



KR.PET.5.EC

15th June.2020

Ministry of Environment, Forests and Climate Change
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, E&F Wings, 17th main road
Koramangala –II Block, Bangalore – 560 034.

Kind Attn: Shri. E Thirunavukkarasu – Scientist D

Dear Sir,

Sub: Propylene Derivatives Petrochemical Project (PDPP) by Bharat Petroleum Corporation Limited, Kochi Refinery, Ambalamugal, Ernakulam District, Kerala: HYCR of stipulated Environmental Conditions for the period April 2019 to Sept 2019.

Ref: MoEF&CC letter no. J-11011/26/2013-IA II (i) dated 12th May, 2015 granting Environmental Clearance.

With reference to the aforementioned letter, please find enclosed (as Annexure -1), Half Yearly Compliance Report (HYCR) for the period 1st October 2019 to 31st March 2020 on various conditions laid down by MoEF&CC.

Thanking you,

Very truly yours

For BPCL Kochi Refinery

SREERAM A N

GM (Project Technical & Petchem)

Cc: 1. The Member Secretary
Central Pollution Control Board
Parivesh Bhawan, CBD-cum-Office Complex
East Arjun Nagar
Delhi – 110 032.

2. The Member Secretary
Kerala Pollution Control Board
Plamoodu Junction
Pattom (PO),
Thiruvananthapuram – 695 004

3. The Environmental Engineer,
Kerala State Pollution Control Board
District Office -2, Perumbavoor, Ernakulam.

Revised Report on the status of Compliance of stipulated Environmental Conditions; PDPP Project BPCL-KR – Period Oct 19 to Mar 20.

| S.No. as per Env.Ltr.No. J-11011/26/2013-IA II (I), Dtd.: 12/05/2015 | COMMENTS | Compliance Status |
|--|---|--|
| SPECIFIC CONDITIONS: | | |
| i | M/s BPCL shall comply with new standards/norms for Oil Refinery Industry and petrochemical industry notified under the Environment (Protection) Rules, 1986. | The project / facility is under construction/ precommissioning stage, compliance report including parameter monitoring (ambient air quality, noise levels etc.) will be submitted after startup of the complex. Startup & Stabilization of the complex is targeted during last quarter of the year 2020. <i>(Revised from the previously reported target period of May-2020 –July 2020, due to COVID -19 related lockdown scenario and subsequent delay)</i> |
| ii | Continuous on-line stack monitoring for SO ₂ , NO _x and CO of all the stacks shall be carried out. Low NO _x burners shall be installed. | Incinerators are having low NO _x burners. Continuous on-line stack monitoring will be ensured. Stack Monitoring reports will be submitted after startup of Incinerators in the complex. |
| iii | The emission standards prescribed by the MoEF under Environment (Protection) Act for petrochemical industry shall be strictly followed. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emissions shall be monitored regularly. | There are no process heaters in the PDPP Project. Waste incinerators are designed to consume clean fuels line vaporized LPG/LNG as fuel. The incinerators are designed to comply with the prescribed emission standards. |

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|--|---|--|
| iv | <p>Leak Detection and Repair program shall be prepared and implemented to control HC/MOC 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 HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.</p> | <p>Compliance report as per environment standards will be submitted after startup of the incinerators in the complex.</p> <p>Detailed leak detection and repair program for monitoring and repair of VOC leak points, leak detection and repair survey are already identified, the frequency of monitoring of leaks and schedule of repairs of leak will be as per CPCB guidelines. Implementation will be after startup and stabilization of the facility.</p> <p>Plant-wise PM check schedule for the periodic health check-up of the Rotary Equipment is prepared.</p> <p>All storage tank breathing vents are routed to incinerator as per design. Gas detectors are already provided at strategic locations.</p> <p>In order to reduce fugitive emissions of volatile organic compounds from the complex.</p> <ol style="list-style-type: none"> 1. Magnetically coupled sealless pumps are installed in organic liquid services 2. Special gland packings are provided in valves to reduce emission from glands. |
| v | <p>Total SO₂ emissions after implementation of PDPP including IREP SHALL NOT EXCEED 1561.4 Kg/hr.</p> | <p>The fuel for firing in Incinerators is vaporized LPG/LNG. The SO₂ emissions after implementation of PDPP including IREP will not exceed 1561.4 kg/hr.</p> |

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|--|---|---|
| vi | Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above the permissible limits, effective measures shall be taken immediately. | The compliance status against this target will be submitted along with HYCR after startup and stabilization of the facility. |
| vii | Ambient air quality monitoring stations (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , H ₂ S, mercaptan, non-methane-HC and Benzene) shall be set up in the complex in consultation with Kerala State 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. | Photo ionization detectors (fixed VOC meters) are being procured /installed at important locations identified such as process units, tank farms and product loading areas for continuous monitoring of VOCs. One AAQMS STATION for continuous monitoring of SO ₂ , NO ₂ , NO _x , NH ₃ , CO, OZONE, HC, H ₂ S, MERCAPTAN, BTX, VOC, PM 10 (SPM), PM 2.5 (RSPM) and meteorological data etc.is being installed at the location approved by Kerala State Pollution Control Board and the same is being connected to display board which is positioned facing PWD (public) road for visibility. |
| viii | Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16 th 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. | Ambient air quality data & trend analysis monitoring has not started yet since the complex is still in construction /precommissioning phase. |
| ix | The gaseous emission 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. | Complied. |

