land oustees (if any) and for standing crop shall be paid as per the National Resettlement and Rehabilitation Policy (NRRP) 2007/State Government norms. It may be ensure that compensation provided shall not be less than the norms of the NRRP 2007.
- ii. The company shall obtain forest clearance under Forests Conservation Act 1980 for the sites located within the forest areas.
- iii. The company shall obtain permission to establish under Air and water acts from State Pollution Control Board for each well and copy submitted to Ministry's Regional Office at Shillong.
- iv. The company shall inform the details of the each drill site to Ministry's Regional Office at Shillong.
- v. The company shall make the arrangement for control of noise from the drilling activity and from DG sets.
- vi. 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.

- vii. The surface facilities shall be installed as per applicable codes and standards, international practices and applicable local regulations.
- viii. The top soil removed shall be stacked separately for reuse during restoration process.
- ix. Drilling waste water including drill cuttings wash water shall be collected in disposal pit lined with HDPE lining evaporated or treated and shall comply with the notified standards for on-shore disposal. The membership of common TSDF shall be obtained for the disposal of drill cuttings and hazardous waste. Otherwise secured land fill shall be created at the site as per the design of the secured shall be approved by the CPCB and obtain the authorization of the SPCB. Copy of authorization or membership of TSDF shall be submitted to Ministry's Regional Office.
- x. The company shall construct the garland drain all around the drilling site to prevent runoff of any oil containing waste in to the nearby water bodies.
- xi. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.
- xii. Only water based drilling mud shall be used. The drilling mud shall be recycled. In case of use of synthetic oil based mud due to any problem due to geological formation for drilling, low toxicity, Oil Based Mud (OBM) having aromatic content < 1 % shall be used. If it is intended to use such OBM/SBM to mitigate specific hole problem, it should be intimated to Ministry of Environment and Forests/ SPCB.
- xiii. Quantities of storage and chemicals and additives required for drilling mud preparation shall be below the specified threshold for specified storage permitted under the MSIHC Rules.
- xiv. Pre hire rig inspection, safety meetings, tool box meeting, job safety analysis and audits shall be carried out to identify hidden /potential hazardous.
- xv. The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.

- xvi. The Company shall take necessary measures to reduce noise levels at the drill site by providing mitigation measures such as proper acoustic enclosures to the DG set and meet the norms notified by the MoEF. Height of all the stacks/vents shall be provided as per the CPCB guidelines.
- xvii. To prevent fire and explosion at Oil and Gas facility, potential ignition sources should be kept to a minimum and adequate separation distance between potential ignition sources and flammable material should be in place.
 - i. The company shall 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.
 - ii. To prevent well blowouts during drilling operations, Blow Out Preventor (BOP) system shall be installed. Blow Out Prevention measures during drilling shall focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.
 - iii. 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 are 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.
 - iv. Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.
 - v. In case the commercial viability of the project is established, the Company shall prepare a detailed plan for development of oil and gas fields and obtain fresh clearance from the Ministry.
 - vi. The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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 State Pollution Control Board, the State Government and any other statutory.
- 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 emissions of (RSPM, SPM, SO₂, NO_x, HC & VOC) from DG Set and from flare stack shall conform to the standards prescribed by the SPCB. Regular monitoring of Ambient Air for HC and VOC shall be carried out as per CPCB guidelines. Stack height attached to DG sets shall be in-conformance with the environment protection acts and rules.
- iv. The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.
- v. The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Wastes (Management and Handling) Rules, 1989/ 2003 wherever applicable. Authorization form the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.
- vi. 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).
- vii. A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- viii. The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for

all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.

ix. The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.

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 State Pollution Control Board and may also be seen at Website of the Ministry and Forests at <http://www.envfor.nic.in> This shall be advertised within seven days of the issue of this letter in at least two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned.

xi. 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 commencing the land development work.

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

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

7. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.

8. The above conditions will 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) Rules, 1989, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

(H.S. Malviya)
Joint Director

Copy to :

1. The Secretary, Department of Environment, Science & Technology, Assam Secretariat, Government of Assam, Guwahati- 781 006.
2. Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office (NEZ), Upland Road, Laitumkhrah, Shillong : 793 003, Meghalaya.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Assam State Pollution Control Board, Bamunimaidan, Guwahati- 781 021, Assam.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File.
7. Monitoring File.
8. Record File.

(H.S. Malviya)
Joint Director