



KR.HSE.ENV.05. HSSE. ECCR/01/2025/ EC No. J-11011/32/90-IA-II  
30.06.2026

To  
The Additional Principal Chief conservator of Forests (C),  
Ministry of Environment, Forest & Climate Change, 4th Floor, E&F Wings,  
Kendriya sadan, Koramangala, Bangalore-560 034

Dear Sir,

**Sub: Submission of Half yearly compliance report on Environmental Clearance issued by the Ministry of Environment, Forests and Climate Change (MoEF & CC).**

**Ref: EC No. J-11011/32/90-IA-II dated 20.8.1991 issued to our Project "Capacity expansion of M/s Bharat Petroleum Corporation Ltd, Kochi Refinery (Formerly Cochin Refineries Ltd.) from 4.5 to 7.5 MMTPA at Ambalamugal".**

Please find enclosed the compliance reports on the various conditions laid down by MoEF & CC, pertaining to the half year period from **1<sup>st</sup> October 2025 to 31<sup>st</sup> March 2026** for the subject project.

The reports of LDAR survey, Ambient air monitoring, Treated Effluent analysis, CREP recommendations, details of land balance, Ground water analysis, green belt details, Hazardous waste management, rainwater harvesting, and solar power generation are being common to all the ECs granted to Kochi Refinery projects. Hence, the same are enclosed as part of EC for CEMP-II accorded vide MoEF&CC letter J-11011/369/2005-IA II (I) dated 2<sup>nd</sup> February 2006.

Thanking you

Very truly yours

For BPCL Kochi Refinery

**Suresh K S**

**Dy. General Manager (HSE - Environment)**

Cc:

- |                                                                                                                      |                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1. The Member Secretary<br>Central Pollution Control Board<br>Parivesh Bhawan<br>East Arjun Nagar<br>Delhi - 110 032 | 2. The Member Secretary<br>Kerala State Pollution Control Board<br>Plamoodu Junction<br>Pattom Palace<br>Thiruvananthapuram - 695 004 |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|

पोस्ट बैग नं: 2, अम्बलमुगल - 682 302, एरणाकुलम जिला, केरल, दूरभाष: 0484 - 2722061 - 69 फैक्स: 0484 - 2720961 / 2721094  
पंजीकृत कार्यालय: भारत भवन, 4 & 6, क्रीमभाय रोड, बेलार्ड इस्टेट, पी. बी. नं. 688 मुंबई - 400 001

**Compliance status of Environmental Clearance conditions for Capacity Expansion Project accorded by J-11011/32/90-IA. II DTD.20/08/1991**

**Status of the project: Project commissioned in 1994**

| Sl. No. | Stipulations of MoEF & CC                                                                                                                                                                                                                                                                                                                  | Status as on 31.03.2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | The project authorities must strictly adhere to the stipulations laid down by the State Pollution Control Board and the State Government and a comprehensive EIA report must be submitted within two months.                                                                                                                               | Complied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2       | Any expansion of the plant, either with the existing product mix or new products can be taken up only with the prior approval of this Ministry.                                                                                                                                                                                            | Complied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 3       | The present policy of crude mix refining strategy of minimum 50% Indian crude including B.H and 50% of imported crude should be maintained and implemented under normal conditions.                                                                                                                                                        | The stipulated policy has since been revised. At present, the crude refining capacity stands at <b>15.5 MMTPA</b> following the implementation of new projects, and the crude mix has been optimised to improve the Gross Refining Margin (GRM) of the Refinery. The grass-root refining facilities under the Integrated Refinery Expansion Project (IREP) have been implemented in accordance with the Environmental Clearance (EC) conditions prescribed vide MoEF&CC letter No. J-11011/341/2011-IA-II (I) dated 22.11.2012, and its subsequent amendment dated 23.05.2014, including compliance with stipulated production capacities and emission/effluent norms. |
| 4       | Sulphur Recovery Unit with more than 90% Sulphur recovery should be installed and commissioned before the expansion project is completed and precautions for its continuous operation must be taken. Techno-economic feasibility study for additional stand –by ‘S’ recovery system may be initiated after the installation of first unit. | A Sulphur Recovery Unit (SRU) with sulphur recovery efficiency exceeding 90% was commissioned in March 1995.<br><br>(Later it was decommissioned and dismantled, because additional Sulphur Recovery Units incorporating advanced technology with a higher sulphur recovery efficiency of up to <b>99.9%</b> were commissioned as part of other projects).                                                                                                                                                                                                                                                                                                             |
| 5       | Only LSHS should be used in boilers. The additional capacity for heaters, utility furnace must be based on LSHS use only. Low NOx burners should be used to avoid gaseous formation of NOx.                                                                                                                                                | <b>Complied.</b><br><br>All burners are Low-NOx burners, and the NOx emission levels are well within the limits. The firing of LSHS-based liquid fuel has been discontinued, and only gaseous fuel is presently used for firing.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6       | The gaseous emissions from various process units should conform to the standards prescribed by the concerned authorities from time to time. At no time the emission level should go beyond the stipulated standards. In the event of the failure of any pollution control system adopted by the unit, the respective unit                  | Noted and Complied<br><br>Stack emission monitoring data are enclosed herewith.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

