

Ref: HSE/EP/MoEF/18

1st Dec, 2017


Dr. B.B. Barman
Director, Ministry of Environment and Forests
Regional Office, Western Region
Kendriya Paryavaran Bhavan
E-5, Ravi Shankar Nagar
Bhopal – 462016 (MP)

Sub: Status of EC conditions for MSQIP, Resid Upgradation, GT-6, BS-IV & BS-VI Project at Gujarat Refinery

Dear Sir

The compliance status of Environmental Compliance conditions specified in EC letter of the subject projects is enclosed herewith, for your kind information.

Thanking You,



S. Ray Choudhuri
Deputy General Manager (HSE)
Gujarat Refinery

Encl: As above

CC: The Member Secretary
Gujarat Pollution Control Board
Paryavaran Bhavan
Sector – 10 A
Gandhinagar – 382021

सुमितिका रे चौधुरी
SOUMITIKA RAY CHOUDHURI
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Gujarat Refinery, IOCL, Vadodara

**STATUS OF COMPLIANCE OF ENVIRONMENTAL STIPULATIONS MADE
BY MoEF WHILE ISSUING ENVIRONMENTAL CLEARANCE FOR RESID
UPGRADATION PROJECT**

(LETTER NO. J-11011/35/2000-IA II (I) OF 27TH APRIL 2006)

S.N.	Stipulation	Compliance status as on 30.11.17
1	The total SO ₂ emission level from the unit after the proposed up gradation shall not exceed 940 kg/hr, which are less than the stipulated level of 982 kg/hr	Presently, 59 stacks exist at Gujarat Refinery. Total SO ₂ emissions from all these stacks remain in the range of 300-320 kg/hr for the period May 2017 to Oct 2017 Hence, it is complied.
2.1	The NO _x emission level shall be limited to 225 kg/hr which are less than the stipulated level of 256 kg/hr.	Presently, 59 stacks exist at Gujarat Refinery. Total NO _x emission from all these stacks is in the range of 200-220 kg/hr for the period May 2017 to Oct 2017 Hence, it is complied.
2.2	The company shall install low NO _x burners for all the proposed units.	All the new furnaces are provided with low NO _x burner
3.1	The total effluent generation shall not exceed 1110 m ³ /hr.	Total effluent generation for the period Jan 2017 to Jun 2017 is within 1110 m ³ /hr. For the period of May 2017 to Oct 2017, effluent generation remains in the range of 799-974 m ³ /hr.
3.2	The fresh water consumption shall not exceed the existing requirement.	Industrial freshwater consumption for the period May 2017 to Oct 2017 is in the range of 1093-1489 m ³ /hr.
3.3	The additional water requirement if any shall be met through recycling of treated effluent.	There is no additional freshwater requirement.
4.1	It is noted that no hazardous sludge like oily waste shall be generated.	No hazardous waste is generated due to this project.
4.2	The spent catalyst shall be recycled back to the licensor and balance shall be disposed of in the secured landfill facility of M/s NECL, Nandesari.	Spent catalyst consisting of metal is sold to CPCB approved metal recyclers. Balance, if any, is disposed to M/s NECL. Spent Catalyst to NECL for the period May to Oct 2017: 30.02 MT
5	No further modernisation of project shall be carried out without prior permission of this Ministry	It is ensured that no further modernization of project shall be carried out without prior permission of this

S.N.	Stipulation	Compliance status as on 30.11.17
		Ministry
6	The company shall store LPG in mounded bullets and replace LPG spheres by mounded bullets.	All the Horton Spheres are replaced with Mounded Bullets.
7	Recommendations made in the risk assessment report shall be complied during design construction and operation stage to contain the risk within plant boundary	All the recommendations made in the RA have been taken care during design, construction and operation stage to contain the risk within plant boundary.

SUB: Compliance status of stipulations put by MoEF while according Environmental Clearance for MS Quality Improvement Project at Gujarat Refinery.

Ref: MoEF Letter No. J-11011/54/2003-IA-II (I) Dated 17.07.2003.

Compliance status of the conditions laid down by MoEF is furnished below.

