

# **Half Yearly EC Compliance Report**

**Period: Jul-2021 to Dec-2021**

**BPCCL, Mumbai Refinery**

**Compliance Status Report for modernization of Mumbai Refinery by replacing old Catalytic Cracking Unit (CCU) and Fluidized Catalytic Cracking Unit (FCCU) with the new state of the art Petro Resid Fluidized Catalytic Cracking Unit (PRFCCU) & associated facilities**

**EC Letter no. J-11011/145/2018-1A II (I) dated 5th Aug-2019**

BPCL Mumbai Refinery has submitted application to MoEF & CC for amendment of EC Letter no. J-11011/145/2018-1A II (I) for CRZ approval.

**Application No. : Proposal No. : IA/MH/IND2/130402/2019**

Reason for Amendment: As per CZMP of Maharashtra, Cooling Tower, Control room, Substation and part of SRU are coming under CRZ II areas. Hence EC is sought for inclusion of CRZ clearance. Compliance of EC

Letter no. J-11011/145/2018-1A II (I) will be submitted post receipt of amended EC.

**Compliance Status Report for Gasoline Hydro Treatment Unit (GTU) (0.9 MMTPA) & associated facilities to produce 100% BS-VI MS**

**EC Letter no. J-11011/98/2016-1A II (I) dated 20<sup>th</sup> March 2017**

**Consent To Operate (CTO) for Gasoline Treatment Unit (GTU) amalgamated with existing refinery CTO has been received from Maharashtra Pollution Control Board (MPCB) on 13<sup>th</sup> Sept-2019.**

**GTU plant was commissioned on 22<sup>nd</sup> Oct 2019.**

As per the stipulations given in the Environmental Clearance for Gasoline Hydro Treatment Unit (GTU) (0.9 MMTPA) & its associated facilities to produce 100% BS-VI MS, the detailed compliance status is given below:

**A. SPECIFIC CONDITIONS :**

| <b>Sr. No.</b> | <b>SPECIFIC CONDITION</b>  | <b>STATUS as on 01.12.2021</b>  |
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| i.             | M/s BPCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18 <sup>th</sup> March, 2008   | Complied.   |
| ii.            | Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J J-11011/582/2011-IA II (I) dated 7 <sup>th</sup> June'2013, letter no. J-11011/140/2012-IA II (I) dated 12 <sup>th</sup> June 2013, letter no.-J-11011/270/2013-IA II (I) dated 8 <sup>th</sup> August 2014 and letter no. J-11011/21/2013-IA II (I) dated 13 <sup>th</sup> August 2015, shall be satisfactorily implemented and compliance reports submitted to the Ministry's Regional Office. | Complied.<br><br>Compliance reports are uploaded on PARIVESH portal on 6 monthly basis.                 |
| iii.           | Continuous on-line stack monitoring for SO <sub>2</sub> , NO <sub>x</sub> and CO of all the stacks shall be carried out. Low NO <sub>x</sub> burners shall be installed.   | The following features at GTU ensure process emissions to conform to the standards prescribed under EPA |

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|     |  | <ul style="list-style-type: none"> <li>• Air preheater provided for improving efficiency</li> <li>• Provision of stack dampers, on-line indication for stack temperature, excess O<sub>2</sub></li> <li>• Stacks of adequate height</li> <li>• Analyzers have been installed at GTU stacks for continuous on-line monitoring of SO<sub>2</sub>, NO<sub>x</sub> CO and PM.</li> <li>• Low NO<sub>x</sub> burners have been installed at two furnaces of GTU.</li> </ul> <p>Similarly, all stacks in BPCL MR have been provided with analyzers for continuous online monitoring of SO<sub>x</sub>, NO<sub>x</sub>, CO &amp; SPM.</p> <p>Stack analyzers are connected to MPCB and CPCB servers for real time data transmission.</p> |
| iv. | 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 pollution. Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit. | <p>Noted.</p> <p>Power is supplied to GTU unit from existing Captive Power Plant at Mumbai Refinery or shall be imported from Tata Electric Company, if required.</p> <p>Additional DG set is not required for GTU unit and Existing refinery DG set is not operating continuously. It supplies power to critical equipment's in the refinery only in case of total power failure.</p>  |
| v.  | Fresh water requirement from MCGM shall not exceed 15950 m <sup>3</sup> /day. After expansion and prior permission shall be obtained from competent authority. About 300 m <sup>3</sup> /hr of cooling water blow down will be discharged to sea.  | <p>Complied.</p> <p>Please refer <b>Annexure-1</b> for Water Balance.</p>   |
| vi. | Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MoEF & CC. Outcome from the report to be implemented for conservation scheme.   | <p>Noted.</p> <p>Last water audit was carried out in 2018 through M/s CII.</p> <p>5 recommendations out of 7 have been completed and 2 are in progress.</p>   |
| vii | 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, Regional Office of MoEF&CC and in the Company's website.                            | <p>Complied.</p> <p>On line analyzers have been provided at Effluent Treatment Plant outlet for measuring PH, BOD, COD &amp; TSS with continuous connectivity to CPCB/ MPCB servers.</p>  |

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|      |  | ETP outlet water is 100% recycled to process cooling towers (ZLD).   |
| viii | The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time. | <p>Complied.</p> <p>Hazardous Waste is disposed of as and when generated as per Hazardous waste rules and as per Consent to Operate issued by MPCB to MPCB approved Recycler party M/s MWML (Mumbai Waste Management Ltd.). (Refer <b>Annexure-2:</b> Membership Certificate of M/s MWML).</p> <p>Hazardous Waste annual return form (Form-IV) is filled up every year before 30<sup>th</sup> June of every year for previous financial year.<br/>For 2020-21, Form- IV was filled on 22<sup>nd</sup> June-2021. Please refer <b>Annexure-2a.</b></p>  |
| ix.  | Acoustic enclosure/silencer shall be installed wherever it is possible.  | Noted  |
| x.   | Occupational Health Surveillance of the workers should be done on regular basis and records maintained as per the Factories Act.   | <p>Complied.</p> <p>Periodic Health check-up for employees is carried out regularly.</p>   |
| xi.  | Green belt over 33% area should be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of project area, in downward direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.                                      | <p>Noted.</p> <p>GTU unit is within the premises of existing Mumbai refinery. Tree plantation is being carried out in and around Chembur / Mumbai to mitigate the effect of emissions.</p> <ul style="list-style-type: none"> <li>- In the year 2014-15, 10000 tree saplings were planted at various locations around Mumbai (Among these saplings, 3000 were planted at AMPC Vashi to develop four acres of green belt in the heart of Navi Mumbai. Refer <b>Annexure- 3:</b> Certificate from APMC Vashi).</li> <li>- In 2016-17, more than 3000 trees were planted at MIDC area at Taloja. (Refer <b>Annexure- 4:</b> Certificate from M/s Mumbai Waste Management Limited (MWML)).</li> <li>- In 2017-18, 5000 Trees were planted at Thane Municipal Corporation in the year 2017. (Refer <b>Annexure- 5:</b> Certificate from TMC, Thane).</li> </ul> |

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|       |  | <ul style="list-style-type: none"> <li>- In 2018-19, more than 1350 saplings were planted at Marine Oil Terminal area, MBPT area, inside BPCL refinery and National Park Borivali.</li> <li>- In 2019-20, a total of 10000 tree saplings were planted at different locations around Mumbai regions through M/s CERE and all the trees were Geo-tagged. (Refer <b>Annexure- 5a</b>: Certificate M/s CERE)</li> <li>- In 2020-21, a total of 300 tree saplings were planted at Mumbai through M/s Unique Pest Control.</li> <li>- In 2021-22, a total of 1000 tree saplings were planted using MIYAWAKI METHOD at LTT Railway Station Mumbai through M/s Green Yatra. Also, a total of 145 number of trees of native species were planted at Trees for Tigers, Panna, Tiger Reserve, Madhya Pradesh, India through M/s Grow Trees.</li> </ul> |
| xii.  | The company should make the arrangement for protection of possible fire and explosion hazards during construction and operation phase. To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place. | Complied.   |
| xiii. | All the recommendations motioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.   | Complied.<br><br>As per risk assessment report, blast proof control room has been built up at GTU site. Hydrocarbon & H2S meters has been installed at critical locations.  |
| xiv.  | At least 2% of the total cost of the project shall be earmarked towards the Enterprises Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details shall be prepared and submitted to the Ministry Of Regional Office. Implementation of such program shall be ensured accordingly in a time bound manner.           | Noted.<br>Please refer <b>Annexure-6</b> for Enterprises Social Commitment (ESC) expenditure details.   |
| xv.   | Zero liquid discharge to be ensured.   | Noted.<br>There is no additional requirement of fresh water and no additional generation of effluent from GTU project.  |

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|  |  | ETP outlet water is 100% recycled to process cooling towers (ZLD).<br>Transmission ETP Flow data and ETP camera images to CPCB / MPCB servers job has been completed on 19 <sup>th</sup> Aug-2019. |
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**B.GENERAL CONDITIONS:**

| <b>Sr. No.</b> | <b>Condition</b>   | <b>Status as on 01.12.2021</b>  |
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| i.             | The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board (SPCB), State Government and any other statutory authority.   | Complied  |
| 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 proposed 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. | Noted   |
| 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.  | Three Ambient Air Quality Monitoring Stations are existing in the refinery for on-line monitoring of PM-10, PM-2.5, SO <sub>2</sub> , NO <sub>x</sub> , CO, Ammonia, Ozone and Meteorological parameters of Wind speed, Wind Direction, Temperature & Relative humidity as per National Ambient Air Quality Standards (NAAQS). Real time AMS data is being transmitted to CPCB/ MPCB site.<br>Also, online data of parameters namely Benzene, Toluene, O/M/P- Xylene and Methane & Non Methane hydrocarbon from AMS have been successfully connected and transmitted to MPCB and CPCB servers since 31 <sup>st</sup> Dec 2018.<br>Also, Mercaptan analyzer has been installed at AMS and data is being transmitted to MPCB/CPCB servers.<br>As per MPCB, there is no additional requirement of Continuous Ambient Air Quality Monitoring Station for GTU project. |

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| iv.   | 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 shall be followed.  | Ambient Air quality data is being collected at three locations in the existing refinery (AMS-1/2/3). The quality is conforming to the standard as specified in the NAAQS.<br>Ambient air Quality report at BPCL is attached as <b>Annexure-7</b> .   |
| 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 should conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules and 1989 viz. 75 dBA (daytime) and 70 dBA (night time). | Noted.<br>Ambient Noise levels conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules. Monitoring carried out in the periphery of the refinery is attached. (Refer <b>Annexure-7</b> : Noise Monitoring Data).<br><br>Also, sign painting is done for High Noise area and instructions have been mentioned to use PPEs.  |
| vi.   | The company shall harvest rain water from roof tops of the buildings and storm water drains to recharge the ground water and use the same waste for the process activities to the project to conserve fresh water.  | Complied.<br>Rain water harvesting systems are provided at BPCL MR at 14 locations out of which RWH system at DHDS & DHT substation roof top were commissioned in June-2019. Details of total Rain water harvested are as below:<br><br>2016-17: 88 Thousand KL<br>2017-18: 65.7 Thousand KL<br>2018-19: 42.8 Thousand KL<br>2019-20: 71 Thousand KL<br>2020-21: 67 Thousand KL<br>2021-22: 33 Thousand KL                                   |
| vii.  | Training shall be imparted to all employees on safety & health aspects of chemicals handling. Pre – employment & routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.  | Complied.<br>Safety trainings are carried out for BPCL employees as well as contractor employees which includes Hands on fire fighting, Behavior based safety training & safety in refining etc. Mandatory periodic health check is done for employees and also pre-employment check is carried out at BPCL medical center. Comprehensive safety training is provided to contractor staff during registration process by Fire & Safety Dept. |
| 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   | Complied.  |

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|       | respect of environmental management and risk mitigation measures 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.  | Being implemented.<br>CSR activities are conducted on regular basis for local villages which involves Cancer screening camp, Eye screening camp Blood donation camp, Public health center, Ambulance service during emergency, providing fish nets to local fishermen.   |
| x.    | The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.  | Complied.<br>BPCL is providing scholarships to needy students through local schools. Also felicitates 10 <sup>th</sup> & 12 <sup>th</sup> std. students every year.<br><br>Environment (HSSE) department carries out tree plantation and awareness functions in nearby schools as a part commitment towards sustainable 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.  | There is no requirement of additional Laboratory for GTU Project. Existing BPCL Laboratory is used for GTU. Refinery has a full-fledged NABL approved Laboratory.<br><br>BPCL refinery already has an Environment section to carry out 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, 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. | Various Environmental projects incurring capital expenditure are being carried out regularly.<br><br>List of recent Environment projects is attached as <b>Annexure-8</b> .  |
| xiii. | A copy of clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban local Body and the Local Body and the local NGO, if any from whom any suggestions / representations, if any, from whom suggestions / representations, if any, were received while processing the proposal.   | Complied<br>Environment Clearance letter has been put on the BPCL corporate website <a href="http://www.bharatpetroleum.in/EnergizingEnvironment/HealthSafety&amp;Environment/">www.bharatpetroleum.in/EnergizingEnvironment/Health Safety &amp; Environment /</a> . Environment Clearance letter has been sent to Municipal corporation |



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| xiv.  | The project proponent shall also submit six monthly reports on 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 Regional office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environment Clearance and six monthly compliance status report shall be posted on the website of the company.   | Complied.<br>Six monthly compliance statement is uploaded on PARIVESH portal of MoEF&CC and soft copy is sent to CPCB, and SRO/ RO office of MPCB through e-mail.<br>The Environment Clearance and six monthly compliance report was also posted on the BPCL corporate website. |
| xv.   | The Environmental Statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted to the concerned State Pollution Control Board as prescribed under Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the web site of company along with compliance of Environmental Clearance conditions and shall also be sent to the respective Regional Office of MoEF&CC by e-mail.   | Duly filled form V (Environment Statement) for every financial year is submitted to MPCB office before 30 <sup>th</sup> Sept of every assessment year.<br><br>For 2020-21 also, Form-V was submitted to MPCB on 30 <sup>th</sup> Sept-2021. Please refer <b>Annexure- 9</b> .   |
| 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 Ministry at <a href="http://moef.nic.in">http://moef.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 same shall be forwarded to the Regional Office of the Ministry. | Subsequent to obtaining Env. Clearance from MoEF for GTU, dt 20 <sup>th</sup> March-17, the same was published in two newspapers (Indian Express in English & Maharashtra Times Marathi) on 7 <sup>th</sup> of April 2017. <b>Annexure- 10 &amp; 10a</b> .                      |
| 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 commencing the land development work.   | Complied.   |

**Compliance Status Report for Diesel Hydro treatment Unit (DHT) & associated facilities to produce 100% BS-IV HSD**

**EC Letter no. J-11011/21/2013-1A II (I) dated 13<sup>th</sup>Aug-2015**

As per stipulations given in the Environmental Clearance for Diesel Hydro Treatment (DHT) Unit & associated facilities to produce 100% BS-IV HSD.

DHDT Unit was commissioned on 26.06.2017

**Specific Conditions:**

| Sr. No. | SPECIFIC CONDITION | STATUS as on 01.12.2021 |
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| i.   | Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/180/2008-IA II(I) dated 28 <sup>th</sup> April, 2008 , F.No.J-11011/140/2012-IA II I dated 12 <sup>th</sup> June 2013, J-11011/582/2011-IA II (I dated 7 <sup>th</sup> June 2013and J-11011/270/270/2013-IA (I) dated 8 <sup>th</sup> August 2014 , shall be satisfactorily implemented and compliance reports submitted to Ministry's regional office at Bhopal.   | Compiled<br><br>Compliance reports are uploaded on PARVISH portal of MoEF & on six monthly basis.   |
| ii.  | M/s BPCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules. 1986 vide G S R 186(E) dated 18 <sup>th</sup> March, 2008.  | Complied  |
| III. | Continuous on-line stack monitoring for SO <sub>2</sub> , NO <sub>x</sub> and CO of all the stacks shall be carried out. Low NO <sub>x</sub> burners shall be installed.  | Analyzers are installed at DHT stacks for continuous on-line monitoring of SO <sub>2</sub> , NO <sub>x</sub> CO and PM. Low NO <sub>x</sub> burners are provided.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| iv   | The process emissions [SO <sub>2</sub> , NO <sub>x</sub> , HC (Methane & No-methane)], VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act. At no time the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by 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.                                       | The following features at DHTD process emissions to conform with the standards prescribed under EPA <ul style="list-style-type: none"> <li>• Fuel gas is fired in the furnaces.</li> <li>• Air pre-heater provided for improving efficiency</li> <li>• Provision of stack dampers, on-line indication for stack temperature, excess O<sub>2</sub>.</li> <li>• Stacks of adequate height.</li> </ul> At BPCL refinery, Ambient Air Quality monitoring is carried out on regular basis which includes parameters SO <sub>x</sub> , NO <sub>x</sub> , CO, O <sub>3</sub> , NH <sub>3</sub> , PM-10. PM-2.5, Hydrocarbon. Also analyzers have been installed at each AMS for transmitting data to MPCB/ CPCB server.<br><br>Ambient air quality as monitored at refinery is attached as <b>Annexure-7</b> . |
| v.   | Leak Detection and Repair program shall be prepared and implemented to con HC/VOC emissions. Focus shall be given to prevent fugitive emission for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yard etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations. | LDAR program is already being followed in the existing refinery as per GSR-186 (E). Compressors, exchangers, pumps, valves, equipment's, etc are being regularly monitored for identifying VOC emissions and rectifying the identified leaks.<br><br>HC leak detectors are provided in the plant area at strategic locations.   |

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|      |   | <p>Preventive maintenance schedule exists for all critical pumps / compressors and is being adhered to.</p> <p>In consecutive quarterly LDAR reports of Jun-2019 &amp; Oct-2019, the component wise leaks were less than 2%. Hence, as per GSR-186 (E) next LDAR monitoring of all refinery units will be carried out on half yearly basis.</p> <p>Please refer <b>Annexure-11</b> for typical LDAR report and <b>Annexure -11a</b> for Note file for revision in LDAR monitoring frequency.</p>   |
| vi.  | SO <sub>2</sub> emissions after expansion from the plant shall not exceed 10.44 TDP, Sulphur recovery units shall be installed for control of H <sub>2</sub> S emissions.   | <p>Complied.</p> <p>Tail Gas Treatment Units (TGTU) is commissioned in Nov-2017 for improving SRU efficiency to 99.9 %. Please refer <b>Annexure-12</b>.</p>   |
| vii  | As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.   | Typical Sulfur balance from the existing refinery attached as <b>Annexure-12</b>   |
| viii | Ambient air quality monitoring stations, [PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , H <sub>2</sub> S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Maharashtra Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. | <p>Three Ambient Air Quality Monitoring Stations are existing in the refinery. On-line monitoring of PM-10, PM-2.5, SO<sub>2</sub>, NO<sub>x</sub>, H<sub>2</sub>S, CO, Methanic &amp; non methanic hydrocarbons, benzene, Ammonia, Ozone and meteorological parameters of Wind speed, wind direction, temperature, &amp; Relative humidity is being carried out as per National Ambient Air Quality Standards (NAAQS). Real time data is continuously sent to CPCB / MPCB site.</p> <p>Please refer <b>Annexure-7</b> for environment monitoring reports.</p> |
| ix   | Ambient air quality data shall be collected as per NAAQEA standards notified by the Ministry on 16 <sup>th</sup> November,2009 and trend analysis w.r.t. past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.  | <p>Ambient air quality data is being collected at three locations in the existing refinery through third party. The quality is conforming with the standard as specified in the NAAQS.</p> <p>Ambient air Quality at North west corner of Refinery is attached as <b>Annexure-7</b></p>  |

