



Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

Indira Paryavaran Bhawan
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Dated: 16th March, 2017

To,

M/s ONGC Ltd.,
PO - Kansari, District - Anand,
Gujarat - 388 630

Sub: Development drilling of 108 wells laying of 4"and 8" oil and gas flow lines & establishment of 03 numbers of EPS, 01 number of WHI, 03 Nos of Water injection Facilities and 03 Nos. of ETP of M/s ONGC in operation areas of Cambay Sub Asset, in Gujarat by M/s ONGC - Environmental Clearance - reg.

Ref.: Your online proposal no. IA/GJ/IND/23027/2014; dated 8th January, 2017.

Sir,

This has reference to your online proposal no. IA/GJ/IND/23027/2014; dated 8th January, 2017 along with project documents including Form I, Terms of References, Pre-feasibility Report, EIA/EMP Report along with Public Hearing Report regarding above mentioned project.

2.0 The Ministry of Environment, Forests and Climate Change has examined the application. It is noted that proposal is for Development drilling of 108 wells laying of 4"and 8" oil and gas flow lines & establishment of 03 numbers of EPS, 01 number of WHI, 03 Nos of Water injection Facilities and 03 Nos. of ETP of M/s ONGC in operation areas of Cambay Sub Asset, in Gujarat by M/s ONGC. Approximately 110 m x 110 m land area required for drilling a single well. Majority of proposed wells are to be drilled on old locations. If extra land is required then additional land may be acquired. Total cost of the project is ₹ 890 crore. Time completion for drilling 1 well: 30 - 35 days approx. It is reported that there is no National Park, Wildlife Sanctuary, protected area and ESZ within the distance of 10 km.

Proposed Drilling Locations area as follows:

S. No.	Fields/Blocks	Well No.	Latitude	Longitude	Near by Village
1	Akhholjuni	1	22°20'4.11"N	72°30'8.94"E	Navagam Bara
2		2	22°22'2.09"N	72°30'9.84"E	Navagam Bara
3		3	22°20'55.93"N	72°30'54.72"E	Navagam Bara
4		4	22°20'51.89"N	72°32'1.86"E	Navagam Bara
5	Kathana	1	22°18'27.85"N	72°48'54.22"E	Diwel
6		2	22°18'14.79"N	72°49'3.62"E	Diwel
7		3	22°18'6.09"N	72°48'52.24"E	Diwel
8	Siswa	1	22°22'2.46"N	72°52'42.04"E	Vadeli