A. SPECIFIC CONDITIONS:

S. N	Stipulations	Compliance Status as on 30.11.17
1	The company shall ensure strict implementation / compliance of the terms and conditions mentioned vide Ministry's letters No. J-11011/43/96-IA. II(I) dated 23.11.96 (DHDS) and J-11011/35/2000-IA.II (I) dated 30.3.2001(RDS).	The terms and conditions mentioned in the letters have been implemented.
2	The company shall ensure that the total SO ₂ emission from the Gujarat Refinery (including MS Quality Improvement Project) shall not exceed 982 Kg/Hr. Data on VOC should be monitored and submitted to the Ministry.	Presently, 59 stacks exist at Gujarat Refinery. Total SO ₂ emissions from all these stacks remain in the range of 300-320 kg/hr for the period of May 2017 to October 2017. Hence, it is complied.
3	Additional water requirement shall not exceed 106 M3/Hr. The ETP load should be within the design capacity of 1500 M3/Hr. The total quality of effluent generation should not exceed 1152 M3/hr as indicated in the EMP of discharged which 65 M3/Hr treated effluent should be recycled and rest should be discharged after primary, secondary and tertiary treatment into combined effluent channel of Gujarat Industrial Development Corporation leading to Gulf of	Additional water requirement did not exceed 106 M3/Hr. The ETP load is within the design capacity of 1500 M3/Hr. Effluent generation does not exceed 1152 M3/hr for the period May 2017 to Oct 2017. Treated effluent recycled to Refinery operations and the remaining treated effluent is discharged via VECL.

	Cambay. The treated effluent should comply with the prescribed standards.	Treated effluent meets prescribed standards.
4	As reflected in the EIA / EMP, there should be no additional discharge of oily sludge due to the MS quality improvement project. The spent catalyst should be sent to supplier for metal recovery.	No additional oily sludge is discharged due to the MSQ project. Spent catalyst is sent back to approved metal recyclers disposed to secured landfill.
5	Oil spill response facilities should be in place, in accordance with OISD guidelines with regard to the likely risks associated with transportation of finished products. All recommendations made in the risk analysis report should be complied with during design, construction and operation stages to contain the risk within the plant boundary.	In case of any pipeline leakage or oil spill, adequate gully suckers are available. All recommendations made in the risk analysis report have been taken care during design, construction and operation stages to contain the risk within the plant boundary.
6	Green belt of adequate width and density should be provided to mitigate the effects of fugitive emission all around the plant in consultation with the local DFO. The bio-sludge should be used as manure in the green belt development.	Three Green belts are fully developed. Bio-sludge is used as manure in the green belt.
7	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act and the West Bengal Factories Rules.	Full-fledged Occupational Centre is in operation since 1993. Occupational Health Surveillance of the workers is done on a regular basis and are records maintained.

B. GENERAL CONDITIONS:

S. N.	Stipulations	Compliance status as on 30.11.17
1	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board and the State Government.	Indian Oil Gujarat Refinery strictly adheres to the stipulations made by the Gujarat Pollution Control Board and the State Government.
2	No further expansion or modernization in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No further expansion or modernization in the plant is carried out without prior approval of the Ministry of Environment and Forests.
3	The company shall implement all recommendations made in the EMP and risk Analysis reports.	All recommendations made in the EMP and risk analysis reports have been implemented.
4	At no time, the emissions should go beyond the	Emission standards are prescribed by

	<p>prescribed standards.</p> <p>In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.</p>	<p>both CPCB and GPCB. Since, GPCB guidelines are more stringent, GPCB guidelines are followed.</p> <p>There is no such automated pollution control device in any unit at Gujarat Refinery. Hence, it is not applicable in the present scenario.</p>
5	<p>The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules 1989 viz. dBA (day time) and 70 dBA (night time).</p>	<p>Noise level is regularly monitored at plant and boundary areas. It is within prescribed standard of 85 dB.</p> <p>Data is enclosed as Annexure-I</p>
6	<p>The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended in 1994 and 2000. Prior approvals from Chief Inspectorate etc. must be obtained.</p>	<p>CCE approval already obtained. Approval has also been taken from Chief Inspector of Factories.</p>
7	<p>The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rules, 1994 and 2000.</p> <p>Authorization from the State Pollution Control Board must be obtained for collections / treatment / storage / disposal of hazardous wastes.</p>	<p>Indian Oil Gujarat Refinery complies with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rules, 1994 and 2000.</p> <p>Authorization from GPCB is already obtained.</p>
8	<p>The project authorities will provide adequate funds both recurring and non-recurring 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.</p> <p>The funds so provided should not be diverted for any other purposes.</p>	<p>Adequate funds are available for implementation of the conditions stipulated by MoEF.</p> <p>The funds are not diverted for any other purposes.</p>
9	<p>The stipulated conditions will be monitored by the Regional of this Ministry at Bhopal / Central Pollution Control Board / State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly.</p>	<p>Six monthly compliance report is sent to MoEF, Bhopal.</p> <p>Monthly reports containing water cess, treated effluent quality and stack reports is sent to GPCB.</p>

10	The project proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in . This should 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 should be forwarded to the Regional office.	Information regarding EC was published in two newspapers in 23 rd July 2003. Same had been informed to MoEF vide letter No.TS/EP/MoEF/2003/3 dtd 24.07.03
11	The project Authorities should 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.	Date of Capitalization: 31.10.2006

SUB: Compliance status of stipulations put by MoEF while according Environmental Clearance for GT-6/HRSG-6 project at Gujarat Refinery.