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| x.       | 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 pollution. Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit. | Noted.<br>Power is supplied to DHT unit from Captive Power Plant existing at the refinery. Additional requirement of power shall be imported from Tata Electric Company.<br>Additional DG set is not required for DHT unit.  |
| xi.      | Total fresh water requirement from Municipal Corporation of Greater Mumbai after expansion shall not exceed 16,100m <sup>3</sup> /day. After expansion and prior to permission shall be obtained from competent authority.   | Complied.<br>Please refer <b>Annexure-1</b> for Water Balance.   |
| xii      | Industrial effluent generation shall not exceed 155 m <sup>3</sup> /Hr and treated in effluent treatment plant. Treated effluent shall be fully as make-up water for raw water cooling towers. Domestic Sewage shall be treated in sewage treatment plant ( STP )                              | Treated effluent is fully recycled as make water to various raw water cooling towers in the Refinery.<br>A new Sewage Treatment plant with a capacity of 250 CMD for administrative block has been commissioned in Dec 2014.<br><br>Please refer <b>Annexure-1</b> for Water Balance.<br>BPCL has provided analyzers for COD, BOD, TSS, PH monitoring with direct connectivity to CPCB/ MPCB server. |
| xiii     | Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.  | Complied.<br><br>Oil catchers equipped with skimmers, weirs, drum skimmer, rope skimmer, hay filters etc have been provided.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xi<br>v. | As committed, BPCL needs to implement the outcome of study for water reduction and its optimize use as result of water auditing. No process effluent shall be discharged outside the premises.   | Complied.<br>Treated effluent is fully recycled as make water to various raw water cooling towers in the Refinery. BPCL has provided analyzers for COD, BOD, TSS, PH monitoring with direct connectivity to CPCB/ MPCB server.<br><br>Please refer <b>Annexure-1</b> for Water Balance.  |
| xv       | Automatic /online monitoring system (24X7 monitoring devices) For flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to respective SPCB, Regional office of MoEF & CC and Company's site  | Complied.<br>BPCL has provided analyzers for COD, BOD, TSS, PH monitoring with direct connectivity to CPCB/ MPCB server.   |

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| xv<br>i.   | Oily sludge shall be disposed off into Cocker.<br>Annual oily sludge generation and disposal data shall be submitted to Ministry of Regional offices and CPCB.   | Not Applicable<br>There is no coker installed at BPCL Mumbai Refinery.   |
| xv<br>ii.  | The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules,1989 as amended in October, 1994 and January,2000 Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time                                   | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.  |
| xv<br>iii. | The membership of common TSDF should be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bhopal Chemical/inorganic sludge shall be sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors. | BPCL MR has membership of Mumbai Waste Management Limited, which is authorized TSDF.<br>Membership certificate is attached as <b>Annexure-2.</b> |
| xi<br>x.   | Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.  | Complied<br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xx         | Acoustic enclosure/silencer shall be installed wherever it is possible.  | Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xx<br>i    | The company shall strictly follow all the recommendations mentioned in the charter on Corporate Responsibility for Environmental protection (CREP).  | Please refer <b>Annexure-13</b> for details of Corporate Responsibility for Environmental protection (CREP).                                     |
| xx<br>ii.  | To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition source and flammable material shall be in place.  | Complied.  |
| xx<br>ii.  | To prevent fire & explosion at oil & gas facility, potential ignition, sources and flammable materials shall be in place.  | Complied.  |
| xx<br>iii. | Thick greenbelt with suitable plants species shall be developed around unit, Selection of plants a per CPCB guidelines.  | Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xx<br>iv.  | All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.  | Complied.  |
| xx<br>v.   | At least 2.5% of the total cost of the project shall be unmarked towards the Enterprise social responsibility based on need of the affected people with consultation of local Administration and item-wise details along with long time bound action plan shall be prepared and  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.  |

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|          | submitted TO Ministry of Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.   |  |
| xx<br>vi | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. | Project is completed and commissioned. |

#### B.GENERAL CONDITIONS:

| Sr. No. | Condition  | STATUS as on 01.12.2021   |
|---------|--|---|
| 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.   | Complied  |
| ii.     | No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviation or alterations in the project proposed 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. | Noted   |
| iii.    | The project authorities must strictly comply with the rules & regulation under manufacture. Storage and import of Hazardous chemical Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate, etc. must be obtained, wherever applicable.  | Complied.   |
| iv.     | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosure etc, on all sources of noise generation. The ambient noise levels should conform the standards prescribed under Environmental (Protection) Act, 1986 Rules and 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).                                   | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| v.      | A separate environmental management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.   | BPCL refinery already has an Environment section to carry out environmental management and monitoring functions. The Refinery also has a full-fledged NABL approved Laboratory. |

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| vi.   | Adequate funds shall be earmarked towards capital cost and recurring cost for environment pollution control measures and shall be used to implement the conditions stipulated by MOEF as well as state government along with implementation schedule for all the conditions stipulated herein. Funds so provided should not be diverted for any other purpose.  | Adequate funds are being provided for environment pollution control measures. Various Environment projects incurring capital expenditure are being carried out regularly.<br>List of recent environmental projects is attached as <b>Annexure-8</b> .   |
| vii.  | The Regional office of the Ministry/ data and the statistical interpretation shall be submitted CPCB will be monitor stipulated conditions. A six monthly compliance report and the monitored regularly.  | Complied.   |
| viii. | A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zillparishad / Municipal Corporation Urban Local Body and Local NGO, if any from whom any suggestions / representations, if any, here received while processing proposal. The clearance letter shall be put on web site of company proponent.   | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| ix.   | The project proponent shall upload the status of compliance of stipulated environment clearance conditions, including results of monitored data on their website and shall update the same update periodically. It should simultaneously send to Regional office of MoEF, the respective Zonal office of CPCB and SPCB. .The criteria of pollutant levels namely PM <sub>10</sub> ,PM <sub>2.5</sub> ,SO <sub>2</sub> ,NOX,HC ( Methane & Non-Methane ) , VOC's (ambient levels as well as stack emission ) or critical sectoral parameters, indicated for projects shall be monitored and displayed at the convenient location near main gate of the company in public domain. | Complied.<br>Six monthly compliance statement of EC is being uploaded on PARIVESH portal of MoEF&CC and soft copy is being shared with CPCB and MPCB.<br><br>The compliance report is also posted on the BPCL corporate website.<br><br>Environmental display board has been provided at the main gate of the refinery, which continuously displays ambient air quality monitored at the north west corner of the refinery. |
| x.    | The project proponent shall also submit six monthly reports on status of compliance of stipulated environmental conditions including results of monitored data (both in hard copies as well as by email) to the Regional office of MoEF, the respective Zonal Office of CPCB and SPCB. The Regional Office of Ministry/CPCBSPCB shall monitor the stipulated conditions.  | Complied.<br>Six monthly compliance statement of EC is being uploaded on PARIVESH portal of MoEF&CC and soft copy is being shared with CPCB and MPCB.   |
| xi.   | The Environmental Statement for each financial year ending 31 <sup>st</sup> March in Form-V as mandated to be submitted by project proponent concerned SPCB as prescribed under Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the web site of company along with compliance of Environmental conditions and shall also be sent to respective Regional Office of MoEF by e-mail.   | Complied<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.  |

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| xii.  | The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance are available with the SPCB and may also be seen at website of 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 clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in vernacular language of the locality concerned, and a copy of same shall be forwarded to the Regional Office. | Subsequent to obtaining Env. Clearance from MoEF & CC for DHT, dt 13 <sup>th</sup> August-15, the same was published in two newspapers (Indian Express in English & Maharashtra Times Marathi) on 25 <sup>th</sup> August-2015. |
| xiii. | Project authorities shall inform the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.  | Noted   |

**Compliance Status Report for Conversion of existing Catalytic Reformer Unit (CRU) to Isomerization Unit (ISOM) and revamp of existing Naphtha Hydro desulfurization Unit (NHDS) at BPCL Mumbai Refinery (MR)**

**EC Letter no. J-11011/270/2013-1A II (I) dated 8<sup>th</sup> Aug 2014**

As per the stipulations given in the Environmental Clearance for Conversion of existing Catalytic Reformer Unit (CRU) to Isomerization Unit and revamp of existing Naphtha Hydro desulfurization Unit (NHDS), the detailed compliance status is given below:

| Sr. No. | Specific Condition  | Status as on 01.12.2021 |
|---------|---|-------------------------|
| i.      | Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/180/2008-IA II(I) dated 28th April, 2008 , F.No.J-11011/140/2012-IA II I dated 12th June 2013 shall be satisfactorily implemented and compliance reports submitted to ministry's regional office at Bhopal. | Complied.               |
| ii.     | M/s BPCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules. 1986 vide G S R 186(E) dated 18th March,2008 and GSR 820(E) dated 9th November 2012.  | Complied.               |
| iii.    | Continuous on-line stack monitoring for SO <sub>2</sub> ,NO <sub>x</sub> and CO of all the stacks shall be carried out. Low NO <sub>x</sub> burners shall be installed.   | Complied.               |
| iv.     | The process emissions [SO <sub>2</sub> ,NO <sub>x</sub> ,HC (Methane & No-methane)]. VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act. At no time the   | Complied.               |



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|       | emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by 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.   |  |
| v.    | Leak Detection and Repair programme shall be prepared and implemented to contain HC/VOC emissions. Focus shall be given to prevent fugitive emission for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yard etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations. | Complied.  |
| vi.   | SO <sub>2</sub> emissions after expansion from the plant shall not exceed 10.44 TDP, Sulphur recovery units shall be installed for control of H <sub>2</sub> S emissions. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating shall not be less than 99.9 %.  | Tail Gas Treatment Units (TGTU) was commissioned for increasing existing SRU efficiency to 99.9%.  |
| vii.  | As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.   | Typical Sulfur balance from the existing refinery attached as <b>Annexure-12</b> .   |
| viii. | Ambient air quality monitoring stations, [PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , H <sub>2</sub> S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Maharashtra Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs.   | Complied.  |
| ix.   | Ambient air quality data shall be collected as per NAAQEA standards notified by the Ministry on 16th November,2009 and trend analysis w.r.t. past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.  | Complied.  |
| x.    | 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 pollution. Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit.  | Complied.<br>Power is supplied to ISOM unit from Captive Power Plant existing at the refinery, or shall be imported from Tata Electric Company.<br>DG set is not operating continuously. It supplies power to critical equipments in the refinery only in case of total power failure. |
| xi.   | Total raw water requirement from Municipal Corporation of Greater Mumbai water supply shall not exceed 16500 m <sup>3</sup> /day. Industrial effluent shall be  | Complied.  |

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|        | treated in the effluent treatment plant. Treated effluent shall be recycled/reused recycled as make up for the raw water cooling tower. Domestic sewage shall be treated in sewage treatment plant (STP).  |  |
| xii.   | Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.  | Oil catchers equipped with skimmers, weirs, oil adsorbent booms, pillows, hay filters etc have been provided.  |
| xiii.  | Oily sludge shall be disposed off into Coker. Annual Oily sludge generation and disposal data shall be submitted to the Ministry's Regional Office and CPCB.   | Not Applicable<br>There is no coker installed at BPCL Mumbai Refinery. Other Oily sludge generated in the refinery is subject to mechanical/chemical treatments for oil recovery, and the residual sludge is bio-remediated using bacteria supplied by M/S MIEBRS. |
| xiv.   | The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000 Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time.                                | Complied.  |
| xv.    | The membership of common TSDF should be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bhopal Chemical/inorganic sludge shall be sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors. | BPCL MR has membership of Mumbai Waste Management Limited, which is authorized TSDF.<br>A membership certificate is attached as <b>Annexure-2</b> .  |
| xvi.   | Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.  | Proper oil spillage prevention management plan exist. Closed sampling system has been provided to avoid spillage/leakage of oil. Gully sucker is available in the refinery to take care of any spillages.  |
| xvii.  | The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).   | Please refer <b>Annexure-13</b> for details of Corporate Responsibility for Environmental Protection (CREP).   |
| xviii. | To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.  | Complied.  |
| xix.   | Green belt shall be developed at least in 45 acres area land around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thin greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.                    | Tree plantation is done in and around Mumbai Region. Please refer <b>Annexures-3/4/5</b> .   |
| xx.    | All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.  | Please Refer GTU compliance report as on 01.12.2021 for further details.   |

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| xxi.  | Company shall adopt Corporate Environment Policy as per the Ministry's OM No J-11013/41/2006-IA II(I) dated 26 <sup>th</sup> April 2011 and implemented.  | BPCL MR is an ISO 14001 certified company. Quality, Environment, Occupational Health & Safety policy as per Integrated Management Systems is in place. |
| xxii. | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. | Project is completed and commissioned.   |

| Sr. No. | General Condition   | Status as on 01.12.2021   |
|---------|---|---|
| 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.  | Complied  |
| ii.     | No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviation or alterations in the project proposed 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 | Noted   |
| iii.    | The project authorities must strictly comply with the rules & regulation under manufacture. Storage and import of Hazardous chemical Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate, etc. must be obtained, wherever applicable.   | Complied  |
| iv.     | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosure etc, on all sources of noise generation. The ambient noise levels should conform the standards prescribed under Environmental (Protection) Act, 1986 Rules and 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).                                  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| v.      | A separate environment management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.  | BPCL MR already has an Environment section to carry out environmental management and monitoring functions. The Refinery also has a full-fledged NABL approved Laboratory. |
| vi.     | 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 Ministry of Environment and Forests as well as state  | Various Environmental projects incurring capital expenditure are being carried out regularly. List of recent Environmental projects is attached as <b>Annexure-8</b> .    |

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|       | government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.  |   |
| vii.  | The Regional Office of this Ministry / Central Pollution control Board / State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.  | Complied<br>Six monthly compliance Report is being uploaded on PARIVESH portal of MoEF&CC and soft copy is being shared with CPCB and MPCB. Also, it is published on BPCL corporate website.  |
| viii. | A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila parishad/Municipal Corporation, Urban local body, and the local NGO if any, from whom suggestions, representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.  | Complied.   |
| ix.   | The project proponent shall upload the status of compliance of the stipulated environmental conditions including the results of monitored data on their 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 SPCB. 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. | Complied<br>Six monthly compliance Report is being uploaded on PARIVESH portal of MoEF&CC and soft copy is being shared with CPCB and MPCB. Also, it is published on BPCL corporate website.<br>Environmental display board has been provided at Refinery Main Gate which continuously displays ambient air quality monitored at the north west corner of the refinery. |
| x.    | 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.  | Six monthly compliance Report is being uploaded on PARIVESH portal of MoEF&CC and soft copy is being shared with CPCB and MPCB. Also, it is published on BPCL corporate website.  |
| xi.   | The Environmental statement for each financial year ending 31st March in form V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company 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.   | Please Refer GTU compliance report as on 01.12.2021 for further details.  |
| xii.  | The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance are available with the SPCB and may also be seen at website of 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 clearance letter, at least in two local newspapers that are widely  | Subsequent to obtaining Env. Clearance from MoEF for ISOM, dt 8th August-14, the same was published in two newspapers (Indian Express in English & Maharashtra Times Marathi) on 3 <sup>rd</sup> of September 2014.   |

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|       | circulated in the region of which one shall be in vernacular language of the locality concerned, and a copy of same shall be forwarded to the Regional Office.   |        |
| xiii. | Project authorities shall inform the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work. | Noted. |

**Compliance Status Report for Construction of new Crude Distillation Unit and Vacuum Distillation Unit (CDU-4) as a replacement of two old crude and vacuum units at BPCL Mumbai Refinery.**

**EC Letter no. J-11011/140/2012-1A II (I) dated 12<sup>th</sup> June 2013**

The Ministry of Environment and Forests accorded environmental clearance for the project as per EIA Notification dated 14th September 2006.

