

**Annexure-A**

**Subject: Half yearly return in compliance to Environmental Clearance regarding “Drilling of development wells (108 nos. oil and gas wells) in the oil fields of Ahmedabad Asset at Mehsana and Gandhinagar Districts of Gujarat by M/S ONGC.**

**Reference:** File. No. J-11011/90/2012-IA II (I) dated 20.03.2017

1. Period of compliance: **January to June 2022**
2. No. of development wells drilled during the period i.e. 4<sup>th</sup> Quarter of 2021 & 1<sup>st</sup> Quarter of 2022 = **19 Nos.**

<b>A. SPECIFIC CONDITIONS:</b>		
<b>Sl.No.</b>	<b>Conditions</b>	<b>Compliance</b>
i.	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 16 <sup>th</sup> November, 2009 for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, CH <sub>4</sub> , HC, Non-methane HC etc.	Ambient air quality is being monitored through a Third party for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, methane & Non-methane HC, within and up to the premises of drill site. Monitoring of AAQM has also been carried out near the closest human settlement. It is evident from the monitoring reports placed at Annexure-I that the concentrations of all parameters are within prescribed limits.
ii.	Mercury shall also be analyzed in air, water and drill cuttings twice during drilling period.	Mercury is being analyzed in Air, Water and Drill Cuttings at different intervals (Copy of Monitoring Report at Annexure-I).
iii.	Approach road shall be made pucca to minimize generation of suspended dust.	Approach roads to drill site are made pucca to minimize generation of suspended dust during transportation of rig equipment, etc.
iv.	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.	Acoustic enclosures have been provided to DG sets to reduce noise within permissible limits (Noise level monitoring divulge the efficiency of the acoustic enclosures, please refer reports placed as Annexure-I). The height of Stack of 3 nos. of DG sets each of 1250 KVA ranges from 8 - 9ft. Though as per formula referred by CPCB guidelines, the stack height of 1250 KVA Gen sets should be 7.0 meter. However, the GLC of various parameters prescribed in NAAQM are within the permissible limits which qualifies the spirit under which stack height standards has been set by CPCB. Please

		refer to AAQM reports placed at Annexure-I. It is notable that the increase in the present height of stacks of DG sets inherent with the OEM design shall reduce the efficiency of DG sets, as assessed internally. In light of this, present stack height of the DG sets should be considered as appropriate.
v.	Total water requirement from ground water source shall not exceed 27m <sup>3</sup> /day/well and prior permission should be obtained from the Competent Authority.	During the drilling activity, the average water requirement is less than 27 m <sup>3</sup> per day. Prior permission is being obtained from the appropriate authority.
vi.	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 waste water shall conform to CPCB standards.	The garland drains are not constructed as diesel storage tank, POL storage area, mud pumps, cellar pit, mud tanks, etc. have their dedicated containment which drain wastewater in HDPE lined waste pit. The waste pits have enough volume to take care of wastewater and prevent any run off. The drilled cuttings and other wastes collected in HDPE lined waste pits and solar dried. It is notable that Gujarat is rain deficient area and chance of runoff from drill site area is very remote. As the drill site effluent is a soft effluent, the suspended particles like bentonite clay are settled leaving clear supernatant water which at times is recycled for washing purpose.
vii.	Disposal of drill cuttings and drilling mud is as per Gazette notification dated 30.08.2005,G.S.R.546(E), Section C " Guidelines for disposal of solid waste, drill cuttings, drilling fluids for Offshore and on shore drilling operation". It is excavated in specially designed pit with HDPE lining and is topped with native soil. Other hazardous waste like empty bags, cotton waste, gloves etc. are transported to TSDF site. Whereas, POL/chemical containers and spent oil are recycled through authorized vendors.	Drilling wastewater including drill cuttings wash water is collected in disposal pit lined with HDPE lining and solar dried. Drill cuttings from water based mud have been removed from the category of hazardous waste [Schedule I - rule 3 (1) (17) (i) of MOEFCC notification dt: 14.04.2016]. ONGC Ahmedabad is a member of TSDF at M/s. BEIL, Bharuch placed at Annexure-II.
viii.	No effluent/drilling mud/drill cutting shall be discharged/disposed off into nearby surface water bodies.	All the wastewater, mud and cuttings generated from drilling activity are being stored in HDPE lined pits and solar evaporated.
ix.	Waste water shall be disposed in specially designed HDPE lined pit at site and is solar dried. Domestic waste water	All the wastewater, mud and cuttings generated from drilling activity are