Ref: MoEF Letter No. J-11011/49/2015-IA-II (I) Dated 22.06.2015.

Compliance status of the conditions laid down by MoEF is furnished below.

A. SPECIFIC CONDITIONS:

Sr. No	Stipulations	Compliance Status (30.11.17)
1.	<p>a) The gaseous emissions from the additional GT-6/HRSG-6 shall be dispersed through stack of adequate height as per CPCB/GPCB guidelines.</p> <p>b) The stack emissions from various units shall conform to the standards prescribed under the Environment (Protection) Act.</p> <p>c) At no time, the emission levels shall go beyond</p>	<p>a) The gaseous emissions from GT-6 is dispersed through a stack of 60 mts height as per CPCB/GPCB guidelines.</p> <p>b) The stack emissions conform to standards prescribed under Environment(Protection) Act.</p> <p>c) The emission levels remain within stipulated standards during normal operation of the plant.</p> <p>d) The unit has not adopted any pollution</p>

	<p>the stipulated standards.</p> <p>d) In the event of failure of pollution control systems adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency of the pollution control device has been achieved.</p>	<p>control system. Hence, it is not applicable for GT-6.</p>												
2.	<p>Additional fresh water requirement from Mahi River should not exceed 20 m³/hr.</p>	<p>Total freshwater consumption for the period May 2015 to July 2015 is as follows:</p> <table border="1" data-bbox="964 575 1490 800"> <thead> <tr> <th>SR No.</th> <th>Months</th> <th>Intake from Mahi river (m³/hr)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>May'2015</td> <td>2617</td> </tr> <tr> <td>2</td> <td>Jun'2015</td> <td>2400</td> </tr> <tr> <td>3</td> <td>Jul'2015</td> <td>2153</td> </tr> </tbody> </table> <p>Freshwater consumption has decreased in July 2015(post GT-6 Project) as compared to Jun 2015(pre GT-6 Project). Hence, it is complied.</p> <p>For the period May 2017 to Oct 2017, total freshwater consumption remains in the range of 1617-2000 m³/hr</p>	SR No.	Months	Intake from Mahi river (m ³ /hr)	1	May'2015	2617	2	Jun'2015	2400	3	Jul'2015	2153
SR No.	Months	Intake from Mahi river (m ³ /hr)												
1	May'2015	2617												
2	Jun'2015	2400												
3	Jul'2015	2153												
3.	<p>Additional industrial effluent generation should not exceed 16 m³/hr. Additional effluent shall be treated in the CETP of Refinery.</p>	<p>The effluent generation for the period May 2015 to July 2015 is as follows:</p> <table border="1" data-bbox="971 1136 1576 1350"> <thead> <tr> <th>Sr No.</th> <th>Months</th> <th>Effluent Generation (M³/hr)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>May'2015</td> <td>1119</td> </tr> <tr> <td>2</td> <td>Jun'2015</td> <td>1126</td> </tr> <tr> <td>3</td> <td>Jul'2015</td> <td>1120</td> </tr> </tbody> </table> <p>Hence after the commissioning of GT-6(22.06.2015) the industrial effluent generation remains the same. So, it is complied.</p> <p>Effluent generation for the period May 2017 to Oct 2017 is in the range 799-974 m³/hr</p>	Sr No.	Months	Effluent Generation (M ³ /hr)	1	May'2015	1119	2	Jun'2015	1126	3	Jul'2015	1120
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1	May'2015	1119												
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3	Jul'2015	1120												
4.	<p>a) Automatic/online monitoring system (24*7 monitoring devices) for flow measurement and relevant pollutants in the tertiary system to be installed.</p> <p>b) The data to be made available to the respective SPCB and in the Company's website.</p>	<p>a) Online monitoring of COD, TOC, flow, pH ,Oil, BOD,TSS is available in the tertiary system.</p> <p>b) Connectivity of pH, Oil, BOD, TSS with GPCB/CPCB server has been completed by May'2016. Flow has been connected to CPCB server on 04.09.2017</p>												

5.	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.	No major recommendations in RA report of GT-6 unit. Recommendations in disaster management plan like maintenance of ERDMP Records, roles & responsibilities of Functionaries of Onsite Emergency Plan etc. and safety guidelines have been implemented.
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B. GENERAL CONDITIONS:

Sr. No.	Stipulations	Compliance Status (30.11.2017)
1.	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and any other statutory authority.	Gujarat Refinery strictly adheres to the stipulations made by the Gujarat Pollution Control Board with respect to air, water, and hazardous waste.
2.	No further expansion or modernization in the plant should 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.	We have applied to MoEF, New Delhi for installation and commissioning of upcoming BS-IV and BS-VI Project. No work shall be taken up till the Environment Clearance is obtained. So it is complied that no further expansion or modernization in the plant is carried out without prior approval of the Ministry of Environment and Forests.
3.	<p>a) The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 2000 as amended subsequently.</p> <p>b) Prior approvals from Chief Inspectorate of factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable</p>	<p>a) Gujarat Refinery strictly complies with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 2000.</p> <p>b) Relevant approvals from Chief Inspectorate of factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. has been obtained. A copy of factory license is attached as Annexure II.</p> <p>Safety Report and Disaster Management Plan is sent to Chief Inspectorate of Factories.</p>
4.	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The	Noise level is regularly monitored at plant and at periphery of the Refinery. Outside the plant it remains around 85 dBA. Within the plant, in some areas it is higher than 85 dBA. In that cases, ear plugs and ear muffs

	ambient noise levels should conform to the standards prescribed under EPA Rules 1989 viz. dBA (day time) and 70 dBA (night time).	are compulsory for all the working personnels for maintaining noise level below 85 dBA. Data enclosed as Annexure I.
5.	A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	A separate Environmental Management Cell consisting of 13 officers(1 Chief General Manager, 1 Deputy General Manager, 1 Chief Manager, 2 Manager, 4 Assistant Manager, 4 Process Engineers). A full fledged NABL accredited laboratory with a separate environment section exists at Gujarat Refinery.
6.	a) Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government alongwith the implementation schedule for all the conditions stipulated therein. b) The funds so provided shall not be diverted for any other purposes.	a) Adequate funds are available for implementation of the conditions stipulated by MoEF. b) This is ensured that these funds are not diverted for any other purposes
7.	a) The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. b) A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	a) Monthly reports containing water cess, treated effluent quality and stack reports is sent to GPCB. Last monthly report to GPCB was sent on 06.11.2017 b) Six monthly compliance report is sent to MoEF, Bhopal. Last report to MoEF, Bhopal was sent on 5 th Jul, 2017
8.	a) 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. b) The clearance letter shall also be put on the website of the company by the proponent.	a) The EC letter was sent to Gram Panchayat on 26 th Aug, 2015. b) Clearance letter was put up on Gujarat Refinery website (Sabarmati) on 2 nd Jul' 2015.

9.	<p>a) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of the monitored data on their website and shall update the same periodically.</p> <p>b) It shall simultaneously be sent to the Regional Office of the MoEF, the respective Zonal Office of CPCB and the SPCB.</p> <p>c) The criteria pollutant levels namely PM10, PM2.5, SO2, NOx, 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.</p>	<p>a) The EC compliance report is regularly updated on the Company Website.</p> <p>b) EC compliance report is sent to MoEF, Bhopal. Last EC Compliance report was sent to MoEF, Bhopal on Jul 2017</p> <p>c) Real-time monitoring and manual monitoring of stack emissions and ambient air quality is done on regular basis. Manual monitoring on monthly basis is done by third party M/S Maxwell Engineers. SO2 and NOx emissions are also continuously displayed at the Refinery Gate Main entrance.</p>
10.	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 SPCB. The Regional Office of this Ministry/CPCB/SPCB shall monitor the stipulated conditions.	Last EC compliance was sent to MoEF, Bhopal in Jul, 2017.
11.	The environmental statement for each financial year ending 31 st 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 email.	<p>Environment Statement for each financial year is submitted to GPCB, Gandhinagar with a copy to GPCB Regional Office.</p> <p>Last Environment Statement was sent on 26th Sep, 2017.</p> <p>The same has been updated on Company's website.</p>
12.	a) The project proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board / Committee and may also be seen at Website of the	<p>a) Information regarding EC was published in two newspapers i.e. English newspaper and Gujrati newspaper on 7th July 2015.</p> <p>Copy of the advertisement was forwarded</p>

	Ministry of Environment and Forests at http://envfor.nic.in . This should 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 should be forwarded to the Regional office.	to GPCB, Vadodara on 27 th Jul, 2015.
13.	Project Authorities should 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.	Date of capitalization of GT-6: 22.06.2015

SUB: Compliance status of stipulations put by MoEF while according Environmental Clearance for BS-IV and BS-VI project at Gujarat Refinery.

Ref: MoEF Letter No. J-11011/96/2015-IA-II (I) Dated 20.03.2017.