**Status of the projects (as of 1.07.2016)**

As per the stipulations given in the Environmental Clearance for construction of new CDU/VDU (CDU4) as a replacement of two old units,

CDU-4 Unit was commissioned on 30/11/2015

**SPECIFIC CONDITIONS:**

| <b>Sr. No.</b> | <b>SPECIFIC CONDITION</b>   | <b>STATUS as on 01.12.2021</b>  |
|----------------|---|---|
| I              | Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J-11011/180/2008-1A II (I) dated 28 <sup>th</sup> April 2008 shall be satisfactorily implemented and compliance reports submitted to the Ministry's Regional Office at Bhopal.  | Complied.   |
| ii.            | M/s BPCL shall comply with new standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules. 1986 vide G S R 186(E) dated 18 <sup>th</sup> March,2008 and GSR 820(E) dated 9 <sup>th</sup> November-2012   | Complied  |
| III.           | Continuous on-line stack monitoring for SO <sub>2</sub> , NO <sub>x</sub> and CO of all the stacks shall be carried out. Low NO <sub>x</sub> burners shall be installed.  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details. |
| iv             | The process emissions [SO <sub>2</sub> , NO <sub>x</sub> ,HC (Methane & No-methane)]. VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act. At no time the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details. |

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|      | by 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.  |   |
| v.   | Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emission for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yard etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations. | Complied.   |
| vi.  | SO <sub>2</sub> emissions after expansion from the plant shall not exceed 10.44 TDP, Sulphur recovery units shall be installed for control of H <sub>2</sub> S emissions. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating shall not be less than 99.9 %.  | Please Refer GTU compliance report as on 01.12.2021 for further details.  |
| vii  | As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.   | Typical Sulfur balance from the existing refinery attached as <b>Annexure-12</b>  |
| Viii | Ambient air quality monitoring stations,[PM <sub>10</sub> ,PM <sub>2.5</sub> ,SO <sub>2</sub> , NO <sub>x</sub> , H <sub>2</sub> S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with Maharashtra Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs.  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| Ix   | Ambient air quality data shall be collected as per NAAQEA standards notified by the Ministry on 16 <sup>th</sup> November-2009 and trend analysis w.r.t. past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| x.   | 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 pollution. Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit.  | Noted.<br>Power is supplied to new CDU/VDU (CDU4) unit from Captive Power Plant existing at the refinery, or shall be imported from Tata Electric Company. Additional DG set is not required for CDU4 unit. |

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| xi.    | Total raw water requirement from Municipal Corporation of Greater Mumbai water supply shall not exceed 687.4 m <sup>3</sup> /hr and prior permission shall be obtained from the competent authority. Industrial effluent generation from new CDU/VDU project shall be 60 m <sup>3</sup> /hr and treated in the effluent treatment plant. Treated effluent shall be recycled /reused recycled as make up for the raw water cooling tower. Domestic sewage shall be treated in sewage treatment plant (STP). | Complied.   |
| xii.   | Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| Xiii   | Oily sludge shall be disposed off into Coker. Annual Oily sludge generation and disposal data shall be submitted to the Ministry's Regional Office and CPCB.   | Not applicable<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.  |
| xiv    | The Company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules,1989 as amended in October, 1994 and January,2000 Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and amended time to time   | Complied.   |
| xv     | The membership of common TSDF should be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Bhopal Chemical/inorganic sludge shall be sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors.   | Complied.   |
| xvi.   | Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.  | Proper oil spillage prevention management plan exists. Closed sampling system has been provided to avoid spillage/leakage. Gully Sucker is available in the refinery to take care of any spillages. |
| xvii.  | The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).   | Complied. Please refer <b>Annexure-13</b> for details Corporate Responsibility for Environmental Protection (CREP).   |
| xviii. | To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.  | Complied.   |

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| xix.  | Green belt shall be developed at least in 45 acres area land around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Think greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines. | Tree plantation is being done in & around Mumbai Region.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.               |
| xx.   | All the issues raised and commitment made during the public hearing/consultation meeting held on 25 <sup>th</sup> September,2012 shall be satisfactorily implemented. Accordingly, provision of budget to be kept.   | Complied.  |
| xxi   | Based on Hazop study carried out and recommendation to reduce the risk shall be expeditiously implemented, and report sent to regional office of ministry  | Complied.  |
| xxii  | Company shall adopt Corporate Environment policy as per ministry's O.M. No J-11013/41/2006-IA II(I) dated 26 <sup>th</sup> April 2011 and implemented.   | BPCL MR is an ISO 14001 certified company. Quality, Environment, Occupational Health & Safety policy as per Integrated Management Systems is in place. |
| xxiii | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc.The housing may be in the form of temporary structures to be removed after the completion of the project.                   | Project is completed and commissioned.   |

#### A. GENERAL CONDITIONS :

| Sr. No. | Condition  | Status as on 01.12.2021 |
|---------|--|-------------------------|
| 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.   | Complied                |
| ii.     | No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviation or alterations in the project proposed 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. | Noted                   |
| iii.    | The project authorities must strictly comply with the rules & regulation under manufacture. Storage and import of Hazardous chemical Rules, 2000 as  | Complied.               |



|       |   |  |
|-------|---|--|
|       | amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate, etc. must be obtained, wherever applicable.   |  |
| iv.   | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosure etc, on all sources of noise generation. The ambient noise levels should conform the standards prescribed under Environmental (Protection) Act, 1986 Rules and 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).                  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.  |
| v.    | A separate environment management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.  | Complied.<br><br>BPCL MR already has an Environment section to carry out environmental management and monitoring functions. The Refinery also has a full-fledged NABL approved Laboratory  |
| vi.   | 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 Ministry of Environment and Forests as well as state government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.             | Adequate funds are being provided for environmental pollution control measurement.<br><br>Various Environmental projects incurring capital expenditure are being carried out regularly. List of recent Environmental projects is attached as <b>Annexure-8</b> . |
| vii.  | The Regional Office of this Ministry / Central Pollution control Board / State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.  | Complied.  |
| viii. | A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila parishad/Municipal Corporation, Urban local body, and the local NGO if any, from whom suggestions, representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.  | Complied.  |
| ix.   | The project proponent shall upload the status of compliance of the stipulated environmental conditions including the results of monitored data on their 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 SPCB. The criteria pollutant levels, namely PM10, PM2.5, SO2, NOx, HC (Methane & non-methane), | Complied.  |

|        |   |   |
|--------|---|---|
|        | 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  |   |
| x.     | 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.   | Complied.   |
| xi.    | 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.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xviii. | The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance are available with the SPCB and may also be seen at website of 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 clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in vernacular language of the locality concerned, and a copy of same shall be forwarded to the Regional Office. | Subsequent to obtaining Env. Clearance from MoEF for CDU/VDU, dt 12 <sup>th</sup> June-13, the same was published in two newspapers (Indian Express in English & Maharashtra Times Marathi) on 18 <sup>th</sup> of June 2013. |
| xix.   | Project authorities shall inform the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.  | Noted.  |

**Compliance Status Report for Installation of Continuous Catalytic Regeneration Reformer (CCR 1.2 MMT) at BPCL Mumbai Refinery**

**Reference to Letter no. F. No. J-11011/180/2008-IA II(I), DATED 28/4/2008 and J-11011/582/2011-1A II (I) dated 7<sup>th</sup> June 2013.**

**The Ministry of Environment and Forests accorded environmental clearance for installation of new Continuous Catalytic Regeneration Reformer (CCR 1.2 MMTPA) within the premises of BPCL Mumbai**

Refinery. As per the stipulations given in the Environmental Clearance, the detailed compliance status is given below:

**Status of the CCR Project**

- CCR Unit commissioned on 04.03.2014 and on grade product diverted to storage on 08.03.2014. Project completed.

| Sr. No. | SPECIFIC CONDITIONS  | STATUS as on 01.12.2021  |
|---------|--|--|
| i.      | Compliance to all the Environmental conditions stipulated in the environmental clearance letter no J-11011/180/2008-1A II (I) dated 28 <sup>th</sup> April 2008 shall be satisfactorily implemented and compliance reports submitted to the Ministry's Regional office at Bhopal   | Complied   |
| ii.     | M/s BPCL shall comply with new standards/norms for Oil refinery Industry notified under Environment (Protection) Rules 1986 vide GSR 186 (E) dated 18 <sup>th</sup> March 2008   | Complied.  |
| iii.    | Continuous on-line stack monitoring for SO <sub>2</sub> , NO <sub>x</sub> and CO of all the stacks shall be carried out. Low NO <sub>x</sub> burners shall be installed.   | Complied<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details. |
| iv.     | The process emissions {SO <sub>2</sub> , NO <sub>x</sub> , HC (Methane & Non methane)}, VOC's and benzene from various units shall conform to the standards prescribed under Environment (Protection) Act. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) 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.                   | Complied<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details. |
| v.      | Leak detection and Repair program shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of storage tank yards etc must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations. | Complied<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details. |

|       |  |  |
|-------|--|--|
| vi.   | SO <sub>2</sub> emissions after expansion from the plant shall not exceed 12 TPD. Sulfur recovery units shall be installed for control of H <sub>2</sub> S emissions. The overall sulfur recovery efficiency of Sulfur recovery units with tail gas treating shall not be less than 99.9%.   | <p>Amine treated refinery fuel gas is being used as fuel in the CCR &amp; NHT furnaces.</p> <p>Efficiency of existing Sulfur Recovery Units (SRU) is 99%. In Nov-2017, Tail Gas Treatment Unit (TGTU) has been commissioned which has improved sulfur recovery efficiency to 99.99 %.</p> <p>As cited in Environment Clearance received for CDU-4 project (commissioned in Dec-2015), SO<sub>2</sub> emissions from refinery are well below 10.44 MT/D.</p> <p>Please refer <b>Annexure- 12</b> for further details.</p> |
| vii.  | As proposed, record of sulfur balance shall be maintained at the refinery as a part of the environmental data on regular basis. The basic component of sulfur balance include sulfur input through feed (sulfur content in the crude oil), sulfur output from refinery through products, by products, atmospheric emissions etc.   | Typical Sulfur balance from the existing refinery attached as <b>Annexure-12</b> .   |
| viii. | Ambient Air quality monitoring stations {PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , H <sub>2</sub> S, mercaptan, non methane-HC and benzene shall be set up in the complex in consultation with Maharashtra Pollution Control Board based on occurrence of maximum ground level concentration and down wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. | <p>Complied.</p> <p>Please Refer GTU compliance report as on 01.12.2021 for further details.</p>   |
| ix.   | Ambient air quality data shall be collected as per N AAQES standards notified by the ministry on 16 <sup>th</sup> November 2009 and trend analysis wrt past monitoring results shall be also carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.   | <p>Complied.</p> <p>Please Refer GTU compliance report as on 01.12.2021 for further details.</p>   |
| x.    | 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 pollution. Besides acoustic enclosure/silencer shall be installed where ever noise pollution exceeds the limit.  | <p>Noted</p> <p>Power is being provided to CCR unit from Captive Power Plant existing at the refinery or is being imported from Tata Electric Company.</p> <p>Additional DG set is not required for CCR unit.</p>  |

|       |  |   |
|-------|--|---|
| xi.   | Total raw water requirement for the proposed project shall not exceed 4995 m <sup>3</sup> /day and prior permission shall be taken from competent authority. Industrial effluent generation from CCR unit shall not exceed 129 m <sup>3</sup> /day. Industrial effluent shall be treated in effluent treatment plant. Treated effluent shall be recycled /re-used in the existing cooling tower. Domestic sewage shall be treated in sewage treatment plant. (STP) | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xii.  | Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.  | Complied.<br><br>Please Refer GTU compliance report as on 01.12.2021 for further details.   |
| xiii. | Oily sludge shall be disposed off into Coker. Annual oily sludge generation and disposal data shall be submitted to the ministry's Regional office and CPCB.   | Not Applicable<br><br>There is no coker installed at BPCL Mumbai Refinery.<br><br>There is no oily sludge generation from CCR complex.<br><br>Other Oily sludge generated in the refinery is subject to mechanical/chemical treatments for oil recovery and the residual sludge is bio-remediated through M/s MIEBRS bacteria to reduce oil content below 0.5 wt% before it can be disposed off as per Hazardous waste Rule 2016. |
| xiv.  | The company should strictly comply with the rules and guidelines under manufacture, storage and import of hazardous chemicals Rules 1989 as amended in October 1994 and January 2000. Hazardous waste should be disposed off as per Hazardous waste (Management, Handling and Trans-boundary movement) rules 2008 and amended time to time.  | Complied.   |
| xv.   | The membership of common TSDF should be obtained for the disposal of hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's regional office at Bhopal. Chemical/inorganic sludge shall be sent to Treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers/re-processors.  | Complied.   |
| xvi.  | Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of  | Complied.   |

|        |  |  |
|--------|--|--|
|        | oil/petroleum products and ensure regular monitoring.  | Closed sampling system has been provided to avoid spillage/leakage of oil.<br><br>Gully Suckers are available to take care of any spillage. Close Blow down system is operational for close draining of hydrocarbons during maintenance activity. Oil catchers are provided for removing oil from water going out of refinery. |
| xvii.  | The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP)  | Complied.<br><br>Please refer <b>Annexure-13</b> .   |
| xviii. | To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.  | Complied.  |
| xix.   | Green belt shall be developed at least in 33% of the plant area in and around the plant premises to mitigate the effect of fugitive emissions all around the plant as per the CPCB guidelines.   | Please refer GTU compliance report as on 01.12.2021.   |
| xx.    | All the recommendations mentioned in the rapid risk assessment report, disaster management plan, and safety guidelines shall be implemented.   | Complied.<br><br>Please refer GTU compliance report as on 01.12.2021.  |
| xxi.   | All the issues raised and commitment made during public hearing/consultation meeting held on the 25 <sup>th</sup> September 2012 shall be satisfactorily implemented. Accordingly, provision of budget to be kept.   | Complied.  |
| xxii.  | Company shall adopt Corporate Environment policy as per ministry's O.M. No J-11013/41/2006-IA II(I) dated 26 <sup>th</sup> April 2011 and implemented.   | BPCL MR is an ISO 14001 certified company. Quality, Environment, Occupational Health & Safety policy as per Integrated Management System.  |
| xxiii. | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc.The housing may be in the form of temporary structures to be removed after the completion of the project. | Project is completed and commissioned.   |

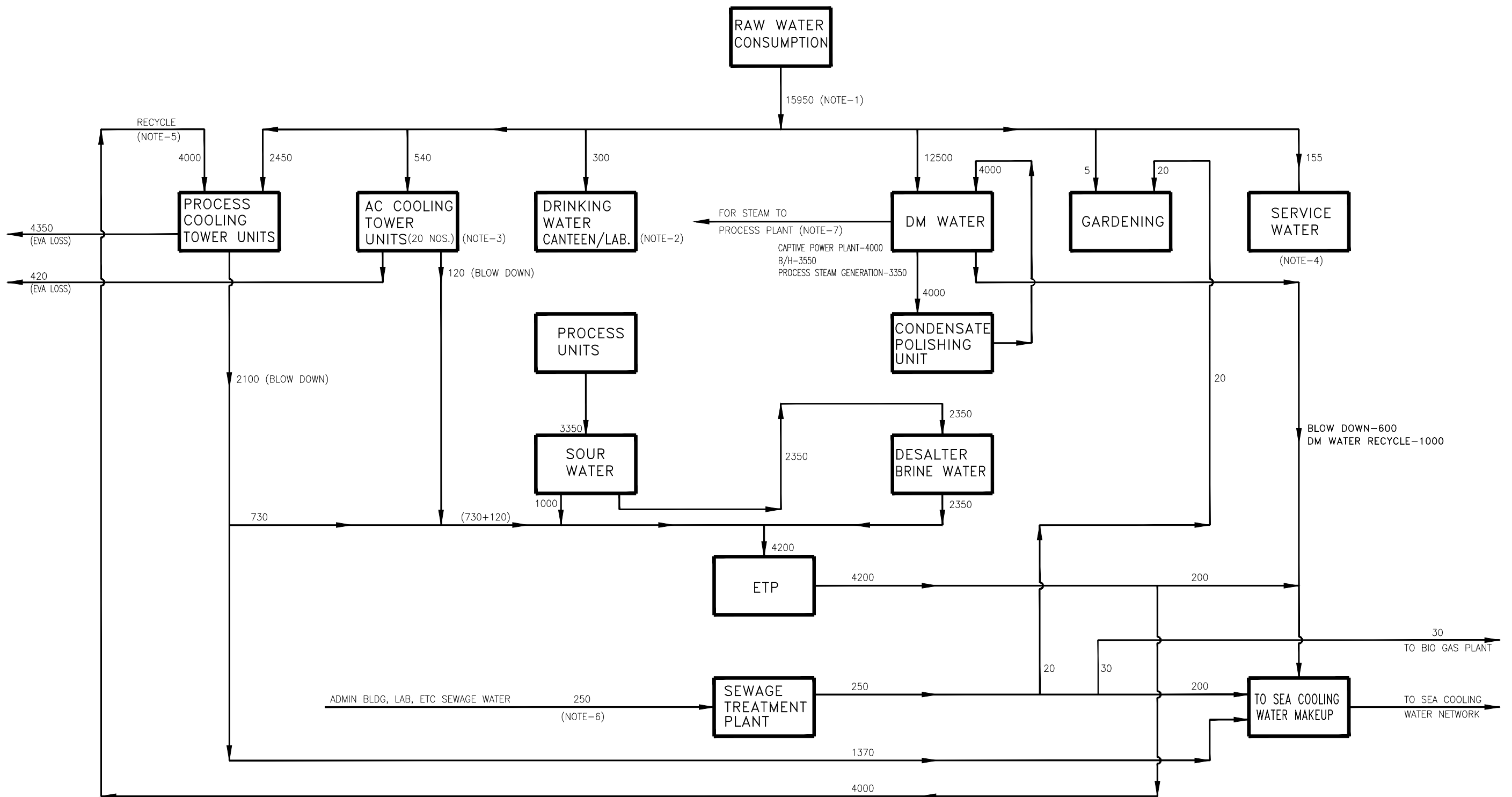
| SR. NO. | GENERAL CONDITIONS   | STATUS as on 01.06.2021   |
|---------|--|---|
| i.      | The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), state government and any other statutory authority.   | Complied  |
| ii.     | No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviation or alterations in the project proposed 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 | Noted   |
| iii.    | The project authorities must strictly comply with the rules & regulation under manufacture. Storage and import of Hazardous chemical Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate, etc. must be obtained, wherever applicable.  | Complied.   |
| iv.     | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosure etc, on all sources of noise generation. The ambient noise levels should conform the standards prescribed under Environmental (Protection) Act, 1986 Rules and 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).                                   | Complied.<br><br>Please refer GTU compliance report as on 01.12.2021. |
| v.      | A separate environment management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.   | Complied.   |
| vi.     | 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 Ministry of Environment and Forests as well as state government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.                              | Please refer <b>Annexure-8</b> .                                      |

|       |   |           |
|-------|---|-----------|
| vii.  | The Regional Office of this Ministry / Central Pollution control Board / State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.  | Complied. |
| viii. | A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila parishad /Municipal Corporation, Urban local body and the local NGO if any, from whom suggestions, representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.  | Complied. |
| ix.   | The project proponent shall upload the status of compliance of the stipulated environmental conditions including the results of monitored data on their 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 SPCB. 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. | Complied. |
| x.    | 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.  | Complied. |
| xi.   | 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. |



|       |  |  |
|-------|--|--|
| xii.  | The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance are available with the SPCB and may also be seen at website o 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 clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in vernacular language of the locality concerned, and a copy of same shall be forwarded to the Regional Office. | Subsequent to obtaining Env. Clearance from MoEF for CCR (1.2 MMTPA), the same was published in two newspapers (Indian Express in English & Maharashtra Times Marathi) on 13 <sup>th</sup> of June 2013. |
| xiii. | Project authorities shall inform the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.   | Noted.   |

# RAW WATER BALANCE FOR BPCL MUMBAI REFINERY



## NOTES:

1. ALL UNITS ARE IN M<sup>3</sup>/DAY.
2. DRINKING WATER IS USE FOR DRINKING PURPOSE, IN CANTEEN FOR WASHING, FOOD PREPARATION & LABORATORY.
3. COOLING TOWER A/C CONSISTS OF 20 NOS. OF PROCESS UNITS AIR CONDITIONING / ELECTRICAL SWITCH HOUSE, ALL OVER REFINERY & ADMINISTRATION BLDG.
4. SERVICE WATER IS USE IN PROCESS UNIT FOR CLEANING OF AIR FINE COOLERS, HYDROTESTING OF HEAT EXCHANGERS POST CLEANING AND FLUSHING OF PROCESS PIPELINE.
5. BASED ON INTERNAL OPTIMISATION BY MAXIMUM RAW WATER RECYCLE AND MINIMUM STEAM CONSUMPTION.
6. BASED ON ADMIN BUILDING, MEDICAL CENTRE, LABORATORY, FIRE STATION & CANTEEN SEWAGE WATER QUANTITY.
7. MAJOR STEAM CONSUMPTION IN STEAM EJECTORS , STEAM REBOILERS , STEAM TO HEATING COILS , STEAM TRACING ETC.

