

F. No. J-11011/228/2012- IA II (I)
Government of India
Ministry of Environment, Forests and Climate Change
(I.A. Division)

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Date: 12th May, 2015

To,

Shri G S Datta (CE (D), In-charge HSE)
M/s Oil & Natural Gas Corporation Ltd.
1st Floor, HSCL Building,
Nayamore Bokaro- 82700, Jharkhand

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Subject: Development of North Karanpura CBM Block NK-CBM-2001/1 in Jharkhand by M/s ONGC Ltd. - Environmental Clearance reg.

Ref. : Your letter no. ONGC/CHSE/EC/2014 dated 28th June, 2014.

Sir,

This has reference to your letter dated 28th June, 2014 on the above mentioned subject alongwith project documents including Prefeasibility Report, Draft Terms of References, EIA/EMP, Public Hearing Report and subsequent submission of additional information vide letter dated 17th January, 2015 regarding above mentioned project.

2.0 The Ministry of Environment, Forests & Climate Change has examined your application. It is noted that the proposal is for development of North Karanpura CBM Block NK-CBM-2001/1 in Jharkhand by M/s ONGC Ltd. The block falls in the districts of Hazaribagh and Chatra of Jharkhand State with block area (271.8 sq. km). It is reported that no sensitive zone and bio-reserves are located within 10 Km distance and no forest land is involved. The block is bounded by latitude 23^o46'56" & 23^o54'57" and longitudes 85^o00'36" & 85^o20'44". In the said block ONGC proposed to drill 74 wells (68 Development Wells & 6 assessment wells). The present proposal is in 3rd phase of development. Average depth of drilling will be 1000 m and Maximum upto 1500 m. There will be 3 mini Gas Collection Stations (GCS) in Sector -C, one located in subsector -1 and other two in Sub-sector -2. Total capacity of gas processing is 0.15 MMSCMD. Produced water handling capacity will be 1500 m3/day. Cost of project is Rs. 684 Crore.

3.0 Elevated flaring will be done only during process upset. Adequate stack height will be provided to DG set/GG sets. Fresh water requirement from surface water source/tanker supply/CBM produced water will be 25m³/day. Wastewater generated during drilling operations will be 5-10 m3/day or 150-200 m3 per well. The effluent generated during drilling operations are recommended to be collected in lined waste pits to avoid groundwater contamination. The wastewater is solar evaporated and residual material on completion of well is removed and disposed in accordance with prevailing rules. Drill cuttings will be generated and separate in a solid control system and conveyed to a specially designed pit (lined with HDPE) for temporary storage and disposed in accordance with CPCB regulations specified for on-shore oil and gas industry or will be used for road making. Generation of produce

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water from CBM wells will be 3-5 m³/day. The produced water during production testing is allowed to evaporate naturally from the evaporation pit. Produced water based on water quality will be reused for beneficial purposes. Waste oil/used oil will be sent to authorized re-processors.

4.0 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 Central level.

5.0 Public hearing/public consultation meetings were held for Chatra District on 25.02.2014 and for Hazaribagh District on 26.02.2014.

6.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 3rd, 24th and 34th Meetings held during 3rd-5th December, 2012, 29th-30th September, 2014 and 17th-19th February, 2015 respectively. Project Proponent as well as EIA Consultant namely M/s ONGC Ltd., have presented EIA / EMP report as per the TOR. EAC has found the EIA / EMP Report and additional information to be satisfactory and in full consonance with the presented TORs. The Committee recommended the proposal for environmental clearance.

7.0 Based on the information submitted by the project proponent, the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14th September 2006, subject to the compliance of the following Specific and General Conditions:

A. SPECIFIC CONDITIONS :

- i. Compensation for the land acquisition to the land owners, if any, and also for standing crop shall be paid as per the National Resettlement and Rehabilitation Policy (NRRP) 2007 or State Government norms. It may be ensured that compensation provided shall not be less than the norms of the NRRP, 2007.
- ii. The surface facilities shall be installed as per the applicable codes and standards, international practices and applicable local regulations.
- iii. Ambient air quality shall be monitored near the closest human settlements as per the National Ambient Air Quality Emission Standards (NAAQES) 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, VOCs, HC, Non-methane HC etc. Efforts shall be made to improve the ambient air quality of the area.
- iv. The flare system shall be designed as per good oil field practices and Oil Industry Safety Directorate (OISD) guidelines. The company shall take necessary measures to prevent fire hazards and soil remediation as needed. At the place of ground flaring, the flare pit shall be lined with refractory bricks and efficient burning system. In case of overhead flare stacks, the stack height shall be provided as per the regulatory requirements and emissions from stacks shall meet the MOEF/CPCB guidelines.
- v. The company shall make the arrangement for control of noise from the drilling activity and DG/GG sets by providing necessary mitigation measures such as proper acoustic enclosures to DG/GG sets and meet the norms notified by the MoEF. Height of all the stacks/vents shall be as per the CPCB guidelines.