Compliance status of the conditions laid down by MoEF is furnished below.

A. SPECIFIC CONDITIONS:

Sr. No	Stipulations	Compliance Status (30.11.17)
1.	All Pollution control and monitoring equipments shall be installed, tested and interlocked with the process, SPCB shall grant 'consent to Operate' after ensuring that all the mentioned pollution control equipments, construction of storm water drain, rain water harvesting structure, Green belt, uploading of compliance report on the website etc have been implemented.	<p>Gujarat Refinery will apply for Consent to Operate. It will be ensured that all pollution control and monitoring equipments are installed, tested and interlocked with the process.</p> <p>Storm water drain and rainwater harvesting structures already exist at Gujarat Refinery.</p> <p>3 fully developed green belts exist at Gujarat Refinery. Dense plantation is being carried out in our headworks area. Till Oct'2017 1200 saplings has been planted.</p> <p>Compliance report is regularly updated on GPCB Website.</p>

2.	SO ₂ emissions after expansion from the plant shall not exceed 900 kg/day and further efforts shall be made for reduction of SO ₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H ₂ S emissions.	<p>As per EAC meeting, SO₂ emissions was limited to 900 kg/hr for Gujarat Refinery. Due to typographical error, this has come in EC as 900 kg/day. Gujarat Refinery has already applied for correction of the same. For the period May 2017 to Oct 2017, SO₂ emissions remain in the range 300-320 kg/hr.</p> <p>Reduction of SO₂ load is being achieved using low sulphur fuel. Sulphur recovery units are already in place to control H₂S emissions.</p>
3.	Ambient air quality data shall be collected as per NAAEQS standards notified by the Ministry vide G.S.R. No. 826(E) dated 16 th September,2009. The Levels of PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , VOC and Co shall be monitored in the ambient air emissions from the stacks and displayed at a convenient location near the main gate of the company and at important public places. The company shall upload the result of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective zonal office of CPCB and the state pollution Control Board (SPCB).	<p>The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. no. 826(E) dated 16th November, 2009 are being followed at Gujarat Refinery.</p> <p>Real-time monitoring and manual monitoring of stack emissions and ambient air quality is done on regular basis.</p> <p>Manual monitoring on monthly basis is done by third party M/S Maxwell Engineers.</p> <p>SO₂ and NO_x emissions are also continuously displayed at the Refinery Gate Main entrance.</p> <p>Monitoring report is regularly updated in the company website.</p> <p>Stack monitoring report is sent to GPCB, Gandhinagar on monthly basis. Last stack monitoring report sent on 06.11.2017.</p>
4.	In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, Closed handling & conveyance of chemicals/materials, multi cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system shall be provided at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment,	<p>Control measures for checking fugitive emissions from vulnerable sources have been provided.</p> <p>All floating roof tanks are provided with primary and secondary seal.</p> <p>All the pumps are having single as well as double mechanical seals to prevent VOC Emissions.</p>

	product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits stipulated by the SPCB.	Gas detectors in all process units and tank farm area are present to detect gas leakage at minimum concentrations. In addition to this, VOC emissions are monitored by VOC LDAR Programme.
5.	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollutions.	DG sets are not available at Gujarat Refinery. Hence, the condition is not applicable.
6.	The total fresh water requirement from Mahi River shall not exceed 60.07 MLD and prior permissions shall be obtained from the Competent Authority. No ground water shall be used without permission.	Total freshwater requirement from Mahi River will remain within 60.07 MLD. No additional groundwater will be used without prior permission. For the period May to Oct 2017, it ranges from 37.64 - 48 MGD.
7.	Waste water shall be sent to CETP and balanced quantity of treated effluent shall be discharge to Vadodara Enviro Channel Ltd. (VECL) which is finally discharged into Gulf of Khambat.	Wastewater from all process units are sent to CETP. Treated water from CETP is maximized in refinery operations. Remaining treated effluent is discharged to VECL.
8.	Automatic/online monitoring system (24 X 7 monitoring devices) for flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to the respective SPCB and in the Company's website.	a) Online monitoring system for flow measurement and relevant pollutants in the treatment system is already installed. b) Connectivity of online analysers for the relevant parameters with GPCB/CPCB server has been completed by May '2016.
9.	Adequate odour management plan and its mitigation measure to be implemented on priority.	VOC LDAR Programme and Work Environment Monitoring for chemicals is being carried out regularly.
10.	Regular VOC monitoring to be done at vulnerable points.	VOC LDAR Programme is being carried out by M/s. Ecotech Instruments for 14000 points per year. VOC Monitoring is done on regular basis.
11.	The oily sludge shall be subjected to melting pit for oily recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.	The oily sludge is subjected to melting pit and oil recovery is done by M/s. Plantech. The residual sludge thereby generated is sent for bio-remediation. The sludge is stored in HDPE lined pit.