## ABBREVIATIONS:

- ETP - EFFLUENT TREATMENT PLANT
- CPP - CAPTIVE POWER PLANT
- B/H - BOILER HOUSE
- CT - COOLING TOWER
- A/C - AIR CONDITIONING



**भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड**  
Bharat Petroleum Corporation Ltd.

**RAW WATER BALANCE FOR BPCL**  
**MUMBAI REFINERY**



Towards sustainable growth

## Mumbai Waste Management Limited

# Certificate

M/s. Bharat Petroleum Corporation Ltd. Mumbai Refinery.

is a registered member of  
CHW-TSDF at MIDC, Taloja  
for safe & secure disposal of  
Hazardous Waste.

Membership no.: MWML - HzW ..MUM- 3247

This Certificate is valid up to

...31<sup>st</sup> March 2022.....

Onkar A. Kulkarni  
Manager - MBD

Somnath Malgar  
Director



## Form 4

See rules 6(5),13(8),16(6) and 20(2) of Hazardous and other wastes 2016

### FORM FOR FILING ANNUAL RETURNS

[ To be submitted to state pollution control board/pollution control committee by 30th June of every year for the preceeding period April to march]

**Unique Application Number:**

MPCB-HW\_ANNUAL\_RETURN-0000020836

**Submitted On:**

22-06-2021

**Submitted for Year:**

April 2020 to March 2021

**1. Name of the generator/operator of facility**

SHRI. SUBRAMONI IYER M R , EXECUTIVE DIRECTOR, MUMBAI REFINERY

**Address of the unit/facility**

BHARAT PETROLEUM CORPORATION LTD.,  
MUMBAI REFINERY, MAHUL, CHEMBUR,  
MUMBAI-400074

**1b. Authorization Number**

Format 1.0/BO/CAC-Cell/ UAN No. 0000071817/ 5TH CAC/ 1909000323

**Date of issue**

Sep 13, 2019

**Date of validity of consent**

Aug 31,  
2021

**2. Name of the authorised person**

SUPRIYA SAPRE, CHIEF MANAGER, ENERGY & ENVIRONMENT

**Full address of authorised person**

TECHNOLOGY DEPT. , BHARAT PETROLEUM  
CORPORATION LTD., MUMBAI REFINERY, MAHUL,  
CHEMBUR, MUMBAI-400074

**Telephone**

02225533192

**Fax**

NA

**Email**

sapres@bharatpetroleum.in

**3. Production during the year (product wise), wherever applicable**

| Product Type *                                 | Product Name *                  | Consented Quantity | Actual Quantity | UOM    |
|--|---------------------------------|--------------------|-----------------|--------|
| Oil Refinery (Mineral Oil or Petro Refineries) | LPG & POLY PROPYLENE FEED STOCK | 1764.0000          | 1487            | MT/Day |
| Oil Refinery (Mineral Oil or Petro Refineries) | BENZENE & TOLUENE               | 350.0000           | 130             |        |
| Oil Refinery (Mineral Oil or Petro Refineries) | SBP, HEXANE, MS, MTBE, NAPHTHA  | 8269.0000          | 6939            |        |
| Oil Refinery (Mineral Oil or Petro Refineries) | SKO, MTO, ATF                   | 5217.0000          | 1254            |        |
| Oil Refinery (Mineral Oil or Petro Refineries) | HSD, LDO                        | 15723.0000         | 17189           |        |
| Oil Refinery (Mineral Oil or Petro Refineries) | FO, LSHS, BITUMEN, SULFUR       | 6140.0000          | 3690            |        |
| Oil Refinery (Mineral Oil or Petro Refineries) | LUBE OIL BASE STOCK (LOBS)      | 680.0000           | 852             |        |
| Oil Refinery (Mineral Oil or Petro Refineries) | HYDROTREATED GASOLINE           | 2692.8000          | 2650            |        |

### PART A: To be filled by hazardous waste generators

**1. Total Quantity of waste generated category wise**

| Type of hazardous waste | Wate Name                    | Consented Quantity | Quantity | UOM |
|-------------------------|------------------------------|--------------------|----------|-----|
| 4.2 Spent catalyst      | CCU Spent Catalyst           | 2538.750           | 89.27    | MTA |
| 4.2 Spent catalyst      | ARU Spent Alumina            | 2538.750           | 3.7      | MTA |
| 4.2 Spent catalyst      | Spent Clay                   | 2538.750           | 37.92    | MTA |
| 4.2 Spent catalyst      | Bryorb 508<br>Chemical media | 2538.750           | 5.09     | MTA |
| 4.2 Spent catalyst      | Bryorb 515<br>Chemical media | 2538.750           | 5.23     | MTA |

|                    |                                |          |        |     |
|--------------------|--------------------------------|----------|--------|-----|
| 4.2 Spent catalyst | Spent Charcoal                 | 2538.750 | 18.02  | MTA |
| 4.2 Spent catalyst | Spent Coke                     | 2538.750 | 40.268 | MTA |
| 4.2 Spent catalyst | Spent Resin                    | 2538.750 | 11.29  | MTA |
| 4.2 Spent catalyst | Spent Catalyst from LOBS & CCR | 2538.750 | 33.25  | MTA |
| 4.2 Spent catalyst | HCU Spent Alumina              | 2538.750 | 12.049 | MTA |

## 2. Quantity dispatched category wise.

| <b>Type of Waste</b> | <b>Quantity of waste</b> | <b>UOM</b> | <b>Dispatched to</b>    | <b>Facility Name</b>   |
|----------------------|--------------------------|------------|-------------------------|--|
| 4.2 Spent catalyst   | 89.27                    | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 3.7                      | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 37.92                    | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 5.09                     | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 5.23                     | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 18.02                    | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 40.268                   | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 11.29                    | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |
| 4.2 Spent catalyst   | 33.25                    | MTA        | Recycler or Actual user | RAVINDRA HERAEUS   |
| 4.2 Spent catalyst   | 12.049                   | MTA        | Disposal Facility       | MUMBAI WASTE MANAGEMENT LTD. PLOT NO P-32, MIDC TALOJA, PANVEL. RAIGAD. NAVI MUMBAI-410208 |

## 3. Quantity Utilised in-house,If any

| <b>Type of Waste</b> | <b>Name of Waste</b> | <b>Quantity of Waste</b> | <b>UOM</b> |
|----------------------|----------------------|--------------------------|------------|
|                      | NA                   | 0                        | MTA        |

## 4. Quantity in storage at the end of the year

| <b>Type of Waste</b> | <b>Name of Waste</b> | <b>Quantity of Waste</b> | <b>UOM</b> |
|----------------------|----------------------|--------------------------|------------|
|                      | NA                   | 0                        | MTA        |

## PART B: To be filled bt Treatment,storage, and disposal facility operators

|  |            |                   |
|--|------------|-------------------|
| <b>1.Total Quantity received</b>                         | <b>UOM</b> | <b>State Name</b> |
| NA   | KL/Anum    | Maharashtra       |
| <b>2. Quantity in stock at the beginning of the year</b> | <b>UOM</b> |                   |
| NA   | KL/Anum    |                   |
| <b>3. Quantity treated</b>                               | <b>UOM</b> |                   |
| NA   | KL/Anum    |                   |

4. Quantity disposed in landfills as such and after treatment

**Direct landfilling**

NA

**UOM**

KL/Anum

**Landfill after treatment**

NA

**UOM**

KL/Anum

**5. Quantity incinerated (if applicable)**

NA

**UOM**

KL/Anum

**6. Quantity processed other than specified above**

NA

**UOM**

KL/Anum

**7. Quantity in storage at the end of the year.**

NA

**UOM**

KL/Anum

**PART C: To be filled by recyclers or co-processors or other users**

1. Quantity of waste received during the year

| <b>Waste Name/Category</b> | <b>Country Name</b> | <b>State Name</b> | <b>Quantity of waste received from domestic sources</b> | <b>Quantity of waste imported(If any)</b> | <b>Units</b> |
|----------------------------|---------------------|-------------------|---|---|--------------|
| NA                         | India               | Maharashtra       | NA  | NA  | KL/Anum      |

2. Quantity in stock at the beginning of the year

| <b>Waste Name/Category</b> | <b>Quantity</b> | <b>UOM</b> |
|----------------------------|-----------------|------------|
| NA                         | NA              | KL/Anum    |

3. Quantity of waste recycled or co-processed or used

| <b>Name of Waste</b> | <b>Type of Waste</b> | <b>Quantity</b> | <b>UOM</b> |
|----------------------|----------------------|-----------------|------------|
| NA                   | NA                   | NA              | KL/Anum    |

4. Quantity of products dispatched (wherever applicable)

| <b>Name of product</b> | <b>Quantity</b> | <b>UOM</b> |
|------------------------|-----------------|------------|
| NA                     | NA              | KL/Anum    |

5. Total quantity of waste generated

| <b>Waste name/category</b> | <b>quantity</b> | <b>UOM</b> |
|----------------------------|-----------------|------------|
| NA                         | NA              | KL/Anum    |

6. Total quantity of waste disposed

| <b>Waste name/category</b> | <b>quantity</b> | <b>UOM</b> |
|----------------------------|-----------------|------------|
| NA                         | NA              | KL/Anum    |

7. Total quantity of waste re-exported (If Applicable)

| <b>Waste name/category</b> | <b>quantity</b> | <b>UOM</b> |
|----------------------------|-----------------|------------|
| NA                         | NA              | KL/Anum    |

8. Quantity in storage at the end of the year

| <b>Waste name/category</b> | <b>quantity</b> | <b>UOM</b> |
|----------------------------|-----------------|------------|
| NA                         | NA              | KL/Anum    |

**Personal Details**

| <b>Place</b> | <b>Date</b> | <b>Designation</b>                 |
|--------------|-------------|------------------------------------|
| MUMBAI       | 2021-06-22  | CHIEF MANAGER ENERGY & ENVIRONMENT |



# Mumbai Agricultural Produce<sup>121</sup> Market Committee, Mumbai

(ESTD. 1977)

HEAD OFFICE : Central Building, Sector-18, Vashi, Navi Mumbai - 400 703

BRANCH OFFICE : Shri Chhatrapati Shivaji Maharaj Mandai,  
3rd Floor, Palton, Mumbai - 400 001.

TELEPHONES :

HEAD. OFF. : 2788 9416

EPABX : 2788 8414

FAX : 91-22-27889507

BRANCH OFF. : 2261 6624

FAX : 2261 4888

E-mail : mapmc@bom3.vsnl.net.in

NO.APMC/ENGG.DEPT./ 501 /14

Date : 4/12/14

To,

BPCL Mumbai Refinery,  
Mahul, Chembur,  
Mumbai 400 074.

Sub : Certification Letter.

Ref : Your request letter No.TA/PC/Gen-II, dtd. 27.11.2014.

Sir,

With reference to the above subject, this is to certify that BPCL Mumbai Refinery (Environment Department) has planted a total No. of 3050 tree saplings at Plot No.8 and Plot no.10 area of APMC, Sector-19, Vashi, Navi Mumbai. The plantation is covering an area of approximately 4 acres. The plantation was carried out in the monsoon season of 2014. The saplings planted are in healthy condition and have gained firm roots as on date, 30<sup>th</sup> November, 2014.

9/11/14  
Addl. Commissioner & Secretary  
Mumbai APMC, Mumbai.



**Mumbai Waste Management Ltd.**

Plot No. P-32, MIDC Talaja, Dist. Raigad,  
Tal. Panvel Maharashtra 410 208. India  
Tel.: 022-2740 1468 to 71 & 2741 1473  
Fax: 022-2740 1474  
Email: mbdmwml@ramky.com  
www.mumbaiwastemanagement.com

Date: 26/10/2016To,

To,

Bharat Petroleum Corporation Limited

8931/TA/111, Mahul, Chembur

Mumbai -400074

Sub: Tree Plantation at Mumbai Waste Management Ltd.

Kind Attn: Mr. Joshi

Dear Sir,

As you are aware that your esteemed firm had allotted 3000 trees for plantation at MWML Premises on the occasion of World Environment Day 2016.

MWML is grateful to you for this warm gesture and we would like to inform you that these trees have been planted in our premises at Talaja.

For your reference we are enclosing few photographs with this letter.

Thank You

Sincerely,

  
26/10/16

Authorized Signatory

Mumbai Waste Management Ltd.

Certified by



**bsi.**

ISO 9001:2008 | ISO 14001:2004 | OHSAS 18001:2007  
C. No. FS 570487 | C. No. EMS 570497 | C. No. OHS 570500

Corporate Office:

Ramky Enviro Engineers Ltd.

Ramky Grandiose Floor, 12, 13, Ramky Tower Complex,  
Gachibowli Hyderabad - 500 032.

Tel.: 040-2301 5000 (40 Lines) • Fax: 040-2330 2353 • Website: www.ramky.com





## ठाणे महानगरपालिका, ठाणे

महानगरपालिका भवन, डॉ. अल्मेडा रोड, चंदनवाडी, पांचपाखाडी, ठाणे ४००६०२  
THE MUNICIPAL CORPORATION OF THE CITY OF THANE

संदर्भ क्र : ठामपा/वृप्रा/वृअ - ७२०

दि. २३/६/२०१७

चला एकत्र येऊया : ठाणे हिरवेगार करूया !

प्रति,  
मे. भारत पेट्रोलियम कॉर्पोरेशन लि.,  
भारत भवन, करीमभाँय रोड,  
बेलार्ड इस्टेट, मुंबई. ४००००१



**विषय: ५ लक्ष वृक्षलागवड योजना ...**

संदर्भ : १. आपले दि. २५/०५/२०१७ रोजीचे पत्र.

२. ठामपा/वृप्रा/वृअ-५२० दि. १३/०६/२०१७

३. आपले आ.क्र. २२२९ दि. २३/०६/२०१७ रोजीचे पत्र.

महोदय,

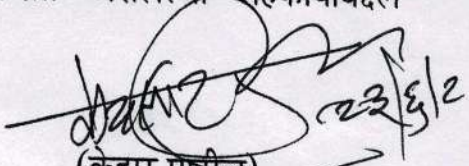
संदर्भ क्र. २ च्या पत्रान्वये आपणास ५ लक्ष वृक्षलागवड योजनेचा शुभारंभ जागतिक पर्यावरण दिनी ५ जून २०१७ रोजी करण्यात आला असून आपणामार्फत आपल्या स्व:खर्चाने या योजनेमध्ये ५००० वृक्षांचा पुरवठा करण्याबाबत कळविले आहे.

संदर्भ क्र. ३ च्या पत्रान्वये आपणामार्फत वृक्षांचे रोपण करण्याबाबत व त्यांच्या दैनंदिन निगा व देखभालीबाबत विचारणा करण्यात आलेली आहे.

सदर अनुषंगाने आपणास कळविण्यात येते की, आपणामार्फत पुरवठा करण्यात येणाऱ्या वृक्षांचे रोपण व त्यांची दैनंदिन निगा व देखभाल ठाणे महानगरपालिकेमार्फत करण्यात येईल.

वरीलप्रमाणे रोपे उपलब्ध करून देण्याबाबत उलट टपाली इकडे कळविण्यात यावे व रोपे पुरवठा बाबत प्रगती अहवाल [gs@thanecity.gov.in](mailto:gs@thanecity.gov.in) या ई-मेलवर पाठविणेत यावा.

आपण पर्यावरण रक्षणासाठी ठाणे महानगरपालिकेस करीत असलेल्या सहकार्याबद्दल आभार !

  
(केदार पाटील)

वृक्षअधिकारी

ठाणे महानगरपालिका, ठाणे.

प्रत : मा. अति- आयुक्त सोा यांचे माहितीसाठी सविनय सादर ...

17 SEPTEMBER, 2019

# CARBON SEQUESTRATION CERTIFICATE

PRESENTED TO

***BPCL***



FOR OFFSETTING OVER 15 YEARS

***2,543.76 MT of CO<sub>2</sub>***

WITH THE PLANTATION OF

***10,000 Native Trees***

IN THE

MUMBAI METROPOLITAN REGION



---

JANJRI JASANI

HEAD OF SUSTAINABILITY SERVICES  
CERE

**PROPOSED "ESC" PROJECT SPENDS: 2017-18 TO 2021-22**

| <b>I. 2017/18: Works to commence and implemented over 18 months.</b>  | <b>TOTAL</b>           |
|---|------------------------|
| <b>1. Cleaning &amp; Beautification of Water body – RCF Pond near Ashish Theatre.</b><br><b>(Likely spend till March 2018: Rs. 0.15 Crore).</b>   | Rs. 1.50 Crores        |
| <ul style="list-style-type: none"> <li>a. Architect, Tendering, Cost Estimation &amp; Certification Fees: Rs. 0.10 Crore</li> <li>b. Erecting Boundary Wall/ painting/ relaying of side walk (1.5 km length approx.)</li> <li>c. Internal beautification/ Lighting/ Landscaping</li> <li>d. Entrance Gate/ CCTV/ Water Fountain/ painting etc.</li> </ul>   |                        |
| <b>2. MR Main gate to North Gate Boundary Wall/ Area social redesigning.</b><br><b>(Likely spend till March 2018: Rs. 0.15 Crore).</b>  | Rs. 4.35 Crores        |
| <ul style="list-style-type: none"> <li>a. Architect, Tendering, Cost Estimation &amp; Certification Fees: Rs.0.10 Crore.</li> <li>b. Traffic Island outside Main gate - High Mast LED Lighting/ facelift</li> <li>c. Barricading of Side walk (1 km approx..)</li> <li>d. Smoothing/ Laying Walking track/ Lighting/ CCTV at Side walk</li> <li>e. Painting/ Cladding/ Branding on Boundary Wall</li> </ul> |                        |
| <b>3. 4 RO Drinking Water System/ Plant at Mahul, Shankardeol, Vashinaka.</b><br><b>(Likely spend till March 2018: Rs. 0.20 Crore).</b>   | Rs. 2.00 Crores        |
| Estimates of Vendors sought – approx.. Rs.0.25 cr. each plant and includes: <ul style="list-style-type: none"> <li>a. Borewell/ Plant - Erection/ Installation/ Commissioning</li> <li>b. Maintenance for 3 years</li> </ul>  |                        |
| <b>4. Waste Disposal System implementation at Mahul/ Ambapada</b><br><b>(Likely spend till March 2018: Rs. 0. 50 Crore)</b>   | Rs. 0.65 Crore         |
| 1 year Operational / Maintenance expenditure: Rs.0.15 Crore.  |                        |
| <b>(Total likely spend on above 4 Projects as detailed) - Rs. 1.00 Crore.</b>   |                        |
| <b>Sub Total:</b>   | <b>Rs. 8.50 Crores</b> |

|   |                        |
|---|------------------------|
| <b>II. 2018/19: Works to commence and implemented in 12 months</b>        |                        |
| 1. Building, Landscaping of Strategic Traffic junctions near MR/ Chembur. | Rs. 2.10 Crores        |
| 2. Completion & Expenditure on PY Works during the year.                  | Rs. 7.50 Crores        |
| <b>Sub Total:</b>   | <b>Rs. 9.60 Crores</b> |