	shall be disposed through soak pit.	being stored in HDPE lined pits and solar evaporated.  Domestic wastewater is being disposed of in soak pits/septic tanks at the drill site.
x.	Good sanitation facility shall be provided at the drilling site. Domestic sewage shall be disposed off through septic tank / soak pit.	Appropriate sanitation facility provided at the drill site. Domestic sewage is disposed of through provision of adequate septic tanks and soak pits.
xi.	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.	Oil spillage prevention plan like containments of diesel storage tank, POL shed and testing tank (during production testing) and drainage leading to waste pit are in place. However, in case of oil spill and contamination of soil thereof, ONGC is equipped with the technology of bioremediation to address such eventualities. It is notable that ONGC has a step down company M/s ONGC-TERI Bioremediation Limited (OTBL) which has developed a consortium of bacteria capable of digesting entire range of hydrocarbons. Recyclable hazardous waste like Spent oil, POL barrels etc. are recycled centrally through authorized re-cyclers. Further, ONGC has developed an onsite and offsite emergency management plan i.e. DMP as well as site specific Emergency Response Plan (ERP) for averting any untoward incident including oil spill contingency management.
xii.	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.	Each drilling rig in ONGC has fixed firefighting system and portable extinguishers in accordance to OISD 189. All personnel posted at Drill site are trained in firefighting. Hot jobs are controlled through a permit system i.e. "Hot Work Permit" system. As mentioned above in point 14, in case of oil spill and contamination of soil thereof, ONGC is equipped with the technology of bioremediation to address such eventualities. It is notable that ONGC has a step down company M/s ONGC-TERI Bioremediation Limited (OTBL) which has developed a

		<p>consortium of bacteria capable of digesting entire range of hydrocarbons.</p> <p>All the quantity of gas come across testing is flared through elevated flare equipped with separator and knock out drum. No ground flaring is resorted to.</p>
xiii.	The company shall develop a contingency plan for H <sub>2</sub> S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H <sub>2</sub> S detectors in locations of high risk of exposure along with self-containing breathing apparatus.	Emergency response plan for H <sub>2</sub> S release is available. H <sub>2</sub> S detectors are available at drilling rigs. However, it is pertinent to mention that H <sub>2</sub> S is usually not encountered during drilling operations in oil fields of Ahmedabad Asset.
xiv.	Emergency Response Plan (ERP) shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.	ONGC has Site Specific Emergency Response Plan (ERP) and Contingency Plans and Disaster Management Plan (DMP) based on relevant and realistic emergency scenarios. ERP and contingency plan are duly approved by DGMS whereas offsite DMP is approved by local district authorities (copies already submitted with earlier compliance).
xv.	All the commitments made to the public during public hearing/public consultation meeting held on 23.01.2015 at Gandhinagar, on 29.01.2015 at Mehsana, Gujarat shall be satisfactorily implemented and adequate budget provision shall be made accordingly.	All the recommendations of Public Hearing are complied with and are part of Final EIA report submitted to EAC for granting of EC.
xvi.	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.	2% of average net profit of ONGC is earmarked for CSR (Corporate Social Responsibility) projects which include components of health, education, water, solar lights, ecological development in and around operational area, as directed by GOI.
xvii.	Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.	PME of all employees is carried out as per Company Policy and guidelines issued by DGMS during 10 <sup>th</sup> National Safety conference.
xviii.	Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office.	No well was abandoned during the period in question. However, in case of any abandonment & restoration of project site, report shall be conveyed to Ministry's regional office at Bhopal. Further, ONGC has formulated a well-defined and plausible abandonment and restoration procedure which shall be followed in the event of decision

		taken to abandon the well.
xix.	Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office.	Drill cuttings are analyzed for oil content through GPCB recognized laboratory. (Copy of Monitoring Report at Annexure-II).
xx.	Company shall have own Environment Management Cell having qualified persons with proper background.	Environment Management Cell is at Corporate HSE of ONGC, New Delhi. HSE set up at unit level are also having qualified safety & environment officers.
xxi.	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.	Standard Operating Procedures for drilling operations covering safety and environmental aspects of operations and management thereof have been given to supervisors and concerned persons at all drilling rigs. Safe Work Practices is also made available at all rigs. Regular safety and environment training is being provided to the employees by our various in- house training institutes like IPSHEM Goa, IDT and ONGC Academy, Dehradun and RTI Vadodara etc. QHSE Management System procedures are in place with regular internal and external audits. Ambient Air, Stack Emission and Ambient Noise Level Monitoring and potable water analysis done on regular basis and reports are available at rigs.
xxii.	On completion of drilling, the company has to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority.	On completion of drilling, the well is equipped with a Christmas tree which safely regulates the flow of oil & gas. However, if any well is abandoned, it is plugged with a cement column as prescribed in OMR-2017 and the same is communicated to DGMS.
<b>B.</b>	<b>GENERAL CONDITIONS :</b>	
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.	Consent to Establish (CTE) for exploratory drilling is obtained from Gujarat Pollution Control Board prior to commencement of exploratory drilling and conditions stipulated in CTE are complied with. Apart from it, all the oil and gas processing installations, wherein the oil and gas produced from successful wells during exploratory and development drilling is processed, are operating under Consolidated Consent and Authorization (CCA) from GPCB.