12.	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC, from the report to be implemented for conservation scheme.	After completion of the project, water audit will be carried out and report will be sent accordingly.
13.	Oil catchers / oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	Oil catchers are provided at strategic locations in rain/storm water drainage system to prevent the possibility of oil contamination in storm water channel
14.	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps.	Hazardous chemicals are stored in tanks, drums. Solvent transfer is being done by pumps in the process units.
15.	The company shall Strictly comply with the rules and guidelines under Manufacture, Storage and import of Hazardous Chemicals (MSIHC) Rule, 1989 as amended time to time. All Transportation of Hazardous chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	Rules and guidelines under Manufacture, Storage and import of Hazardous Chemicals (MSIHC) Rule, 1989 are being followed. Transportation of Hazardous Chemicals are as per the Motor Vehicle Act, 1989.
16.	The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	Being followed at Gujarat Refinery.
17.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance of workers are being done on regular basis and records are being maintained as per the Factories Act.
18.	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ECS) based on local needs and action plan with financial and physical breakup details shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured accordingly in a time bound manner.	Letter has been sent to ministry from Refinery Headquarters for waiving of the mandatory funds towards Enterprise Social Commitment(ECS) for all the IOCL Refineries vide Ref No. MOEFCC Corr/2017-18/1 dated 19.06.2017.
19.	All the commitments made during the public Hearing/public Consultation meeting held on 5.11.2016 should be satisfactorily implemented and adequate budget provision should be made accordingly.	Commitments made during Public Hearing meeting held on 05.11.2016 is being implemented.
20.	As proposed, green belt over 70 acres area shall be developed at Refinery Township area and dense plantation of around 21 acres shall be undertaken at Head works area. Selection of plant species shall be as per the CPCB guidelines in consultations with the DFO.	70 acres green patch is available at JR township. Dense plantation is being carried out in our headworks area. Till Oct'2017 1200 saplings has been planted. Existing green belt of 148 acres is being maintained.

Existing Green belt of 148 acres shall be maintained around the periphery of Refinery with a total of about 2,15,000 trees in the green belt.

B. GENERAL CONDITIONS:

Sr. No.	Stipulations	Compliance Status (30.11.2017)
1.	The project authorities must strictly adhere to the stipulations made by the state Pollution control Board (SPCB), State Government and any other statutory authority.	Gujarat Refinery strictly adheres to the stipulations made by the Gujarat Pollution Control Board with respect to air, water, and hazardous waste.
2.	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 environment protection measure required, if any.	Gujarat Refinery shall apply to MoEF, New Delhi for installation and commissioning of any upcoming Project. No work shall be taken up till the Environment Clearance is obtained. So it is complied that no further expansion or modernization in the plant is carried out without prior approval of the Ministry of Environment and Forests.
3.	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.	Presently 7 ambient air quality monitoring stations have been installed out of which 6 stations are surrounding the refinery and one monitoring station is in the Vadodara City. The monitoring station in the city was recommended by Gujarat Pollution Control Board(GPCB).
4.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. no. 826(E) dated 16 th November, 2009 shall be followed.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. no. 826(E) dated 16 th November, 2009 are being followed at Gujarat Refinery.
5.	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).	Noise level is regularly monitored at plant and at periphery of the Refinery. Outside the plant it remains around 85 dBA. Within the plant, in some areas it is higher than 85 dBA. In that cases, ear plugs and ear muffs are compulsory for all the working personnels for maintaining noise level below 85 dBA. Data provided as Annexure I

6.	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.	Company has already installed 21 rainwater harvesting wells out of which 5 are rooftop harvesting wells. Additional 57 rooftop rainwater harvesting wells have been proposed inside refinery battery limit as well as township.
7.	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.	Training is being imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees are conducted on regular basis. Apart from this, Material Safety Datasheet(MSDS) of the chemicals is being displayed at all process units.
8.	The company shall also comply with all the environmental protection measure 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.	Gujarat Refinery strictly adheres to all the environmental protection measure and safeguards proposed in the documents submitted to the Ministry. All recommendations made in the EMP and risk analysis reports have been implemented.
9.	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.	CSR activities are done every year involving local villages and administration.
10.	The company shall undertake co-developmental measures including community welfare measure in the project area for the overall improvement of the environment.	Being followed.
11.	A Separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental Management and Monitoring functions.	A separate Environmental Management Cell consisting of 13 officers(1 Chief General Manager, 1 Deputy General Manager, 1 Chief Manager, 2 Manager, 4 Assistant Manager, 4 Process Engineers). A full fledged NABL accredited laboratory with a separate environment section exists at Gujarat Refinery.
12.	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	a) Adequate funds are available for implementation of the conditions stipulated by MoEF.