**III. 2019/20: Works to commence and implemented in 12 months**

|   |                         |
|---|-------------------------|
| 1. Desilting/ Upgradation & Beautification of Mahul - Jetty/ Nallas     | Rs. 2.50 Crores         |
| 2. Providing Transit camp/ Housing for MR Contract labor/ Apprentices.  | Rs. 2.50 Crores         |
| 3. Preliminary work/ Approvals for setting up BPCL-MR School/ Hospital. | Rs. 1.00 Crore          |
| 4. Providing Solar Street Lights at Mahul/ MR surroundings              | Rs. 1.00 Crore          |
| 5. Setting up of CT Scan/ Physiotherapy/ Dialysis Centre at Mahulgaon.  | Rs. 3.50 Crores         |
| <b>Sub Total:</b>   | <b>Rs. 10.50 Crores</b> |

**IV. 2020/21-2021/22: 24 mths. Gestation for Estimates/ Approvals & Commissioning**

|   |                         |
|---|-------------------------|
| 1. Setting up Recreational/ Sports Academy at Ambapada<br>(Detailed Project feasibility incl. land lease cost / Building Plan/ Cost of Construction to be made prior to execution). | Rs. 8.30 Crores         |
| 2. Setting up English Medium High School for locals by MR Foundation.   | Rs. 12.27 Crores        |
| 3. Setting up BPCL Charitable Hospital for locals by MR Foundation.   | Rs. 12.26 Crores        |
| <b>Sub Total:</b>   | <b>Rs. 32.83 Crores</b> |

**Total ESC Estimated spend over five years (2017 – 2022) I+II+III+IV****Rs. 53.93 Crores**

We have allocated Rs 54 crores as per EC stipulations. However, as per the circular by MOEF, we need to allocate Rs 7 crores only. So far we have spent Rs 2.29 crores.

| S.No  | Project | Approved Project Cost ( Rs crores ) | As per EC (%) | As per MOEF&CC Circular (%) | Actual Allotted (Rs. Crores) | As per MOEF&CC Circular (Rs. Crores ) | Actual Expenditure ( Rs crores ) |
|-------|---------|-------------------------------------|---------------|-----------------------------|------------------------------|---------------------------------------|----------------------------------|
| 1.    | CCR     | 1827                                | -             | -                           | -                            | -                                     |                                  |
| 2.    | CDU-4   | 1459                                | -             | -                           | -                            | -                                     |                                  |
| 3.    | ISOM    | 715                                 | -             | -                           | -                            | -                                     |                                  |
| 4.    | DHT     | 1714                                | 2.5           | 0.25                        | 42.85                        | 4.29                                  | 2.09                             |
| 5.    | GTU     | 554                                 | 2             | 0.50                        | 11.08                        | 2.77                                  | 0.20                             |
| 6.    | PRFCC   | 9783                                | 0.25          | 0.25                        | -                            | -                                     |                                  |
| Total |         |                                     |               |                             | 53.93                        | 7.06                                  | 2.29                             |
|       |         |                                     |               |                             | 54                           | 7                                     | 2.29                             |

**F.No.22-65/2017-IA.III**

Government of India  
Ministry of Environment, Forest and Climate Change  
Impact Assessment Division

\*\*\*\*\*

Indira Paryavaran Bhawan  
Jor Bagh Road, Aliganj  
New Delhi – 110003

Dated: 1<sup>st</sup> May, 2018

**Office Memorandum**

**Sub: Corporate Environment Responsibility (CER) – reg.**

The Environment Impact Assessment (EIA) Notification, 2006, issued under the Environment (Protection) Act, 1986, as amended from time to time, prescribes the process for granting prior environment clearance (EC) in respect of certain development projects/activities listed out in the Schedule to the Notification.

2. Sustainable development has many important facets/components like social, economic, environmental, etc. All these components are closely inter-related and mutually re-enforcing. Therefore, the general structure of EIA document, under Appendix-III to the notification, prescribes inter-alia public consultation, social impact assessment and R&R action plan besides environment management plan (EMP).

3. Section 135 of the Companies Act, 2013 deals with Corporate Social Responsibility (CSR) and Schedule-VII of the Act lists out the activities which may be included by companies in their CSR Policies. The concept of CSR as provided for in the Companies Act, 2013 and covered under the Companies (Corporate Social Responsibility Policy) Rules, 2014 comes into effect only in case of companies having operating projects and making net profit as also subject to other stipulations contained in the aforesaid Act and Rules. The environment clearance given to a project may involve a situation where the concerned company is yet to make any net profit and/or is not covered under the purview of the aforesaid Act and Rules. In such cases, the provisions of aforesaid act and Rules will not apply.

4. In the past, it has been observed that different Expert Appraisal Committees / State Expert Appraisal Committees (EACs/SEACs) have been prescribing different formulation of the Corporate Environment Responsibility (CER) and no common principles are followed. Several suggestions have also been received in this regard which inter-alia states that Greenfield projects and Brownfield projects should be treated differently; no CER should be prescribed whereas there is no increase in air pollution load, R&R, etc., besides streamlining percentage of CER.

5. The Ministry has carried out a detailed stakeholder consultation which inter-alia included meeting with Ministry of Petroleum & Natural Gas, Ministry of Power, Chairmen EACs, FICCI, ASSOCHAM, Gujarat Chamber of Commerce and Industry amongst others.

6. In order to have transparency and uniformity while recommending CER by Expert Appraisal Committee (EAC) / State level Expert Appraisal Committee (SEAC) / District level Expert Appraisal Committee (DEAC), the following guidelines are issued:

- (I) The cost of CER is to be in addition to the cost envisaged for the implementation of the EIA/EMP which includes the measures for the pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV and Compensatory Aforestation, required, if any, and any other activities, to be derived as part of the EIA process.
- (II) The fund allocation for the CER shall be deliberated in the EAC or SEAC or DEAC, as the case may be, with a due diligence subject to **maximum percentage** as prescribed below for different cases:

| S.No | Capital Investment / Additional Capital Investment (in Rs) | Greenfield Project - % of Capital Investment | Brownfield Project - % of Additional Capital Investment |
|------|--|--|---|
| I    | II   | III  | IV  |
| 1.   | ≤ 100 crores   | 2.0%   | 1.0%  |
| 2.   | > 100 crores to ≤ 500 crores                               | 1.5%   | 0.75%   |
| 3.   | > 500 crores to ≤ 1000 crores                              | 1.0%   | 0.50%   |
| 4.   | > From 1000 crores to ≤10000 crores                        | 0.5%   | 0.25%   |
| 5.   | > 10000 crores   | 0.25%  | 0.125%  |

- (III) The activities proposed under CER shall be worked out based on the issues raised during the public hearing, social need assessment, R&R plan, EMP, etc.
- (IV) The proposed activities shall be restricted to the affected area around the project.
- (V) Some of the activities which can be carried out in CER, are infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas, etc.
- (VI) The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half-yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.
- (VII) The District Collector may add or delete the activities as per the requirement of the District.
- (VIII) The EAC can vary the above percentage of CER subject to proper diligence, quantification and justification. The EAC based on appraisal, should clearly suggest the activities to be carried out under CER.
- (IX) This CER is not applicable in name change, transfer and amendment involving no additional project investment. In case of amendment in EC involving additional expenditure, CER will be applicable only on the additional expenditure as per column-IV of the table given in para 6(II) above.

7. This issues in supersession of all earlier OMs and guidelines issued in this regard.

8. This issues with the approval of competent authority.



(Sharath Kumar Pallerla)  
Director (IA-III-Policy)

1. Chairman, CPCB
2. Chairmen of all the Expert Appraisal Committees
3. Chairperson/Member Secretaries of all the SEIAA/SEACs
4. Chairpersons/Member Secretaries of all SPCBs/UTPCCs
5. All the officers of IA Division

**Copy for information to:**

1. PS to Minister for Environment, Forest and Climate Change
2. PS to MoS (EF&CC)
3. PPS to Secretary (EF&CC)
4. PPS to AS(AKJ) / AS(AKM)
5. PPS to JS(GB) / JS(JT)
6. Website, MoEF&CC
7. Guard File.



**AI Ambient Air monitoring stations:**• **AMS-1:**

| Parameter         | Unit                 | Jan-21 | Feb-21 | Mar-21 | Apr-21 | May-21 | Jun-21 | Jul-21 | Aug-21 | Sep-21 | Oct-21 |
|-------------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PM <sub>10</sub>  | (µg/m <sup>3</sup> ) | 63.63  | 67.81  | 68.20  | 74.1   | 74.3   | 59.23  | 59.53  | 55.00  | 66.75  | 58.76  |
| PM <sub>2.5</sub> | (µg/m <sup>3</sup> ) | 40.16  | 40.91  | 36.64  | 28.6   | 28.8   | 29.28  | 30.04  | 17.80  | 33.65  | 29.40  |
| SO <sub>2</sub>   | (µg/m <sup>3</sup> ) | 11.76  | 11.21  | 11.13  | 10.6   | 12.2   | 11.66  | 10.71  | 9.44   | 11.06  | 10.01  |
| NO <sub>2</sub>   | (µg/m <sup>3</sup> ) | 29.28  | 27.71  | 26.68  | 24.1   | 29.4   | 26.71  | 25.79  | 22.81  | 27.11  | 23.58  |
| Lead              | (µg/m <sup>3</sup> ) | 0.10   | 0.14   | 0.11   | 0.1    | 0.1    | 0.105  | 0.09   | 0.12   | 0.10   | 0.10   |
| CO                | (mg/m <sup>3</sup> ) | 0.31   | 0.36   | 0.31   | 0.4    | 0.3    | 0.32   | 0.33   | 0.34   | 0.35   | 0.33   |
| NH <sub>3</sub>   | (µg/m <sup>3</sup> ) | 22.88  | 22.80  | 22.81  | 23.1   | 22.3   | 17.6   | 22.84  | 29.89  | 23.25  | 22.16  |
| Ni                | (ng/m <sup>3</sup> ) | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   |
| As                | (ng/m <sup>3</sup> ) | < 1.0  | < 1.0  | < 1.0  | <0.1   | < 0.1  | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| O <sub>3</sub>    | (µg/m <sup>3</sup> ) | 3.66   | 4.33   | 3.99   | 4.5    | 4.4    | 4.1    | 3.70   | 3.76   | 4.14   | 3.41   |
| Benzene           | (µg/m <sup>3</sup> ) | 4.16   | 4.29   | 4.29   | 4.1    | 4.2    | 4.1    | 4.16   | 3.63   | 4.30   | 4.01   |
| Benzo (a) pyrene  | (ng/m <sup>3</sup> ) | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   |
| HC                | (ppm)                | 1.82   | 1.85   | 1.79   | 1.8    | 1.8    | 1.7925 | 1.83   | 1.61   | 1.86   | 1.87   |

- AMS-2:

| Parameter         | Unit                 | Jan-21 | Feb-21 | Mar-21 | Apr-21 | May-21 | Jun-21 | Jul-21 | Aug-21 | Sep-21 | Oct-21 |
|-------------------|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PM <sub>10</sub>  | (µg/m <sup>3</sup> ) | 70.90  | 71.55  | 71.25  | 80.2   | 76.9   | 61.10  | 60.40  | 61.20  | 70.60  | 61.20  |
| PM <sub>2.5</sub> | (µg/m <sup>3</sup> ) | 41.05  | 41.45  | 38.65  | 31.7   | 30.0   | 32.80  | 30.60  | 23.00  | 34.95  | 32.80  |
| SO <sub>2</sub>   | (µg/m <sup>3</sup> ) | 12.75  | 12.90  | 9.70   | 10.5   | 11.3   | 12.20  | 11.20  | 11.45  | 10.35  | 10.90  |
| NO <sub>2</sub>   | (µg/m <sup>3</sup> ) | 36.20  | 35.35  | 22.35  | 23.6   | 26.1   | 23.40  | 24.00  | 19.55  | 24.70  | 28.05  |
| Lead              | (µg/m <sup>3</sup> ) | 0.12   | <0.1   | 0.11   | 0.1    | 0.1    | 0.09   | 0.12   | 0.12   | 0.11   | 0.11   |
| CO                | (mg/m <sup>3</sup> ) | 0.34   | 0.40   | 0.33   | 0.4    | 0.3    | 0.25   | 0.33   | 0.36   | 0.40   | 0.32   |
| NH <sub>3</sub>   | (µg/m <sup>3</sup> ) | 18.85  | 20.80  | 23.70  | 25.3   | 18.5   | 21.20  | 30.90  | 22.60  | 28.40  | 25.35  |
| Ni                | (ng/m <sup>3</sup> ) | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| As                | (ng/m <sup>3</sup> ) | < 1.0  | < 1.0  | < 1.0  | <0.1   | < 0.1  | < 1.0  | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| O <sub>3</sub>    | (µg/m <sup>3</sup> ) | 4.72   | 3.76   | 3.86   | 3.5    | 3.1    | 5.05   | 3.65   | 3.40   | 3.25   | 4.40   |
| Benzene           | (µg/m <sup>3</sup> ) | 4.40   | 4.59   | 4.28   | 4.3    | 4.0    | 4.20   | 4.00   | 3.50   | 4.50   | 4.20   |
| Benzo (a) pyrene  | (ng/m <sup>3</sup> ) | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   | <0.5   |
| HC                | (ppm)                | 1.92   | 1.77   | 1.86   | 1.9    | 1.8    | 1.79   | 1.74   | 1.68   | 1.90   | 1.73   |

**AMS-3:**

| <b>Parameter</b>  | <b>Unit</b>          | <b>Jan-21</b> | <b>Feb-21</b> | <b>Mar-21</b> | <b>Apr-21</b> | <b>May-21</b> | <b>Jun-21</b> | <b>Jul-21</b> | <b>Aug-21</b> | <b>Sep-21</b> | <b>Oct-21</b> |
|-------------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| PM <sub>10</sub>  | (µg/m <sup>3</sup> ) | 67.60         | 71.10         | 71.70         | 76.1          | 73.2          | 57.70         | 57.25         | 52.45         | 66.05         | 58.25         |
| PM <sub>2.5</sub> | (µg/m <sup>3</sup> ) | 39.30         | 38.65         | 40.35         | 29.7          | 29.1          | 28.00         | 26.45         | 15.20         | 32.55         | 27.60         |
| SO <sub>2</sub>   | (µg/m <sup>3</sup> ) | 12.50         | 11.40         | 8.90          | 10.3          | 11.1          | 9.85          | 10.00         | 10.10         | 8.85          | 8.95          |
| NO <sub>2</sub>   | (µg/m <sup>3</sup> ) | 27.50         | 28.20         | 23.05         | 24.5          | 26.4          | 25.05         | 22.95         | 20.35         | 19.85         | 23.30         |
| Lead              | (µg/m <sup>3</sup> ) | 0.13          | <0.1          | 0.12          | 0.1           | 0.1           | 0.12          | 0.05          | 0.08          | 0.15          | 0.10          |
| CO                | (mg/m <sup>3</sup> ) | 0.34          | 0.32          | 0.29          | 0.2           | 0.4           | 0.45          | 0.27          | 0.40          | 0.32          | 0.28          |
| NH <sub>3</sub>   | (µg/m <sup>3</sup> ) | 26.70         | 18.85         | 24.65         | 25.1          | 23.0          | 25.60         | 24.25         | 23.50         | 22.90         | 23.25         |
| Ni                | (ng/m <sup>3</sup> ) | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| As                | (ng/m <sup>3</sup> ) | < 1.0         | < 1.0         | < 1.0         | <0.1          | <0.1          | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| O <sub>3</sub>    | (µg/m <sup>3</sup> ) | 2.57          | 3.02          | 4.07          | 5.0           | 4.1           | 3.60          | 3.60          | 3.95          | 3.60          | 3.60          |
| Benzene           | (µg/m <sup>3</sup> ) | 4.13          | 3.65          | 3.89          | 4.1           | 4.3           | 3.70          | 4.45          | 3.80          | 3.95          | 4.05          |
| Benzo (a) pyrene  | (ng/m <sup>3</sup> ) | <0.5          | <0.5          | <0.5          | <0.5          | <0.5          | <0.05         | <0.05         | <0.05         | <0.05         | <0.05         |
| HC                | (ppm)                | 1.94          | 1.71          | 1.72          | 1.8           | 1.7           | 1.85          | 1.73          | 1.96          | 1.70          | 1.81          |

**B) Effluent Treatment Plant (ETP):**

| Parameter                     | Jan-21 | Feb-21 | Mar-21 | Apr-21 | May-21 | Jun-21 | Jul-21 | Aug-21 | Sep-21 | Oct-21 |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| pH                            | 7.62   | 7.75   | 7.05   | 7.63   | 7.80   | 7.28   | 7.88   | 7.05   | 7.23   | 7.84   |
| Oil & grease                  | 2.75   | 1.75   | 1.60   | 3      | 3.00   | 2.00   | 3.25   | 2.20   | 1.33   | 2.75   |
| BOD                           | 12.00  | 10.50  | 11.60  | 8      | 9.75   | 10.75  | 9.50   | 10.40  | 9.50   | 10.50  |
| COD                           | 108.75 | 106.25 | 113.60 | 102    | 101.50 | 96.00  | 96.00  | 87.20  | 116.25 | 102.25 |
| TSS                           | 14.25  | 13.00  | 15.00  | 11     | 14.00  | 10.25  | 8.32   | 57.68  | 12.75  | 13.50  |
| Phenolic compound             | 0.27   | 0.15   | 0.23   | 0.2    | 0.13   | 0.13   | 0.18   | 0.17   | 0.15   | 0.16   |
| Sulphide                      | 0.36   | 0.29   | 0.36   | 0.13   | 0.20   | 0.16   | 0.19   | 0.21   | 0.17   | 0.16   |
| Cyanide as CN                 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Ammonical Nitrogen            | 12.53  | 12.75  | 11.78  | 13     | 11.13  | 11.98  | 9.05   | 11.82  | 12.18  | 12.53  |
| Total Kjeldhal Nitrogen (TKN) | 27.70  | 21.98  | 24.56  | 37     | 20.95  | 23.93  | 21.53  | 33.26  | 23.95  | 18.85  |
| Total Phosphate               | <1     | <1     | <1     | <1     | <1     | <1     | <1     | <1     | <1     | <1     |
| Hexavalent Chromium           | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  |
| Total Chromium                | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  |
| Lead (Pb)                     | <0.01  | <0.05  | <0.05  | <0.05  | <0.05  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  |
| Mercury (Hg)                  | <0.01  | <0.01  | <0.01  | <0.01  | <0.001 | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  |
| Zinc (Zn)                     | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  |
| Nickel (Ni)                   | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  | <0.01  |
| Copper (Cu)                   | <0.04  | <0.04  | <0.04  | <0.04  | <0.04  | <0.04  | <0.04  | <0.04  | <0.04  | <0.04  |
| Vanadium (V)                  | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   |
| Benzene                       | <0.05  | <0.01  | <0.01  | <0.01  | <0.01  | <0.05  | <0.05  | <0.05  | <0.05  | <0.05  |
| Benzo (a) pyrene              | <0.1   | <0.01  | <0.01  | <0.01  | <0.01  | <0.1   | <0.1   | <0.1   | <0.1   | <0.1   |