9		2	22°21'55.06"N	72°52'56.67"E	Vadeli
10		3	22°21'47.30"N	72°52'28.28"E	Vadeli
11		4	22°21'23.52"N	72°52'25.16"E	Vadeli
12		5	22°21'12.75"N	72°52'23.15"E	Vadeli
13		6	22°20'57.17"N	72°52'30.68"E	Vadeli
14		7	22°20'47.20"N	72°53'29.96"E	Bhadrniya
15		8	22°18'18.32"N	72°54'10.07"E	Vadeli
16		9	22°20'35.53"N	72°53'55.78"E	Bhadrniya
17	Anklav	1	22°19'18.55"N	72°55'0.83"E	Valvod
18		2	22°19'9.41"N	72°54'59.48"E	Valvod
19		3	22°20'25.84"N	72°54'31.35"E	Valvod
20		4	22°18'58.31"N	72°55'0.62"E	Valvod
21		5	22°18'56.35"N	72°55'7.96"E	Valvod
22		6	22°18'51.59"N	72°55'4.63"E	Valvod
23		7	22°18'46.26"N	72°55'5.25"E	Valvod
24		8	22°18'46.75"N	72°54'58.78"E	Valvod
25		9	22°18'42.45"N	72°54'57.05"E	Valvod
26		10	22°20'0.97"N	72°54'49.91"E	Valvod
27		11	22°19'44.12"N	72°54'57.86"E	Valvod
28		12	22°19'59.48"N	72°54'45.83"E	Valvod
29		13	22°20'26.82"N	72°55'30.16"E	Valvod
30		14	22°20'18.75"N	72°55'26.96"E	Valvod
31		15	22°20'26.25"N	72°55'19.09"E	Valvod
32	Chaklasi	1	22°43'27.53"N	72°52'45.42"E	Nadiad
33		2	22°41'34.43"N	72°56'41.97"E	Kanjoda
34		3	22°39'59.65"N	72°55'56.00"E	Chakasi
35	Mahi High	1	22°18'0.93"N	72°36'28.46"E	Khambhat
36	Padra	1	22°17'52.78"N	73° 5'24.40"E	Ampad
37		2	22°17'33.83"N	73° 5'19.33"E	Ampad
38		3	22°17'54.16"N	73° 6'8.52"E	Ampad
39		4	22°17'50.19"N	73° 6'17.93"E	Ampad
40		5	22°16'46.12"N	73° 5'51.73"E	Rajpura
41		6	22°16'44.68"N	73° 6'4.89"E	Rajpura
42		7	22°16'44.25"N	73° 5'45.20"E	Rajpura
43		8	22°15'57.56"N	73° 4'58.56"E	Ganpatpura
44		9	22°15'50.31"N	73° 5'8.64"E	Ganpatpura
45		10	22°15'16.00"N	73° 4'8.39"E	Tajpura
46		11	22°15'12.15"N	73° 4'6.87"E	Tajpura
47		12	22°14'55.84"N	73° 4'11.09"E	Tajpura
48		13	22°12'44.56"N	73° 0'39.37"E	Ranu
49		14	22°12'44.69"N	73° 0'27.31"E	Ranu
50		15	22°13'18.25"N	73° 8'50.21"E	Chapad
51		16	22°13'9.01"N	73° 8'49.05"E	Chapad
52		17	22°14'11.24"N	73° 3'49.47"E	Padra
53		18	22°14'3.14"N	73° 3'50.32"E	Padra
54	Nadiad	1	22°39'39.52"N	72°54'44.87"E	Uttarsanda
55		2	22°39'30.59"N	72°54'40.41"E	Uttarsanda
56		3	22°39'39.90"N	72°54'31.14"E	Uttarsanda
57		4	22°42'2.23"N	72°52'11.14"E	Nadiad
58		5	22°41'41.08"N	72°52'48.69"E	Nadiad
59		6	22°42'23.25"N	72°51'58.53"E	Nadiad
60		7	22°42'19.37"N	72°52'38.99"E	Nadiad
61	Vadatal	1	22°36'49.15"N	72°53'58.47"E	Rajnagar
62		2	22°35'32.89"N	72°54'31.69"E	Becharpur
63		3	22°35'18.15"N	72°54'38.20"E	Becharpur
64		4	22°34'58.74"N	72°54'38.53"E	Becharpur

65		5	22°34'37.23"N	72°54'42.82"E	Bakrol part
66		6	22°35'56.71"N	72°54'15.72"E	Bakrol part
67		7	22°35'10.22"N	72°54'7.69"E	Bakrol part
68		8	22°34'29.63"N	72°54'24.41"E	Bakrol part
69		9	22°40'9.98"N	72°51'54.97"E	Piplag
70		10	22°39'43.32"N	72°52'2.50"E	Piplag
71		11	22°39'24.72"N	72°51'48.93"E	Piplag
72		12	22°39'10.20"N	72°52'3.42"E	Gutal
73		13	22°38'47.60"N	72°51'54.13"E	Gutal
74		14	22°38'28.21"N	72°51'58.78"E	Gutal
75		15	22°37'58.11"N	72°51'45.65"E	Keriavi
76		16	22°37'16.72"N	72°51'29.30"E	Akhdol
77		17	22°39'11.81"N	72°52'4.60"E	Gutal
78		18	22°39'39.90"N	72°52'3.65"E	Piplag
79		19	22°39'45.67"N	72°51'38.71"E	Piplag
80		20	22°39'3.53"N	72°51'34.45"E	Piplag
81		21	22°38'25.77"N	72°51'36.39"E	Keriavi
82		22	22°37'38.64"N	72°51'35.64"E	Keriavi
83		23	22°37'4.37"N	72°51'37.11"E	Bamroli
84		24	22°33'47.18"N	72°49'13.09"E	Mahelav
85		25	22°33'15.98"N	72°49'35.49"E	Bandhani
86		26	22°33'12.63"N	72°49'59.76"E	Bandhani
87		27	22°32'51.03"N	72°50'9.28"E	Bandhani
88		28	22°32'25.42"N	72°50'20.82"E	Porda
89		29	22°32'3.85"N	72°50'26.26"E	Porda
90		30	22°33'17.31"N	72°49'12.86"E	Mahelav
91		31	22°32'43.41"N	72°49'32.22"E	Mahelav
92		32	22°32'16.01"N	72°49'56.37"E	Porda
93		33	22°38'13.16"N	72°52'45.24"E	Gutal
94		34	22°38'9.54"N	72°52'56.78"E	Gutal
95		35	22°37'31.79"N	72°52'42.36"E	Narshanda