  
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|    | should be put out of operation immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7  | Adequate number (a minimum of 7) of air quality monitoring stations should be set up in the down-wind direction as well as where maximum ground level concentration is anticipated. Stack emission should be monitoring by monitoring unit. The data on stack emission should be submitted to the State Pollution Control Board once in three months and to this Ministry once in six months along with the statistical analysis. The air quality monitoring stations should be selected on the basis of modelling exercise to represent the short-term ground level construction. | <p>As per letter No. J-11011/32/90-IA. II dated 19.05.1992. CRL (Now BPCL - KR) was directed to put up 4 Nos. of AAQMS. Based on wind rose pattern at BPCL - KR and modelling exercise conducted, 3 AAQMS were found to be sufficient for monitoring the pollutants from BPCL – KR.</p> <p>KSPCB's approval obtained to install these 3 stations in KR premises and one Data Acquisition Centre also commissioned in August 1997.</p> <p>Subsequent to the commissioning of the CEMP-II project during 2010–2011, the number of AAQMS at BPCL–KR was increased to five (5), and data from all five stations are being regularly uploaded to the CPCB servers.</p> <p>Further, following the commissioning of the PDPP in 2021, BPCL - KR presently operates six (6) Ambient Air Quality Monitoring Stations.</p> <p>AAQMS data from all stations are being submitted along with this compliance report.</p> |
| 8  | Fugitive emissions should be regularly monitored, and adequate provision should be made for the same.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Complied.</p> <p>One rate contract for the same has been issued and being done regularly and is being attended the identified leaks; if any; and maintaining reports.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 9  | <p>Fugitive emission of HC from storage tanks should be minimized by adopting the following measures:</p> <ol style="list-style-type: none"> <li>Provision of Floating Roof Tanks for volatile products</li> <li>Replacement of gland packing of pumps by means of mechanical seals.</li> <li>Use of submerged filling in product loading gantries</li> </ol>                                                                                                                                                                                                                      | <ol style="list-style-type: none"> <li>Complied.</li> <li>All the pumps except pumps in water service are provided with mechanical seals.</li> <li>Complied.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 10 | There should be no change in the stack design without the approval of the State Pollution Control Board. Alternate Pollution Control System and proper design in the stack should be provided to take care of excess emissions due to failure in any system of the plant.                                                                                                                                                                                                                                                                                                          | Noted and Complied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11 | Total raw water consumption (industrial as well as township) should not exceed the present level (i.e., 16800 m <sup>3</sup> /day).                                                                                                                                                                                                                                                                                                                                                                                                                      | Complied.<br><br>Current consumption is within the revised figures as per consent for IREP (J-11011/341/2011-IA-II (I) dated 22.11.2012; and Amendment dated 23.05.2014) as max. of 3083.3 m <sup>3</sup> /hr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 12 | <p>The project authorities must recycle wastewater to the maximum extent possible. The present practice of ETP effluent discharged into water-logged areas should not be continued.</p> <p>The liquid effluent coming out of the plant should meet the stipulated standards and disposed through the channel only into the outfall point in Chitrapuzha river to be identified by the State Pollution Control Board. Flow of oil and grease into biological system should be avoided.</p> <p>Waste stream segregator should be installed before ETP.</p> | <p>Complied.</p> <p>Maximum quantity of treated effluent is being recycled through RO process and produce DM water for steam generation.</p> <p>Effluent specifications are complied with the standards as per GSR 186 (E) dated 18<sup>th</sup> March 2008. Reports attached.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 13 | Adequate number of effluent quality (oil & grease, COD, BOD, suspended solids, phenols, sulphides, pH and flow) monitoring stations must be set up in consultation with State Pollution Control Board                                                                                                                                                                                                                                                                                                                                                    | <p>Complied.</p> <p>Continuous monitoring analysers are installed for the pH, COD, BOD, TSS, Flow, and Oil and grease and the same data being transferred to PCB servers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 14 | No oily sludge should be generated and stored as was being done in the past.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | As part of IREP project, BPCL-KR has commissioned a Delayed Coker Unit (DCU). Sludge generated is processing in DCU and converting as value added product Petcock.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 15 | The project authority should prepare a well-designed scheme for solid and hazardous wastes disposal generated from BPCL - KR (formerly CRL) taking into account the suggestions made by consultants in the EIA report. The plan for disposal duly approved from the State Pollution Control Board should be submitted to the Ministry within six months and adequate space should be provided for it, as far as possible on the premises itself.                                                                                                         | <p>Scheme for solid and hazardous waste disposal was approved by KSPCB. Scheme was subsequently submitted to MoEF &amp; CC in March 1993.</p> <p>BPCL-Kochi Refinery has implemented an effective scheme for the recovery of oil from oily sludge. The oil recovery process involves a series of physical separation methods, through which recoverable oil is extracted and reprocessed in the refinery process units. Spent catalyst is disposed by either returning to the original supplier or selling to the recycler or approved agency of TSDF based on the quality and its nature.</p> <p>The residual sludge, after oil recovery, is subjected to bioremediation, a scientifically established treatment method recommended by <i>The Energy and Resources Institute (TERI)</i>. Following bioremediation, the Total Petroleum Hydrocarbon (TPH) content of the treated material is reduced to below 5,000 ppm, in compliance with applicable guidelines.</p> |