**C1 Noise Monitoring:**

| <b>Noise Monitoring Survey from Jan-2021 to Oct-2021</b> |   |                       |
|--|---|-----------------------|
| <b>Jan to Nov-2021</b>                                   | <b>Plant</b>                                | <b>Points covered</b> |
| Jan  | CCR and ARU Complex                         | 65                    |
| Feb  | DHDS Complex/FCCU/GTU/Flare/PH-1 & 5        | 97                    |
| Mar  | CCU, MOT, LAB, All Gates                    | 76                    |
| Apr  | BH/ CPP/DM Plant/MINAS/SWPH/LPG/Workshop    | 89                    |
| May  | BBU/TDU/CDU4/                               | 50                    |
| Jun  | CDU3, HCU, LOBS, NHGU                       | 54                    |
| Jul  | ARU,RFU,NITROGEN,MTBE,CCR,CCR NHT,CDU VDU 3 | 67                    |
| Aug  | FCCU,DHDS,RMP SRU,TGTU-1,DHT,GTU            | 79                    |
| Sep  | CCU,LAB,ALL GATE                            | 72                    |
| Oct  | MINAS,SWPH,CPP,BOILER HOUSE, DM PLANT,LPG   | 85                    |
| <b>Cumulative</b>  | <b>Total</b>                                | <b>734</b>            |

**ENVIRONMENTAL PROJECTS COMMISSIONED**

Major environmental projects implemented are listed below:

| Sr. No. | Projects                                     | Year   | Environment Improvement  | Capex in Rs. Crores |
|---------|--|--------|--|---------------------|
| 1       | RMP  | 2005   | BS-III HSD   | 1621                |
| 2       | CRU Revamp                                   | 2005   | BS-III MS  | 108                 |
| 3       | LOBS   | 2006   | Group-II&III LOBS  | 349                 |
| 4       | RLNG Facilities                              | 2009   | Use of Clean Fuel  | 4.8                 |
| 5       | FCC Gasoline Splitter, DHDS & HCU revamp     | 2010   | BS-III MS & HSD maximization<br>BS IV MS/HSD   | 233                 |
| 6       | De-mountable flare                           | 2013   | Better dispersion of emissions due to increased height, ease of maintenance  | 54.54               |
| 7       | Rain Water Harvesting at Sports Club         | 2014   | Raw water conservation   | 1.46                |
| 8       | Continuous Catalytic Regeneration Reformer   | Mar-14 | Enhanced production of BS-IV MS, and capacity building for Euro-V MS production  | 1827                |
| 9       | LPG pumping facilities from Refinery to Uran | Oct-14 | Reduce congestion, pollution in Mumbai and improve safety. Eliminating rail and reducing road transportation of bulk LPG from BPCL & HPCL MR. 10" pipeline, 28 Kms long (12 off shore), design capacity of 1200 MT/day, Bulk lorries from BPCL will reduce by 425 MT/D (25 lorries), and 4-5 rakes | 246                 |
| 10      | Flare gas recovery                           | Nov-14 | Emission reduction (Lower flaring) and energy  | 13.61               |

|    |   |        |  |       |
|----|---|--------|--|-------|
|    |   |        | conservation   |       |
| 11 | Decantation valve for Slop tanks  | Sep-15 | To facilitate draining of only water from storage tanks, and to prevent hydrocarbons from escaping.            | 0.9   |
| 12 | Aluminum Floating Roof (IFR) for HSD Fixed Roof HSD Storage Tanks Tk-432, Tk-514, Tk-516 and Tk-517   | Sep-15 | To reduce hydrocarbon Storage losses from fixed roof storage tank. Reduction in emission of VOCs               | 3.15  |
| 13 | Replacement of AMS 1 & AMS 3 Analyzers  | Dec-15 | To be able to monitor ambient air quality as per National standards at MPCB and CPCB.                          | 2.88  |
| 14 | Provision of disc type oil skimmer at OC-2 middle bay for effective removal of heavy oil  | Dec-15 | For removal of heavy oil from OC-2 middle bay and preventing oil from going into HP Nallah outlet.             | 1     |
| 15 | CDU-4 unit  | Dec-15 | Enhanced safety, Energy conservation, environment improvement. Sulfur emission reduction from 12 to 10.44 TPD. | 1419  |
| 16 | ISOMERIZATION Unit  | Jan-17 | Euro-V MS production. Euro-IV production increase from 0.9MMT to 2.3MMTPA                                      | 725   |
| 17 | Diesel Hydro treatment Unit   | Jun-17 | For making BS VI grade diesel  | 2368  |
| 18 | All stack analyzers indication to be put to MPCB/CPCB server. New PM analyzers / SOx, Nox and CO to be installed. For stack analyzers, we are in the process of finalizing the system / hardware to collect real time data from IP21 system and updating CPCB/MPCB server on real time basis by end Oct.'2017. Online ETP analyzers | Oct-17 | Statutory requirement by CPCB/ MPCB  | 11.38 |

|    |   |        |  |       |
|----|---|--------|--|-------|
|    | installed and its connectivity provided to CPCB server with real time data.   |        |  |       |
| 19 | Installation of Tail Gas Treatment Unit (TGTU)  | Nov-17 | To improve sulfur recovery efficiency, Tail Gas Treatment Units (TGTU) were commissioned on 25th Nov-2017 which has improved sulfur recovery from 99% to 99.9 %. | 112   |
| 20 | Installation of Benzene Analyzers in ARU  | Mar-18 | For identifying and checking any leaks as well as continuous monitoring of Benzene levels.   | 115   |
| 21 | Implementation of Dynamic limit for mixed fuel fired furnace  | Sep-18 | Statutory requirement by CPCB  | 0.7   |
| 22 | Install Closed loop sampling system for balance units   | Sep-19 | For reduction of sampling loss and VOC reduction   | 2.4   |
| 23 | 10000 no -Tree Plantation around BPCL refinery and other parts of Mumbai / Thane  | Sep-19 | For CO2 sequestration  | 0.56  |
| 24 | Cover Tilted Plate Interceptor (TPI), Corrugated Plate Interceptor (CPI), TPI Sump, Neutralization Tanks, Neutralization Tank feed sump, Slop Oil Sump, Flash Mixing Tanks, Flocculation Tanks and Dissolved Air Floatation (DAF) sub-units of ETP. Covering of these sub-units of ETP along with installation of VOC removal system. | Sep-19 | For up-gradation of existing ETP unit and VOC emission reduction   | 1.7   |
| 25 | Piping for receiving sewage treated water from RCF  | Oct-19 | For water conservation   | 0.038 |
| 26 | Installation of Gasoline Treatment  | Oct-19 | As a part of Auto fuel policy  | 544   |



|    |  |        |   |      |
|----|--|--------|---|------|
|    | Unit (GTU)   |        | i.e. for making BS-VI grade MS  |      |
| 27 | Installation of Benzene & Toluene analysers at TDU gantry bay no. 1, 2, 3, 4 and BVRU vent | Oct-19 | With the help of these analysers, Benzene & Toluene concentration in the gantry area will be monitored on real time basis to strengthen environment monitoring. | 1.37 |
| 28 | N2 blanketing facility for Benzene and Toluene tanks with double seal ex single seal       | Jan-21 | Statutory requirement   | 2.5  |
| 29 | Bottom loading facility provision for Benzene and Toluene product dispatch                 | Jan-21 | Statutory requirement   | 1.4  |

#### **Other Environmental Projects Implemented**

| Sr.No. | Projects                              | Year         | Environmental Improvement                                | Capex in Rs. Crores |
|--------|---------------------------------------|--------------|--|---------------------|
| 1      | WWTP                                  | 1990         | Treatment of effluents                                   | 15.6                |
| 2      | HEB 1, 2 & 3                          | 1997 to 2001 | 94% efficiency of ABB/ABL Ltd. Boilers as against 78-82% | 46                  |
| 3      | Biogas plant                          | 2001         | Solid waste management                                   | 0.6                 |
| 4      | BVRU                                  | 2004         | Reducing benzene content in ambient air                  | 1                   |
| 5      | WWTP revamp                           | 2005         | H2O2 system, TPI, DAF, two chambers of aeration basin    | 8                   |
| 6      | Rain Water Harvesting                 | 2008         | Resource conservation                                    | 1.2                 |
| 7      | Ambient Air/Stack Monitoring stations | 2009         | Monitoring   | 1.62                |
| 8      | WWTP zero discharge                   | 2009         | Recycle of treated water to raw water CT                 | 0.1                 |
| 9      | Oil catchers fixed roof cover         | 2011         | Fugitive emission reduction                              | 0.45                |

|    |  |        |   |      |
|----|--|--------|---|------|
| 10 | Secondary seals/guide pole sleeves for crude & Hexane tanks      | 2012   | VOC reduction   | 2.64 |
| 11 | Additional analyzers at AMS-1                                    | Dec-13 | Monitoring of additional parameters like Benzene, NH3, O3, PM 2.5 and Hydrocarbons. | 0.54 |
| 12 | Internal Aluminum floating re\ SBP tank 904/905                  | May-14 | To reduce fugitive emission from storage tanks                                      | 0.41 |
| 13 | 40 KWp solar power plant at Admin south block rooftop.           | Aug-14 | Renewable source of energy. Fossil fuel conservation, & reduction in GHG emissions  | 0.38 |
| 14 | OC-2 & OC-3 rotating disc skimmers                               | Oct-14 | Skimming of oil from oil catchers.  | 0.73 |
| 15 | Condensate Recovery system at Boiler house                       | Oct-14 | Resource conservation, flash steam recovery   | 0.88 |
| 16 | STP at Admin   | Dec-14 | Treatment of sewage, and re-use for gardening.                                      | 0.86 |
| 17 | Stack analyzers (In-Situ)  | Jun-15 | Monitoring stack emission parameters  | 0.54 |
| 18 | Energy saving by replacing conventional lighting                 | Mar-18 | Energy conservation   | 0.6  |
| 19 | Installation of 604 Kw roof top solar panels at Admin and Colony | Mar-18 | Energy conservation and utilization of solar power                                  | 3.27 |
| 20 | Revamp of oil catcher  | May-18 | Environment Protection  | 3.2  |
| 21 | RWH at CCR/ DHDS   | Jun-18 | Resource conservation   | 0.9  |
| 22 | Bioremediation of around 800 m3 of sludge including MOT area     | Jan-19 | As a part of Hazardous waste management   | 0.26 |
| 23 | Installation of 348 Kw roof top solar panels at ANIK Nallah      | Mar-19 | Energy conservation and utilization of solar power                                  | 2.33 |
| 24 | Appointing Environment champion team in Blending/PD/DHDS         | Jun-19 | To increase awareness & sensitivity   | -    |

|    |   |        |   |       |
|----|---|--------|---|-------|
|    | complexes/ARU complex/ETP areas   |        |   |       |
| 25 | Establish connectivity with CPCB/ MPCB servers for transmission of ETP outlet flow reading as well as images of PTZ camera on real time basis                 | Aug-19 | As a part of GTU CTO condition  | 0.3   |
| 26 | Green global benchmarking/gap analysis/action plan for BPCL MR through M/s CII  | Oct-19 | To define and assess “ <b>How Green is our company</b> ” and highlight the ways forward to facilitate world class competitiveness through Green strategies. | 0.05  |
| 27 | Installation of 506 KWp roof top solar panels at CDU4 SRR, RMP Control Room, DHDS Control Room, DHT SRR, ARU SRR, Transformer Substation, and HTPL substation | Jan-20 | Energy conservation and utilization of solar power  | 2.98  |
| 28 | 27 pumps in ARU having single mechanical seal to be converted to double mechanical seal as per latest   | Aug-21 | As per latest OISD-125 guidelines   | 24.77 |

New Project in progress:

| S.N. | FUTURE PROJECTS   | EXPECTED TIMELINE | ENVIRONMENT IMPROVEMENT  |
|------|---|-------------------|--|
| 1    | Comprehensive Environment audit from MoEF&CC approved agency, M/s NEERI | Jul-21            | For detailed Environmental Audit & Environmental Emission Monitoring Study at BPCL MR                                  |
| 2    | Installation and commissioning of Kerosene Hydro-treatment Unit (KHT)   | Dec-22            | Auto fuel policy i.e. for production of low sulphur BS VI grade ATF and KHT product stream blending in BS VI grade HSD |

|   |  |        |                      |
|---|--|--------|----------------------|
| 3 | Dispersion Modelling study at BPCL<br>MR for source emission | Jan-22 | Statutory compliance |
|---|--|--------|----------------------|



# Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

## FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2021

### Unique Application Number

MPCB-ENVIRONMENT\_STATEMENT-0000038706

### Submitted Date

30-09-2021

## PART A

### Company Information

#### Company Name

Bharat Petroleum Corporation Limited

#### Application UAN number

NA

#### Address

Bharat Petroleum Corporation Ltd., Mumbai Refinery.

#### Plot no

234/482

#### Taluka

Kurla

#### Village

Mahul

#### Capital Investment (In lakhs)

1082800

#### Scale

L.S.I

#### City

Mumbai

#### Pincode

400074

#### Person Name

Sunil Raut

#### Designation

DGM (Environment)

#### Telephone Number

02225533174

#### Fax Number

#### Email

rauts@bharatpetroleum.in

#### Region

SRO-Mumbai III

#### Industry Category

Red

#### Industry Type

R56 Oil Refinery (mineral Oil or Petro Refineries)

#### Last Environmental statement submitted online

yes

#### Consent Number

BO/CAC-Cell/UAN No  
0000071817/5th CAC/190900323

#### Consent Issue Date

13/09/2019

#### Consent Valid Upto

31/08/2021

#### Establishment Year

1955

#### Date of last environment statement submitted

Sep 25 2020 12:00:00:000AM

#### Industry Category Primary (STC Code) & Secondary (STC Code)

### Product Information

#### Product Name

Liquified Petroleum Gas, C3

#### Consent Quantity

643860

#### Actual Quantity

542850

#### UOM

MT/A

Benzene, Toulene

127750

47540

MT/A

SBP, Hexane, Motor spirit, MTBE, Naphtha

3018185

2519540

MT/A

SKO, Mineral Turpentine Oil, Aviation Turbine Fuel

1904205

457650

MT/A

High Speed Diesel, Light Diesel oil

5738895

6274010

MT/A

Furnace oil, Low sulfur Heavy stock, Bitumen, Sulfur

2241100

1346900

MT/A

|                               |          |        |      |
|-------------------------------|----------|--------|------|
| Lube product                  | 248200   | 310850 | MT/A |
| Hydrotreated Gasoline (MS VI) | 985564.8 | 985000 | MT/A |

### By-product Information

| <b>By Product Name</b> | <b>Consent Quantity</b> | <b>Actual Quantity</b> | <b>UOM</b> |
|------------------------|-------------------------|------------------------|------------|
| NA                     | 0                       | 0                      | MT/A       |

## Part-B (Water & Raw Material Consumption)

### 1) Water Consumption in m3/day

| <b>Water Consumption for Process</b> | <b>Consent Quantity in m3/day</b> | <b>Actual Quantity in m3/day</b> |
|--------------------------------------|-----------------------------------|----------------------------------|
| <b>Cooling</b>                       | 153790.00                         | 71126.00                         |
| <b>Domestic</b>                      | 1408.00                           | 949.00                           |
| <b>All others</b>                    | 0.00                              | 0.00                             |
| <b>Total</b>                         | 175603.00                         | 84836.00                         |

### 2) Effluent Generation in CMD / MLD

| <b>Particulars</b>   | <b>Consent Quantity</b> | <b>Actual Quantity</b> | <b>UOM</b> |
|----------------------|-------------------------|------------------------|------------|
| Effluent from Plants | 5760                    | 2611                   | CMD        |
| Sea water blowdown   | 146319                  | 67570                  | CMD        |

### 2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

| <b>Name of Products (Production)</b> | <b>During the Previous financial Year</b> | <b>During the current Financial year</b> | <b>UOM</b> |
|--------------------------------------|---|--|------------|
| NA                                   | 0   | 0  | MT/A       |

### 3) Raw Material Consumption (Consumption of raw material per unit of product)

| <b>Name of Raw Materials</b> | <b>During the Previous financial Year</b> | <b>During the current Financial year</b> | <b>UOM</b> |
|------------------------------|---|--|------------|
| Crude Throughput             | 15016676                                  | 13053149                                 | MT/A       |

### 4) Fuel Consumption

| <b>Fuel Name</b> | <b>Consent quantity</b> | <b>Actual Quantity</b> | <b>UOM</b> |
|------------------|-------------------------|------------------------|------------|
| GAS              | 338501                  | 153225                 | MT/A       |
| LSHS             | 232542                  | 118963                 | MT/A       |
| COKE             | 109500                  | 92225                  | MT/A       |
| RLNG             | 335727                  | 274674                 | MT/A       |
| BHAG             | 21900                   | 77                     | MT/A       |
| NAPHTHA          | 9271                    | 1089                   | MT/A       |
| PSA OFF GAS      | 94900                   | 82626                  | MT/A       |

## Part-C

### Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

#### [A] Water

| <b>Pollutants Detail</b> | <b>Quantity of Pollutants discharged (kL/day)</b> | <b>Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour</b> | <b>Percentage of variation from prescribed standards with reasons</b> | <b>Standard</b> | <b>Reason</b> |
|--------------------------|---|---|---|-----------------|---------------|
|                          | <b>Quantity</b>                                   | <b>Concentration</b>  | <b>%variation</b>   |                 |               |
| PH                       | 0   | 7.52  | 0   | 6 to 8.5        | NA            |
| Oil & Grease             | 0   | 2.45  | 0   | 5               | NA            |
| BOD (3 days 27°C)        | 0   | 10.73   | 0   | 15              | NA            |
| COD                      | 0   | 101.53  | 0   | 125             | NA            |
| Suspended Solids         | 0   | 14.84   | 0   | 20              | NA            |
| Phenols                  | 0   | 0.18  | 0   | 0.35            | NA            |
| Sulphides                | 0   | 0.28  | 0   | 0.5             | NA            |
| CN                       | 0   | 0.0005  | 0   | 0.2             | NA            |
| Ammonia as N             | 0   | 10.85   | 0   | 15              | NA            |
| TKN                      | 0   | 24.65   | 0   | 40              | NA            |
| Phosphate                | 0   | 0.9   | 0   | 3               | NA            |
| Cr (Hexavalent)          | 0   | 0.04  | 0   | 0.1             | NA            |
| Cr (Total)               | 0   | 0.009   | 0   | 2               | NA            |
| Pb                       | 0   | 0.009   | 0   | 0.1             | NA            |
| Hg                       | 0   | 0.009   | 0   | 0.01            | NA            |
| Zn                       | 0   | 0.04  | 0   | 5               | NA            |
| Ni                       | 0   | 0.009   | 0   | 1               | NA            |
| Cu                       | 0   | 0.03  | 0   | 1               | NA            |
| V                        | 0   | 0.09  | 0   | 0.2             | NA            |
| Benzene                  | 0   | 0.04  | 0   | 0.1             | NA            |
| Benzo (a)-Pyrene         | 0   | 0.09  | 0   | 0.2             | NA            |

