

F. No.J-11011/13/2018-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA-II Section)

Indira Paryavaran Bhawan
Jor bagh Road, New Delhi - 3
Dated: 11th April, 2019

To,
M/s Vedanta Limited (Cairn Oil & Gas Division)
DLF Atria, Phase 2, Jacranda Marg,
DLF City, Gurgaon-122 002 (Haryana)

Sub: Enhancement of onshore oil and gas production from RJ-ON-90/1 Block at Barmer (Rajasthan) by M/s Vedanta Limited (Cairn Oil & Gas Division) - Environmental Clearance - reg.

Sir,

This has reference to your online proposal No.IA/GJ/IND2/83890/2018 dated 26th November, 2018 along with project documents namely, EIA/EMP report containing the public hearing details for the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for enhancement of onshore oil and gas production from the existing 300,000 BOPD (barrels oil per day) to 400,000 BOPD and 165 MMSCFD (Million Standard Cubic Feet per day) to 750 MMSCFD by M/s Vedanta Limited (Cairn Oil & Gas Division) from RJ-ON-90/1 Block at Barmer (Rajasthan). The project involves oil augmentation to produce up to 400,000 BOPD & 250 MMSCFD of associated gas from the oil field, and natural gas augmentation to produce up to 500 MMSCFD (400 MMSCFD in gas processing terminal & 100 MMSCFD from gas satellite field).

3. Total area of the oil & gas block is 3111 sq km. Out of it, the project presently covers an area of 1501.7 ha in the Districts of Barmer & Jalore in the State of Rajasthan. Additional 150 ha of land in District Barmer will be used for the proposed expansion. Industry will develop greenbelt in an area of 33% of total operational area of the project. The estimated project cost is Rs.12,000 crores. Total capital cost earmarked towards environmental pollution control measures is Rs.1200 crores and the recurring cost (O&M) will be about Rs.120 crores per annum.

4. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves and Wild life Corridors etc within 10 km distance from the project site. River Luni (seasonal river) flows at a distance of ~3km in South.

5. Total water requirement is estimated to be 93,500 m³/day proposed to be met from deep saline ground water. The required permission for withdrawal of 53500 cum/day of ground water has been obtained from the Central Ground Water Authority (CGWA). The proposal for withdrawal of another 15000 cum/day has been submitted to CGWA, which is reported to be under process. To meet the increased production of oil & gas, additional saline water of 25000 cum/day shall be required.

Effluent of 192,000 m³/day quantity will be treated through ETP, followed by Nano and RO Plant.



6. The project/activity is covered under category A of item 1(b) 'Offshore and onshore oil and gas exploration, development & production' of the schedule to the Environment Impact Assessment (EIA) Notification, 2006 and requires appraisal/approval at central level the Ministry.

7. ToR for the project was granted on 11th February, 2018. Public hearing was conducted by the Rajasthan State Pollution Control Board on 28th September, 2018 in District Barmer.

8. The proposal for environmental clearance was considered by the EAC (Industry-2) in its meeting held on 29-31 January, 2019. The project proponent and their accredited Consultant M/s ERM India Private Limited presented the EIA/EMP report as per the ToR. The Committee found the EIA/EMP report to be satisfactory, in consonance with the ToR, and recommended the project for grant of environmental clearance.

9. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **enhancement of onshore oil and gas production from 300,000 BOPD to 400,000 BOPD and 165 MMSCFD to 750 MMSCFD by M/s Vedanta Limited (Cairn Oil & Gas Division)** from RJ-ON-90/1 Block at Barmer (Rajasthan), under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

(a) Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board as required.

(b) As proposed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged to any surface water body, sea and/or on land.

(c) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.

(d) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.

(e) 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.

(f) During exploration, production, storage and handling, the fugitive emission of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.

(g) The project proponent also to ensure trapping/storing of the CO₂ generated, if any, during the process and handling.

(h) Approach road shall be made pucca to minimize generation of suspended dust.

(i) The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.



- (j) Total water requirement shall not exceed 93,500 m³/day proposed to be met from ground water. Prior permission in this regard shall be obtained from the concerned regulatory authority/ CGWA.
- (k) 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.
- (l) Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to HWMH Rules, 2016. No effluent/drilling mud/drill cutting shall be discharged/disposed off into nearby surface water bodies. 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.
- (m) 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.
- (n) 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.
- (o) 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.
- (p) 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 Regional Office.
- (q) Blow Out Preventer 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.
- (r) Emergency Response Plan shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- (s) After completion of drilling operations, the company shall take adequate measures for plugging of wells, decommissioning of rig upon abandonment of the well, and drilling site shall be restored to the original condition and the report in this regard shall be submitted to the Ministry's Regional Office. In case of no economical prospecting of Hydrocarbon, complete abandonment plan shall be implemented in accordance with the applicable Indian Petroleum Regulations.
- (t) All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented.



(u) At least 1.5% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

(v) Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.

(w) Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office.

(x) Company shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and 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.

(y) Process safety and risk assessment studies shall be further carried out using advanced models, and the mitigating measures shall be undertaken accordingly.

9.1 The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-

(i) The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/ or 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, Forest and Climate Change. 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 each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.

(iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.

(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 Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

(vi) The Company shall harvest rainwater from the roof tops of the buildings to recharge ground water, and to utilize the same for different industrial operations within the plant.

(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.



(viii) The company shall 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 shall be implemented.

(ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.

(x) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

(xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change 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.

(xii) A copy of the 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.

(xiii) 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&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.


(xiv) 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&CC by e-mail.

(xv) 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://moef.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.

10. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.




11. 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 Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein.


11/4/2019
(S. K. Srivastava)
Scientist E

Copy to: -

1. The Additional PCCF (C), MoEF&CC Regional Office (CZ), Kendriya Bhawan, 5th Floor, Sector "H", Aliganj, **Lucknow** - 20
2. The Principal Secretary, Environment & Forests Department, Government of Rajasthan, Secretariat, **Jaipur** (Rajasthan)
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, **Delhi** - 32
4. The Member Secretary, Rajasthan State Pollution Control Board, 4, Jhalana Institutional Area, Jhalana Doongri, **Jaipur** (Rajasthan)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, **New Delhi**
6. Guard File/Monitoring File/Record File.


11/4/2019
(S. K. Srivastava)
Scientist E