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| | Besides, acoustic enclosure/silencer shall be installed wherever noise levels exceed the limit. | Gaseous emissions from DG sets are designed to be dispersed through stack heights as per CPCB standards. The facility has not started yet. |
| X | Total fresh water requirement from Kochi Refinery for PDPP shall not exceed 493 m ³ /hr and prior permission shall be obtained from the concerned agency. No ground water shall be used. | The total fresh water requirement will be 493 m ³ /hr which is within the total sanctioned quantity of 3083.3 m ³ /hr for refinery by Govt. of Kerala. The actual consumption for the complex has not started since the facility is under construction /precommissioning stage. |
| xi | Industrial effluent shall be treated in the effluent treatment plant. Treated effluent shall be recycled/reused in the existing cooling tower. As proposed, high COD effluent shall be incinerated. Water quality of treated effluent shall be monitored regularly. Online water monitoring system shall be installed for important parameters. | Industrial effluent will be incinerated / treated in ETP before final disposal. Also online water monitoring facility available at existing refinery effluent outlet will be utilized. |
| xii | Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises. | Oil catchers/oil traps at possible locations provided |
| xiii | Incinerator designed shall be as per CPCB guidelines. | Two numbers Incinerator (Acrylic acid & Acrylates unit) installed within the PDPP complex is designed to ensure final effluent quality as per CPCB guidelines. |

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|--|--|--|
| 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. | Disposal of Hazardous waste will be as per hazardous waste rules 2008. |
| xv | Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring. | Oil spillage prevention is taken care at the design stage itself. However inside the refinery complex, adequate facilities are maintained to prevent and contain oil spillage. Hence the same shall be implemented for PDPP complex also. |
| xvi | The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP). | Complied to the points mentioned in CREP that is applicable for PDPP project |
| xvii | To prevent fire and explosion of 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. | PDPP facility is designed as per OISD & PESO guidelines and the facilities satisfy separation distances as specified by OISD and relevant Petroleum rules. PESO approval for the facility and storage license for products and intermediates is being obtained on a phased manner based on completion and site inspection by PESO/OISD officials. |

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| xviii | All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented. Accordingly, provision of budget to be kept. | All recommendations mentioned in rapid risk assessment report was implemented. Emergency Response Disaster Control Manual prepared including scenarios identified during risk assessment report. |
| xix | All the issues raised and commitment made during the public hearing/consultation meeting held on 23 rd December 2014 shall be satisfactorily implemented. Accordingly, provision of budget to be kept. | BPCL-KR has complied with the issues mentioned in the minutes of meeting published in the EIA report |
| xx | At least 2% of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner. | Action plan prepared and already submitted with the previous compliance report. Being implemented in consultation with local authorities. |
| xxi | Green belt shall be developed at least in 40 acres of land in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines. | Green belt development started with plant species identified in line with CPCB guidelines in 40 acres of land in and around the plant premises. |

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| 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. | All necessary infrastructure, labor camps, medical facilities are arranged. |
| GENERAL CONDITIONS: | | |
| i | The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority. | BPCL-KR will adhere to the stipulations made by KSPCB, State Govt. and other statutory bodies. Consent to Operate obtained from KERALA -SPCB Consent No: PCB/HO/EKM-2/ICO/09/2019 - Dated 20-08-2019 |
| ii | No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any. | Complied. |
| iii | The project authorities must strictly comply with the rules and regulations 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. | BPCL-KR has obtained approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. wherever required. BPCL-KR will comply with the rules and regulations under manufacture, Storage and import of Hazardous Chemical Rules, 2000. PESO approval obtained for plot plan and other drawings as required. |

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| 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, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time). | PESO license for storage and commissioning approval obtained partly for the facility based on completion and site inspection by PESO .The balance facilities are getting completed and progressively approvals are being obtained. The overall noise level are limited at the fence as prescribed under EPA rules/ SPCB advisory. Continuous operation of the plants and facility is yet to commence. The facility is under construction and precommissioning stage. |
| 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-KR is having a separate Environment Management section to carry out environmental management and monitoring functions. We have well equipped Centralized Quality Control Laboratory for PDPP project related monitoring activities. |
| 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 by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes. | BPCL-KR has earmarked adequate funds for environment pollution control measures. The funds are being utilized for installing 1. Conventional and Submerged type, liquid and gaseous waste incinerators to meet final effluent quality. 2. AAQMS station and monitoring facilities |

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| | | <p>3. VOC meters for continuous monitoring</p> <p>Also LDAR program formulated for operation phase of the complex.</p> |
| vii | <p>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 shall be submitted to them regularly.</p> | <p>Six monthly compliance reports will be submitted by BPCL-KR</p> |
| viii | <p>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.</p> | <p>BPCL-KR has complied with this condition. Copies of clearance letter was sent to all local bodies.</p> |
| ix | <p>The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM10, PM2.5, SO2, NOx, HC (Methane of Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated displayed at a convenient location near the main gate of the company in the public domain.</p> | <p>Six monthly compliance reports being submitted without fail by BPCL-KR after receipt of the Environmental Clearance for the PDPP project. The same will be sent to the Regional Office of MoEFCC and also uploaded in the BPCL website. The criteria pollutant levels namely; PM10, PM2.5, SO2, NOx, HC (Methane of Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p> |

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|---|---|--|
| x | <p>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.</p> | <p>Six monthly compliance reports will be submitted by BPCL-KR after receipt of the Environmental Clearance for the PDPP project. The same will be sent to the Regional Office of MoEFCC and also uploaded in the website.</p> |
| xi | <p>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.</p> | <p>BPCL-KR will comply. Environment statement will be submitted once the facility is started and stabilized based on operational data.</p> |
| xii | <p>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 and may also be seen at website of the Ministry of Environment and Forests at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and the copy of the same shall be forwarded to the Regional Office.</p> | <p>BPCL-KR has complied with this condition.</p> |

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|--|--|---|
| 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. | Investment clearance from Board obtained on 03.12.2014 and land development started subsequently. Currently the project is in construction and precommissioning phase. |