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|    |                                                                                                                                                                                                                                                                                                                                                                  | <p>ETP Chemical sludge is disposed in delayed Coker unit.</p> <p>Bio sludge from effluent treatment plant is used as manure in the different green parks</p>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 16 | <p>Green belt, 500 meters wide, as recommended by the consultants in their report should be developed and maintained. The treated effluent conforming to the standard should be used for green belt development plan considering attenuation factors, soil characteristics etc. should be prepared and submitted to this Ministry within 6 months.</p>           | <p>Complied.</p> <p>BPCL-KR is having a total area of 1336.05 acres of land (including the new projects MSBP / PDPP). In this, Plant area accounts (including offsite, Pipe rack, Buildings, Roads) for 767.20 acres. The statutory requirement of green belt as specified in Environmental Clearance is 33% of the plant area. Hence the green cover requirement is 253.20 acres. Based on latest survey done by Kerala State Remote Sensing And Environment Centre, we are having a total green cover of 441.263 acres which is well above required 253.20 acres required as per EC conditions.</p> |
| 17 | <p>Relocate LPG spheres so that risk due to these remains within the plant area</p>                                                                                                                                                                                                                                                                              | <p>Complied.</p> <p>As it was not feasible to relocate the LPG spheres, it had been desired by MoEF &amp;CC to acquire land in the adjoining area where impact will be more. Accordingly, the adjoining land of 63 acres had been acquired by BPCL – KR (formerly CRL), that has been occupied by IOC, HPC and BPC area.</p> <p>Further, 75% of LPG / Propylene storage is in mounted bullets.</p>                                                                                                                                                                                                    |
| 18 | <p>A detailed risk analysis study based on Maximum Credible Accident Analysis should be done and submitted to this Ministry once the process design / technology and lay out is frozen. Based on this, a Disaster Management Plan must be prepared and after approval by the concerned Nodal Agency, should be submitted to this Ministry within six months.</p> | <p>Risk analysis study had been conducted and was submitted to MoEF &amp;CC in October 1991. Disaster Management Plan was submitted to MoEF &amp;CC in February 1992.</p> <p>BPCL – KR has an updated ERDMP.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| 19 | <p>Feasibility of using 20 tonner truck may be studied / assessed wherever road transport is being envisaged and report submitted to this Ministry in three months.</p>                                                                                                                                                                                          | <p>Complied. A feasibility assessment on the use of 20-tonne trucks for road transportation was carried out. Road transportation is utilized only where necessary, and appropriate vehicle capacities are selected based on operational, safety, and infrastructure considerations.</p>                                                                                                                                                                                                                                                                                                               |
| 20 | <p>The project authority must set up laboratory facilities for collection and analysis of samples under the supervision of competent technical personnel, who will directly report to the Chief Executive.</p>                                                                                                                                                   | <p>Complied. BPCL Kochi Refinery has established a well-equipped Environmental Laboratory for the collection and analysis of environmental samples. The laboratory is managed by qualified technical personnel. Environmental monitoring data and</p>                                                                                                                                                                                                                                                                                                                                                 |

|    |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                        | compliance status are periodically reviewed by the refinery management and reported through the appropriate organizational hierarchy to the Refinery Head for ensuring effective environmental management and statutory compliance.                                                                                                                                                                                                                                                                                                       |
| 21 | A Separate Environment Management Cell with suitably qualified people to carry out various functions should be set up under the control of Senior Executive, who will report directly to the Head of the organization. | Complied. BPCL Kochi Refinery has a dedicated Environment Management Cell comprising qualified and experienced professionals responsible for environmental monitoring, statutory compliance, pollution control, hazardous waste management, and implementation of the Environmental Management Plan (EMP). The Cell functions under the HSE Department headed by a senior executive, and the environmental compliance status is periodically reviewed and reported to the Refinery Head through the established organizational hierarchy. |
| 22 | The funds earmarked for the environmental protection measures should not be diverted for other purposes and year-wise expenditure should be reported this Ministry.                                                    | Complied. An estimated amount of Rs.74/- crores have been spent during implementation of Capacity Expansion Project towards environmental protection measures.                                                                                                                                                                                                                                                                                                                                                                            |