#### **[B] Air (Stack)**

| <b>Pollutants Detail</b> | <b>Quantity of Pollutants discharged (kL/day)</b> | <b>Concentration of Pollutants discharged(Mg/NM3)</b> | <b>Percentage of variation from prescribed standards with reasons</b> | <b>Standard</b> | <b>Reason</b> |
|--------------------------|---|---|---|-----------------|---------------|
|                          | <b>Quantity</b>                                   | <b>Concentration</b>                                  | <b>%variation</b>   |                 |               |
| SO2                      | 5210  | 90.72   | 0   | 1700            | NA            |
| NOx                      | 7975  | 123.47  | 0   | 450             | NA            |
| CO                       | 920   | 44.51   | 0   | 200             | NA            |
| Ni & V                   | 5.1   | 0.09  | 0   | 5               | NA            |
| SPM                      | 505   | 6.69  | 0   | 100             | NA            |

## **Part-D**

### **HAZARDOUS WASTES**

#### **1) From Process**

| <b>Hazardous Waste Type</b> | <b>Total During Previous Financial year</b> | <b>Total During Current Financial year</b> | <b>UOM</b> |
|-----------------------------|---|--|------------|
| 4.2 Spent catalyst          | 484.39                                      | 256.087                                    | MT/A       |
| 4.1 Oil sludge or emulsion  | 6127  | 441  | MT/A       |

#### **2) From Pollution Control Facilities**

| Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM  |
|----------------------|--------------------------------------|-------------------------------------|------|
| 0                    | 0                                    | 0                                   | MT/A |

## Part-E

### SOLID WASTES

#### 1) From Process

| Non Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM    |
|--------------------------|--------------------------------------|-------------------------------------|--------|
| FERROUS SCRAP            | 5335                                 | 2845.1                              | MT/A   |
| WOOD SCRAP               | 198                                  | 40                                  | MT/A   |
| DRUMS & TINS             | 2085                                 | 3760                                | Nos./Y |
| NON FERROUS SCRAP        | 134                                  | 66.99                               | MT/A   |

#### 2) From Pollution Control Facilities

| Non Hazardous Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM  |
|--------------------------|--------------------------------------|-------------------------------------|------|
| NA                       | 0                                    | 0                                   | MT/A |

#### 3) Quantity Recycled or Re-utilized within the unit

| Waste Type | Total During Previous Financial year | Total During Current Financial year | UOM  |
|------------|--------------------------------------|-------------------------------------|------|
| 0          | 0                                    | 0                                   | MT/A |

## Part-F

Please specify the characteristics(in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

### 1) Hazardous Waste

| Type of Hazardous Waste Generated | Qty of Hazardous Waste | UOM  | Concentration of Hazardous Waste   |
|-----------------------------------|------------------------|------|--|
| 4.2 Spent catalyst                | 256.087                | MT/A | The composition details of hazardous waste is given in form 4 submitted online on 18-06-2020 |
| 4.1 Oil sludge or emulsion        | 441                    | MT/A | The composition details of hazardous waste is given in form 4 submitted online on 22-06-2021 |

### 2) Solid Waste

| Type of Solid Waste Generated | Qty of Solid Waste | UOM  | Concentration of Solid Waste |
|-------------------------------|--------------------|------|------------------------------|
| NA                            | 0                  | MT/A | NA                           |

## Part-G

Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.

| Description  | Reduction in Water Consumption (M3/day) | Reduction in Fuel & Solvent Consumption (KL/day) | Reduction in Raw Material (Kg) | Reduction in Power Consumption (KWH) | Capital Investment(in Lacs) | Reduction in Maintenance(in Lacs) |
|--|---|--|--------------------------------|--------------------------------------|-----------------------------|-----------------------------------|
| Nitrogen (N2) blanketing of Benzene tanks 806, 807 & 912 and Toluene tanks 904 & 905 with closed blown down (CBD) system connected to flare. | 0                                       | 0  | 0                              | 0                                    | 252                         | 0                                 |



|  |      |     |   |        |     |   |
|--|------|-----|---|--------|-----|---|
| Provision for dual filing i.e. Bottom filling facility along with existing top filing at white oil gantry & tanker | 0    | 0   | 0 | 0      | 149 | 0 |
| Condensate recovery system in CCR unit and CDU4  | 22.3 | 0   | 0 | 0      | 214 | 0 |
| Corro coating of the CCR Cooling water pump 143-P-401A for power saving  | 0    | 0   | 0 | 1617.6 | 10  | 0 |
| Replacement of existing Cooling water Supply pump P1 in CPP by new low life cycle cost (LLC) pump                  | 0    | 0   | 0 | 576    | 8.3 | 0 |
| Use of Nitrogen in flare purge instead of FG for fuel saving under RPIP  | 0    | 1.7 | 0 | 0      | 0   | 0 |
| Procurement of Energy efficient RUA (Rotating unit assembly) for crude pump P1 in PH1                              | 0    | 0   | 0 | 369.6  | 22  | 0 |
| Corro-coating of FCCU cooling water pump 12-P-08   | 0    | 0   | 0 | 120    | 10  | 0 |
| Tree Plantation of 1000 no of trees by Miyawaki Method   | 0    | 0   | 0 | 506    | 6   | 0 |

## Part-H

### **Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution.**

#### **[A] Investment made during the period of Environmental Statement**

##### ***Detail of measures for Environmental Protection***

| <b><i>Detail of measures for Environmental Protection</i></b>   | <b><i>Environmental Protection Measures</i></b> | <b><i>Capital Investment (Lacks)</i></b> |
|---|---|--|
| Disposal of Hazardous waste   | Hazardous waste management rule,2016            | 32.36                                    |
| Monitoring of stacks, Noise levels, Fugitive emissions, effluent quality, Ambient Air by Approved Laboratory                                | Routine Environmental monitoring                | 21.67                                    |
| Nitrogen (N2) blanketing of Benzene tanks 806, 807 & 912 and Toluene tanks 904 & 905 with closed blown down (CBD) system connected to flare | For Environment Protection                      | 252                                      |
| Tree Plantation of 1000 trees by Miyawaki Method  | For CO2 Sequestration                           | 6  |
| Provision for dual filing i.e. Bottom filling facility along with existing top filing at white oil gantry & tanker.                         | For Environment Protection                      | 149                                      |

#### **[B] Investment Proposed for next Year**

##### ***Detail of measures for Environmental Protection***

| <b><i>Detail of measures for Environmental Protection</i></b>   | <b><i>Environmental Protection Measures</i></b>  | <b><i>Capital Investment (Lacks)</i></b> |
|---|--|--|
| Installation and commissioning of Kerosene Hydro-treatment Unit (KHT)                                   | Auto fuel policy i.e. for production of low sulphur BS VI grade ATF and KHT product stream blending in BS VI grade HSD | 70000                                    |
| Sale of Used Cooking Oil generated from Canteen and Trombay Club of BPCL MR for production of Biodiesel | For CO2 Sequestration  | 0  |
| Zero Waste to Landfill Certification of BPCL MR   | System Improvement and Sustainable development   | 2.25                                     |
| Tree Plantation of 5000 no of trees in and around Mumbai Region   | For CO2 Sequestration  | 40                                       |

## Part-I

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### **Any other particulars for improving the quality of the environment.**

#### **Particulars**

Based on the national demand for products (HSD/MS/LOBS etc.), crude processing pattern varies leading to variation in product streams with respect to consented production quantities.

#### **Name & Designation**

SUNIL RAUT

#### **UAN No:**

MPCB-ENVIRONMENT\_STATEMENT-0000038706

#### **Submitted On:**

30-09-2021

# सर्वात तरुण महिला वैमानिक उडविणार मिग २९

म. टा. विशेष प्रतिनिधी, मुंबई

सर्वात तरुण वयात वैमानिक बनलेली मुंबईची तरुणी आयेशा अजीझ हिने आता ध्वनिपेक्षाही अधिक वेगाने आभाळात उडणारे मिग २९ हे रशियन विमान उडविण्याचे मनावर घेतले आहे. मुंबईच्या बॉम्बे फ्लाईंग क्लबमध्ये उड्डाण प्रशिक्षण घेतलेल्या आयेशाला नुकताच कमर्शियल वैमानिकाचा परवाना हाती पडला असून, आता अंतराळयानेच्या तयारीसाठी रशियाच्या सोकुल हवाई तळावरून लडाख जेट विमान उडविण्यासाठी ती प्रयत्नशील आहे. आयेशाचे वडील अब्दुल अजीझ हे वरळीस्थित व्यावसायिक असून, तिची आई

मूळची काश्मिरची बारामुल्ला जिल्ह्यातील आहे. आईबरोबर श्रीनगरला जाताना आयेशा नेहमी विमानाने जायची व त्याचवेळी आकाशभरारीचे स्वप्न पाहायची. ती शाळेत असतानाच तिचे वैमानिक प्रशिक्षण सुरू झाले. १६व्या वर्षीच विद्यार्थी उड्डाण परवाना मिळविणारी ती सर्वात तरुण महिला ठरली. बॉम्बे फ्लाईंग क्लबमधून तिने वैमानिक उड्डाण प्रशिक्षण घेतले. २०१२मध्ये ती नासामध्ये अंतराळवीराचे प्रशिक्षण घेण्यासाठीही गेली होती. गेल्या आठवड्यात तिच्या हाती व्यापारी वैमानिक परवाना (सीपीएल) आला आणि आता तिला मिग २९ विमानाचे सारथ्य करण्याचे वेध लागले आहेत. त्यासाठी रशियन एजन्सीशी तिची

बोलणी सुरू आहेत. बॉम्बे फ्लाईंग क्लबचे कॅप्टन मिहिर भगवती यांनी सांगितले की, ती आमची विद्यार्थिनी राहिली आहे. आम्हांही ती यशस्वीरीत्या पेलेल, असा मला विश्वास वाटतो.

मुंबई : गेल्या अनेक महिन्यांपासून प्रलंबित असलेल्या पत्रकार हल्लाविरोधी विधेयकाच्या मसुद्यास गुजराती राज्य अधिवेशनाच्या अखेरच्या दिवशी हे संरक्षण मिळावे, यासाठी पत्रकार हल्लाविरोधी कायदा करण्याची मागणी मुख्यमंत्री देवेंद्र फडणवीस यांच्याकडे केली होती. मुख्यमंत्र्यांनी ही मागणी मान्य करताना हे विधेयक या अधिवेशनात मांडण्याचे आश्वासन दिले होते.

पत्रकार हल्लाविरोधी विधेयक आज विधिमंडळात

# हे गृहकर्ज, तुमच्या हिताचे

मुंबई : संभाय घर खरेदीदारांवर हाती घेण्यात आलेल्या एका अलिकडच्या अभ्यासातून काही विस्मयजनक गोष्टी कळून आल्या. गृह कर्जादारांचा एक मोठा गट, लागू असलेले शुल्क आणि देण्यात येणाऱ्या पूर्ण सवलती यांची कसून तपासणी न करताच गृहकर्जासाठी बँकेची निवड करतात. ५ पैकी ३ कर्जदार, कोण जास्तीत जास्त सवलती देतो ते पाहण्याकरिता अनेक धनकॉकडे जाण्याऐवजी एकाच बँकेत गृहकर्जासाठी अर्ज करतात. ह्या अभ्यासात समावेश असलेल्या बहुतेक संभावित खरेदीदारांनी सांगितले की, गृहकर्जाबाबत माहिती देणारे त्यांचे प्रमुख स्रोत कर्ज देणारी बँक स्वतःच होती किंवा ते ज्यांच्याकडून घर खरेदी करायचे ते बिल्डर तरी होते. "विकिस ठेवलेल्या घर मिल्कतीची जागा निवडण्यासाठी ग्राहक खूप वेळ खर्च करतात, विविध धनकॉकडून गृह कर्जाची निवड करताना तसाच उत्साह दिसला पाहिजे. ह्या बाबत केलेले हे थोडेसे संशोधन कर्जदाराकरिता दीर्घ कालावधीत खूपच फायदेशीर ठरू शकते कारण, गृहकर्जाची निवड करताना विचारपूर्वक घेतलेला निर्णय, येणाऱ्या काळात मोठी बचत करू शकतो" श्रीमती मनिशा रावदे, ग्रेटर बँकेच्या चीफ एक्झिक्युटिव्ह ऑफिसर यांनी एका निवेदनात असे म्हटले आहे.

**तुमच्या अटी निश्चित करा :** कर्जासाठी शॉपिंग करणे अवघड होण्यामागेचे एक प्रमुख कारण आहे, ते म्हणजे त्याचे वेगवेगळे प्रकार, फिक्सड आणि फ्लोटिंग व्याजदर, कर्जाचा योग्य प्रकार, ईएमआय तसेच कर्जाचा कालावधी ह्यावर परिणाम करणाऱ्या व्याजदरावर (आरओआय) अर्जदारांसाठी "स्वीच ओव्हर" केल्याने खरोखर अवलंबून असतो. सोप्या पध्दतीने सांगायचे तर,

**बहुतांश घर खरेदीदार 'सुयोग्य घर' शोधण्यात बराच वेळ घालवतात, परंतु त्यातले बहुतेक सर्वच सुयोग्य गृहकर्ज निवडण्याकडे दुर्लक्ष करतात. कर्जदाराला ही चुक नंतरच्या काळात लक्षावधी रुपयांनी महागात पडते.**



**श्रीमती मनिशा रावदे,** चीफ एक्झिक्युटिव्ह ऑफिसर, ग्रेटर बँकेचे को-ऑपरेटिव्ह बँक लिमिटेड (शेड्युलब बँक)

२० वर्षे कालावधीसाठी रु. १० लाखांच्या कर्जासाठी कर्जदाराने १०.५% व्याजदराने पैसे भरल्यास ग्रेटर बँक देऊ करत असलेल्या ८.५% व्याजदराच्या तुलनेत तो रु. ३,९३,४४०/- जास्त रक्कम प्रदान करतो. **आताच किंवा कधीच नाही :** एप्रिल २०१६ पासून, कर्जाचे दर आधीच जवळपास एक टक्क्याने घसरले आहेत, जागतिक आणि भारतीय आर्थिक स्थिती पाहता, नजिकच्या काळात व्याज दराची पुढील कपातीची अपेक्षा नाही. तेव्हा गृह कर्ज घेण्यासाठी हीच सुवर्णसंधी आहे. जास्तीत जास्त २० वर्षांच्या कालावधीसाठी ८.५० टक्केच्या सर्वात कमी आणि फिक्सड व्याजदराने ग्रेटर बँक तिचे गृह कर्ज देऊ करत आहे. महिला कर्जदारांसाठी ८.४० टक्क्यांचा विशेष व्याजदर ठरविण्यात आला आहे. **हा बदल घडवून आणा :** जेव्हा बँकांनी त्यांचे दर कमी केलेले आहेत तेव्हा जुने कर्जदार अजूनही उच्च व्याजदरानेच प्रदान करत आहेत. ह्या कर्जदारांसाठी "स्वीच ओव्हर" केल्याने खरोखर मोठा फरक पडतो. उदा.- २० वर्षांच्या

कालावधीच्या (ज्यापैकी ३ वर्षे पूर्ण झाली आहेत) १०.५% दराने रु. १० लाखांच्या कर्जासाठी, ८.५% व्याजदराने ग्रेटर बँकेच्या गृह कर्जात केलेल्या स्वीच ओव्हरमुळे कर्जदाराला त्याचे रु. ३,७९,३२९/- वाचता येतात. ह्या मर्यादित कालावधीच्या प्रस्तावासाठी सर्व गृह कर्ज हस्तांतरणावरील प्रक्रिया शुल्क देखील ग्रेटर बँकेने माफ केले आहे. परंतु बदल करण्याचे ठरविण्यापूर्वी प्रत्येक बँक देऊ करत असलेल्या बदल पर्यायांची नोंद घ्या. लक्षात ठेवा, कर्ज कबबाकी आणि कालावधी जेवढा जास्त तेवढा फायदा जास्त.

**टीप :** ग्रेटर बँकेने सर्व गृह कर्ज हस्तांतरणावरील प्रक्रिया शुल्क माफ केले आहे. मर्यादित कालावधीची सवलत.

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(भारत सरकारचा उपक्रम)

मुंबई रिफायनरी, माहूल, चेंबूर, मुंबई ४०००७४, महाराष्ट्र

भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड, मुंबई रिफायनरी येथे १००% बीएस-६ प्रतीचे पेट्रोल बनविण्याकरिता गॅसोलीन हायड्रो ट्रीटमेंट संयंत्र (जीटीयू) व संलग्न यंत्रणा (क्षमता ०.९ एमएमटीपीए) उभारणीकरिता पर्यावरणात्मक मंजूरी.

पर्यावरण, वने आणि हवामान बदल मंत्रालयाचे पत्र क्रमांक. जे-११०११/१८/२०१६-१३-२(१) दि. २० मार्च २०१७ अंतर्गत भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड, मुंबई रिफायनरी येथे १००% बीएस-६ प्रतीचे पेट्रोल बनविण्याकरिता गॅसोलीन हायड्रो ट्रीटमेंट संयंत्र (जीटीयू) व संलग्न यंत्रणा (क्षमता ०.९ एमएमटीपीए) उभारणीकरिता पर्यावरणात्मक मंजूरी दिली आहे.

पर्यावरण, वने आणि हवामान बदल मंत्रालयाद्वारे वितरित मंजूरी पत्राची प्रत महाराष्ट्र राज्य प्रदूषण नियंत्रण मंडळकडे उपलब्ध असून त्या पर्यावरण, वने आणि हवामान बदल मंत्रालयाची वेबसाइट <http://www.envfor.nic.in> वरही उपलब्ध आहेत. सर्व संबंधितांसाठी सदर माहिती जारी करण्यात येत आहे.

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उष्माघातापासून संरक्षण होण्यासाठी खालील गोष्टी पाळा.

**हे करा**

- तहान लागलेली नसतानाही पुरेसे पाणी प्या.
- उन्हात डोक्यावर छत्री, टोपीचा वापर करा.
- डोके, गळा, चेहऱ्यासाठी ओल्या कपड्याचा वापर करा.
- सौम्य रंगाचे, सैल व कॉटनचे कपडे वापरा.
- अशक्तपणा जाणवत असेल तर त्वरीत डॉक्टरांचा सल्ला घ्या.
- प्रवास करताना पाण्याची बाटली सोबत ठेवा.
- ओआरएस, घरी बनविलेली लस्सी, लिंबूपाणी, ताक इ. प्यावे.
- रात्रीच्या वेळेस घराच्या खिडक्या उघड्या ठेवा.
- आपले घर थंड ठेवण्यासाठी पडदे व सनशेड बसवा.
- पंख्याचा वापर करा तसेच थंड पाण्याने आंघोळ करा.