96		36	22°37'56.99"N	72°53'7.74"E	Gutal
97		37	22°37'52.82"N	72°51'7.59"E	Keriavi
98		38	22°36'26.86"N	72°53'53.15"E	Rajnagar
99		39	22°36'27.16"N	72°53'39.53"E	Rajnagar
100		40	22°36'54.15"N	72°54'20.19"E	Kanjari
101		41	22°34'49.73"N	72°53'50.36"E	Bakrol Part
102		42	22°34'27.35"N	72°49'25.01"E	Mahelav
103		43	22°34'27.16"N	72°49'35.69"E	Mahelav
104		44	22°34'43.98"N	72°48'49.41"E	Mahelav
105		45	22°34'41.12"N	72°48'40.37"E	Mahelav
106		46	22°34'29.72"N	72°50'40.99"E	Ralvi
107		47	22°34'32.89"N	72°50'27.17"E	Ralvi
108		48	22°34'55.89"N	72°49'52.63"E	Padgol

3.0 Fresh water requirement will be 25 m³/day per well, which will be sourced from nearest ONGC installations through tankers. Approx. 0.9 M³ of waste water is generated for 1.0 meter of drilling. Waste water generated is disposed in specially designed HDPE lined pit at site and is solar dried. Domestic waste water shall be disposed through soak pit. Produced water will be treated in ETP/ mobile ETP/ CETF.

3 DG sets of 1250 KVA (out of which one is on standby). Each DG set consume approximately 6 KL of fuel (HSD) per well, when in operation.

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Disposal of drill cuttings and drilling mud will be 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.

4.0 Public Hearing/Public Consultation meeting was conducted by Gujarat Pollution Control Board on 4.05.2016 at Kheda district, 10th May, 2016 at Anand district and 11th May, 2016 at Vadodara district.

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 The proposal was considered by the Expert Appraisal Committee (Industry) in its 18th meetings held during 23rd - 25th January, 2017. Project Proponent (M/s ONGC Ltd.) and the EIA Consultant namely M/s ONGC, have presented EIA/EMP report as per the TOR. EAC has found the EIA/EMP Report is 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) 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.
- ii) Mercury shall also be analyzed in air, water and drill cuttings twice during drilling period.
- iii) Approach road shall be made pucca to minimize generation of suspended dust.
- 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.
- v) Total water requirement from nearest ONGC installations through tankers shall not exceed 25 m³/day/well and prior permission should be obtained from the Competent 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 wastewater shall conform to CPCB standards.
- vii) Disposal of drill cuttings and drilling mud will be 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.
- viii) No effluent/drilling mud/drill cutting shall be discharged/disposed off into nearby surface water bodies.

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- ix) Produced water shall be treated in ETP/ mobile ETP/ CETF. Treated produced water shall be disposed off through injection well as per CPCB/MoEF guidelines.
- x) Good sanitation facility shall be provided at the drilling site. Domestic sewage shall be disposed off through septic tank/ soak pit.
- 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.
- 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.
- xiii) 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.
- xiv) Emergency Response Plan (ERP) shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.
- xv) All the commitments made to the public during public hearing/public consultation meeting held on 4.05.2016 for Kheda district; on 10th May, 2016 for Anand district; on 11th May, 2016 for Vadodara district shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- 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.
- xvii) Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.
- xviii) Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office at Bhopal.
- 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 at Bhopal.
- xx) Company shall have own Environment Management Cell having qualified persons with proper background.
- 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.
- 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.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.



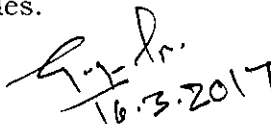
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry 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 station 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 followed.
- 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 and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
- 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.
- viii. 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.
- 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.
- x. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- xi. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- 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 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.
- xiii. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad/Municipal Corporation, Urban local body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- xiv. 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 concerned SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- xv. 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.
- 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 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.
- xvii. 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.

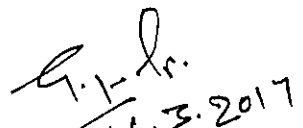
9.0 The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

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 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.


16.3.2017
(Yogendra Pal Singh)
Scientist 'D'

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 and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File/Monitoring File/Record File.


16.3.2017
(Yogendra Pal Singh)
Scientist 'D'

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