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**Air Quality data for the period 1<sup>st</sup> APRIL 2025 to 30<sup>th</sup> SEPTEMBER 2025**

**AAQMS - CISF Quarters (Old W/L) area**

| Parameter | SO2                   | H2S                      | NOx                   | NH3                     | CO                     | Benzene               | Methane                  | NMHC | PM 10                  | PM 2.5                |
|-----------|-----------------------|--------------------------|-----------------------|-------------------------|------------------------|-----------------------|--------------------------|------|------------------------|-----------------------|
| Units     | µg/m3                 | µg/m3                    | µg/m3                 | µg/m3                   | mg/m3                  | µg/m3                 | PPM                      | PPM  | µg/m3                  | µg/m3                 |
| Limit     | Daily 80<br>Annual 50 | No limits are prescribed | Daily 80<br>Annual 40 | Daily 400<br>Annual 100 | 8 hrs - 2<br>4 hrs - 4 | Daily 05<br>Annual 05 | No limits are prescribed |      | Daily 100<br>Annual 60 | Daily 60<br>Annual 40 |
| Apr 2025  | 16.0                  | 2.1                      | 39.6                  | 28.4                    | 0.9                    | 0.0                   | 0.0                      | 0.0  | 52.5                   | 32.3                  |
| May 2025  | 13.4                  | 2.2                      | 49.8                  | 36.6                    | 1.0                    | 0.0                   | 0.0                      | 0.0  | 38.2                   | 22.1                  |
| June 2025 | 15.6                  | 1.6                      | 38.4                  | 27.7                    | 1.3                    | 0.0                   | 0.0                      | 0.0  | 43.0                   | 16.9                  |
| July 2025 | 21.2                  | 1.773                    | 18.9                  | 19.9                    | 1.0                    | 0.0                   | 0.02                     | 0.5  | 42.1                   | 19.3                  |
| Aug 2025  | 5.23                  | 0.99                     | 11.59                 | 9.63                    | 0.39                   | 0.00                  | 0.00                     | 0.03 | 45.41                  | 21.91                 |
| Sept 2025 | 4.2                   | 1.2                      | 22.7                  | 0.1                     | 1.7                    | 0.0                   | 0.0                      | 1.1  | 46.9                   | 23.2                  |

**AAQMS - Jwalagiri Colony area**

| Parameter | SO2                   | H2S                      | NOx                   | NH3                     | CO                     | Benzene               | Methane                  | NMHC | PM 10                  | PM 2.5                |
|-----------|-----------------------|--------------------------|-----------------------|-------------------------|------------------------|-----------------------|--------------------------|------|------------------------|-----------------------|
| Units     | µg/m3                 | µg/m3                    | µg/m3                 | µg/m3                   | mg/m3                  | µg/m3                 | PPM                      | PPM  | µg/m3                  | µg/m3                 |
| Limit     | Daily 80<br>Annual 50 | No limits are prescribed | Daily 80<br>Annual 40 | Daily 400<br>Annual 100 | 8 hrs - 2<br>4 hrs - 4 | Daily 05<br>Annual 05 | No limits are prescribed |      | Daily 100<br>Annual 60 | Daily 60<br>Annual 40 |
| Apr 2025  | 35.2                  | 0.3                      | 14.1                  | 2.7                     | 0.9                    | 0.0                   | 0.0                      | 0.0  | 71.6                   | 29.5                  |
| May 2025  | 29.2                  | 0.2                      | 14.0                  | 2.5                     | 1.0                    | 0.0                   | 0.0                      | 0.0  | 32.9                   | 21.8                  |
| June 2025 | 10.8                  | 0.6                      | 16.5                  | 4.1                     | 1.1                    | 0.0                   | 0.003                    | 0.0  | 26.4                   | 17.6                  |
| July 2025 | 25.3                  | 0.70                     | 15.3                  | 10.5                    | 1.1                    | NA                    | 0.02                     | 0.0  | 27.3                   | 25.3                  |
| Aug 2025  | 19.16                 | 2.82                     | 17.30                 | 8.12                    | 1.01                   | NA                    | 0.02                     | 0.00 | 28.90                  | 19.60                 |
| Sept 2025 | 22.6                  | 3.2                      | 15.8                  | 4.3                     | 1.6                    | 0.0                   | 0.0                      | 0.0  | 33.4                   | 22.3                  |