	well as the State Government along with the implementation schedule for all the condition stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	b) This is ensured that these funds are not diverted for any other purposes
13.	A copy of the clearness 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.	A copy of EC letter has been sent to Gram Panchayats on 15.04.2017
14.	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 reports shall be posted on the website of the company.	a) Six monthly reports are submitted to MoEF, Bhopal. Last report submitted on 5 th Jul, 2017. The Environment Clearance and EC compliance report is uploaded on the Company Website.
15.	The environmental statement for each financial year ending 31 st 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 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 Office of MoEF by e-mail.	a) Environmental Statement for each financial year is submitted to Gujarat Pollution Control Board. Last Environment Statement for financial year 2016-17 was submitted to GPCB on 26 th September, 2017. b) Environment Statement is regularly updated on Company Website
16.	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	Information regarding EC was published in two newspapers i.e. English newspaper and Gujrati newspaper on 5 th April 2017 and 6 th April 2017 respectively.

	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.	
17.	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 date of start of the project.	Details will be furnished after completion of the project

**NOISE MONITORING REPORT
(REFINERY PERIPHERY)**

17/05/2017

S NO	location		Noise level	
			9.30 AM	9.30 PM
1	INSIDE MAIN GATE	Time office	67.1	58.0
2	WATCH TOWER 12	B/H CGP	58.8	58.5
3	RO PLANT SITE- OUTER GATE	KOYALI Side	62.8	62.6
4	WATCH TOWER 2	Nr Dhola Kuva	62.0	62.3
5	WATCH TOWER 3	Opp Crude Tank 901	52.6	51.7
6	BITUMEN GATE	Opp CISF Pt	63.5	57.5
7	WATCH TOWER 6	IPCL Common Border	64.4	59.0
8	WATCH TOWER 9	Nr TTL Office	56.5	52.1
9	MKT GATE	Nr CISF Pt	66.1	51.7
10	SOUTHERN RLY GATE	-Do-	52.0	50.4

SOUND LEVEL MONITORING

AREA : AU – 4

Dated : 10-05-2017

AREA : CDU

Location	Reading in dBA
	10.00 AM
712-P-103 C Crude Oil Booster Pump	97.1
712-P-103 B Crude Oil Booster Pump	98.0
712-P-103 A Crude Oil Booster Pump	OFF
712-P-03 A LGO Crude Pump	98.1
712-P-03 LGO Crude Pump	OFF
712-P-10 A Pre-Fractioner Bottom Pump	96.4
712-P-10 B Pre-Fractioner Bottom Pump	OFF
712-P-10 C Pre-Fractioner Bottom Pump	98.1

AREA : VBU

Location	Reading in dBA
	10.00 AM
799-PM – 02 B BFW TO FURNACE	98.6
731 – PM – 102 A C-1 COL FEED PUMP	OFF
731-PM – 114 A VBU FEED BOOSTER	OFF

AREA : VDU

Location	Reading in dBA
	10.00 AM
721-PM-01A RCO FEED	94.2
721-PM-01B RCO FEED	97.2
721 – PM – 09 A VGO + pa-3 pump	92.3
741 – F – 01 BBU FURNACE	92.1
741 – F – 02 BBU FURNACE	93.5

All readings were taken **1 METER** away from the source

Allowable Noise level as per Factory Act : 85dB for 8 Hrs.

**NOISE MONITORING REPORT
(REFINERY PERIPHERY)**

17/05/2017

S NO	location		Noise level	
			9.30 AM	9.30 PM
1	INSIDE MAIN GATE	Time office	67.1	58.0
2	WATCH TOWER 12	B/H CGP	58.8	58.5
3	RO PLANT SITE- OUTER GATE	KOYALI Side	62.8	62.6
4	WATCH TOWER 2	Nr Dhola Kuva	62.0	62.3
5	WATCH TOWER 3	Opp Crude Tank 901	52.6	51.7
6	BITUMEN GATE	Opp CISF Pt	63.5	57.5
7	WATCH TOWER 6	IPCL Common Border	64.4	59.0
8	WATCH TOWER 9	Nr TTL Office	56.5	52.1
9	MKT GATE	Nr CISF Pt	66.1	51.7
10	SOUTHERN RLY GATE	-Do-	52.0	50.4

SOUND LEVEL MONITORING

AREA : AU - 3

Dated : 3-07-2017

Location	Reading in dBA
	10.00 AM
410-H-41A (K-1 Bottom)	OFF
410-H-41B (K-1 Bottom)	92.8
410-H-41C (K-1 Bottom)	93.1
410-H-2 (Mixed Crude Pump)	96.8
410-H-2A (Mixed Crude Pump)	91.0
410-H-2B (Mixed Crude Pump)	97.1
410-H-2C (Mixed Crude Pump)	OFF
Furnace F-3	83.4
Furnace F-1	81.6
Furnace F-2	89.3

All readings are taken 1 Meter away from the source.