**हे करू नका**

- दुपारी १२ ते ३ शक्यतो बाहेर जाणे अथवा फिरणे टाळा.
- मद्यसेवन, चहा, कॉफी व शीतपेय पिणे टाळा. त्यामुळे डिहायड्रेट होते.

**उष्माघाताची लक्षणे**

- शरीराचे तापमान ४० अंशाच्या पुढे जाणे.
- डोकेदुखी व धडधड जाणवणे.
- चक्कर, मळमळ व उलट्या होणे.
- उष्णता असूनही घाम न येणे.
- स्नायू दुखणे व गोळे येणे.
- हृदयाचे ठोके जलद पडणे.
- मनाचा गोंधळ उडणे.

**VIT HAS RETAINED NO.1 POSITION AMONG THE PRIVATE ENGINEERING INSTITUTIONS IN INDIA**

National Institutional Ranking Framework  
Ministry of Human Resource and Development  
Government of India

| Institute ID      | Name  | City            | State          | Score | Rank |
|-------------------|---|-----------------|----------------|-------|------|
| IR17-ENGG-1-1-77  | Indian Institute of Technology Madras                         | Chennai         | Tamil Nadu     | 87.96 | 1    |
| IR17-ENGG-2-18633 | Indian Institute of Technology Bombay                         | Mumbai          | Maharashtra    | 87.87 | 2    |
| IR17-ENGG-2-18630 | Indian Institute of Technology Kharagpur                      | Kharagpur       | West Bengal    | 81.93 | 3    |
| IR17-ENGG-2-1-79  | Indian Institute of Technology Delhi                          | New Delhi       | Delhi          | 81.08 | 4    |
| IR17-ENGG-2-18248 | Indian Institute of Technology Kanpur                         | Kanpur          | Uttar Pradesh  | 76.83 | 5    |
| IR17-ENGG-2-18677 | Technology Roorkee  | Roorkee         | Uttarakhand    | 73.10 | 6    |
| IR17-ENGG-2-1-251 | Indian Institute of Technology Guwahati                       | Guwahati        | Assam          | 72.30 | 7    |
| IR17-ENGG-2-18292 | Anna University   | Chennai         | Tamil Nadu     | 63.97 | 8    |
| IR17-ENGG-2-10326 | Jadavpur University   | Kolkata         | West Bengal    | 62.59 | 9    |
| IR17-ENGG-2-1-345 | Indian Institute of Technology Hyderabad                      | Hyderabad       | Telangana      | 60.24 | 10   |
| IR17-ENGG-1-1-370 | National Institute of Technology Tiruchirappalli              | Tiruchirappalli | Tamil Nadu     | 59.44 | 11   |
| IR17-ENGG-2-1-140 | National Institute of Technology Rourkela                     | Rourkela        | Odisha         | 58.78 | 12   |
| IR17-ENGG-2-18572 | Vellore Institute of Technology                               | Vellore         | Tamil Nadu     | 58.16 | 13   |
| IR17-ENGG-2-18261 | Institute of Chemical Technology                              | Mumbai          | Maharashtra    | 57.97 | 14   |
| IR17-ENGG-2-1-346 | Indian Institute of Technology Indore                         | Indore          | Madhya Pradesh | 57.70 | 15   |
| IR17-ENGG-2-18599 | Birla Institute of Technology & Science - Pilani              | Pilani          | Rajasthan      | 55.43 | 16   |
| IR17-ENGG-2-18690 | Indian Institute of Engineering Science & Technology, Shibpur | Howrah          | West Bengal    | 54.42 | 17   |
| IR17-ENGG-1-18627 | Indian Institute of Technology Bhubaneswar                    | Bhubaneswar     | Odisha         | 54.32 | 18   |
| IR17-ENGG-2-1-344 | Indian Institute of Technology Patna                          | Patna           | Bihar          | 54.02 | 19   |
| IR17-ENGG-1-10356 | Jamia Millia Islamia  | New Delhi       | Delhi          | 53.70 | 20   |

**MHRD, Govt. of India has ranked VIT AS THE BEST PRIVATE ENGINEERING INSTITUTION in the country**

- No.1 position amongst Private Engineering Institutions in the country for the **second year in a row**
- No.3 amongst Private Institutions under 'Management Institutions' category in the country
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ing and then build a robot to provide solution.  
"We received a total of 331

cultural farms and an electronic money transfer system that uses fingerprint for transactions.

named about copyrights and intellectual property laws. They will also be mentioned in entrepreneurship," said Arya.

# Congestion on port road eliminated: JNPT

## Jams, days-long wait had resulted in truck drivers turning violent in 2015

**EXPRESS NEWS SERVICE**  
MUMBAI, APRIL 6

THE JAWAHARLAL Nehru Port Trust (JNPT) has claimed to have eliminated traffic congestion on roads leading to its three terminals.

A source of constant frustration for drivers of trucks delivering cargo to the terminals, who have had to spend hours in queues waiting for their documents to be verified by port officers, the JNPT administration has said a number of measures have resulted in zero traffic congestion in the past nine months.

Massive traffic jams and days-long waiting period had resulted in truck drivers turning violent in November 2015, attacking port officers and policemen, and ransacking buildings.

Identifying long queues as a focus area, JNPT chairman Anil Diggikar said the submission of hard copies of documents at the entry gate has been stopped. "We have introduced e-forms and RFID tags, so now truck drivers submit their forms online. Each truck saves at least five minutes," he said.

The port has also created a traffic management team to reg-

ulate traffic, as the local police were not able to do it on their own.

The port also introduced what is called the inter-terminal movement, allowing trucks to return to processing areas without having to travel 7.5 km on the port road to exit.

Diggikar said this has led to a 8 per cent drop in congestion on the road and fuel savings of Rs 125 crore.

On Thursday, JNPT also published its figures for financial year 2016-17, recording a marginal increase in its operating income.

Its income was Rs 1,677.90 crore in the just-concluded year, compared to Rs 1,665.10 crore in

the previous year.

Owing to an increase in fuel prices, its expenditure rose to Rs 788.49 crore, up 13 per cent from Rs 693.12 crore in 2015-16, said Neeraj Bansal, Deputy Chairman, JNPT.

In 2016-17, the port handled 4.50 million tonne equivalent units (TEUs) of container traffic, the highest since its inception. The port's own cargo terminal, the JNPT, also logged a significant rise in cargo traffic the previous year, handling 1.53 million

TEUs over 1.43 million TEUs in 2015-16.

Bansal said the first phase of the port's fourth terminal, which is being built in partnership with the Port of Singapore Authority, would be completed by December 2017, while the second phase is expected to be completed by 2023.

Each phase will increase the length of the berth by one km and is expected to add 2.4 million TEUs to the port's capacity.

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**NOTICE OF RECORD DATE**  
NOTICE is hereby given pursuant to Section 91 of the Companies Act, 2013 that Monday, 24<sup>th</sup> April 2017 has been fixed as the Record Date for the purpose of payment of interest to the holders of 11.40% Unsecured Subordinated Perpetual Rated Listed Securities in the form of Non-Convertible Debentures (ISIN:INE245A08034) aggregating ₹ 1,500 crore due on 28<sup>th</sup> April 2017.  
For The Tata Power Company Limited  
H. M. Mistry  
Company Secretary  
Place : Mumbai  
Dated : 6<sup>th</sup> April 2017

**EX-SERVICEMEN CONTRIBUTORY HEALTH SCHEME (ECHS)**

**EMPLOYMENT NOTICE**

ECHS invites application for engagement of Staff as Medical Officer at ECHS Polyclinic Mumbai Upnagar, on contractual basis for a period of one year, renewable for additional period. For details visit [www.echs.gov.in](http://www.echs.gov.in) or call 022-25075448 before 24th April 2017.

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**EMPLOYEES' PROVIDENT FUND ORGANISATION**  
(Ministry of Labour and Employment, Govt. of India)  
REGIONAL OFFICE MUMBAI-III, KANDIVALI  
Plot No. 222, BHAVISHYA NIDHI BHAVAN,  
Charkop, Kandivali (West), Mumbai - 400067.

**ATTENTION EMPLOYERS/EMPLOYEES/EMPLOYER REPRESENTATIVES/ EMPLOYEE REPRESENTATIVES**  
"NIDHI AAPKE NIKAT"

Employees Provident Fund Organisation, Regional Office, Kandivali is organising a programme "Nidhi Aapke Nikat" in its office premises on 10th April, 2017 as scheduled below:

1. For Members/ claimant/ Pensioners : 10:30 Am to 12:30 Pm
2. Employers / Worker Representative/ : 3.00 Pm to 5:00 Pm

Exempted Establishments  
All the employers/ members/ worker union representatives/pensioners of RO, Kandivali are invited to participate in the programme.  
It is organisations endeavor to become more accessible to all its stakeholders by providing platform to approach the office for redressal of grievance/ resolving the difficulties and to educate them on IT related new innovations pertaining to online customer services/ compliance reporting.  
Member/ claimants/ pensioners having grievances/ issues related to customer service may approach on this day with the relevant documents for speedy redressal. Additionally the programme will provide support/ practical demonstration on technical/ operational matters as mentioned below:

1. Uploading and approval of KYC data seeded to UAN and member's activation of UAN.
2. Organising Aadhar Camp in the premises of employers.
3. Deposit of EPF dues through Internet Banking.
4. Registration and uploading of digital signature for approval of KYC data/ online transfer applications.
5. UAN activation.
6. Registration of Digital Life Certificate.

Regional Provident Fund Commissioner  
Regional Office, Kandivali

**Bharat Petroleum Corporation Limited**  
(A Govt. of India Enterprise)


Mumbai Refinery, Mahul, Chembur, Mumbai 400074, Maharashtra

**Environmental Clearance for Installation of Gasoline Hydro Treatment Unit (GTU) 0.9 MMTPA and associated facilities to produce 100% BS VI MS at Bharat Petroleum Corporation Limited, Mumbai Refinery.**

Ministry of Environment, Forest & Climate Change has accorded environment clearance for installation of Gasoline Hydro Treatment Unit (GTU) 0.9 MMTPA and associated facilities to produce 100% BS VI MS at Bharat Petroleum Corporation Limited, Mumbai Refinery vide letter number J-11011/98/2016-IA-II(I) dated 20<sup>th</sup> March 2017.

Copy of the clearance letter issued by MoEF&CC is available with the Maharashtra State Pollution Control Board and may also be seen at website of the Ministry of Environment, Forest & Climate Change at <http://www.envfor.nic.in>

This is for the information of all concerned.



**Energising Lives; Energising Business**

LDAR VOC MONITORING REPORT FOR BPCL MAHUL.



LEAK DETECTION AND REPAIR (LDAR) PROGRAM  
REPORT FOR THE MONTH OF APRIL, 2021.  
TOTAL VOC EMISSION SUMMARY

| Sr.No. | Name of the Unit | Date of Monitoring | Total No of Points Monitored | No. of Points Where leaks found beyond standard limits | Total Leak before attending (kg/day) | Total Leak after attending (kg/day) |
|--------|------------------|--------------------|------------------------------|--|--------------------------------------|-------------------------------------|
| 1      | CCR-NHT          | 27/04/2021         | 1198                         | 0  | 0.000                                | 0                                   |
| Total  |                  |                    |                              | 0  | 0.000                                | 0                                   |

Verified by

Surekha Jamdar  
Dy. Technical Manager



Checked by

Shradha Kere  
Technical Manager

Date: 30<sup>th</sup> Jan-2020

**Note to** : File  
**Through** : DGM, Technology, E & E, MR  
**Subject** : Revision of LDAR monitoring schedule to half yearly basis from quarterly basis

### Background

At BPCL MR, Fugitive Emission / Leak Detection and Repair (LDAR) monitoring program was being followed on yearly basis for each plant which is a function of preventive maintenance. Leaks as and when detected was attended and checked again through post repair schedule. The components that are covered under the LDAR monitoring program include block/control valves, pump/compressor seals, flanges of heat exchanges & piping, pressure relief valves, sampling points etc. BPCL MR uses the GMI Leak Surveyor 500 series equipment for LDAR monitoring and LDAR monitoring program is carried out through third party i.e. M/s Netel India Ltd.

For enabling further reductions of Volatile Organic Compound (VOC) emissions, the frequency of LDAR monitoring was revised to maximum i.e. quarterly basis ex yearly basis for refinery's all process units since April-2019. As per GSR-186 (E), a total of 37310 component wise points were checked under LDAR monitoring program in first two quarters for FY 2019-20. Leaks as and when detected were attended and checked again through post repair schedule.

As per GSR-186 (E), if the component wise leaks are less than 2% for two consecutive quarterly LDAR monitoring reports then the frequency of LDAR program can be revised to semiannual / half yearly basis. As per the quarterly LDAR monitoring reports of Jun-2019 & Oct-2019, the component wise leaks are less than 2% (**Refer Annexure-1**). Hence, next LDAR monitoring program for all refinery units will be carried out on half yearly basis i.e. in the month of Apr-2020 and onwards.

Prepared by

  
Raju Thakare

Sr. Manager, Technology, E & E, MR

Encl: Annexure-1: Netel's LDAR component wise summary Report of quarter-1 & 2.

**Sulfur Balance:**

| <b>TYPICAL SO2 STACK EMISSION FROM REFINERY Components</b> | <b>SO2 in T/Day</b> |
|--|---------------------|
| Low Sulfur Heavy Stock (Liquid Fuel)                       | 6.5                 |
| Gaseous Fuel   | 0.1                 |
| Coke from Catalytic Cracking units                         | 2.2                 |
| From Sulfur Recovery Units                                 | 1.4                 |
|  | <b>*10.2</b>        |

\*This typical SO2 emission and contribution from individual elements would vary very marginally depending upon the unit operating levels, crude mix, etc.

| <b>TYPICAL SULFUR BALANCE OF THE EXISTING REFINERY</b> |                      |          |
|--|----------------------|----------|
| <b>INPUT</b>   | <b>Sulfur (MT/D)</b> | <b>%</b> |
| Crude Oil  | 357.45               | 99.6     |
| R LNG  | 0                    | 0        |
| External Feed Stock                                    | 0                    | 0        |
| Intermediate Stock Depletion                           | 1.60                 | 0.4      |
|  | 359.05               | 100.0    |
| <b>OUTPUT</b>  |                      |          |
| Products Light Ends                                    | 13.45                | 3.7      |
| Products Heavy Ends                                    | 155.32               | 43.3     |
| Elemental Sulfur                                       | 183.39               | 51.1     |
| Refiner Fuel+ Loss                                     | 6.89                 | 1.9      |
|  | 359.05               | 100.0    |

**CREP action points for oil refineries:**

| <b>CREP Point</b>  | <b>BPCL reply</b>  |
|--|--|
| <b>A) Air Pollution Management</b>   |  |
| All refineries located in the critically pollution areas, identified by CPCB, will submit an action plan for phase wise reduction of SO2 emissions. Future Refineries will have SRU with minimum 99 % efficiency. To enhance the efficiency of SRUs in the existing refineries, an expert committee will be constituted to look into the various aspects and suggest a road map. | BPCL Mumbai Refinery has installed Sulfur Recovery Units for recovering sulfur from sour gases. In 2017, Tail Gas Treatment Units have been commissioned which has improved sulfur recovery efficiency to 99.99 %.   |
| With regard to NOX emission, the new refinery/ process units will be installed to low NOx burners. For retrofitting of low NOx burners in existing units, the expert committee will suggest the strategies and action plan including NOx std.  | All process units in BPCL MR have been equipped with Low NOx burners.  |
| The flare losses will be minimized and monitored regularly.  | BPCL Mumbai Refinery has provided Flare recovery system where flare gases are recovered and treated in Fuel Gas treatment unit. After removing H2S, treated flare gases are diverted to fuel gas system for burning into furnace.  |
| Refineries shall install CEMS for SOX, NOX in major stacks with proper calibration facilities  | As per CPCB guideline, all refinery stacks have been provided with Sox, NOx, CO and SPM analyzers with proper calibration facilities. Stack analyzer details are continuously transmitted to CPCB/ MPCB server on real time basis. Also as per recent CPCB direction, dynamic limits have been incorporated for mixed fuel fired furnace.  |
| Refineries will also monitor total HC and benzene in the premises (particularly at Loading-Unloading operations and ETP).  | Ambient air quality monitoring is carried out on regular basis through MOEF approved and NABL accredited third party M/s Netel India Ltd. AMS are connected to MPCB/CPCB servers and data is transmitted on real time basis. Benzene/Toluene/Hexane vapour recovery system has been provided at product dispatch unit. N2 blanketing facility has been provided for Benzene and Toluene Storage tanks. Bottom loading facility has been provided for Benzene and Toluene product dispatch. ETP sub units have been covered with VOC removal system. LDAR survey is carried out as per GSR 186 (E) in TDU and ARU complex on half yearly basis. |
| <b>B) Waste water management</b>   |  |
| Refineries will prepare action plan for conservation of water resources and maximize reuse recycling of treated effluent. The treated effluent discharge (excluding once through cooling tower) will be limited to 0.4 m3/ tone (for 90 % of time) except for the season.  | BPCL Mumbai Refinery is "Zero Liquid discharge" refinery and process water is treated in Effluent Treatment Plant (ETP). Treated water is reused in process cooling towers. Analyzers for monitoring BOD, COD, TSS & PH at ETP outlet have been provided with provision of continuous data transmission to CPCB/ MPCB. ETP subunits have been covered and VOC removal system has been installed.   |



|   |  |
|---|--|
| <p>Oil spill response facilities at coastal refineries will be in position. To facilitate this MoEF will coordinate with Coast Guards, Port Trust and departments.</p>      | <p>Agreement between MbPT / JNPT and participating oil companies for providing Tier – 1 Oil Spill Response (OSR) facilities at Mumbai port, has been signed on 31.10.2018. The renewed agreement is valid till 17.02.2023. However, the contract for providing Tier -1 OSR facilities has been given to M/s Sadhav Shipping. Also, BPCL MR participates regularly in OSR mock drills conducted by MbPT. Risk assessment has been carried out by MbPT through third party for OSR. Meeting is arranged by MBPT with participating oil companies to liquidate the recommendations arising out the risk assessment. MbPT has also initiated action for new OSR contracts at Mumbai Port area.</p> |
| <p><b>Solid waste management</b></p>  |  |
| <p>Refineries will explore new technologies for reduction in the generation of oils sludge strategy.</p>  | <p>At BPCL MR, oily sludge is processed for oil recovery with the help of third party contract and processed sludge after oil recovery, is treated with bioremediation process using bioremediation agent/ Bacteria. For carrying out bioremediation process, BPCL has an agreement with M/s MIEBRS.</p>   |
| <p>The petroleum coke having high sulfur content will be sold to/ reused by organized industries (having consent from SPCB) which have system to control SO2 emissions.</p> | <p>Not Applicable</p>  |