- 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. Total fresh water requirement shall not exceed (25m³/day) for each well during drilling phase and prior permission shall be obtained from the Competent Authority and a copy submitted to the Ministry's Regional Office at Bhubaneswar.
- viii. During well drilling, wastewater shall be segregated into waste drilling fluid and drill cuttings. Drill cutting shall be stored onsite impervious HDPE lined pit for solar evaporation and drying. Effluent shall be properly treated and treated effluent shall conform to CPCB standards. The produced water shall be stored onsite HDPE lined pit for solar evaporation and reuse in drilling of new wells and fire hydrant system. Domestic effluent shall be disposed off through septic tank followed by soak pit.
- ix. Ground water quality monitoring shall be done to assess if produced water storage or disposal has any effect.
- x. Drilling wastewater 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 on land. Proper toxicological analysis shall be done to ensure there is no hazardous material. Copy of toxicological analysis shall be submitted to Ministry's Regional Office at Bhubaneswar.
- xi. Only water based drilling mud shall be used. The drilling mud shall be recycled. Hazardous waste shall be disposed of as per Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers/re-processors.
- xii. 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 operation.
- xiii. To prevent underground coal fire, preventive measures shall be taken for ingress of ambient air during withdrawal inside the coal seams by adopting technologies including vacuum suction. Gas detectors for the detection of CH₄ and H₂S shall be provided.
- xiv. 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. Pipeline wall thickness and minimum depth of burial at river crossing and casings at rails, major road crossings should be in conformity with ANSI/ASME requirements.
- xv. 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.
- xvi. Adequate well protection system shall be provided like Blow Out Preventer (BOP) or diverter systems as required based on the geological formation of the blocks.

- xvii. The top soil removed shall be stacked separately for reuse during restoration process.
- xviii. Emergency Response Plan shall be based on the guidelines prepared by OISD, DGMS and Govt. of India. Recommendations mentioned in the Risk Assessment & Consequence Analysis and Disaster Management Plan shall be strictly followed.
- xix. Project proponent shall comply with the environment protection measures and safeguards recommended in the EIA/EMP/risk analysis report/disaster management plan.
- 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 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. Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.
- xxii. All the commitments made to the public during the Public Hearing / Public Consultation meetings held on 25.02.2014 for Chatra District and on 26.02.2014 for Hazaribagh District shall be satisfactorily implemented.
- xxiii. At least 5 % of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Jharkhand State Pollution Control Board (JSPCB), 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 and 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 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 stations is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- 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 Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- v. 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.

- vi. 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, risk mitigation measures and public hearing relating to the project shall be implemented.
- vii. The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.
- viii. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- ix. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- x. The company shall earmark sufficient funds towards capital cost and recurring cost per annum 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 earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- xi. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parisad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- xii. 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, the respective Zonal Office of CPCB and JSPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- xiii. 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 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/Committee and may also be seen at Website of the Ministry 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 concerned Regional Office of the Ministry.
- xv. 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.

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

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

10.0 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.

11.0 Environment Clearance is issued to M/s ONGC Ltd. for Development of North Karanpura CBM Block NK-CBM-2001/1 in Jharkhand.

(Lalit Bokolia)
Additional Director

Copy to:-

1. The Secretary, Department of Environment, Govt. of Jharkhand, Jharkhand.
2. The Chief Conservator of Forests, Regional Office (EZ), A/3, Chandrashekharpur, Bhubaneswar, 751023. Orissa.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Jharkhand Pollution Control Board, Town Administrative Building, HEC, Dhurwa, Ranchi- 824004.
5. Monitoring Cell, Environment, Forests & Climate Change, Indira Paryavaran Bhavan, Jor Bagh, New Delhi.
6. Guard File/Monitoring File/Record File.

(Lalit Bokolia)
Additional Director