		Monthly and annual returns are filed online on XGN GPCB site as per the conditions stipulated in CCA.
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 projects 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.	So far no expansion or modification in the project has been carried out. In future if any expansion or modification in the project to be taken-up, the same shall be intimated to MoEF&CC.
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 station is installed in the upwind and down wind direction as well as where maximum ground level concentrations are anticipated.	AAQM is being done by third party recognized by SPCB and accordingly the locations of AAQM stations are being selected for monitoring based on SPCB guidelines.  Ambient air quality is being monitored through a Third party for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, methane & Non-methane HC, within and up to the premises of drill site. Monitoring of AAQM has also been carried out near the closest human settlement. It is evident from the monitoring reports placed at Annexure-I that the concentrations of all parameters are within prescribed limits.
iv.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. 826 (E) dated 16 <sup>th</sup> November, 2009 shall be followed.	Ambient air quality is being monitored through a third party for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, methane & Non-methane HC, within and up to the premises of drill site. Monitoring of AAQM has also been carried out near the closest human settlement. It is evident from the monitoring reports placed at Annexure-I that the concentrations of all parameters are within prescribed limits.
v.	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).	The overall noise levels in and around the rig area is kept well within the standards by keeping provision of acoustic enclosures and regular condition monitoring of equipment. The ambient noise levels are monitored during day and night time (Recent monitoring reports are annexed at Annexure-I) which reveals that the ambient noise level is within prescribed

		standards. Environment Management Cell is at Corporate HSE of ONGC, New Delhi. HSE set up at unit level are also having qualified safety & environment officers.
vi.	The company shall harvest rainwater from rooftops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve freshwater.	<p>The company has already practicing rainwater harvesting in residential and operational areas like GGS/CTF to recharge ground water. However, drilling operation is a short duration operation with no permanent structure involved like building, etc.</p> <p>The drilling activity is a temporary and short duration (2-3 months) process. Ambient Air, Stack Emission and Ambient Noise Levels were monitored on regular basis through a third party.</p> <ul style="list-style-type: none"> <li>- Displayed monitoring report at the main gate.</li> <li>- Six monthly compliance report submitted to Regional Office, MoEF&amp;CC, GPCB and CPCB on regular basis.</li> </ul>
vii.	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.	<p>Health, Safety and Environment Department has regularly conducted training on safety &amp; health aspects of chemicals handling at the site. All the employees including contractual are being undergone IME/PME as per company policy/contract.</p> <p>Standard Operating Procedures for drilling operations covering safety and environmental aspects of operations and management thereof have been given to supervisors and concerned persons at all drilling rigs. Safe Work Practices is also made available at all rigs. Regular safety and environment training is being provided to the employees by our various in-house training institutes like IPSHEM Goa, IDT and ONGC Academy, Dehradun and RTI Vadodara etc.</p> <p>QHSE Management System procedures are in place with regular internal and external audits.</p> <p>Ambient Air, Stack Emission and Ambient Noise Level Monitoring and</p>

		<p>potable water analysis done on regular basis and reports are available at rigs.</p> <p>PME of all employees is carried out as per Company Policy and guidelines issued by DGMS during 10<sup>th</sup> National Safety conference</p>
viii.	The company shall also comply with all the environmental protection measures and safe guards 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.	Complied.
ix.	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.	2% of average net profit of ONGC is earmarked for CSR (Corporate Social Responsibility) projects which include components of health, education, water, solar lights, ecological development in and around operational area, as directed by GOI.
x.	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	<p>2% of average net profit of ONGC is earmarked for CSR (Corporate Social Responsibility) projects which include components of health, education, water, solar lights, ecological development in and around operational area, as directed by GOI.</p> <p>Environment Management Cell is at Corporate HSE of ONGC, New Delhi. HSE set up at unit level are also having qualified safety &amp; environment officers.</p>
xi.	A separate Environmental Management Cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	Environment Management Cell is functional under Head HSE which is responsible for environment management, monitoring and compliance to regularity bodies.
xii.	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 State Government along with implementation schedule for all conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	<p>Complied.</p> <p>Separate funds are being earmarked towards capital cost and recurring cost per annum to implement the conditions stipulated by MoEF&amp;CC as well as State Government along with implementation schedule.</p>



xiii.	A copy of clearance letter shall be sent by the project 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 communication of the environmental clearance has been made to all the relevant stakeholders by way of publishing the same in the leading newspapers. The EC is also posted on the Web Site of ONGC as well as communicated to concerned panchayat and local authorities.
xiv.	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 concerned SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.	Complied.
xv.	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 along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	Complied.  Consent to Establish (CTE) for exploratory drilling is obtained from Gujarat Pollution Control Board prior to commencement of exploratory drilling and conditions stipulated in CTE are complied with.  Apart from it, all the oil and gas processing installations, wherein the oil and gas produced from successful wells during exploratory and development drilling is processed, are operating under Consolidated Consent and Authorization (CCA) from GPCB. Monthly and annual returns are filed online on XGN site as per the conditions stipulated in GPCB CCA.
xvi.	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 <a href="http://envfor.nic.in">http://envfor.nic.in</a> . 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.	Complied.  Advertisement published in Sandesh (Gujarati) dated 18.04.2017 and Indian Express dated 18.04.2017. Copies enclosed.
xvii.	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.	Not applicable. The drilling activities in the Asset are not a new project and these activities are of continuous nature and happening since 1961.