**AAQMS - DHDS Chalikkara Gate**

| Parameter | SO2                   | H2S                      | NOx                   | NH3                     | CO                     | Benzene               | Methane                  | NMHC  | PM 10                  | PM 2.5                |
|-----------|-----------------------|--------------------------|-----------------------|-------------------------|------------------------|-----------------------|--------------------------|-------|------------------------|-----------------------|
| Units     | µg/m3                 | µg/m3                    | µg/m3                 | µg/m3                   | mg/m3                  | µg/m3                 | PPM                      | PPM   | µg/m3                  | µg/m3                 |
| Limit     | Daily 80<br>Annual 50 | No limits are prescribed | Daily 80<br>Annual 40 | Daily 400<br>Annual 100 | 8 hrs - 2<br>4 hrs - 4 | Daily 05<br>Annual 05 | No limits are prescribed |       | Daily 100<br>Annual 60 | Daily 60<br>Annual 40 |
| Apr 2025  | 39.7                  | 14.4                     | 22.2                  | 0.0                     | 0.8                    | 0.0                   | 0.0                      | 0.0   | 42.5                   | 30.1                  |
| May 2025  | 16.1                  | 1.8                      | 4.3                   | 0.1                     | 0.7                    | 0.0                   | 0.0                      | 0.0   | 38.8                   | 21.6                  |
| June 2025 | 22.3                  | 3.9                      | 10.2                  | 0.8                     | 0.8                    | 0.0                   | 0.0                      | 0.0   | 29.5                   | 16.3                  |
| July 2025 | 27.6                  | 7.09                     | 4.6                   | 0.1                     | 1.2                    | NA                    | 0.02                     | 0.0   | 30.8                   | 17.3                  |
| Aug 2025  | 28.31                 | 10.59                    | 16.55                 | 1.76                    | 0.40                   | 0.22                  | 0.00                     | 1.04  | 35.21                  | 19.51                 |
| Sept 2025 | 12.01                 | 21.46                    | 22.9                  | 8.02                    | 0.47                   | 0.013                 | 0.01                     | 0.013 | 41.98                  | 19.8                  |

