

F. No. J-11011/92/2012- IA II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(I.A. Division)

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road,
New Delhi -110003

E-mail : lk.bokolia@nic.in
Telefax: 011-24695313
Dated: 22nd March, 2016

To,

Shri Anil Johari (Asset Manager)
M/s Oil & Natural Gas Corporation Ltd.
Avani Bhavan, Chandkheda,
Ahmadabad – 380005, Gujarat

E-mail : johari_anil@ongc.co.in ; Fax No.: 079-23291289

Subject: Development Drilling of (406 nos.) of wells (Oil and Natural Gas) in oil Field of Ahmedabad Asset at Kheda, Gandhinagar and Ahmedabad District of Gujarat by M/s ONGC Ltd. –Environmental Clearance reg.

Ref: Your online proposal no. IA/GJ/IND2/29185/2012 dated 13th July, 2015.

Sir,

This has reference to your online proposal no. IA/GJ/IND2/29185/2012 dated 13th July, 2015 alongwith project documents including Form I, Terms of References, Pre-feasibility Report, EIA/EMP Report alongwith Public Hearing Report regarding above mentioned project.

2.0 The Ministry of Environment, Forest and Climate Change has examined the application. It is noted that proposal is for development drilling of (406 nos.) of wells in oil Field of Ahmedabad Asset at Kheda, Gandhinagar and Ahmedabad District of Gujarat by M/s ONGC. Ahmedabad Asset is one of the major onshore Asset of ONGC operating in four revenue districts of Gujarat. Operation area of Ahmedabad Asset is divided four areas, area I to area IV. Area I and area III are geographically located in Mehsana and Gandhinagar Districts, while area II and area IV are falling within Kheda, Ahmedabad and Gandhinagar Districts. Operational areas for the Ahmedabad Asset include a Mining Lease (ML) area of 1649.917 Km². The Asset currently produces approximately 3725 TPD of crude oil and 5.8 Lakh m³ of natural gas on a daily basis. Mining Leases of Area II & IV of the Ahmedabad Asset are spread over three districts covers: Four Taluka of Ahmedabad District; Three Taluka in Gandhinagar District; Seven Taluka of Kheda District. Existing CTF, GGSs, EPS, GCP, water injection well and ETPs within area II and area IV are located. It is reported that no forest land is involved in the proposed project. Thol lake bird sanctuary is present within study area, ONGC will not drill any well in the ecosensitive zone of the Thol Lake Bird Sanctuary. Sabarmati, Khari, Meswo & Vatrak River are flowing through the study area. Cost of project is Rs. 1752 Crores. Depth of drilling wells will be in the range of 800 m to 2000m. District wise proposed wells in various mining Leases is as given below:

ONGC Field	ML in the Filed	Ahmedabad	Kheda	Gandhinagar	Total
Ahmedabad	Ahmedabad Ext-I	3	-	-	3
	Ahmedabad Ext-II	3	-	-	3
	Hirapur	8	6	-	14
	Ahmedabad Bakrol	8	-	-	8
	Ahmedabad Ext-III	3	2	-	5
	Nandej East	-	1	-	1
	Ahmedabad Ext-V	5	-	-	5
Nawagam	Nawagam	-	6	-	6
	Nawagam Ext-I	-	2	-	2
			-	-	

Gamij	Gamij Ext-I	-	94	10	104
	Gamij	-	-	43	43
	Gamij Ext-II	-	170	-	170
	Varsoda Halisa	-	-	3	3
Nandej	Nandej East	-	5	-	5
	Ahmedabad Ext-III	3	2	-	5
	Nandej	1	-	-	1
Asamli ML	-	-	-	-	-
Valod ML	-	-	-	-	-
Chaklasi ML	-	-	-	-	-
Mahelaj	Nawagam South Ext-I	-	1	-	1
	Nawagam South	-	1	-	1
Limbodra	Plyd-Kalol Limbo	-	-	13	13
	Limbodra	-	-	4	4
Sadra	Nawagam South Ext-II	-	-	-	0
Wasna	Nawagam	-	9	-	9
Grand Total		34	299	73	406

3.0 Flare stack of adequate height will be provided. Adequate stack will be provided to DG set to disperse air emissions. Total water requirement from tanker water supply will be 35 m³/day for drilling of well. Effluent will be treated in effluent treatment plant (ETP) comprising equalization, chemical coagulation, flocculation and clarification by settling and residual unusable mud will be collected in lined pits and solar evaporated. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorized recyclers.