Allowable Noise level as per Factory Act : 85dB for 8 Hrs.

SOUND LEVEL MONITORING

AREA : LAB

Dated : 25-08-2017

Location	Reading in dBA 10.00 AM
2071-K-001 KOBE COMP	86.9
2061-K-002 A MAKE UP GAS COMP	89.3
2061-K-002 B MAKE UP GAS COMP	OFF
2061-K-001 A RECYCLE GAS COMP	OFF
2061-K-001 B RECYCLE GAS COMP	88.3
2063-P-002 C HOT OIL PUMP	OFF
2063-P-002 A STEAM TURBINE	99.1
2063-P-002 B STEAM TURBINE	OFF
2063-ID-002 ID FAN	91.2
2063-FD-001 A FD FAN	88.5
2063-FD-001 B FD FAN	90.4
2073-P-003 A RECYCLE BENZENE	88.1
2073-P-008 A RECYCLE PARAFFIN	88.4
2071-P-002 A PACOLATE PUMP	89.1

All readings were taken **1 METER** away from the source.

Allowable Noise level as per Factory Act : 85dB for 8 Hrs.

SOUND LEVEL MONITORING

AREA : ISOM

Dated : 7-09-2017

Location	Reading in dBA
	10.00 AM
2112-P-07 A NAPTH SPLITTER PUMP	OFF
2112-P-07 B NAPTH SPLITTER PUMP	90.1
2112-PM-05 A NAPTH SPLITTER-I REBOILER PUMP	OFF
2112-PM-05 B NAPTH SPLITTER-I REBOILER PUMP	92.7
2112-P-10 A NHT CHARGE PUMP	OFF
2112-P-10 B NHT CHARGE PUMP	90.4
2113-K-01 A MAKE UP GAS COMP	OFF
2113-K-01 B MAKE UP GAS COMP	88.3
2112-K-02 A NHT MAKE UP GAS COMP	90.3
2112-K-02 B NHT MAKE UP GAS COMP	OFF
NHT RGC COMP	83.7
2113-K-91 REFRIGRATION COMP	OFF

All readings are taken 1 Meter away from the source.

Allowable Noise level as per Factory Act : 85dB for 8 Hrs

SOUND LEVEL MONITORING

AREA : AU – 2

Dated : 4-10-2017

Location	Reading in dBA
	10.00 AM
02 - P – 206	99.5
02 - P – 2 A	OFF
02 - P – 2	99.1
02 - P – 4	OFF
02 – P - 4A	90.1
H – 9 B RCO Run down	93.2
H – 9 A RCO Run down	OFF
02 - P – 202	OFF
FURNACE F-1	89.4
FURNACE F-2	94.9
FURNACE F-3	OFF
FURNACE F-4	96.2
FURNACE F-5	OFF

All readings were taken **1 METER** away from the source.

Allowable Noise level as per Factory Act : 85dB for 8 Hrs.



भारतमेव जयते

**Directorate Industrial Safety & Health
Gujarat State**

FORM NO. 4
(Prescribed under Rule 5)

License to work a factory

Registration No. 1891/60300/1965
FIN. B05015648A

License No. 15648
D.A. 18-Aug-1965

License is hereby granted to

Mr. SUDHIR KUMAR

For the premises known as

INDIAN OIL CORPORATION LIMITED (REFINERIES DIVISION)

situated at

P.O. JAWAHARNAGAR VADODARA

Ta.: Vadodara Dist.: Vadodara

for use as a factory within the limits specified in the plan approved by the

Joint Director Industrial Safety and Health, Baroda Region

vide No. 1359 Date 31-Dec-2009 subject to provisions of the

Factories Act, 1948 and the Rules made thereunder.

The license is issued for:

- Maximum Number of workers to be employed on any day during the Year : **** Above 5000****
- Maximum installed power in B.H.P. on any day during the year : **** Above 5000****

The license is valid up to 31st December 2018,

Fees paid Rs. 100.00

Fees due Rs. 100.00

Excess Rs. 0.00

Place : **Baroda**

Date : **20-Apr-2017**



P. N. Shah
**Joint Director
Industrial Safety and Health
Baroda Region**

170357