  
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| Air Quality data for the period 1 <sup>st</sup> APRIL 2025 to 30 <sup>th</sup> SEPTEMBER 2025 |                       |                          |                       |                         |                        |                       |                          |        |                        |                       |
|-----------------------------------------------------------------------------------------------|-----------------------|--------------------------|-----------------------|-------------------------|------------------------|-----------------------|--------------------------|--------|------------------------|-----------------------|
| AAQMS - Marketing Office area                                                                 |                       |                          |                       |                         |                        |                       |                          |        |                        |                       |
| Parameter                                                                                     | SO2                   | H2S                      | NOx                   | NH3                     | CO                     | Benzene               | Methane                  | NMHC   | PM 10                  | PM 2.5                |
| Units                                                                                         | µg/m3                 | µg/m3                    | µg/m3                 | µg/m3                   | mg/m3                  | µg/m3                 | PPM                      | PPM    | µg/m3                  | µg/m3                 |
| Limit                                                                                         | Daily 80<br>Annual 50 | No limits are prescribed | Daily 80<br>Annual 40 | Daily 400<br>Annual 100 | 8 hrs - 2<br>4 hrs - 4 | Daily 05<br>Annual 05 | No limits are prescribed |        | Daily 100<br>Annual 60 | Daily 60<br>Annual 40 |
| Apr 2025                                                                                      | 32.0                  | 1.6                      | 27.0                  | 4.7                     | 1.0                    | 0.0                   | 0.0                      | 0.0    | 54.9                   | 22.8                  |
| May 2025                                                                                      | 34.5                  | 2.4                      | 23.2                  | 6.0                     | 1.2                    | 0.0                   | 0.0                      | Faulty | 23.2                   | 23.2                  |
| June 2025                                                                                     | 35.7                  | 3.2                      | 24.4                  | 6.8                     | 2.1                    | 0.0                   | 0.0                      | 0.0    | 31.0                   | 22.0                  |
| July 2025                                                                                     | 28.5                  | 1.98                     | 22.8                  | 4.8                     | 1.0                    | 0.0                   | 0.0                      | 0.0    | 31.9                   | 22.9                  |
| Aug 2025                                                                                      | 25.3                  | 4.79                     | 21.8                  | 8.8                     | 0.3                    | 0.0                   | 0.0                      | 0.0    | 34.0                   | 21.9                  |
| Sept 2025                                                                                     | 20.6                  | 5.1                      | 19.0                  | 9.5                     | 0.4                    | 0.0                   | 0.0                      | 0.0    | 36.0                   | 20.4                  |
| AAQMS - NHT CCR - 01 South side                                                               |                       |                          |                       |                         |                        |                       |                          |        |                        |                       |
| Parameter                                                                                     | SO2                   | H2S                      | NOx                   | NH3                     | CO                     | Benzene               | Methane                  | NMHC   | PM 10                  | PM 2.5                |
| Units                                                                                         | µg/m3                 | µg/m3                    | µg/m3                 | µg/m3                   | mg/m3                  | µg/m3                 | PPM                      | PPM    | µg/m3                  | µg/m3                 |
| Limit                                                                                         | Daily 80<br>Annual 50 | No limits are prescribed | Daily 80<br>Annual 40 | Daily 400<br>Annual 100 | 8 hrs - 2<br>4 hrs - 4 | Daily 05<br>Annual 05 | No limits are prescribed |        | Daily 100<br>Annual 60 | Daily 60<br>Annual 40 |
| Apr 2025                                                                                      | 5.6                   | 1.4                      | 0.65                  | 0.10                    | 0.18                   | NA                    | 0.0                      | 0.90   | 51.6                   | 27.3                  |
| May 2025                                                                                      | 5.0                   | 2.1                      | 7.9                   | 1.5                     | 0.0                    | NA                    | 0.0                      | 1.3    | 67.1                   | 12.8                  |
| June 2025                                                                                     | 4.6                   | 1.9                      | 0.7                   | 0.1                     | 0.20                   | NA                    | 0.0                      | 0.7    | 53.6                   | 23.6                  |
| July 2025                                                                                     | 6.21                  | 2.72                     | 30.1                  | 1.89                    | 0.46                   | NA                    | 1.47                     | 0.32   | 38.31                  | 16.42                 |
| Aug 2025                                                                                      | 6.10                  | 2.20                     | 26.2                  | 1.23                    | 0.32                   | NA                    | 0.37                     | 0.45   | 33.20                  | 18.20                 |
| Sept 2025                                                                                     | 6.1                   | 2.7                      | 0.0                   | 0.0                     | 0.40                   | NA                    | 1.3                      | 0.20   | 42.1                   | 26.3                  |
| AAQMS - PDPP side                                                                             |                       |                          |                       |                         |                        |                       |                          |        |                        |                       |
| Parameter                                                                                     | SO2                   | H2S                      | NOx                   | NH3                     | CO                     | Benzene               | Methane                  | NMHC   | PM 10                  | PM 2.5                |
| Units                                                                                         | µg/m3                 | µg/m3                    | µg/m3                 | µg/m3                   | mg/m3                  | µg/m3                 | PPM                      | PPM    | µg/m3                  | µg/m3                 |
| Limit                                                                                         | Daily 80<br>Annual 50 | No limits are prescribed | Daily 80<br>Annual 40 | Daily 400<br>Annual 100 | 8 hrs - 2<br>4 hrs - 4 | Daily 05<br>Annual 05 | No limits are prescribed |        | Daily 100<br>Annual 60 | Daily 60<br>Annual 40 |
| Apr 2025                                                                                      | 18.5                  | 0.0                      | 10.9                  | 0.32                    | 1.6                    | 0.0                   | 0.0                      | 0.0    | 24.9                   | 41.1                  |
| May 2025                                                                                      | 17.4                  | 0.0                      | 8.2                   | 3.3                     | 1.1                    | 0.0                   | 0.0                      | 0.0    | 31.5                   | 18.2                  |
| June 2025                                                                                     | 19.5                  | 0.0                      | 3.7                   | 7.0                     | 1.6                    | 0.0                   | 0.019                    | 0.0    | 19.8                   | 12.6                  |
| July 2025                                                                                     | 23.0                  | 0.71                     | 68.9                  | 4.6                     | 1.4                    | 0.0                   | 0.02                     | 0.0    | 33.8                   | 18.3                  |
| Aug 2025                                                                                      | 27.2                  | 0.00                     | 10.1                  | 3.3                     | 0.8                    | 0.0                   | 0.02                     | 0.0    | 31.7                   | 16.9                  |
| Sept 2025                                                                                     | 34.1                  | 0.0                      | 7.3                   | 2.4                     | 0.8                    | 0.0                   | 0.0                      | 0.0    | 27.2                   | 9.2                   |