4.0 During development operation, produced water generated during processing of crude oil at existing GGS/EPS will be treated in the associated ETP. After flow of newly drilled wells, the burden of about 70 m³/day will be added. As a result, the total quantity of effluent generation in area II & IV will rise to 1500 m³/day. Present treatment capacity of ETP in area II and IV is 2600 m³/day. Present treatment capacity of all ETPs of Ahmedabad Assets is 11600 m³/day. Used oil will be sent to authorised recyclers. Blow out prevention techniques will be part of drilling rig unit. Blow out preventers (BOP) will be installed to control fluid from the formation gushing to the surface. In the event the well is unsuccessful, the well bore will be cement plugged.

5.0 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.

6.0 Public Hearing / Public Consultation meeting conducted by the Gujarat Pollution Control Board on 4th July, 2015 for Gandhi Nagar District; on 8.07.2015 for Kheda District; on 07.07.2015 for Ahmedabad.

7.0 The proposal was considered by the Expert Appraisal Committee (Industry) in its meetings held during 13th – 14th April, 2012, 1st -2nd December, 2014 and 18th – 19th January, 2016 respectively. Project Proponent and the EIA Consultant namely M/s Kadam Environmental Consultant, 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.

8.0 Based on information submitted by you, 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. Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/218/2008-IA II(I) dated 3rd July, 2008 shall be satisfactorily implemented and compliance reports submitted to the Ministry's Regional Office at Bhopal.
- ii. The environmental clearance is subject to obtaining prior clearance from Wildlife angle including clearance from the Standing Committee of the National Board for Wildlife as applicable.
- iii. Gas produced during testing shall be flared with appropriate flaring booms. 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. Ambient air quality shall 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 shall also be analyzed in air, water and drill cuttings twice during drilling period.
- vi. Approach road shall be made pucca to minimize generation of suspended dust.
- vii. The company shall make the arrangement for control of noise from the drilling activity. Acoustic enclosure shall be provided to DG sets and proper stack height shall be provided as per CPCB guidelines.
- viii. Total water requirement from ground water source shall not exceed 35 m³/day/well and prior permission should be obtained from the Competent Authority.
- ix. The company shall 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 shall be created for oil contaminated and non-oil contaminated. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.
- 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. 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 approved by the CPCB and obtain authorization from the SPCB. Copy of authorization or membership of TSDF shall be submitted to Ministry's Regional Office at Bhopal.
- xi. No effluent/drilling mud/drill cutting shall be discharged/disposed off into nearby surface water bodies.
- xii. Produced water (1500 m³/day) shall be treated in ETP. Treated produced water shall be disposed off through injection well as per CPCB/MoEF guidelines.
- xiii. Good sanitation facility shall be provided at the drilling site. Domestic sewage shall be disposed off through septic tank/ soak pit.
- xiv. Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.

- xv. 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.
- xvi. The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.
- xvii. 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.
- xviii. The Company shall carry out long term subsidence study by collecting base line data before initiating drilling operation till the project lasts. The data so collected shall be submitted six monthly to the Ministry and its Regional Office at Bhopal.
- xix. Blow Out Preventor (BOP) system shall be installed to prevent well blowouts during drilling operations. BOP measures during drilling shall focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.
- xx. Emergency Response Plan (ERP) shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xxi. 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 area 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.
- xxii. All the commitments made to the public during public hearing/public consultation meeting held on 4th July, 2015 for Gandhi Nagar District; on 8.07.2015 for Kheda District; on 07.07.2015 for Ahmedabad district shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- xxiii. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.
- xxiv. Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.
- xxv. In case the commercial viability of the project (for exploratory drilling) is established, the Company shall prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry.
- xxvi. Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office at Bhopal.
- xxvii. Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office at Bhopal.

- xxviii. An audit shall be done to ensure that the Environment Management Plan is implemented in totality and report shall be submitted to the Ministry's Regional Office.
- xxix. Company shall have own Environment Management Cell having qualified persons with proper background.
- xxx. Company shall prepare operating manual in respect of all activities. It shall cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental manual shall be made available at the drilling site/ project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office. Remote monitoring of site should be done.
- xxxi. On completion of drilling, the company has to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), 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 (day time) and 70 dBA (night time).
- 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 GPCB. 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 GPCB. The Regional Office of this Ministry / CPCB / GPCB shall monitor the stipulated

conditions. Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.

- 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 GPCB 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 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.


(Lalit Bokolia)
Additional Director

Copy to:

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, Gandhi Nagar - 382 010, Gujarat.
2. The Chief Conservator of Forests (Western Zone), Ministry of Environment & Forests, Regional Office, E-5, Arera Colony, Link Road -3, Bhopal -462 016, M.P.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhi Nagar-382 043, Gujarat.
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhavan, Jor bagh Road, New Delhi.
6. Guard File/Monitoring File/Record File.


(Lalit Bokolia)
Additional Director