  
30.06.2026

**Water discharge Quality data for the period 1<sup>st</sup> APRIL 2025 to 30<sup>th</sup> SEPTEMBER 2025**

| Parameter    | pH    | BOD   | COD   | Oil & Grease | Sulphide | TSS   | Phenol |
|--------------|-------|-------|-------|--------------|----------|-------|--------|
| Spec. Limit  | 6-8.5 | 15    | 125   | 5            | 0.5      | 20    | 0.35   |
| Unit         | **    | mg/l  | mg/l  | mg/l         | mg/l     | mg/l  | mg/l   |
| April - 2025 | 7.34  | 14.2  | 43.53 | 3.16         | 0.40     | 16.97 | 0.17   |
| May – 2025   | 7.4   | 11.6  | 35    | 3.1          | 0.40     | 13    | 19.3   |
| June - 2025  | 7.3   | 11.5  | 35    | 2.99         | 0.40     | 16.1  | 0.13   |
| July - 2025  | 7.3   | 12    | 36    | 2.95         | 0.40     | 15    | 0.13   |
| Aug - 2025   | 7.36  | 11.45 | 34.32 | 2.89         | 0.40     | 13.4  | 0.13   |
| Sept - 2025  | 7.36  | 11.15 | 34.33 | 2.86         | 0.40     | 16.3  | 0.13   |

 30.06.2026



**Bharat Petroleum Corporation Limited  
Kochi Refinery**

**FORM 4**

*[See rules 6(5), 13(8), 16(6) and 20(2)]*

**FORM FOR FILING ANNUAL RETURNS**

[To be submitted to State Pollution Control Board by 30<sup>th</sup> day of June of every year for the preceding period April to March]

**Statement for the Period 2025 -26**

|                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name and address of facility                                                                        | <b>BPCL Kochi Refinery<br/>Post Bag No.2, Ambalamugal, Kochi, Kerala</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Authorisation No. (CTO) and date of Issue                                                           | <ol style="list-style-type: none"><li>1. <b>PCB/HO/EKM-II/ICO-R/03/2022</b> dated <b>05.02.2022</b>, for the IREP units.</li><li>2. <b>PCB/HO/EKM-2/ICO-R/07/2023</b> dated <b>08.08.2023</b>, for the Old Refinery units</li><li>3. <b>KSPCB/ER1/ICO/10039049/2023</b> dated <b>23/09/2023</b> for the Shore Tank Farm project.</li><li>4. <b>KSPCB/ER2/ICO/10034459/2023</b> dated <b>18/10/2023</b> for Heat Traced Pipeline project.</li><li>5. <b>PCB/HO/EKM-II/ICO-R/05/2022</b>, dated <b>31/03/2022</b> for PDPP</li><li>6. <b>PCB/HO/EKM-II/ICO-R/06/2022</b> dated <b>07/04/2022</b> for Motor Spirit Block project.</li></ol> |
| 7. Name of the occupier / authorised person and full address with telephone no., fax number and e-mail | <b>Chacko. M Jose<br/>Executive Director - BPCL Kochi Refinery<br/>Post Bag No.2, Ambalamugal, Kochi<br/>Ph: 0484-2722061 Extn: 1102<br/>Fax: 0484 2721095</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 8. Production during the year (product wise), wherever applicable:                                     | <b>Total Feed charge 17656031 MT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



**Bharat Petroleum Corporation Limited  
Kochi Refinery**

**Part A - To be filled by hazardous waste generators.**

| <b>Part - A</b>   | <b>To be filled by Hazardous category wise</b>       |                                |                         |
|-------------------|------------------------------------------------------|--------------------------------|-------------------------|
| <b>1</b>          | <b>Total quantity Generated: Waste Category wise</b> |                                |                         |
| <b>Sl. No:</b>    | <b>Hazardous Waste item</b>                          | <b>Schedule &amp; Category</b> | <b>Quantity in (MT)</b> |
| 1                 | PFCCU / FCCU Cat. Fines (On wet basis)               | 1-4.2                          | 533.05                  |
| 2                 | Oily Sludge: (Tank sludge) / shutdown sludge         | 1-4.1                          | 578.885                 |
| 3                 | Spent Charcoal                                       | 1- 4.2                         | 28.38                   |
| 4                 | Spent catalyst & Alumina Balls                       | 1-4.2                          | 81.51                   |
| 5                 | Spent Resin from DM plant                            | **                             | 12.47                   |
| 6                 | FCCU & ARU spent clay                                | 1-4.5                          | 264.19                  |
| 7                 | Contaminated Insulation wool                         | 1-5.2                          | 351.98                  |
| 8                 | Soiled Sulphur waste                                 | III- H4.1                      | 344.55                  |
| 9                 | Sulphur Guard N HGU / Chloride Guard                 | 1-4.2                          | 17.6                    |
| 10                | Poly propylene / poly Amide Filter element           | 1-22.2                         | 31.03                   |
| 11                | Empty Chemical bags / drums                          | 1-33.1                         | 56.49                   |
| 12                | Non -Spec Acrylic Acid Polymer                       | 1-22.2                         | 228.55                  |
| 13                | Flue gas Contaminated Refractory Material            | 1-4.2                          | 19.53                   |
| 14                | Bio-remediated sludge                                | **                             | 92.77                   |
| 15                | Chemical / Oil Sludge from ETP                       | 1-35.3                         | 8373.82                 |
| <b>Total (MT)</b> |                                                      |                                | <b>11014.805</b>        |

\*\* Not Classified as Hazardous waste



**Bharat Petroleum Corporation Limited  
Kochi Refinery**

| Part - A<br>(2) | Quantity Dispatched                          |                     |                 |
|-----------------|----------------------------------------------|---------------------|-----------------|
|                 | To Disposal Facility (TSDF)                  |                     |                 |
| Sl. No:         | Hazardous Waste item                         | Schedule & Category | Quantity in MT  |
| 1               | PFCCU / FCCU Cat. Fines (On wet basis)       | 1-4.2               | 533.05          |
| 2               | Oily Sludge: (Tank sludge) / shutdown sludge | 1-4.1               | 578.885         |
| 3               | Spent Charcoal                               | 1- 4.2              | 28.38           |
| 4               | Spent catalyst & Alumina Balls               | 1-4.2               | 81.51           |
| 5               | Spent Resin from DM plant                    | **                  | 12.47           |
| 6               | FCCU & ARU spent clay                        | 1-4.5               | 264.19          |
| 7               | Contaminated Insulation wool                 | 1-5.2               | 351.98          |
| 8               | Soiled Sulphur waste                         | III- H4.1           | 344.55          |
| 9               | Sulphur Guard N HGU / Chloride Guard         | 1-4.2               | 17.6            |
| 10              | Poly propylene / poly Amide Filter element   | I-22.2              | 31.03           |
| 11              | Empty Chemical bags / drums                  | I-33.1              | 56.49           |
| 12              | Non -Spec Acrylic Acid Polymer               | I-22.2              | 228.55          |
| 13              | Flue gas Contaminated Refractory Material    | 1-4.2               | 19.53           |
| 14              | Bio-remediated sludge                        | **                  | 92.77           |
|                 | <b>TOTAL</b>                                 |                     | <b>2640.985</b> |

| Part - A<br>(3) | Quantity Dispatched         |                     |                  |
|-----------------|-----------------------------|---------------------|------------------|
|                 | To Recycler or Re-processor |                     |                  |
| Sl. No:         | Hazardous Waste item        | Schedule & Category | Quantity in (MT) |
| 1               | NIL                         | N A                 | 0.00             |
|                 | <b>TOTAL</b>                |                     | <b>0.00</b>      |



**Bharat Petroleum Corporation Limited  
Kochi Refinery**

| Part - A | Quantity Dispatched  |                     |                  |
|----------|----------------------|---------------------|------------------|
| (4)      | To Others            |                     |                  |
| Sl. No:  | Hazardous Waste item | Schedule & Category | Quantity in (MT) |
| 1        | NIL                  | N A                 | 0                |
| TOTAL    |                      |                     | 0                |

| Part - A | Quantity Dispatched                                        |                     |                |
|----------|------------------------------------------------------------|---------------------|----------------|
| (5)      | Consumed in-house / Storage                                |                     |                |
| Sl. No:  | Hazardous Waste item: Re-processed in-house                | Schedule & Category | Quantity in MT |
| 1        | Chemical / Oil Sludge from ETP to Delayed Coker Unit (DCU) | 1-35.3              | 8373.82        |
| TOTAL    |                                                            |                     | 8373.82        |
| 1        | Quantity in storage at the end of the year                 | NA                  | 0              |

**Part B.**

To be filled by Treatment, storage, and disposal facility operators -----N. A

1. Total quantity received -
2. Quantity in stock at the beginning of the year -
3. Quantity treated -
4. Quantity disposed in landfills as such and after treatment -
5. Quantity incinerated (if applicable) -
6. Quantity processed other than specified above -
7. Quantity in storage at the end of the year -

**Part C.**

To be filled by recyclers or co-processors or other users. -----N. A

1. Quantity of waste received during the year -
  - a. Domestic sources
  - b. imported (if applicable)
2. Quantity in stock at the beginning of the year -
3. Quantity recycled or co-processed or used -
4. Quantity of products dispatched (wherever applicable) -

5. Quantity of waste generated -
  6. Quantity of waste disposed -
  7. Quantity re-exported (wherever applicable)
  8. Quantity in storage at the end of the year
- 

Signature of the Occupier or Authorized person of the Organization



**Suresh K S**

**Dy. General Manager – HSE (Environment)**

Date : 29.06.2026

Place : Ambalamugal